

Environmental Resources Conservation Initiative



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1. INTRODUCTION

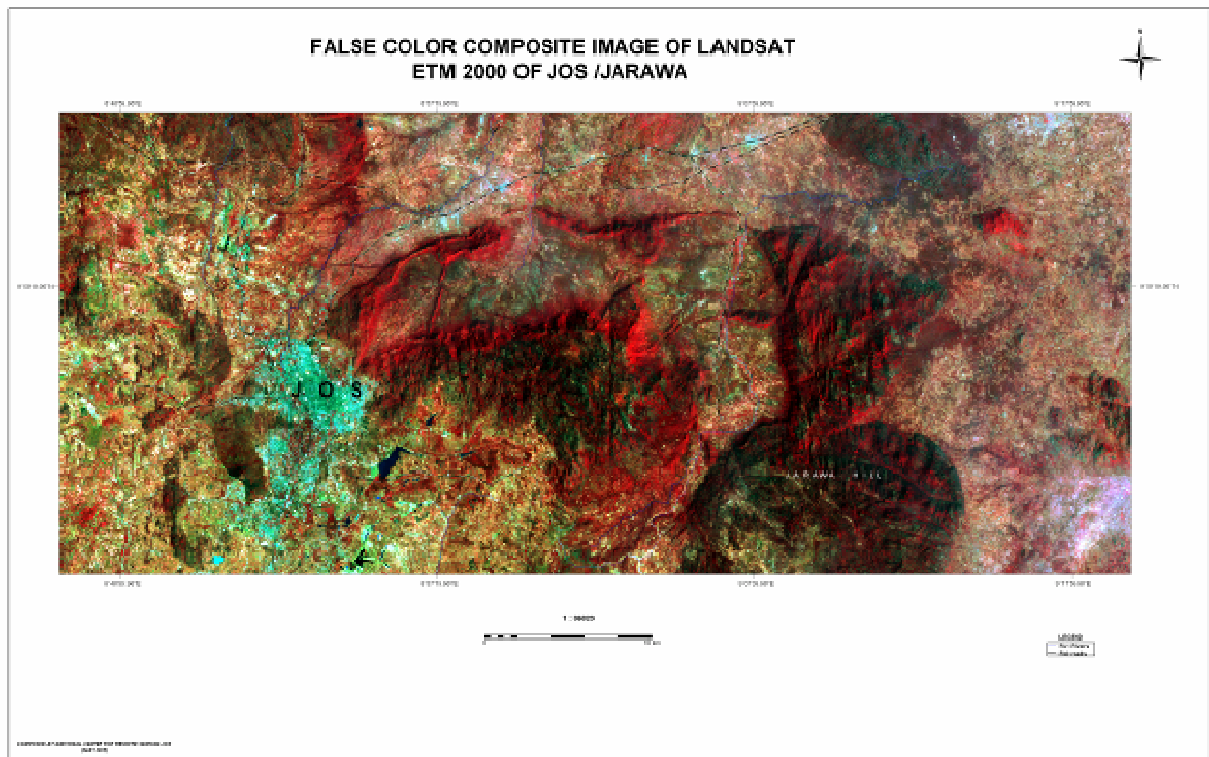
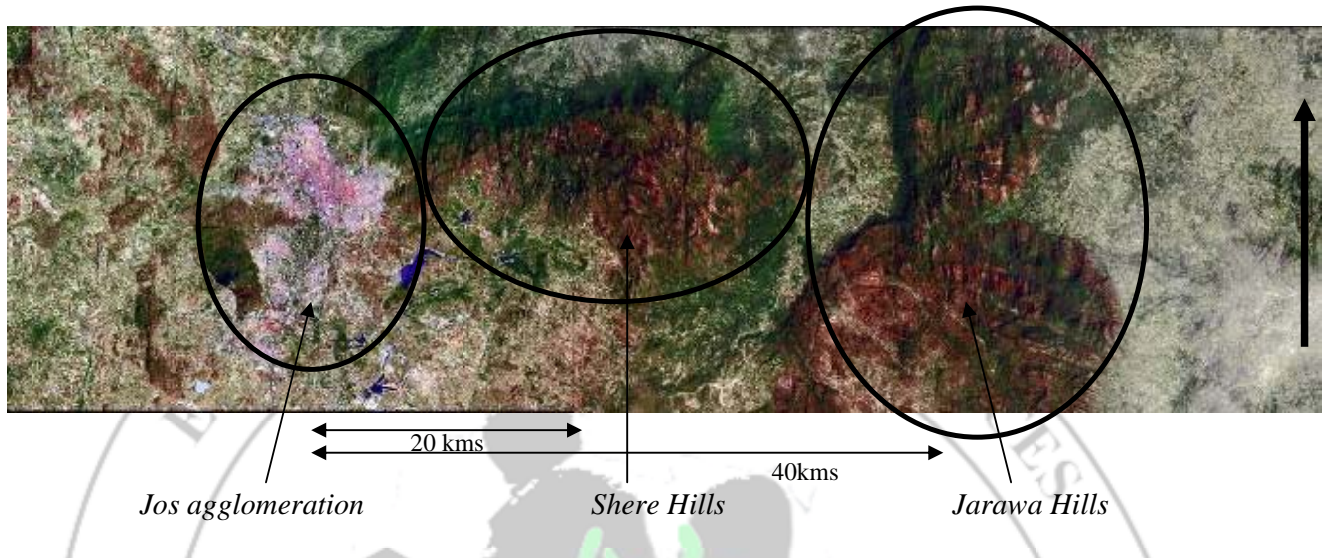
This submission is made by the Environmental Resources Conservation Initiative (**E.R.C.I.**), a non-governmental organization... Formerly called Padaka Environmental Resources Initiative, the **E.R.C.I.** was founded in 2004 by a couple of nature enthusiasts. It is governed by a volunteer board of trustees (Executive Trustees) and funded by private donors. The main thrust of its activities is the protection of the natural environment through



average altitude (between 1200 and 1780 m) is responsible for its unique weather and eco-system. The Hills are quite remarkable and unique in Nigeria. However, their proximity to the city of Jos puts them in real danger. The area needs to be protected and developed as observed wildlife is slowly disappearing.



Plateau state is reputed to be the home of peace and tourism. This project could become part of the efforts of the government towards development of tourism (Wild Life Park, Wase, Kura falls, etc.).



2.1. The Project Site

The Shere Hills area can be divided into two parts. The western part is composed of a succession of small hills and valleys, while the eastern part comprises Shere

peak (the highest point on the Plateau 1780m), as well as higher mountains with huge, steep outcrops, with boulders of surprising shapes.

To Kano

To Bauchi

Toro



rock rabbit and the tantalus monkey.



Antelope



Genet Cat (*Genetta genetta*)



Porcupine (*Hystrix cristata*)

The klipspringer (*Oreotragus oreotragus*) once found in enormous numbers from Cape of Good Hope (South Africa) to Ethiopia, has become extinct or rare in settled regions. It is listed as endangered by The World Conservation Union IUCN. This strictly monogamous, shy and nervous is quite unique in that the only population in West Africa is found on the Jos plateau around Jarawa, Fusa and Shere Hills. As no scientific survey has been conducted yet, the exact population and distribution of these identified species is not known precisely.



Orchid



Costus spectabilis



Gloriosa rothschildiana

A unique plant found in the area is *Costus spectabilis*, which is the plant found in the Nigerian coat of Arms and is also among the endangered plant species. The site is also the only remaining sample of the Jos Plateau vegetation, which has been destroyed by mining activities over the years.

