

# SEWVI

## SEED OF LIFE



OLGUIN FLORES SARA

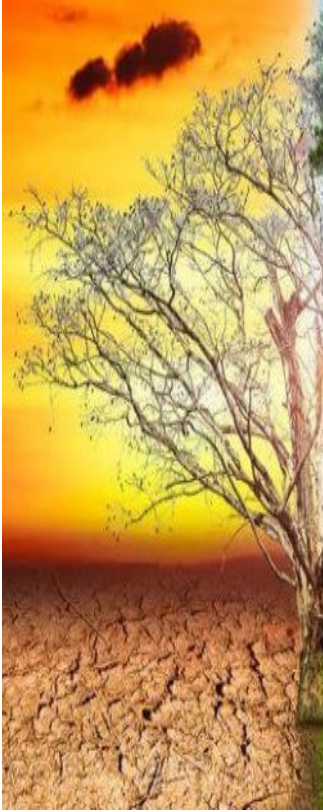


SICARDI JULIETA



LAURA YAMAKOSHY

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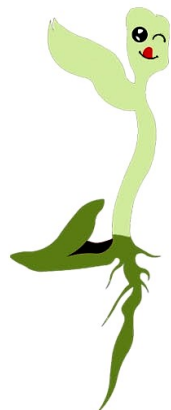


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# SUMMARY

The main natural solution to climate change is "more trees". With greater tree cover there are important mitigations that will offer us multiple benefits, the plant cover can help to improve climate change for a long time, considering that a well-tended tree can last up to more than one hundred years.

We currently have alarming data on natural disasters and human depredation every year with the pretext of urbanizing, commercializing, improving communication channels; it is dedicated to the deforestation of many tree species, where we can affirm that around 15 billion trees disappear on the planet, this makes us reflect and account for the disaster and an uncertain future that holds for us to continue with this type of activities, that's why our proposal focuses on trees and citizens' awareness.

As a proposal to the problem, it is proposed to include the "SEED OF LIFE" project in the country's educational model, which consists in the provision of tree seeds to 3rd grade students, with the objective of raising awareness through their own experience of caring for the environment and understand that trees are living, dynamic and important part of our livelihood.

As motivation and complement we present: "SEVI", a virtual pet; consisting of the use of an app (application for Smartphone) that accompanies the monitoring of the growth of a tree seed, until it becomes a plant, of which students of the last three grades before the baccalaureate will be responsible for putting in practice the project.

The virtual pet called "SEVI" represents a seed which grows and strengthens according to the care that the user makes to this pet, care that is materialized to the being applied in the real seed, all the care that the seed will need, will be content of the application platform, which will be strengthened through face-to-face training workshops.

SEVI is a tracing and monitoring tool, which aims to turn students into the main actor in the care and growth of a seed, in a dynamic, unique, entertaining and enriching experience by the knowledge and sensitivity that is obtained with this work.

With this project in addition to achieving awareness of the students, it is intended to obtain a considerable bank of seedlings, which will be used in demanding spaces.

# TEAM

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I AM AN ARCHITECT GRADUATED FROM THE JUAN MISAEL SARACHO UNIVERSITY IN THE COUNTRY OF BOLIVIA. I AM STUDYING THE SPECIALIZATION OF LANDSCAPE DESIGN AND PLANNING IN BUENOS AIRES. CURRENTLY I WORK DOING ARCHITECTURE PROJECTS AND AS A VOLUNTEER IN SOCIAL WORK. NATURE, LANDSCAPE AND ECOLOGY IN RECENT YEARS HAVE BECOME MY MAIN INTEREST IN RESEARCH AND WORK.

