

# *Eco-Life, for a better world, “Make your ideas work”*

**Wilder Yovani Sandoval Moraga**

UNAN-MANAGUA, FAREM-CARAZO

wildert28sandoval10@hotmail.com

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## **Abstract**

“Eco-Life, for a better life” is a project that consists of the elaboration of plastic wood out of trash or plastic garbage, bags post-utilization such as: bottles of different bottled drinks, packaging, among other plastic materials. Out of this raw material, mixed with other fibers (coconut shell, sugar cane fiber, among others) undergoes a process that has as final product the plastic wood many products are made with, such as; desks for schools, mainly for rural areas, furniture of different kind and style, sheets for house building, ceramic, poles for fencing or enclosing of lots, in short, a great variety of products that could substitute wood.

The project is born after observing the huge trouble both in our country and also worldwide, of the striking quantity of plastic garbage along streets, polluting our environment and showing an unpleasant aspect of cities and towns. Just there is the problem which needs a viable solution and also such material needs to be used.

“Eco-life, for a better world”, in its initial stage, has experienced the trial-error phase; however, trials are still being made to improve the product and diversify it even more, because currently, actual size products have been produced, and their resistance, quality, durability, versatility and innovation is notorious. (Pictures, see appendix).

The next stage of the project is the searching of financing to initiate and undertake the business itself that will devote to the making and commercialization of both, plastic wood for different uses and also the commercialization of different products already finished.

Moreover, it is hoped to make alliances to obtain the necessary raw material so that to be able to generate job indirectly. Also, recipients will be set in strategic places such as grocery stores and supermarkets for people to throw plastic garbage in to be collected later, contributing to a more agreeable environment, free of so much pollution.

## **Setting out of the Problem**

According to statistics, worldwide it is produced about 20 million tons of plastic PET (polyethylene terephthalate) used by bottling plants, out of which, only the 20% is recycled, it means, the other

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approximate 80% is on the streets, lakes, rivers, lagoons and oceans contributing to the pollution of our environment, so affecting the climate change, this is why it is necessary to contribute in massively collecting and reusing the plastic bottles to diminish the pollution and lengthen life in our planet, as well, to go reducing the climate change that affects the whole globe.

Besides the pollution originated by the plastic debris, planet earth faces tree cutting then thousands of hectares disappear in our country. That raw material is used for different products that affect both flora and fauna; many species of birds and plants have disappeared and global warming has increased.

This project will economically benefit the country, mainly in the social and environmental manner, because resources like plastic will be used, also environmental pollution will diminish, illnesses due to this pollution will be avoided, and moreover it will be a more delightful environment, with more oxygen because of the lessen in the tree cutting and substituting wood by recycled plastic wood.

Products will be made for cheaper prices because they are recycled and ecological. It will start with fabrication of desks seeking alliances with companies so these desks get elaborated at a cheaper cost and deliver to rural schools of our country then our boys, girls, adolescents and youngsters can study comfortably enough.

The project is sustainable and feasible because it covers diverse problems immersed in our society, our country and worldwide. There is opportunity for trading because our products will be cheaper, eco-friendly, resistant to climate changes among other characteristics.

### **Antecedents**

In our country, like other countries of the world, pollution's economical costs are not considered, there is no awareness of the environmental deterioration degree caused by the ill managing of solid waste. It is stated, that the excess of solid waste originates a great exhaustion of virgin resources, specially due to plastic and with more emphasis, due to plastic bottles, which can last more time to break down (even more than 500 years), this has motivated the need to find effective ways to counter attack the negative effects in our environment that affect all of us.

According to the official results of the VIII citizens' census and that of IV housing census, in Nicaragua, only 4 out of 10 homes, it means, only 43.4% approximately throw garbage through a garbage truck or through an official container or can. This means that the majority of the homes, some 56.6%, either burn it, bury it, or throw it into a river or creeks that ends up in lakes, lagoons and oceans. That is why this study focuses primarily on the plastic recycling, offering solution to one of the major problems people face. (INIDE, 2015).

In this sense, the recycling shows as a viable alternative for the solid waste treatment, before using other ways like burning, garbage dumps, among others. The 29.9% of the Nicaraguan homes actually use some of those inadequate ways of solid waste treatment and the rural sector reaches the 95%, according to the citizens' census and IV housing census.

That is why, although the plastic bottles represent a big problem of environmental pollution, for our project the option of reusing is very important. In this way the environmental stress during the extraction of the raw material and transportation will be avoided, which does not happen to other objects, for example, "between an armchair and a car, ¿which one can be reused?, well in this case it is not suggested to reuse the car because as time passes is more polluting". In the case of the plastic bottles, their recycling can result in different products like the ones we want to produce.