2.2.State Government Policy

E.R.C.I., will work within the defined policies of the Plateau state government for the conservation and the protection of the proposed area, encouraged by the enthusiastic response of the State Government over the development of tourism in Plateau State. Where the existing policy is identified to be ambiguous, efforts shall be made to encourage the state to fine tune or draw up new policies as the need may arise. The state is one of the main tourist destinations in Nigeria, due to its climate, the beautiful landscape, the existence of a unique museum and a Wildlife Park. The proximity of the area to Jos as well as Abuja would make of the protected area over the Shere, Jarawa and Fusa Hills an interesting tourist destination. The warm response of local schools and nature enthusiasts from Jos and elsewhere to the eco-tourism activities organised by **E.R.C.I.** is a good indication of this.

2.3. Aim and objectives of the project

The project aims to facilitate the conservation of the area, through the delimitation of a protected area, to make it suitable for wildlife re-introduction, and to promote the development of eco-tourism. It will embark on increased awareness among community dwellers, hunters etc, on the need to preserve their natural surroundings. This objective will be achieved through the following objectives:

Protection of the Environment

Environmental degradation in the area will be curtailed through the practice of traditional conservation and the introduction of new practices;

Education and promotion of scientific research

Sensitisation of the local population on the risks and dangers of environmental degradation; Promotion of scientific research on the behaviour and health Status of Wildlife

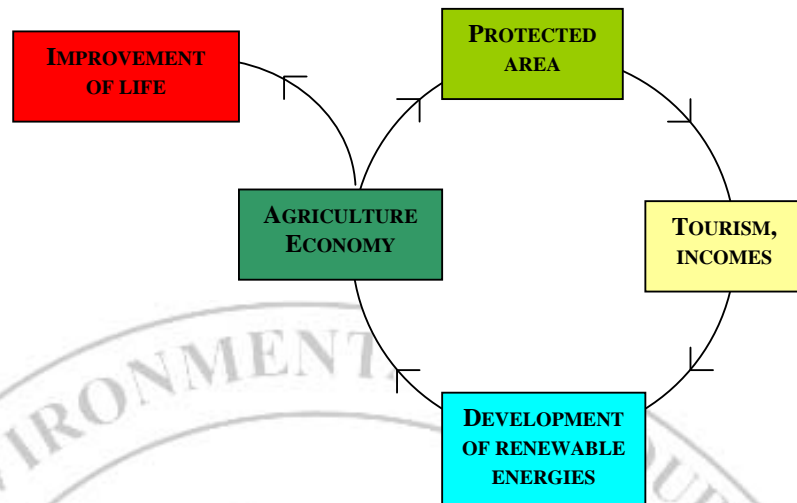
Promotion of the use of renewable resources

For food preservation and as energy sources;

Rural agriculture and economy

Introduction of improved alternatives for the development of rural agriculture and the local rural economy

While developing a protected area in Shere, Jarawa and Fusa Hills, the population, the villages and the agricultural activities of the valleys will be promoted, with an eye to project sustainability. This will create a virtuous cycle, which will lead to the improvement of the life of the community.



3. THE PROJECT

3.1. PROTECTION OF ENVIRONMENT

3.1.1. Development of a protected area

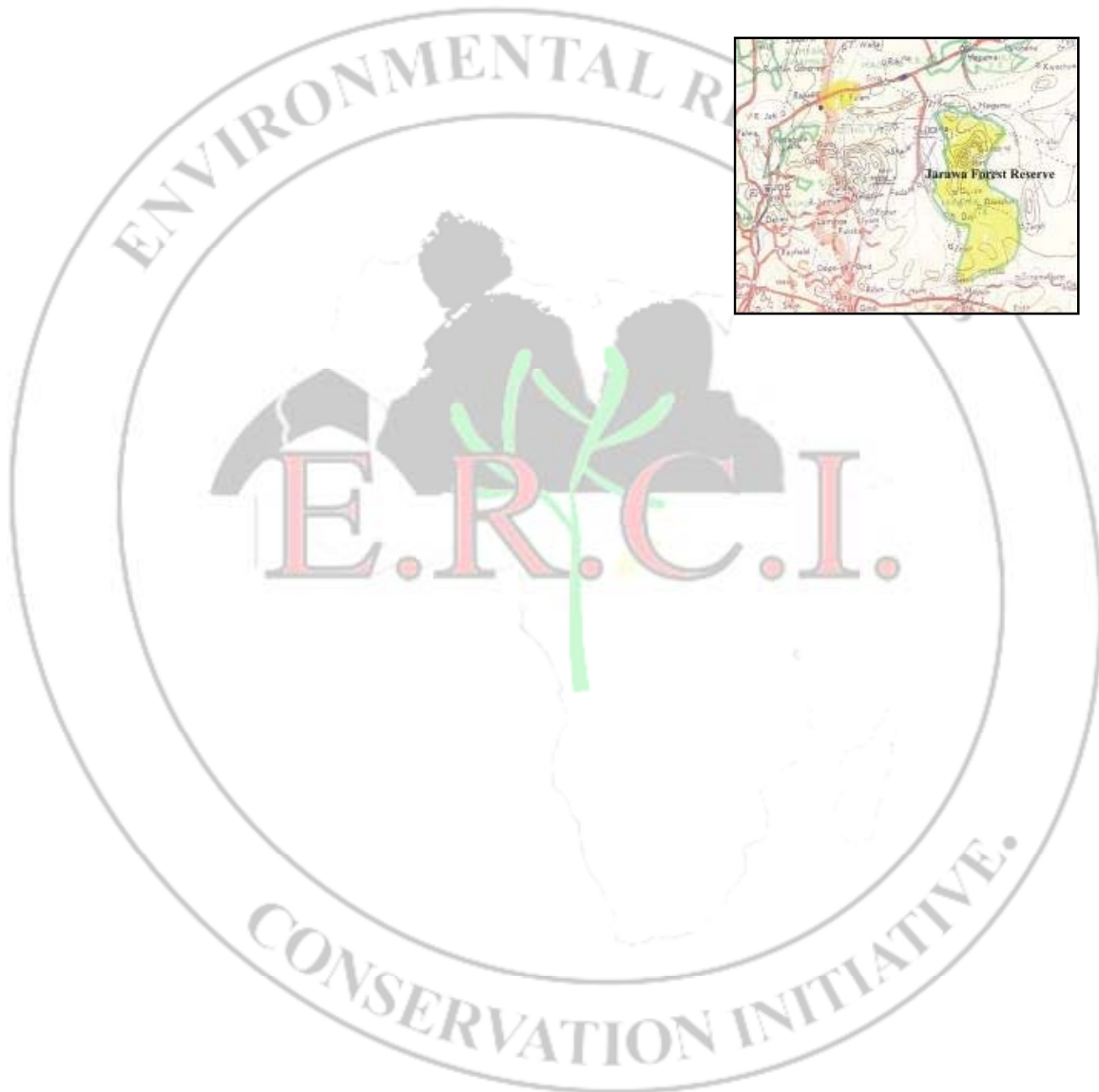
A protected area is an area declared protected by the Government as forbidden to farming, hunting, fishing and cutting down of trees. Despite these restrictions, the surrounding communities which are usually the custodians of the area are allowed to benefit from the natural resources such as fire wood, fish, economical trees and fruits for limited economic gains.