JULIETA  
SICARDI



I AM PASSIONATE ABOUT ECOLOGY, RECYCLING, SUSTAINABILITY, CULTURAL HERITAGE. I HELP RAISE AWARENESS TO MY FAMILY, FRIENDS AND EVERY DAY I TAKE CARE OF REDUCING MY ECOLOGICAL FOOTPRINT. I RECEIVED AN ARCHITECT'S DEGREE FROM FADU UNIVERSITY OF BUENOS AIRES, ARGENTINA. CURRENTLY I AM SPECIALIZING IN THE POSTGRADUATE COURSE IN LANDSCAPE PLANNING. I WORK IN NATIONAL TRANSPORTATION PLANNING IN CABA.

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I'M AN ARCHITECT FROM THE UNIVERSITY OF BUENOS AIRES. I AM STUDYING THE POSTGRADUATE SPECIALIZATION IN LANDSCAPE DESIGN. CURRENTLY I WORK IN AN ARCHITECTURE FIRM DEVELOPING RESIDENTIAL PROJECTS IN BUENOS AIRES. I HAVE LIVED AND WORKED IN ARGENTINA AND JAPAN. I AM PASSIONATE ABOUT THE NATURE AND DEVELOPMENT OF A MORE SUSTAINABLE HABITAT, AND I SEEK TO INCORPORATE THOSE THEMES INTO ALL ASPECTS OF MY PRACTICE.

# 1 INTRODUCTION

*“When the last tree is cut, the last poisoned river, the last fish fished, only then will man discover that money is not eaten”*

*Proverb Cree*

Our life model supposes an expenditure of natural and energetic resources increasingly growing and unsustainable. The industrial forms of production and mass consumption that make it possible, mean in the medium term the destruction of the planet. Some effects of the ecological crisis are already clearly discernible: rising temperatures, desertification, accumulation of radioactive waste, spread of diseases such as cancer or malaria, unhealthy fresh water, food insecurity, depletion of renewable resources and non-renewable, etc. The waste of some societies directly affects the poverty of others and contributes to the general environmental deterioration. It should be mentioned that these types of environmental problems are not recent, that is, they have existed for many years. Different laws and strategies have been carried out, but none have managed to solve the problem that has recently expanded considerably in our community, since this environmental problem must be solved with the commitment of every inhabitant of the

world. Environmental problems can not be analyzed or understood if a global perspective is not taken into account, since they arise as a consequence of multiple factors that intervene.

The human being is deforesting immense areas of forests and tropical forests. Every year we deforest an area equivalent to Panama. That is, about 74.000 - 93.000 km<sup>2</sup>. About 15% of CO<sub>2</sub> are released when deforesting, clearing and burning forests and jungles. In the last 50 years, almost 17% of Amazonas was lost due to deforestation. Almost 80% of the documented species of plants and animals live in forests and tropical forests that we are deforesting. More than 121 tree species are used as natural remedies and in the pharmaceutical industry. More than 28.000 species of plants and animals will disappear in the next 25 years.

# 2 PROBLEM STATEMENT

## ALERT ON OUR PLANET

### DESERTIFICATION / CLIMATE MIGRATIONS

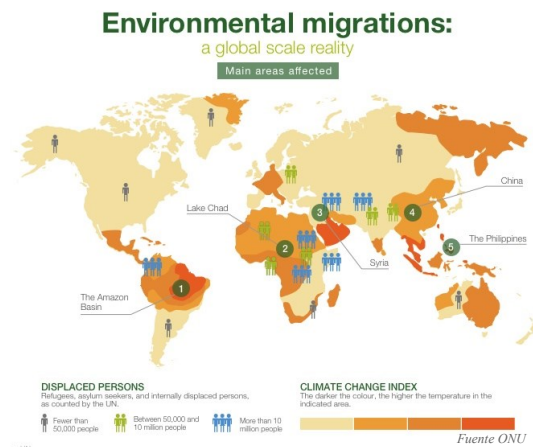
Desertification has forced thousands of people to leave their homes, an example is in the Sahel (the southern edge of the Sahara), since the impossibility of carrying out subsistence crops due to lack of water and erosion of the land. crop, aggravated the drought problem that plagues the region, especially during the dry season.

