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**COURSE NAME:  
RENEWABLE ENERGIES**

**Assignment Title:  
SOLAR ENERGIES FOR CUNENE PROVINCE**

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## **Introduction**

Cunene is one of the 18 Provinces that make up the totality of Provinces in Angola, the southernmost of the country and one of the least developed in the country.

Despite its potential, suffers from lack of energy, relying on the supply of energy from the Republic of Namibia only two municipalities that are the Kwanhama where is the capital of the province and Namacunde which is on the path of transporting electricity from Namibia.

With some luck the Ombadja Municipality has a solar system installed for the capital of the Municipality and the rest of the localities have no energy.

This is a reality that is not only in Cunene but throughout the country, lacking a strong investment in the area to improve the living conditions of citizens, knowing that energy itself generates development.

Taking advantage of the most modern technologies, we think that we can count on science to use renewable energies to definitely overcome this challenge.

What are renewable energies?

Examples of renewable sources are hydro (energy from river water), solar (energy from the sun), wind (energy from wind), biomass (energy from organic matter), geothermal (energy from the Earth's interior), and ocean (energy from tides and waves).

The prospect is to develop a solar energy supply system that will initially supply energy to the localities in Cunene and later to other places in the country where this precious commodity is lacking.

## **Body of Assignment**

### **1. Experiences**

Administratively, Cunene Province is subdivided into six municipalities with a total population of 990,087 and 850 localities distributed between communes, urban and rural localities.

And those area are not covered by the electricity, a few people with opportunities they are using generators with petrol in their houses or their businesses activities. But

sometimes they have difficult to refill petrol because the oil fails too much in the service stations.

The locations have divided us it is under:

MUNICIPIOS	COMUNAS	LOCALIDADES		
		Urbana	Rural	TOTAL
<b>CUNENE</b>	<b>20</b>	<b>46</b>	<b>804</b>	<b>850</b>
Kwanhama	5	15	177	192
Ombadja	5	15	195	210
Kuvelai	4	4	99	103
Curoca	2	0	86	86
Namacunde	2	8	156	164
Cahama	2	4	91	95

As we can see: the municipalities with the most localities are Ombadja County and Kwanhama County. The Municipality of Ombadja is the one with the highest density and extension at the level of the province and also the one that has the most useful land for the development of agricultural, industrial and other activities that may eventually develop in the province. Larger also in water resources followed by the Municipality of Kuvelai where there is also great mining potential as well as the Municipality of Curoca.

Imagine that among these 850 localities, no more than 30 have been supplied with electricity, some by generators, energy from Namibia and only one has been supplied by solar energy.

In other places, we find state and private infrastructures that can only work during the day, and at night they are closed for lack of electricity. Those who use generators are often forced not to use them due to fuel shortages.

The lack of fuel is mainly due to the fact that the fuel reaches the pumps and because of the struggle for survival people buy fuel in drums to sell in the Republic of Namibia where under all possible risks they can supply their families and maintain household expenses due to the high level of unemployment in the country.

## 1. Idea

Our objective is to create a technological assumption that will serve as a beacon to generate an acceptable development environment at the level of the localities that, with great potential or not, generate development and collective growth of the target populations.

Imagine that among these 850 towns and localities that the Province has, there are no more than 30 that the Government has so far supplied with electrification.

In other locations, having energy is a pipe dream and it is for these that our main interest is to make their dreams come true.

Some of these locations are supplied by energy from the Republic of Namibia, and only one that is supported by solar energy.

The people in these localities live in a very precarious way and do not have the minimum conditions of habitability, social and economic.

They need help from people a little more enlightened because they lead this life of poverty as their lifestyle, they live as Plato said in the myth of the cave, needing someone to take them out of the cave and show them the beneficial effects of living in the light.

Those unbalanced localities that are of interest to the ruling Government Party because of low literacy to be easier to corrupt and content need to know a lifestyle that has not been provided to them by the governing structures to develop their localities and provide better living conditions for their future inhabitants.

It is noted that many of its inhabitants live below the lowest level of poverty, living on less than USD 0.5 per day, considering that they live on subsistence agriculture and do not have the opportunity to have an average or decent job because they did not go to school.

The idea is to create an organizational climate that will bring about changes in their lives and teach them new models of generating resources and new cultures so that they no longer live solely from agriculture and pastoralism.