3.1.2. Awareness on effect of indiscriminate wildlife depletion

The area has experienced a decrease in wildlife population, due to the poisoning of carnivorous animals (hyena) by the British miners in the early 70s as well as severe habitat loss due to deforestation and hunting activities. As a result, many animal populations have migrated to other areas. If indiscriminate practices continue, the few animals left in the area are in danger of eradication due to a diluted gene pool. Therefore, there is a dire need to work with the hunters to enlighten them on the benefits of protecting the wildlife. While doing so, the local community will be encouraged to divert from their habit of indiscriminate hunting by engaging in wildlife farming (antelopes and cane rat) to sell their bush meat to the neighbouring town of Jos. With a view to promote this endeavour, the creation of small water reservoirs will be indispensable in order to retain animals and wildlife during the dry season.

3.1.3. Reforestation

In order to slow down deforestation, reforestation is an urgent and necessary measure. Moreover, the government should enlighten the community on the presence of the Jarawa forest reserve, in other to create more awareness. The woodlands in the valleys are the only area where the original vegetation on the Jos Plateau can be found as well as one of the only reserves of wood remaining around the city of Jos.



In order to make it suitable for tourism and to keep the spirit of eco-tourism and conservation, the following will be embarked upon, with the support of interested public or private partners:

- Creation of informative literature on the natural environment in the area;
- Creation of mapped, marked trails for tourists and visitors;

- Creation of an information point at the entrance of the area, with poles containing the information on maps, tracks, animals, vegetation, sanitation, etc.; and (no paper, no pollution...)
- Erection of information signs along the trails.

An information point will also be provided at the entrance of the area, at which guides and guards (trained by **E.C.R.I.**) will be available.

Special activities will also be created for the development of conservation awareness for youth. Schools will be informed and special fees will be available for them.

3.2. Education and promotion of scientific research

3.2.1. Creating a suitable environment for scientific research

The existence of the A.P. Leventis Ornithological Research Centre (Amurun Forest) in the area is an impetus to making the area further suitable for scientific research on wildlife (birds, animals, vegetation, etc) and conservation. Scientists could conduct regular research on the flora and fauna. Schools of the Plateau would also benefit from a natural reserve for their field trips, researches and projects.

3.2.2. Education

Education is the key to promoting a proper care and respect for wildlife. By making future generations aware of the pressures on the natural world we can help to decrease the destruction that our generation is only just realizing.

An education program based around the setting up of an **Environmental Conservation Information Center**, visits to schools, organized tours of the Wildlife Park and audiovisual presentations, forming conservation clubs in surrounding schools, setting up of school libraries and facilitation of pen friends with other wildlife clubs all around the world will be developed to enhance the appreciation of nature by children and adolescents and thus nurture a future generation of conservationists.

Through presentations in schools and organisation of field walks, sensitisation of youth will be emphasised.

3.3. Development of the use of renewable resources

3.3.1. Solar dryers

In order to use the excess production during the harvesting period as another source of revenue to the villages (to prevent falling prices during

the excess production period), solar energy will be harnessed for the drying of agricultural products. Solar dryers could be installed in villages and farms in collaboration with the rural associations. The sustenance of the practice will be assured through the effective training of the villagers. **E.R.C.I.** will organise the creation of an agricultural co-operative for the processing, storage and sale of dried vegetables and fruits.

3.3.2. Active renewable energy

Electricity will be generated, by solar panels, for the improvement of health and education facilities (solar fridges for hospitals; electricity for schools, community centres, etc.). It would also be applied for the improvement of people's daily life (electric poles in the village, lamps inside houses, etc.).

3.3.3. Creation of rainwater catchments in the villages.

This technology is already being experimented in other parts of the Plateau by CARUDEP and CRUDAN NGOs

3.4. Rural agriculture and Economy

3.4.1. Development of rural areas and involvement of local communities

The local population will be involved in the development and management of the project. Active participation of the community is the only way to succeed in this attempt to save and protect in the long term the unique environment of Plateau State. Funding and subsidies alone cannot ensure the preservation of this area in the long run. The community must have incentives. Protection of the environment should be part of the local economy, providing direct (as guards, guides or staff of information centres) and indirect employment (e.g. via the development of agriculture and the local economy).

3.4.2. Improved animal husbandry practice

Small Ruminant De-worming. The small ruminant is widely kept in rural areas where it serves as a source of income when sold. This campaign would involve taking a team to different rural locations where the communities after a brief enlightenment session on the importance of routine animal examination and treatment would present their small ruminants for examination, treatment and vaccination.

Sow for life. There will also be a component on swine production and processing methods, aimed at curbing the practice of hunting wildlife for feeding and commercial purposes. Its target group will be youths, women

and hunters which will help empower the beneficiaries economically, and since pork meat is readily consumed in the locality thus a source of income for the pig farmers. The project would also deter hunters and youths from hunting wild game and felling of trees for fire wood as a source of income. The gas produced from the pig dung (**biogas**) would serve as cooking gas for the women thereby reducing the pressure on fire wood.

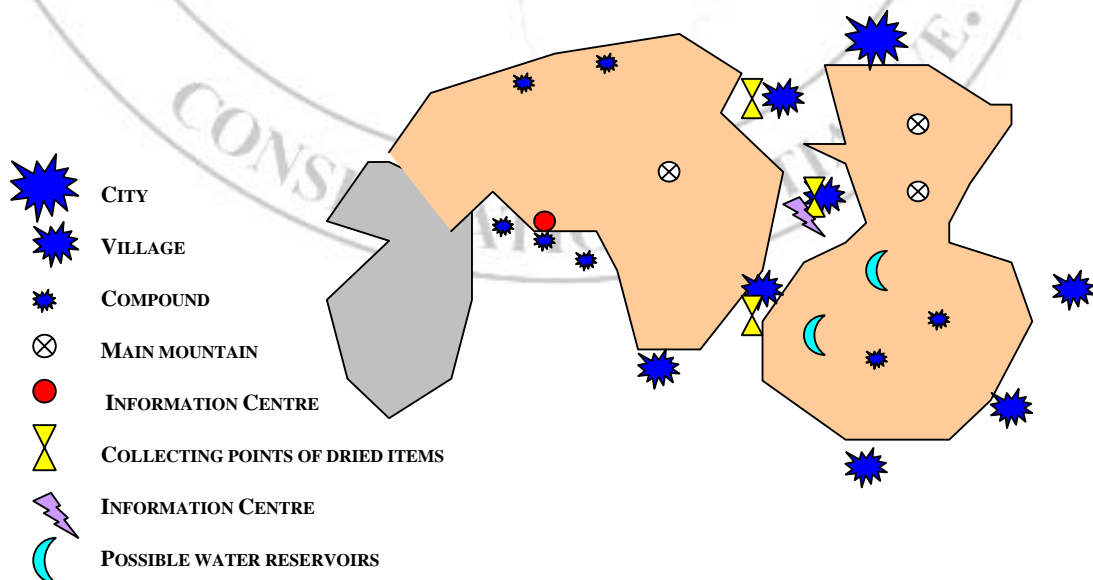
3.4.3. Bee keeping

Given the challenges posed by hunger and poverty and the potentials of bee-keeping to address these problems, there is need to create awareness on the importance of bee-keeping to alleviation of rural poverty.

To achieve these, rural people include women could be trained in bee-keeping and honey processing in other to ensure sustainable honey production bearing in mind that the United Nation (UN) through its Food and Agriculture Organisation (FAO) also acknowledge bee-keeping as a viable weapon against poverty and hunger. This implies that bee-keeping holds the key to positive and practical measures against hunger and poverty most especially in rural areas since it requires minimal cost input that can be got by the rural dwellers.