Climatic migrations are one of the effects of climate change that has less impact on public opinion, and remains an invisible problem north of the Sahara, but its inhabitants have suffered for years the effects of the destruction of habitats that prevent sub-Saharan Africans from prospering .

Not everything is bad in this place as it is intended to stop the advance of desertification, this environmental victory will result in sustainability, work and future for the millions of

people who inhabit this arid corner of the world.

There are few data that show us the problem of climate migrations since most are not published. However, in our cities we know towns that had to migrate. We use the term town because it is generally the peasant communities that suffer for this cause.



### DEFORESTATION / REFORESTATION INDEX

The rate of disappearance of the trees is alarming, the annual reports submitted by the UN on global deforestation do not allow to be optimistic, on the contrary, the forecasts of the last studies are apocalyptic.

If we continue with the current rate of deforestation, the consequences will be dire. According to a study recently published in the journal Nature, in about 300 years there will not be a single tree on the face of the Earth.

In addition to the deforestation caused by industry, trees are constantly threatened by agriculture and the loss of water resources.

Its disappearance entails the reduction of habitat, which is a serious blow to bio-

diversity, putting numerous plant species on the ropes.

The constant loss of habitats due to deforestation has led scientists to consider the planet as a hostile environment, which is heading towards the sixth mass extinction. As published in the journal Science (2014), we are on the verge of this environmental disaster, which in turn threatens to be an end to the human species.

According to ecologists from Duke University in the United States, human activity is causing a disappearance of species ten times faster than we thought, or if you want a thousand times more than in the origins of human beings.



EL AVANCE DE LA DEFORESTACIÓN DEL AMAZONAS EN LA ZONA DE RONDONIA (BRASIL)

NASA agrees with previous studies, where they conclude that planetary destruction will occur in the near future and from time to time new research supports this same argument. In June 2015, for example, the collapse of human civilization was announced for 2100 according to a study published in Science Advances.

In short, there are many studies that show a mass extinction that threatens human existence, and all agree that together with climate change, the loss of habitat is one of its main causes, both problems associated with the constant loss of forest mass. To give us an idea, in just one hectare of tropical forest there may be around 500 species of plants, for example, it has been found that 43 species of ants lived in a single tree.

With regard to terrestrial plants and animals, 90% of them find refuge in the trees or in their surroundings and the birds do not need comments in this regard.

The loss of forests generates the shipment 2 billion tons of carbon dioxide per year, the trees convert carbon dioxide into oxygen so, with fewer trees, fewer natural lungs will be able to carry out this cycle. This is where the real seriousness of the problem lies, in such a way that up to 25% of all CO2 emissions released to the ozone layer are caused by the effects of deforestation, moreover, without trees we are holding back biodiversity and starting a dangerous road to desertification. Forests are the maximum responsible for maintaining the ecological balance, many years ago about 10,000, it is estimated that half of the planet was covered by forests. Now, if we look at a map showing the green areas on the total mass of the planet, the picture is quite bleak, there are areas

that have lost a lot of forest, highlighting South Asia, all of Europe, much of Africa, India, Madagascar and Argentina.

In Argentina in 2017, 136.470 ha of forests disappeared, an area that is equivalent to six times the Capital, according to data from the Ministry of Environment and Sustainable Development of the Nation arising from the monitoring of the 16 provinces that cover the four most threatened forest regions, they are the park chaqueño and to a lesser extent yungas, paranaense and spinal jungle, quote La Nación. And what is dramatic is that 58.281 of those hectares were forests that the provinces had cataloged as "reds" and "yellows" because of their conservation value. According to parameters established by the law, forests are categorized as red, which must not undergo any transformation; as yellow those that presented some degradation, but they can be restored, and as green the little conserved sectors, so that they can be cleared with previous permits.