## Objectives of the Project

- To contribute in the reduction of the pollution due to the misuse of the plastic and PET, likewise, to help improve the infrastructure of education and the formation of job opportunities in this country.
- To contribute in the preservation of the environment through a project that promotes the culture of recycling by means of the reusing and transforming materials, useful to establish an eco-friendly, innovative and creative point.
- To prioritize the recycling as an essential value of mind changing of the human being and as aid to a good integral environment management

## Objectives of “Eco-Life, for a better world”

### Short-Term

- To constitute the small business.
- To place recipients to collect plastic in strategic points.
- To set relations with possible clients and suppliers.
- To manage the equipment of the plant (our machinery)
- To run a plan of marketing and publicity.
- To initiate the production of our star products that allow us to reach a balanced point in the first year, so that we can be in continuous innovation of our products and processes.

### Medium-Term

- To have a sustained growth of about 10% in the first 3 years.
- To cover the market of the South Pacific in the second year; rest of the Pacific and the Central Zone in the third; the national market in the fifth, operating with the fabrication and commercialization of different products.

### Long-Term

- To be leaders in the Nicaraguan market in the making of plastic wood and ecological products.
- To diversify the production of new eco-friendly products with continuous innovation.

## Financial Objectives

### Short-Term

- To create a business with social capital and technology, with optimum operations, with the purpose of empowering the human talent.

### Medium-Term

- To grow as business both in the market sector and in the diversification of the offered products.
- To consolidate the maximization of the resources and profitability.

### Long-Term

- To be a self-sustainable business and with good financial practices that can allow enjoy of liquidity,
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profitability, and business prestige.

### Description of the Innovation

“Eco-Life, for a better world” consists of gathering plastic in massive quantities by means of recipients placed in strategic places and with alliances of gathering businesses, after its cleaning, classification and preparation; it is converted from solid to liquid state and through molds, it becomes plastic wood and diverse products that generally are made of wood.

In this way, it will be contributing to the environment, because in one hand there be will recycling and reusing of plastic, on the other hand, it will help reduce trees cutting to make these pieces.

“Eco-Vida, for better life” project, focuses on two environmental topics concentrating on *the collection and reusing of plastic and the PET to diminish the use of wood for the use of the eco-friendly and recycled plastic wood, as a result, the lessening of cutting trees*, because both damage the earth, since worldwide there are millions of tons of PET produced and millions of trees cut to make desks, chairs, armchairs, among others and with two problems life gets shorter due to problems caused by pollution and the lack of good air to breath.

“Eco-Life, for a better world” will contribute to improve conditions in different aspects. From the ecologic perspective it achieves: less tree cutting, garbage and pollution cause by the misuse and bad management of the plastic; the reduction of probable epidemics, sicknesses and mosquitoes spots.

It is important to mention that this project uses the total of the plastic and bottles, since by taking it from solid to liquid state, everything is used: the spout, neck, body, bottom, tap and label.

Then, this project will be the first business in the country that will offer plastic wood, assorted furniture and diverse products, for a cheaper price, eco-friendly and more durable.

It also will offer new jobs opportunities in a direct and indirect way in its production, distribution and installation, line.

With this project it is hoped to contribute to the environment (water, ground, air, forest, etc.) and biodiversity in general and protect it. Recycling is a vital component in protecting the environment; without recycling our efforts to protect earth would be less efficient. It permits the reduction of garbage deposited in garbage dumps, sewage, lakes, rivers and the efficient diminish of burning it. With this burning, the toxic elements react with the oxygen of the air generating a bigger absorption of calorific energy that makes temperature hotter causing the so called “greenhouse effect” that provokes the climate change worldwide, with the known consequences.

Recycling is much more efficient in terms of energy consumption instead of producing something out of new raw material, actually worldwide it implies a significant reduction of energy costs.



*Desk made of recycled plastic bottles*

The main environmental problem of the plastic is its disposal, because as soon it becomes waste, its presence is notorious in the sewage causing blockings and difficulties in the processes of removal, facilitating floods, as well on the streets, forests, jungles and oceans that generates garbage. Though, the physical and chemical characteristics ensure this material is inert to the environment, the visual impact that produces its inadequate disposition is high and perceptible for population.

Most of the bottles end up in clandestine garbage dumps. In Nicaragua there is an extended universe of possibilities for entrepreneurs, however, there is not enough radical change of mind of the whole people to be able to visualize the presented opportunity. This implies a change of connotation, because “waste” is attributed to all material without any value, “residual” is everything that remains out of an activity that has a value and can be used in other activities.

Recycling is the only alternative that offers long term solutions, but implies a series of elements to guarantee success, such as will and discipline of population, an adequate system coordinated by the state and the private enterprise based on the incentives that generate an environmental and economic profit. By doing this analysis of the impact and benefits of a recycling program, it is necessary to know and analyze the markets for the recycled materials, its economic viability and the technological capacity to produce them. The existence of a market for recycled products is highly relevant for recycled materials, in order to support the process of collecting, classifying, packing and storing of everything that is collected. (Ruiz, 2013).

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