It is not easy to deal with situations of the kind attending those interests many who have this miserable life to easily accept low corruptions to vote for people who neither consolidate nor change their lives.

They need to open their vision and awaken from the sleep that has enshrouded them since the most ancient times. Evolving, growing, developing and establishing more challenging standards of living is what matters for the improvement of cultures and peoples who are not at the level of development that the new generations are facing.

## **2. Capacity Building of Human Resources**

One of the biggest challenges in these regions will be to train and educate local people to deal with these investments.

A good part of this population does not have sufficient academic knowledge to interpret the technologies, for various reasons: in some of the localities there are no schools and in others education is very weak.

There are teachers in these few locations, but for reasons of inefficient infrastructure to house these teachers, many do not stay long enough in these locations. They mostly stay on the job when they receive their salaries. Salaries are low and most of the time not enough to cover transport and living expenses, as most have houses with their families in the towns and in those places too.

The rationale for not taking families in those localities lies in the fact that there is little opportunity for training for children in those localities and they can generate an unexpected rate of underdevelopment in children.

Another not insignificant fact is that a good number of teachers end up in these localities as punishment, having misbehaved in the city, they are sent to the bush as payment for their sins. These teachers, of course, do not provide excellent service.

To remedy this shortage by installing the systems, these young people need to be trained to operate the systems and make them profitable for the benefit of their communities.

### **3. Investment and Infrastructure Perspective**

Naturally it is a dream that surpasses my economic condition, but I can effectively count on those who can help me materialize the project in a gradual way, starting with the headquarters of municipalities that do not benefit from regular electricity or where the cost of production is quite high and cannot benefit many users.

In some locations, the work will be reduced because of the existence of existing distribution channels and the only responsibility will be to create the energy sources and supply the pre-existing channels.

We have to think about scenarios for obtaining equipment that will materialize our idea of reinforcing the energy capacities of our provincial fabric and we are thinking of turning to South Africa or Namibia, where there are some companies operating in this segment, and establish goals and agreements for their implementation in our region. Considering also the proximity to our Province where the materials and equipment can be transported more easily. Considering only that the materials are of quality and the prices in these two markets are high.

In the transition of these goods, one must obviously add the customs taxes that are charged both at the border between South Africa and Namibia as well as between Namibia and Angola, considering that the country that charges the highest taxes in the region is Angola.

As an alternative, one can resort to the Chinese market where goods with different prices and qualities can be found, plus transport by sea and then by land. This whole process can take no less than 45 days.

The interest is objectively to create an environment that will make the project successful and come to improve the lives of citizens and give hope to their families by fulfilling their short-term dreams for the sake of future generations.

#### **4. Creation of parallel investments**

This is a project that in parallel can bring to the places of implementation other accessory projects. The first and most important that I consider is to improve the communication of these localities with the world, we would be talking exactly about the opportunity that they will have to be able to watch television programs and be able to use the telephones to communicate more easily. These electronic resources, for those who use them, automatically improve their view of the world.

These people need to know how other people's live and what the cultural manifestations of other peoples have been, we are in a phase of great technological and cultural revolution in this world in which every day is becoming more of a global village and bringing people into this global village is undoubtedly a way of liberating minds, consciences and lifestyles.

Trade, employment and other initiatives that are relevant to indigenous communities can be developed.

Here we can also open a parenthesis of satisfaction that those workers who may eventually work in those places will no longer be in a hurry to leave for the urban centers to update or communicate.

It will bring an index of greater satisfaction for the local inhabitants as well as for those who indirectly help them to get out of this lethargic environment in which they are immersed.

This focus, certainly, that is part of what we will call institutional charity where even the small citizen has the opportunity to have and generate employment associated with quality leisure. Having the people happy will also raise their worry index that overcome the natural tendency to think only of eating and sleeping.

## **5. Vision of the future**

There are dreams that we have and that, certainly when fulfilled, may serve to benefit excellent people who have their talents forgotten amidst the darkness called opportunity.

In these places you will find great citizens and you will find great leaders with the capacity to revolutionize the world. What separates them from their seniors? They do not know the way, they are not shown the way, their path is obscured, their dreams are blocked, and they do not have the material and psychological opportunities to fully explore their greatest potential.