When analyzing the figures of forest loss in the last 19 years, two periods are differentiated. One, between 1998 and 2007, with an average loss of 300,000 ha per year. And another after the sanction of the law, between 2008 and 2016, with an annual deforestation of 267.000 ha, but with a marked rate of decline from 2014, when it drops to 190,000 ha and reached its historic low in 2016, with 136.000 ha. This figure represents an annual rate of deforestation of 0.5% of the country's forests, which occupy 27 million hectares. That decrease would allow Argentina to come out of the ninth position in the ranking, drawn up by the FAO, of the nations that lost more forests between 2010 and 2015.

## LOSS OF WILDLIFE

When talking about endangered species, one often thinks of large emblematic animals, such as the panda or the tiger, but we must not forget that the small species of the planet that are equally important and also require conservation measures.

Butterflies, for example, "play a central role as pollinators of the systems where they live," says Jane Smart (Director of the Biodiversity Conservation Group, IUCN - International Union for the Conservation of Nature).

For the first time, saproxylic coleoptera were studied for the IUCN Red List. They are unique species, because they depend mainly on de

caying wood, particularly in forests, and they play a very important role in the recycling of nutrients. One third of the 431 species studied are endemic to Europe. Almost 11% (46 species) are at risk of extinction in the region, 7% (29 species) are endangered worldwide and 13% more (56 species) are almost threatened in Europe.

For the saproxylic coleoptera, the main long-term threat is the destruction of their habitats due to logging. Also the beetle -*Limoniscus violaceus*- that lives in large cavities of the trees that contain mold of the wood, is threatened by the changes in the logging practices.



## FLOODS

Deforestation is one of the main causes of floods in Argentina, Brazil and Paraguay.

These are among the ten most deforested countries in the world.

"The floods that recurrently suffer are not a natural phenomenon, they are a consequence of climate change and that Argentina is one of the ten countries in the world that most deforests, losing our natural sponge by the uncontrolled advance of soy, intensive livestock

and the real estate developments".

A recent report by the United Nations Food and Agriculture Organization (FAO) ranked Argentina among the ten countries that dismantled the most during the last 25 years: 7.6 million hectares were lost (an area similar to the province of Entre Ríos) at a rate of 300,000 hectares per year.

One hectare with forests absorbs ten times more rainfall than one hectare with soy. More clearing is synonymous with more floods".



## HEAT / VEGETATION AND ITS INFLUENCE ON THE ENVIRONMENTAL TEMPERATURE.

If the man were aware and avoided the felling of trees, he would know that around the wooded areas he can have an ambient temperature between 3 and 6 ° C lower than the areas without vegetable cover.

Rob McDonald, researcher at The Nature Conservancy and author of the research 'Planting Healthy Air', explains that trees help to cool the environment in two ways: The first is through the shade they provide to the pavement; This is important since it prevents the sun's energy, which is stored on these surfaces, from being released and causing more heat. The second form is evapotranspiration. In this process, the tree releases water by its leaves and helps cool the environment.

McDonald argues that heat in urban areas has become one of the most serious environmental threats and its impact will only continue to increase, as climate change advances.

Plants modify the temperature around them by:

### - Transpiration

The process of converting water into steam through the leaves consumes energy which causes the area around the plant to cool.

- Convective heat transfer. In the forests, during the day the leaves of the trees absorb heat thus heating the air which rises sucking cold air below their cups, making the forest cooler at ground level; At night the trees radiate the heat raising the temperature inside the forest

### - Shadow

By blocking the sun's rays there is a radical change in the microsystem, the temperature