One of the best ways to stimulate the interest of rural people in bee-keeping is to educate them on the vital role of honeybee to health, agriculture and the environment thus the project proposal to train and set up youths hunters and house makers in bee-keeping and honey processing. The program would train participants on the intricacies of bee keeping not only for sustainable honey production, but also to preserve the honeybees as a vital part of the natural environment.

Map describing the project



4. PROJECT IMPLEMENTATION

The objective of the project is to be as sensitive as possible to the local natural environment as well as be financially viable. In order to become successful, the project will follow the following steps:

1. The identified area will have to be declared as protected by the Plateau State Government;
2. Local government, chiefs and village heads will have to be informed, involved and positive about the project;
3. Village communities and organised communities will have to act as a board in charge of controlling the implementation of the projects;
4. The following Sub committees will be created:
 - a. Protection / Conservation and Scientific Research
 - b. Tourism
 - c. Agriculture and Renewable Energies
 - d. Evaluation
5. Donors and collaborators will be involved;
6. Funds will be raised and collected;
7. The projects will be implemented;
8. The projects will be evaluated; and
9. The long-run maintenance and management of the project will be set up.

4.1. Project Funding

4.1.1. Villagers' participation

Villagers, through their community associations would participate in the financing of all projects involving:

- Development of agriculture
- Cooperatives
- Solar energy

We recommend a minimum percentage of 20% to 30% of the financing to come from the villages, in cash or in nature.

4.1.2. Federal Government

The Federal Government could assist through its different bodies both morally and financially.

4.1.3. Plateau State Government

The Plateau State Government should declare the area protected, could assist the project financially and with the provision of expertise through the Ministry of Environment.

4.1.4. Potential Partners and Donors

Additional funding will be sourced through donor organisations and development partners who might be interested in components of the project, in line with their established mission statements.

4.2. Cost of the project

The cost of the project will be a function of the summation of its various components. The execution of one component will in no small way help in the achievement of the overall aim of project Kuyik.

4.2.1. Recurring Costs

Certain costs which will recur throughout the lifetime of any established project component and will eventually have to be borne through its long-term sustenance and income generating activities. Profits made from the sales of agricultural products, for example will provide cash for the management of the protected area and for its development.

4.2.2. Sectoral Costs

Project	Sub Project	Material needs	Financial needs
Creation of a protected area	Training of guides and guards	Uniforms equipment	Training
	Delimitation of the area Water reservoirs	Poles	Installation
	Salaries of the personal		Salaries
Awareness on effect of indiscriminate wildlife depletion	Planning meetings	Survey	Paying for the survey
	Identification of needs		
Reforestation	Identification of needs	Survey	Paying for the survey
	Planting trees	Trees	Transport and purchase costs
Tourism	Tracks	Paint, Brushes, poles	
	Information point	Construction	Paying for the construction
	Brochures		Printing
	Communication / Marketing		Marketing costs
Scientific research	Census of animal and vegetal population		
Development of agriculture	Dryers	Making dryers	Buying dryers
	Storage facilities	Storage building	Financing the construction of the building

	Co-operative Piggery project Bee keeping project Small Ruminant De-worming program	Building the co-operative and training. Veterinary drugs	Financing the building Financing the training Buying equipment
	Irrigation / green houses	Making them	Buying equipment
Solar energy	Hospitals		Buying equipment
	Schools		Buying equipment
	Villages		Buying equipment

4.3. Project Management

The management of the protected area is to be handled by a control committee made up of the different actors involved in its creation, i.e.:

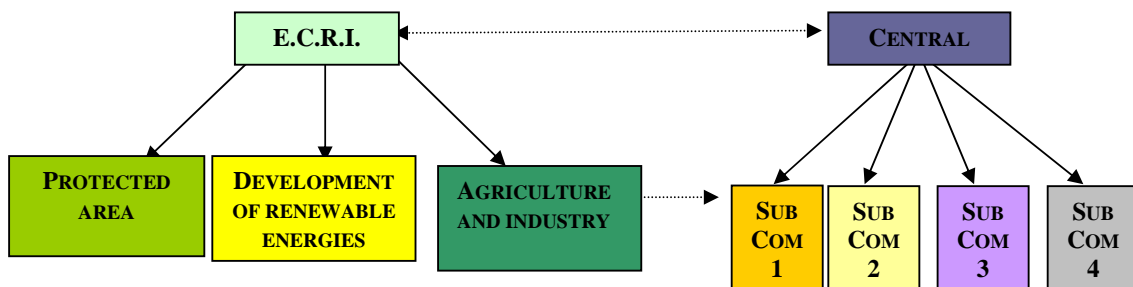
- Environmental Resources Conservation Initiative
- Plateau State Government
- Afizere people through their different community and village associations
- Any other NGO
- International donor
- Private donor

Each party shall be represented in all the sub committees:

- Sub Committee 1: Protection, Conservation and Scientific Research
- Sub Committee 2: Tourism
- Sub Committee 3: Agriculture and Renewable Energies
- Sub Committee 4: Evaluation

E.R.C.I. would be the main body responsible for the management of the park and of the project. Benefits made from tourist activities will be managed by **E.R.C.I.**

Agriculture, cooperatives and renewable energies will be separate bodies with their own management, but under the general supervision of **E.R.C.I.** Audits will be carried out on each body. The organization of the Control Committee and the constitution of the park are to be settled by vote by all the parties.



4.4.Expected Outcome of the Project

At the end of the project, we expect to have the following situation on ground:

- A protected area where wildlife can enjoy peaceful living, grow and reproduce normally. New species of animals, plants and trees will be observed. Guards would protect the area from deforestation and poaching
- Increase in the number of visiting tourists
- The surrounding population of the area will have developed growing dried fruits and vegetables industry that will be a source of income. Other types of agriculture will be developed.

Renewable energies will be assimilated and will become part of everyday life. The population will have organised themselves and will manage the distribution of energy. Hospitals and schools will be better equipped as a result of better energy supply.

The project will have both a direct and an indirect impact on the local economy, thus fostering its development.

4.4.1. Direct Impact

The management of the protected area would employ people from the local community who will be trained accordingly. Different jobs will be created with the establishment of information centres (manager, trainer, guard, etc.).

4.4.2. Indirect Impact

Tourism and environment

The development of tourism (e.g. Nigerians and expatriates from Abuja, Lagos and other towns) would be a source of income for the population. Local arts, crafts and food products would have a bigger market. Hotels and Guest Houses could be opened to welcome visitors, thus engendering the promotion of the area outside Plateau State

Energy as a factor of development

The possibility of having good and constant energy from the sun or water will attract small companies or business organisations to develop their businesses in the villages. Furthermore, the quality of health and educational services would improve, providing a long term benefit for the local population.

Agriculture

This would be the most important benefit of the project. The drying of fruits and vegetables would stop the waste that occurs in agriculture on a large scale. The cost of transportation would be reduced and storage be made available all through the year. Additional revenue would be made and agriculture could be diversified (bee keeping, other vegetables, other fruits, etc.) according to the needs of the new markets.

Global Improvement of Life Conditions

The global objective of the project is to improve Afizere people's lives while also protecting the environment. It is believed that the development of a small scale tourism programme, the implementation of solar and other renewable energies, the development of a diversified agriculture and the reduction of waste after surplus-production of some products would have a great impact on the population. The communities would be more enlightened and ready to participate in the protection of their environment.

5. PROJECT MONITORING AND EVALUATION

Regular evaluations (3 per year) will have to be conducted with the different partners, donors, and parties involved under the supervision of the Control Committee. These evaluations can propose amendments, in order to facilitate necessary readjustments. An annual evaluation will also be conducted which will be based on site evaluations, minutes of the management meetings, compliance with the chronogram, etc.