By having this opportunity, we will be manifesting our interest to the universe to deliver to it liberated and happy people with the capacity to realize their ideals.

A good number of people who come out of these remote places and who have been brilliant people are those who were lucky enough to be trained by the Churches, who had boarding schools for students in difficult times of exploitation of man by man, in times of civil war and other challenging times of national politics.

The Churches play their role, but often also feel challenged to reach certain localities due to lack of even basic conditions that attract them to base themselves there.

The development of these energy capacities may attract many good people to these places and create a new man with the same dreams and opportunities to develop the great dream of having a balanced Country and generate cadres that may come to operate in the international market together with others around the world who are concerned with the growth and development of the majorities.

In truth, no one knows for sure what their mission is in this big, beautiful world, but creating opportunities to fulfil the dreams of others is quite enjoyable. I have had such experiences as a teacher when I find my students well-trained or performing social functions in any place and it gives me an unsurpassable pride.

I think the day you meet someone you have managed to take from ignorance to development will be a delight without equal.

I don't think so much of what they will have after this sacrifice to think of them, but of what they will be and the brilliance they can bring to their families, their localities, the Country and the whole World.

## **6. Improvement of living conditions**

Every man dream of having a better life that is evident and obvious. But the stratification of well-being changes from person to person. Those who live in these places dream of

having health, food, a place to sleep, a farm, children, health, and they do not go beyond these primary needs year after year.

Being engaged in this process, we will certainly have to show them that there is another world outside the cave, with completely different dreams and life perspectives: we will have to make them dream of a quality education and its advantages, of a good house with water and electricity, of a decent job that will make them earn a decent wage capable of meeting other human needs. To show them that they are citizens of the world and that they should not be confined to those places.

We must show these people that there are other opportunities that a revolutionized people can conquer, to put them face to face with reality and overcome the social myths that there are people who were born to suffer and others who were born to live well, as is so often said.

We need to free these people from limiting ideas and mental blocks.

## **7. Improvement of the surrounding environment**

Without any doubt, a well enlightened person is worth more than a person who lives in innocence and ignorance. Whoever lives like that, despite being a vehicle for the transmission of unique cultural values, is illiterate in terms of the demands of world cultures.

Realizing how people live and the dreams they make certainly took these cultural exchanges and experience to develop their communities.

The type of coexistence between them and nature will call for a new model of decisions and break the patterns rooted from their ancestors.

Here we will have the opportunity to put these people in contact with the world and in contact with a lifestyle that, without clashing with their cultures, will help them to leave a closed and limited coexistence towards an environmental revolution in their minds. I would say that they will start to think outside the box.

One of the factors that I also find relevant is to change the model of agriculture they use to move from survival agriculture to mechanized or industrial agriculture capable of meeting their basic needs for wealth generation. The type of manual agriculture that they use takes a lot of time and gives a much lower use of the opportunities that the land they have at their disposal could in some way provide for needy families.

People in urban centers lack food because of the lifestyle they lead, and they could exceed their needs if there were a fair exchange between the city and the countryside.

This can also open a window of opportunity for people living in small villages to improve their infrastructure and their way of thinking about reality.

### **8. What do the people expect?**

I have the sad news to say that these people live in despair and without horizons to overcome their condition of life.

These people do not know how far they can go because they do not know any other world than the one in which they live.

These people need to be taught the way.

Much of these people have been instrumentalized and manipulated by the political and administrative systems to benefit a few opulent and greedy people who do not care about their fate or their survival and overcoming.

### **Conclusion**

In conclusion, I say that this project of installing an unpolluted energy system, in addition to providing localities with opportunities for growth, will also facilitate the exchange of experience with other peoples and improve the lives of the neediest citizens.

We get used to thinking only about ourselves and little about others, that is why we find societies with the social imbalances they have; we recommend those who govern nations to think a little more about those who are robbed of their voices, times and dreams.

We have a lot of good people making a lot of money with the business of the poor, being poor has become a business, they do reports on the poor, they know who and where the poor are, but when it comes to opportunities, they forget the neediest.

They use them at election time and in inhumane conditions, after which they don't even remember they exist.

It is a reflection that we should take with us throughout life, believing that the opportunities that appear to us should be aimed at strengthening the integral development of the neediest.

## **Bibliography**

### References

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