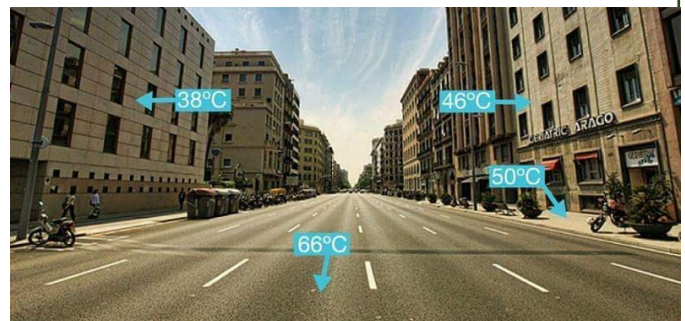
can drop by up to 20% in a shaded piece of bare earth. The trees filter the amount of sunlight that passes through them, the designer uses this knowledge to locate plants that provide shade in places where it is required.

In hot climates lush trees are located to the west, in temperate climates you can locate deciduous trees to the south to protect from summer winds, while during the winter its shade does not block the sun from the house. Other trees that reflect light and heat, are used to make sun traps that increase the temperature inside them, the traps work better if they are located on slopes facing south and a slope of 15%.

### -Wind

Trees and hedges have been used for centuries to deflect the wind and protect homes and crops.

Windbreaks act: Reducing wind speed and erosion. Protecting plants sensitive to the wind. Modifying the air and soil temperature.



## DROUGHTS

Our planet contains more than one billion trillion liters of H<sub>2</sub>O, but little can be taken.

More than 97% of the water on Earth is salty. Two thirds of the fresh water is retained in glaciers and polar ice caps. Of what remains, most are trapped in the ground or in underground aquifers.

That leaves a minimum fraction available to most living things.

And humanity does not just need it to take it: almost everything it does involves water in some way.

For some time we knew that the shortage of drinking water threatened to become a serious problem for everyone. About one in ten people on the planet - almost 800 million - have no access to secure sources.

The World Economic Forum and other institutions estimate that by 2030 there will be a 40% higher demand, which the planet will not be able to supply.

That will affect agriculture, which will increase food prices.

And, as the geologist Ian Steward points out, it is not hard to imagine that if a solution is not found soon, the possibility of freshwater wars is high.

In Pakistan, in the Harrapan desert, it was initially an area rich in forests, which enjoyed an adequate rainfall regime thanks to the monsoons (seasonal winds): thus a good sample of self-sustaining forest ecosystem. The forests were gradually cut down by farmers, who needed herbs for their herds. Precipitation in the form of rain remained in the region, until massive logging affected more

than half of the territory. As a consequence, the rains ceased and the area became arid and the surrounding forests also died. At present the area is a semi desert, capable of keeping only a small number of people and other organisms that previously lived in the forest.

One of the most important functions of trees is their ability to evapotranspiration of huge volumes of water through their leaves. This process begins when the water, due to the heat of the sun, evaporates (it passes from the liquid to the gaseous state) and enters the atmosphere as water vapor. As it rises and by decreasing temperature, the water vapor condenses (becomes small droplets) forming clouds. The water condensed in the clouds finally falls as rain on the continents, thus allowing the growth of the trees and their roots, as well as that of other living organisms.

On the other hand, once their leaves fall, they rot on the ground, determining their enrichment; since the nutrients are recycled quickly by the bacteria of the land, thus closing a cycle. That is, then, that if the trees are eliminated, the rain will cease, since both factors are closely related. Without the rain, the earth will begin to die, producing a strong erosion and the forest area will eventually become a desert.



## CARBON DIOXIDE EMISSIONS

The strong increase in energy consumption recorded in 2016 caused a new record of carbon dioxide emissions to be set in 2017, according to the International Energy Agency (AIE), which figures these polluting emissions at 32.5 gigatons ( 32,500 million tons), 1.4% more than the previous year.

A tree can absorb up to almost 22 kilos of carbon dioxide per year, and can sequester a ton of carbon dioxide by the time it reaches 40 years.

The excess of gases has created the greenhouse effect that affects the destruction of tropical forests. Carbon dioxide is (CO<sub>2</sub>) is a greenhouse gas. The trees absorb CO<sub>2</sub>, which helps to combat the greenhouse effect.