Specific procedures to be employed for each of the sub-projects will be drawn up in conjunction with donors/partners for the said sub-project and strictly adhered to.

6. CONCLUSION

As Plateau State is making efforts towards the development of tourism, this project could be fully integrated into its policy and even be a model for different projects in the State and even in the country. Plateau State and its people have a natural heritage, a wonderful richness that they should preserve and promote as the image of the State. If nothing is done in the coming years, the vegetation and therefore the animal population of the State will be drastically reduced, if not almost obliterated.

Objectives of the Project

Objectives	Success indicators	Needs
Creation of a protected area	<ul style="list-style-type: none"> -The government declares the area protected. -Guides and guards are trained and are employed permanently 	<ul style="list-style-type: none"> -Government's efficiency
Reintroduction of wildlife	<ul style="list-style-type: none"> -The animal population increases 	<ul style="list-style-type: none"> -The villagers have to stop pouching
Reforestation	<ul style="list-style-type: none"> -Average number and size of trees are growing. -Regular campaigns of reforestation 	<ul style="list-style-type: none"> -Villagers don't cut trees more than they need -Firewood comes from specific reforested areas -Training and construction of fuel efficient stoves
Development of tourism	<ul style="list-style-type: none"> -The number of tourist is increasing regularly -The beauty of Plateau is more and more popular in Nigeria and overseas 	<ul style="list-style-type: none"> -Marketing campaigns -Transport facilities
Scientific research	<ul style="list-style-type: none"> -Some researches on wildlife and ecosystem are regularly conducted and published 	<ul style="list-style-type: none"> -Accommodation and suitable working environment for scientists
Development of agriculture	<ul style="list-style-type: none"> -Surplus production is diverted to drying process -Healthy ruminants with good market value -Production and sale of quality pig and pork meat in the locality from well established sustainable cooperative groups. -The production of quality honey and by products of beekeeping. 	<ul style="list-style-type: none"> -Good training on drying -Solar dryers generalised in all villages and farms -Farmers co-operation (ready to adopt new techniques)
Solar energy (photovoltaic)	<ul style="list-style-type: none"> -Local hospitals have solar fridges and light -Schools have electricity for night education, computers, etc. -Villages have light points 	<ul style="list-style-type: none"> -Local population needs to participate to the cost of investment

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AFORESTATION

1- A critical situation

The proximity of the city of Jos (1 million inhabitants) from the hills of Shere and Jarawa has been disastrous for the forest and its expansion.

The gas, kerosene and other sources of energy being so expensive, the only way to cook “cheap” is by using “fire wood”.

It has become a very lucrative business and transformed the lives of villagers who are not only cutting wood for their own use but mostly for sell. Trucks go regularly on the track roads and buy whatever wood is dropped by the side.

The speed of cutting is so fast that there is no regeneration of the forest and even of the bush crops.

2- Consequences

The hills are being desertificated progressively, remain only some few drops of naturally protected areas where men cannot go.

The deforestation will have very important consequences:

- Danger to the fauna and the flora: diminution of species.
- Visually, it will affect tourism: as landscapes are being eroded and deforested, the hills are losing their “charm”.
- Erosion of lands
- Diminution of rains
- Desertification
- Rural exodus
- It also affects the quality of air (no regeneration of CO₂)

3- Solutions

The forest being a natural body, we can always resuscitate it or at least reduce the level of wood cutting and of its destruction by:

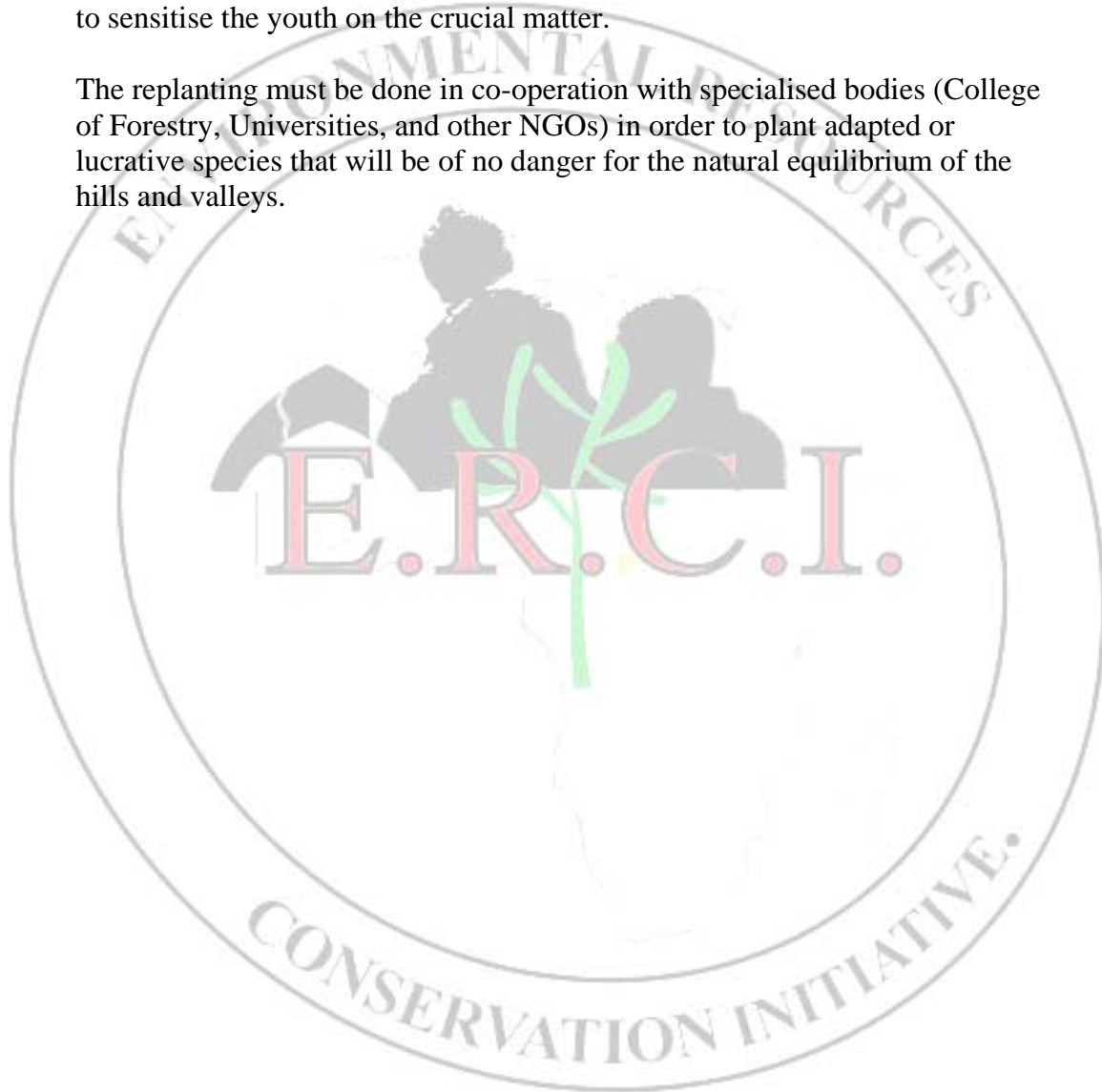
- Declaring those areas protected
- Distributing some improved stoves which will reduce the quantity of wood needed for cooking
- Guarding those areas
- Opening those areas to eco-tourism
- Informing the local population to the danger of massive wood cutting
- Proposing an alternative to the villagers as income will reduce

- Informing the urban population on the consequences of their acts and on the improved stoves alternative
- Replanting

At a higher level, the Federal Government should work on the cost of gas. Nigeria being a mere producer of gas, its cost is unacceptable.

