Fundación Centro Experimental
Las Gaviotas

SOME IMPORTANT ACHIEVEMENTS OF THE CENTRO EXPERIMENTAL LAS GAVIOTAS

1. Tropical sustainable rainforest

1) Plantation of a sustainable multipurpose forest with non conventional technologies from about 8,000,000 (eight millions) of Caribbean Hondurans tropical pines, using micorrizas with seeds from the tropical rainforest of La Mosquitia, the results are amazing: The rebirth of 250 native species from the humid tropic, this way increasing substantially their biodiversity and the volumes of biomass. The rainforest arose again. It was implemented a planting machine of trees of minimum farm for this program

2) Establishment and operation of a biofactory, without using any chemical substance, and utilizing the harvested resin of the tropical pines older than ten, it produces Rosin and Turpentine. The obtaining of the resin is carried out with soft technologies that do not affect negatively the forest, but instead they strengthen and sanitary defend it.

3) Design, production, installation and operation of a biofuel factory using as raw material the oil resin of the Caribbean tropical pine.

4) In the gallery forests (tree-lined corridors) of the basin of the Orinoco, there are several wild palms, being the palm of Seje the more promissory for extraction of oil.

Keeping in mind this characteristic, a pilot plant for extracting oil of Seje was mounted, for the first time in the tropical world, obtaining a finer oil that that of olive and very useful for therapeutic treatment against the lung illnesses. Their results deserved a book of the FAO and a doctorate thesis of Harvard University.

II. RENEWABLE ENERGIES

- Innovative technological advances, such as:

1) Tropical solar heater for water, (100% solar) without mobile pieces. It works as a thermo. From those has been manufactured and installed more than 35.000 units. In Ciudad Tunal, to the south of Bogotá, it was installed 5.000 units that are the largest amount in the same neighborhood in the world.

2) Compact Solar boiler for a single family this produces daily 8 gallons drinkable water, 100% solar source with a single mobile piece that is the float.

3) Design and production of environmental heaters of solar energy for homes and offices.

4) Design and production of a solar stove of thermo oil, using as fuel oil of cotton seed that is heated by high performance collectors and due to their isolation tank, it works day and night. This stove has 4 containers with of double bottom.

5) Design and construction of a covered interactive module of solar energy for a museum of Bogotá.

6) Tropical windmill of double effect, for extracting water that does not need a vane to be steering. To date they have been manufactured and installed around 5.000 units in the rural areas of Colombia, especially in the most remote.

7) Manual operated Bombs of Shirt for taking water of deep wells, until 40 meters. In it the piston does not move, as in other bombs elsewhere, but the shirt, that is the external pipe. By joining two shirt bombs a school see-saw was built for extracting water. It is very used in the rural schools of Colombia.

Until now they have been manufactured and installed 15.000 units between pumps and seesaws.

8) Improvement and optimization of the hydraulic battering ram for extracting water based on the force of a water fall, this means that it is a pump that does not use fossil fuels for its operation. They have been manufactured and installed more than 9.000 units.

9) Manual pump of remote control for pumping the liquid from the peasant's housing, without going to the well, because it has a hydraulic control with pipes coupled to the surface and underground units.

10) Axial hydraulic Microturbines 2 and 30 kw of installed capacity, to provide electricity to isolated housings in the tropic, with small falls of water.

11) Biomass power plant with an installed capacity of 150kw, that uses as solid fuel for generating steam the biomass coming from the pruning of the tropical plantation in Gaviotas.

III. EDUCATION

In this field, the whole Gaviotas project is considered an alternative, not conventional educational space, where the different activities are studied and perceived as integral parts of everything; because we are not in favor of an education in parts, breaking the knowledge into fragments and dividing creativity among the inhabitants of Gaviotas. We intend a human being that lives with enthusiasm and happiness, looking forward to the truth, because no culture has arrived to a definitive one, and a man always willing to dream. Within this context it has been guided educative more than 300 students of primary and secondary level and some of them are working at the moment for the Centro Las Gaviotas.

Design and construction of a didactic outdoors park denominated VIVACIENCIA that consist of scientific and technological sculptures, located in the municipality of Marseilles, coffee region of Colombia.

IV. HEALTH

Development and application of appropriate technologies for primary health care. That consists of small low-cost modules, simple and easy to maintain, accessible to the social circumstances of the humid tropic. Many of their instructions are translated to the local indigenous language (Sikuani).
On the other hand it was built and also assisted during 20 years, a self-sufficient hospital of 16 beds of primary level.

V. RURAL LIFE

Design and integral development of a human rural establishment in the warm tropic (Gaviotas) keeping in mind all the ecological circumstances of its environment as much in the environmental as in the economical, and the social thing.

VI. SUSTAINABLE TROPICAL ARCHITECTURE

Design and construction of all type of bioclimatic housings as well as the community facilities. It is necessary to highlight the design and construction of the bioclimatic and energetic self-sufficient hospital of the Centro Las Gaviotas where all the elements have a climatic and functional aesthetic, as well as a technological reason at the same time, which adapts easily to different uses to be a transformable architecture.