The trees create oxygen, an element that we know well, we need to breathe. That only circumstance would seem sufficient motivation to leave them intact. As lungs of the planet, the forests work 24 hours to extract carbon dioxide from the air (a process called "carbon capture") and give us oxygen in return. Nowadays, many scientists concerned about climate change are investigating all sorts of intricate, expensive and artificial tricks to capture carbon from the atmosphere in the hope of moderating climate change. Which is a nonsense, because we already have a natural system that, in addition to capturing the carbon of the atmosphere, gives us the exact type of air we need to breathe.

# 3 WHY A TREE?

The importance of the tree in the environment is something that we must keep in mind as it is much more than just an adornment of nature. The benefits provided by the trees are many, one of the most important is the production of oxygen, which is essential for life on the planet. The United Nations Food and Agriculture Organization, indicates that the forest masses in the world, currently absorb 10% of all CO2 emissions, that is, mitigate the equivalent of 650,000 million tons of this gas. Some of the specific benefits that the trees provide us are the following:

- ◇ Trees absorb carbon dioxide, fight the greenhouse effect.
- ◇ Trees prevent soil erosion.
- ◇ Trees help prevent water pollution - save water.
- ◇ The trees are home, shelter and source of food.
- ◇ The trees purify the air / Absorb gases and odors pollutants.
- ◇ The trees contribute to cool streets and cities.
- ◇ Trees help reduce noise pollution.
- ◇ The trees improve the runoff of the land.

**Did you know that more than 50 species of animals and other living beings depend on a tree?**

**Among them you.**

# 4 PANORAMA OF THE SOLUTION

## -4.1 AWARENESS

According to the United Nations Organization: "We have come to a moment of reflection in history, in which we must orient our acts of depredation around the world, aware of protecting the environment in which we develop. Through ignorance or indifference we can cause irreparable damage to the environment, on which our life and well-being depend. On the contrary, with a deeper knowledge that vegetation is life and a more prudent action, we can achieve better conditions of life for humanity, with a healthy environment that meets the needs and aspirations of man.

Our project proposal is aimed at all citizens in general, emphasizing college students, who represent the future of our planet.

The project aims to achieve awareness with the task of growing a tree seed; to understand that they are with a living being.

The best understanding of a topic is through one's own experience, it is always more effective. It is sought to achieve with this activity that man acquire sufficient knowledge to understand the importance of caring for the environment and that the tree is a fundamental part of it.

Being able to grow a tree is also an extraordinary way to promote a lifelong friendship with the plant family.

When people are involved with a task such as planting a tree, by observing the growth and development of the plants, they begin to have a greater understanding and respect for them.

Through the care of tree seeds, they can learn to recognize that they are living beings, that they have their life cycle, in addition to the existence of different species that fulfill a primordial function for human life.

Growing trees is an extraordinary experience, a great opportunity to learn and to play an important role in the processes of landscape renovation and restoration.

With a look towards the future, we expect that the knowledge and sensitivity obtained can be replicated in their homes.

## - 4.2 INCORPORATION OF "SEED OF LIFE" TO THE EDUCATIONAL MODEL

### A) TAKE AS GOVERNMENT POLICY. THE PROJECT: "SEED OF LIFE".

Take as a government policy the project: "seed of life", where students of the last three years of high school can be responsible for a seed until its development, which at the end will be delivered for subsequent planting in previously studied areas, plantation will be done with the students themselves.

What is sought with this project is that students can experience the growth of a plant from the seed, understand that trees are living beings and that their growth requires a lot of patience, in this way it is intended to inculcate values, sense of protection and respect towards the plants in the students, and that they are replicated in their families and in their children in the future.

Taking as an example the city of Buenos Aires, which has 16.444 educational units, of which approximately 315.659 students graduate per year. This would be the approximate number of seedlings that will be obtained per year.