ERCI proposes to involve some schools in the reforestation project, in order to sensitise the youth on the crucial matter.

The replanting must be done in co-operation with specialised bodies (College of Forestry, Universities, and other NGOs) in order to plant adapted or lucrative species that will be of no danger for the natural equilibrium of the hills and valleys.



ANNEXE 2.

ENVIRONMENT AND MAN

Education is the key to promoting a proper care and respect for wildlife. The future of our environment lies in the hand of the next generation. An old saying goes:” we do not own any land, we are merely looking after it for our children.”

By making future generation aware of the pressures on the natural world we can help to decrease the destruction that our generation is only just realizing. An education program based around visits to schools, organized tours of Wildlife Park and audiovisual presentation can:

- Create respect, empathy and feelings of wonder for wildlife, inspiring care for our living heritage and teaching a conservation ethic.
- Help to raise awareness and curiosity. People can gain insight into the lives of animals and in the problems of the countries they come from
- Focus attention on the plight of endangered species.
- Raise the community’s level of environmental awareness focusing attention on the local surrounding, leading to a greater global concern.
- Teach people how nature works.
- Forster positive values and attitude towards wildlife and change negative once.
- Help to develop conservation skills, concepts and attitudes
- Provide education at a variety of levels to visitors, community schools, universities, adults, teachers and school groups
- Provide school system with the educational resources in the life sciences, conservation biology and other curriculum areas
- Teach visitors concept of structure, animal behavior, adaptation etc.
- Help to mobilize human resources for support of conservation by becoming center of networks and serving as a focus for outreach program to target distant communities.

Animals are becoming extinct, natural resources running out and energy consumption increasing every day. The immediate and future consequence of the way we live today affects all inhabitants of the world (rising sea levels, droughts, desertification, global warming etc). However with a few simple daily acts we can reverse the trend and improve the future of our planet.

Education is the key to promoting the proper care and respect for natural resources and wildlife. The future of our environment lies in the hands of the next generation.

One of the approaches of *Environmental Resources Conservation Initiative (E.C.R.I.)* to solve the problem of conservation is education most especially of the younger generation. **Environment and man** is an audio-visual display aimed at the surrounding community and the public at large.

The program initiated by *E.R.C.I.* is facilitated by experts and professionals of conservation and ecology is aimed at increasing awareness to the

environment through lectures, practical, film shows and visits to zoos as well as parks.

Man cannot divorce himself from nature, hence when man is fully aware and appreciate things around him the tendency for continuity is high for both man and other living things.

Looking at the society, nature and life in a spectrum one would discover that survival of man actually depends on a cordial interrelationship between him and his environment; that is, having an understanding of situation of things around him, the trees, stones, sand, sound, etc. the ideal or perfect world in harmony reveals a state of cordial, perfect and peaceful coexistence between **MAN AND HIS ENVIRONMENT**. However, today man is very complacent, unaware and disrespectful to his natural environment and the lesser beings around him without which he cannot survive.

If man therefore wants to enjoy life in its fullness he must get conscious of his environment. He must understand, respect and appreciate every form of living thing around him thus the program **MAN AND HIS ENVIRONMENT**.

The program is aimed at creating awareness on environmental issues from a proposed *Rural Environmental Conservation Information Center* from where the program would go on the road.

Basically, the project would include,

- Environmental awareness projects such as forming conservation clubs in surrounding schools setting up school libraries and the facilitation of pen friends with schools in different localities.

- Organizing lectures, workshops, showing of documentaries and organizing tours to wildlife sanctuaries, parks and zoos.

- Building of an eco-friendly *Rural Environmental Conservation Information Center* structure which would serve as an education center/ rural information center housing a library, video room, internet facilities and other educational facilities that would provide learning opportunities about the environment, create awareness and also serve as R.C.R.I. operational base for its proposed conservation activities in Shere, Fusa and Jarawa hills.

It is trite that there is a dire need to sensitize people of the prevailing environmental problem we face in the world today most especially the local population and younger generation. With adequate sensitization the local population would not only change some of their habits of habitat destruction, tree felling etc but also be more likely to see cause for the delineation of a protected area in Shere, Fusa and Jarawa hills and be more likely to participate in our wildlife protection, forestation and all that *E.C.R.I.* is trying to achieve i.e. **EQUILIBRUM BETWEEN MAN AND HIS ENVIRONMENT**.

ANNEXE 3.

SOLAR DRYERS

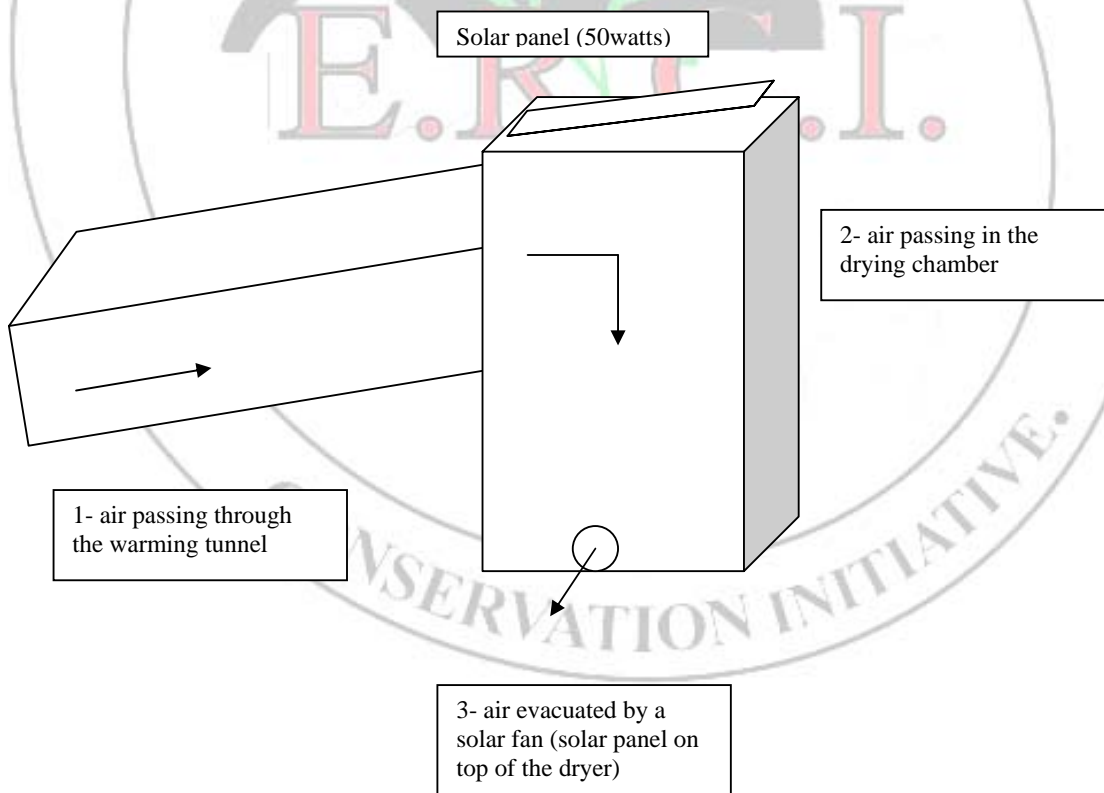
ERCI and SRES designed and fabricated solar dryers for drying fruits and vegetables and we believe it could become an alternative for the villagers and farmers after prohibiting hunting and wood cutting.