An interdisciplinary team specialized in envi

ronmental and social issues, will carry out the analysis of the destiny that the seedlings of each year will have, what is projected is that the destinies first satisfy urban demands that is where you have more needs and progressively a repopulation of vegetable matter is made throughout the city. The personnel in charge will deliver the seeds taking into account the needs that have and the type of species that will be planted.

Fortunately many people today talk about the benefits of planting a tree as an alternative to improve the environment, however, many times it only becomes transient conversations.

Various private institutions, politicians and some educational units carry out campaigns and reforestation days, which are very good, but have limitations, because they do not have the economic resources required to carry out the activity and they do not have trained human resources who can guide, guide and follow up on a project of this nature and often do not have the amount and species of plantings necessary for the activity.



Keep hoping to take care of the environment or plant a tree is something that is something that will take us many more years of waiting, so it is a priority that these types of policies are raised by the government, which can guarantee sustainability in the short term, medium and long term, that governments in turn take reins in the matter and commit together with the citizens to give course to this type of

projects that seek to extend the life of our planet that unfortunately is dying.

The project proposal will also generate direct and indirect jobs for various professionals and technicians who work for the environment who seek to live in harmony with Mother Nature, with the sole objective of living better and offering living conditions.

## B) SEED DELIVERY TO HIGH SCHOOL YOUTH

Each year a planning council will select areas to be reforested according to the needs of the area or city, after selecting the area of future seedlings, it will analyze which species are suitable for that area, taking into account criteria for the selection of species :

- ◇ Feasibility to the adaptation of soil.
- ◇ High survival rates.
- ◇ Growth when planted in degraded sites.
- ◇ Extended root system that ensures its rooting, if applicable,
- ◇ Rapid production of biomass to prevent the development of invasive species.
- ◇ Provision of flowers, fruits or other resources at a young age to attract seed disperser wildlife.
- ◇ Increase in social value and provision of ecosystem services in the short, medium and long term.
- ◇ Do not use species recognized as invasive.

Once the analysis of the site for seedlings and



selection of suitable species has been completed, seeds will be given to each student who is in the 3rd grade of secondary school (three years before the baccalaureate).

The subject of Vegetation as a living being will be included in the subject of Biology corresponding to the 3rd grade of secondary school, from which the delivery of a seed will be made to each student (plus two replacements), it is at this moment that the student becomes in responsible and friend of a tree; In the first sowing workshop, students will learn to sow the seeds in pots made from reused containers and know seeds of various native species, which they can then grow in their homes.

Each student, applying the topic learned in the class of the subject, will begin this adventure of giving life to a tree, he will realize it from his home, he will not need much space, but patience and responsibility.

Complementary workshops will be provided throughout the 3 years to the students, where they will see topics about the importance of trees in our environment and necessary care for seedlings according to the stage in which they are.

## C ) MONITORING THROUGH THE SEVI APP - "SEED OF LIFE".

An app is created, an innovative solution for monitoring the seeds of students, within reach of any Smartphone.

This app is not only to take control of the germination of the seed and its growth, but to convert the responsibility that students have in a unique and fun experience.

It is "SEVI", a kind of virtual pet that must be cared for and fed, this mascot represents the seed of each student, that is; When the virtual pet requires care, they will have to perform the real seed, in this way the application serves as a reminder and base of information so that the task of growing the seed has a fun, educational and interactive profile.

Its function is to provide a follow-up through the virtual pet, that the application can give notifications according to the real needs of the "seed-pet", that the application can answer frequently asked questions and that in this way it is more educational, related questions to the trees as being:

- ◇ Which ones grow faster?
- ◇ Why?
- ◇ Do they give any more shade than others?
- ◇ How does it affect your growth?
- ◇ Is there an animal or insect that gets rid of the trees? What clues do they leave?
- ◇ Are there similar trees in the neighborhood?
- ◇ Where do they grow (wild, cultivated, dry, irrigated ...)?