It is also financially interesting for farmers to dry their products when the cost is too low or when the production is too high.

1- The process

Solar dryers are simple to install and easy to use. The dryers, if introduced to the rural community will increase the shelf life of farm produce as well as add value to the products.

The process involves the passage of hot air over the farm produce thus resulting in the drying of the produce.



The drying process takes from 1 to 3 days depending of the product. It is very suitable for pepper and tomatoes, especially as they are already commonly used by the population. The best season is from October to April.

2- The project

ERCI would set up cooperatives in the communities or women associations train them in the use of the dryers. Participation from the communities will be expected (part payment, providing local materials...)

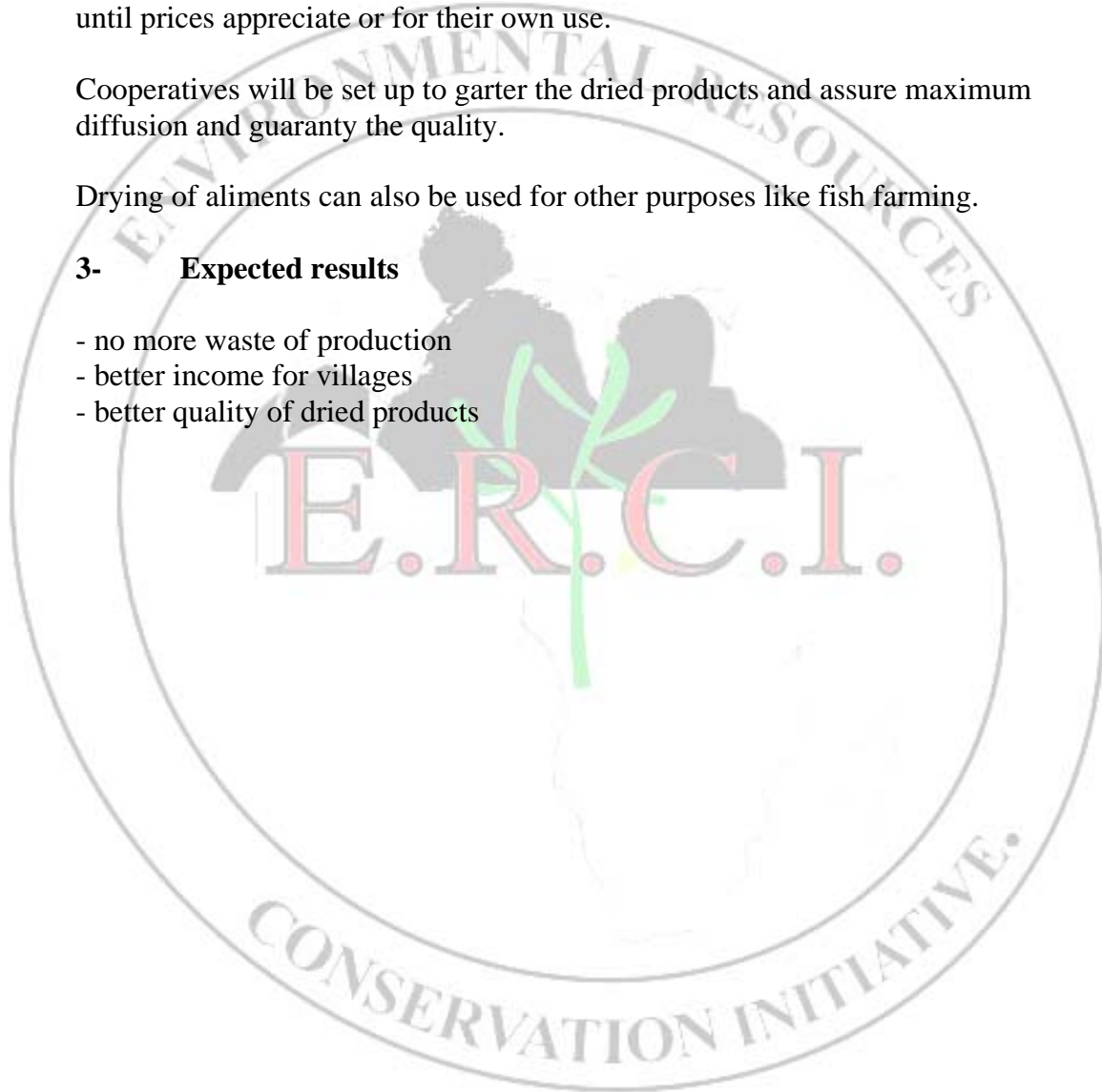
Farmers will therefore have the possibility to dry and keep their products until prices appreciate or for their own use.

Cooperatives will be set up to gather the dried products and assure maximum diffusion and guaranty the quality.

Drying of aliments can also be used for other purposes like fish farming.

3- Expected results

- no more waste of production
- better income for villages
- better quality of dried products



ANNEXE 4.

SMALL RUMINANT DE-WORMING, ECTO-PARASITE CONTROL AND VACCINATION CAMPAIGN

The small ruminant is widely kept in rural areas where it serves as a source of income when sold. Due to the lack of veterinary personnel in the rural areas as well as the high cost of inviting veterinary personnel to these areas, it has been observed that many animals have heavy parasitic infestation thus causing a reduction in their market value. There has also been a history of animal death due to outbreak of *Pest Petit Ruminant (PPR)* a viral disease condition preventable by vaccination.

The campaigning would involve taking a team to different rural locations (with prior information to the community by a discovery team) where the communities after a brief enlightening session on the importance of routine animal examination and treatment would present their small ruminants for examination, treatment and vaccination. Samples would also be taken for laboratory analysis to determine parasitic load as well as other parameters.

MAPPING AND CREATION OF ENVIRONMENTALLY FRIENDLY TRAIL

Parks are likely “wasted land” vegetation, natural resources and animal population due to the purpose, natural resources for education, research and tourism. Parks are protected and may comprise of **CONSERVATION AREA** i.e. areas with improved public access, **PRESERVED AREAS** i.e. areas with unimproved access and **SANCTUARY** i.e. area with no public access; shrines animal breeding ground etc.

If someone likes to be at a solitary place for meditation, writing or just to revitalize oneself with the refreshing natural breeze, a park is a perfect choice.

Our wildlife, service as source of natural resources for education and research, source of medicine, cultural tourism and preservation of gene pool. It should be emphasized that Eco-tourism as a byproduct of park protection could only be achieved when the necessary infrastructure are put in place, side by side, with the consolidation of the park system.

To fully exploit the educational, research and eco-tourism potential of the Shere, Fusa and Jarawa hills a detailed map as well as a standard environmentally friendly trail should be created through the forests, peaks and valleys. These would give tourists easy access to most parts of the hills. These trails would be used as hiking or cycling trail for those interested in exploiting the refreshing natural environment the area has to offer.

A comprehensive brochure would also be produced highlighting the location of the different wildlife the hill has to offer in terms of flora and furan thus enabling bird watches,. Photographers, hikers, researchers etc plan their tours in the hills. A proper trail network in place would aid proper management of the area in case of forest fires and also aid prompt evacuation of tourist in case of emergencies.

**A STUDY OF THE BEHAVIOR AND HEALTH STATUS OF THE
KLIPSPRINGER/DUIKER POPULATION IN PLATEAU STATE,
NIGERIA.**

i. Background of the Klipspringer

The Klipspringer is a type of antelope about 56cm high at the shoulder and weighs about 20kg. It is stocky and powerful but very agile. The male has a small, straight and sharp horn about 10-15cm in length. Its ears are longer than its horns. The Klipspringer's coat is thick dense and hard, with speckled patten of an almost olive shade or they are brown and yellow with white under parts. All hoofed animals walk "on the tip of their toes" Among these the Klipspringer is the only one to touch the ground with only the very tips of it's vertically rising hooves. Once found in enormous numbers from Cape of Good Hope (South Africa) to Ethiopia, the klipspringer has become extinct or rare in settled regions. It is listed as endangered by the International union for Conservation of Nature and Natural Resources (IUCN). This strictly monogamous, sly and nervous antelope is quite unique in that the only existing population in West Africa is found on the Jos Plateau around Jarawa, Fusa and Shere Hills. In these different locations, information on the different antelope and duiker populations is gathered only from local knowledge and ground surveys.

ii. Objectives

The basis of this project would be to understand the abundance, distribution, range, behavior and health status of the klipspringer and duiker population in the area of study.

The overall objective of this project is to obtain baseline data for further researches into various aspects of the Antelope/Duiker population, especially the Klipspringer. More precisely, the study aims to determine:

- 1). the population of the klipspringer around Jarawa, Fusa and Shere hills.
- 2). the gastrointestinal parasites of klipspringers.
- 3). blood parasites of klipspringers.

It is known that general Antelopes mature rapidly and are ready to breed when they are only six months old. Some species breed any time of the year, but must do so at the time of changing seasons. The timing ensures that the young are born when food is plentiful. Based on this background information, the aim is to capture the Klipspringer with the intention of making them breed and expand in numbers, in view of safe return to their natural habitat in the long term.

This project would also give an insight into the ecological and space requirement to establish an ecosystem approach to managing the only Klipspringer population in West Africa.

Lastly it could also be used as the basis for the conservation community in the country to take advantage of Nigeria Satellite project as well as forge a relationship between telecommunication companies.

iii. Methodology

- Selected animals (Klipspringer) would be captured and identified.
- Animals will be fitted with radio collars which may either be a Global Positioning System (GPS), Global System for Mobile (GSM), communication Radio transmitter collars or a combination using Radio-using individual identification
- Fecal samples are collected for analysis to determine type of gastrointestinal parasite and load.
- blood, (Hematology and blood chemistry) urine, skin scraping, saliva etc will be collected
- Creating and establishing an individual photo ID file
- Ascertain the health status of the Klipspringer population in Jarawa, Fusa and Shere Hills.

With assisted surveillance (RAS), the tagged animals will be observed over a period of one year during which data would be collected to determine;

- Home range;
- Total population;
- Migratory route/duration of migration; and
- Migratory population.

Data obtained from this study will be subjected to descriptive statistics and computer software for statistical analysis.

ANNEXE 7.

SOW FOR LIFE

The project is geared towards the promotion of the conservation of flora and fauna in the hills of Shere, Fusa and Jarawa in Plateau State on of the last sanctuaries of the klipspringer in West Africa with the ultimate goal of promoting improve utilization of existing nature resources in other to improve the livelihood of those whose daily existence depend on these natural resources.

At present, the natural environment of the project area is threatened by the combined factor of economic challenges within the local population thus leading to activities that endanger it. It is hoped that addressing the major issues of economic development, through harnessing the many resources of the area, will ultimately impact on the overall goal of protecting the area.

One of the action planes for tackling the economic reality of the area is the sow for life project which is aimed at 15 participants mainly youths, women and hunters selected after the administration of questioners. It would involve a 2 weeks training program for the participants to acquaint them with modern SWINE PRODUCTION AND PROCESSING METHODS. After the training program, the participants would be organized to form a cooperative group and 10 would then be chosen to benefit from the construction of a piggery and a pregnant sow each.

The project aimed at youths, women and hunters will help empower the beneficiaries economically, and since pork meat is readily consumed in the locality thus a source of income for the pig farmers. The project would also deter hunters and youths from hunting wild game and felling of trees for fire wood as a source of income. The gas produced from the pig dung would serve as cooking gas for the women there by reducing the pressure on fire wood and subsequent carbon dioxide (CO₂) emission reduction

BEE KEEPING

One of the action planes for tackling the economic reality of the area is to TRAIN AND SET UP YOUTHS, HUNTERS AND HOUSE MAKERS IN BEE KEEPING AND HONEY PROCESSING which is aimed at 15 participants mainly youths, women and hunters selected after the administration of questioners. It would involve a 2 weeks training program for the participants to acquaint them with modern **BEE KEEPING AND HONEY PROCESSING METHODS**.

Honey, known for its nutritional value, is produced by the highly social insect called the bee. Ironically, the bee in this part of the world, is dreaded because of its sting thus talking about bee-keeping is deemed as dining with the devil. Whereas, be-keeping is one of the best ways of ensuring sustainable agriculture, the input per hectare yield in terms of harvest is more profitable than impute per hectare yield of cassava. Honey one of the products of bee-keeping contains glucose and fructose, it is slightly acidic and it is extremely viscous and absorbs water, it contains bactericidal agent called inhibine which protects wounds from infections. Honey is money, it is delicious and nutritious. To tap into this numerous advantages of honey more emphasis has to be placed on bee-keeping.

Nigeria has a comparative advantage in bee-keeping due to its unpolluted virgin forest and the absence of known bee diseases. By keeping bees large quantities of honey and raw bee wax can be produced for home consumption as well as for export.

The main purpose for keeping bees is for their honey and bee wax. However, other products such as propolie, royal jelly, bee pollen and bee venom are of high demand both in the local and export market.

In Nigeria, bee-keeping for honey production is a potential profitable agricultural enterprise and an important foreign exchange earner for those who export honey and bee wax. Other benefits of bee-keeping can be highlighted as follows

- Since all the necessary input needed for bee-keeping are available locally some may go to waste if bees are not kept these include pollen and nectar from flowering plants.
- Bee-keeping is self-reliant. It depends on limited foreign equipment or input and the technology is readily available in many rural localities.
- It improves the ecology since bees do not over-graze as some animals it also helps plant reproduction.

Overreaching Objectives of the Project

The project will embark on increased awareness among community dwellers, hunters etc, on the need to preserve their natural surroundings. By giving

local communities access to relevant information and fostering their understanding on the importance of preserving the area, the rate of spread of deforestation and the hunting of wild game could be drastically reduced to achieve sustainable minimal levels. This will prevent the loss of environmental resources and bio-diversity in an attempt to ensure environmental sustainability, in line with Goal 7 of the Millennium Development Goals (MDGs). Moreover, it will promote attitudinal change towards nature.

Community dwellers would be empowered with relevant income generating skills e.g. trained to become guides; livestock farmers, etc. This will allow them meet their financial need as well as restore their appreciation of their surrounding environment.

Justification

Given the challenges posed by hunger and poverty and the potentials of bee-keeping to address these problems, there is need to create awareness on the importance of bee-keeping to alleviation of rural poverty.

To achieve these, rural people include women could be trained in bee-keeping and honey processing in other to ensure sustainable honey production bearing in mind that the United Nation (UN) through its Food and Agriculture Organisation (FAO) also acknowledge bee-keeping as a viable weapon against poverty and hunger. This implies that bee-keeping holds the key to positive and practical measures against hunger and poverty most especially in rural areas since it requires minimal cost input that can be got by the rural dwellers.

One of the best ways to stimulate the interest of rural people in bee-keeping is to educate them on the vital role of honeybee to health, agriculture and the environment thus the project proposal to train and set up youths hunters and house makers in bee-keeping and honey processing. The program would train participants on the intricacies of bee keeping not only for sustainable honey production, but also to preserve the honeybees as a vital part of the natural environment.