□ What other plants and animals are around?

The application not only points as a user to the students, but to anyone who wants to live the experience of growing a plant from a seed and want information and follow-up on it.

The schools will be the main users, the strategic allies and will have no cost for them, the app is installed directly on the user's smart phone, it will include all the contents and does not need a network to function. It will offer a unique user experience in order to provide information, awareness and through the mascot to give a playful character to this activity.

Also, the application will have a platform in which students can share their experience and process in social networks.





# ABOUT THE SEVI

## USERS

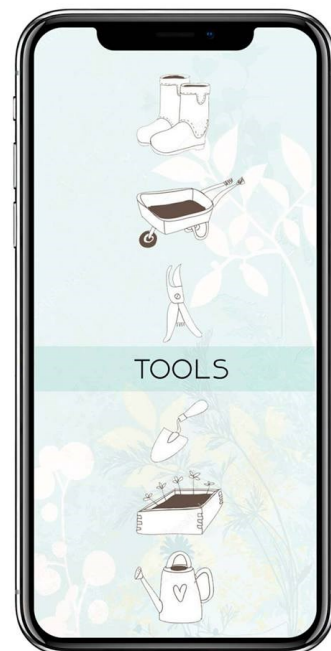
The use of the app can be done by anyone interested in living this experience. For the same, the user must register and register his seed; You must know the name of the seed so you can select from the database that contains the app.



# ABOUT THE SEVI

## FUNCTIONS OF THE APP

- ◇ Notifies the irrigation schedules and needs of the registered seed
- ◇ Presents a catalog of trees of native species in preference.
- ◇ It allows the registration of a tree seed, which becomes an animated character that develops according to the actual care received.
- ◇ Shows nearby nurseries for the provision of materials (generates resources for maintenance of the app)
- ◇ It has a photo gallery, where you can save the images of the development of the seed.
- ◇ The progress that the seed presents can be shared by social networks such as Facebook, Instagram and Whatsapp.
- ◇ It has a chat for users who have registered their seeds and so they can share their experiences and concerns with other seedbeds.



## EDUCATIONAL CONTENT

- ◆ Contains the characteristics of different tree species
- ◆ Provides information about the care, needs and requirements that trees need
- ◆ Provides options for natural remedies for plants.
- ◆ Provides ideas for using recyclable materials such as planters
- ◆ Provides information for the preparation of organic fertilizer at home.

## B) SEED DELIVERY TO HIGH SCHOOL YOUTH

Delivery of seedlings and subsequent planting

In the third year of obtaining the seed, the year of baccalaureate of the students, they will deliver the seedlings obtained and will have the opportunity to plant them in the place previously planned for such activity. There will also be the option that students can plant their trees in their homes or open spaces that they had, if that were the case because it is

true that the students who own the trees will have a lot of love for the plant they saw grow and if they have conditions they can have at home, this not to frustrate the student's experience. Any case will be resolved with the planning board.

Growing trees from the same seed can take a long time, but it has many advantages, both educational and economic.

# CONCLUSION

In conclusion, we refer to the term "Biophilia" (it was coined some years ago by Harvard University biologist E. O. Wilson to describe "the innate emotional affiliation between the human being and other" living "organisms.")

The professor of the University of Virginia Timothy Beatley, author of the book "Biofílicas Cities: Integration of the Nature in the Design and Urban Planning", applies the term biophilia to the cities that present / dis-

play an urban design that allows the inhabitants to develop activities and a lifestyle that lets them learn from nature and commit to their care.

In the process of the project through awareness and own experience it will be possible to achieve this goal of converting our cities into biophysical cities, not only from an urban design but through its transformation made thanks to the collaboration of its inhabitants, creating ties with nature that surrounds us.

"NOBODY CAN DO EVERYTHING, BUT WE CAN ALL DO SOMETHING."

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