

EL TIEMPO

"Quixote" of renewable energy

Paolo Lugari, pioneer of sustainable development in the country

Architect of the Experimental Center Gaviotas works with "the beauty of the extreme hardship".

By: Lucy Nieto de Samper

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A Middle Caucan, middle European, Paolo Lugari swims always upstream. Supported by his father, who soon realized his intelligence, his insatiable curiosity and desire to learn very early, he does not formally attend a school. In various locations he learned the matters that interested him. Insatiable reader, he learned and still is learning in the books piled up in his apartment.

"I've always studied with autonomy," he says.



Lugari is expert in sustainable development and renewable technologies.

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Invited by universities and academies, he gives lectures at home and abroad on the creation, research and accomplishments of Las Gaviotas.

Expert in sustainable development and renewable technologies has shown that in the tropics, even in very difficult conditions, anything is possible.

Recalling the Baron Alexander von Humboldt, who 200 years ago said the American tropics could be the planet's food pantry, Lugari says that people in the tropics, instead of using them properly destroy them, an example? In the Amazon basin, they are felling annually 6 million hectares of forest.

"Dominated by European culture, we have not developed a tropical civilization when the great peaceful revolution in these countries should be of tropical thinking Lugari says. Our civilization must be tropical. Amid the Tropics were born Tenochtitlan and Teotihuacan, when many cities in Europe were villages. With rare exceptions, Colombian universities have the tendency of not to tropically think. No room for creativity. Knowledge is not tropical. In the areas between the tropics of Cancer and Capricorn, where nature works continuously and not with four seasons, we must go to a tropicentrism"

As a visionary director with a team of dreamers he transformed a barren area of Vichada in an oasis: the Experimental Center Las Gaviotas.

There, its 200 inhabitants live by researching, building and innovating. "Gaviotas is a utopia come true in the tropics, he says. In the midst of great obstacles, what we call 'the beauty of the extreme difficulty', we have planted 8 million tropical pines. Under them 240 different native species were born, which are a biological capital. Of the pines, they extract a resin, leading to a biofactory located in the same forest. By a physical process without chemicals, is produced, turpentine, rosin and all biofuel used for the electric plants and machines in Gaviotas. This we call natural arboquímica. "

In his book on Las Gaviotas, entitled Renaissance in the Tropics, the remembered Dr. Mario Calderon Rivera wrote: "When the Club of Rome launched to the world its warning: 'limits to growth', had been five years since when the hypothesis of renewable energy and appropriate technologies and non-aggressive nature had been validated in a community of the Eastern Plains of Colombia ".

And Lugari observes, "Mario Calderon was interested in changes and committed to what he thought. The trouble is that few commit with their thought. There is no

courage they do not take risks. There is no room for thinking differently. If you do not engage with soul, life and hat to take risks cannot do anything " .



*Inside the facility where arboquímica biofactoria of the Gaviotas Center works.
Photos Otoniel Carreño / Personal file*

The man devises his own extinction.

A pioneer in the use of renewable energies, Lugari explains: "If the global energy mix had a 50 percent renewable energy, not unearthed as oil, and keep -for which is crucial research high-efficiency batteries together with the vast reforestation we have proposed to combat baldness planet, the future smile us forever.

"In addition to consolidating the sustainability, of its natural foundation, we would move forward with dignity socially and economically. The resources available are sufficient to meet our needs, but not the consumer desire, that changes frequently.

"Hopefully the rebirth of vegetal cover of the Earth will be before the human race will destroy itself. Well, in the last 80 years, the man managed to create extinction instruments. Keep in mind that the earth is so far the only known planet where there is DNA or code of life. We should always be tuned to the pulse of life. "

Passing toward hot topics such as global warming, Lugari says: "To be more precise, there is a global heat, because the earth has an average temperature of 15". The problem is, an increase by 2 degrees Celsius above the temperature recorded before the Industrial Revolution. In this case we would be talking of a warming that would cause great hardship to humanity. But more serious would be the alteration of the

fundamental chemistry of the atmosphere, it would make it impossible for human life.

"Consequently, nothing is more important than planting trees. But more than a proposal is a necessity. The soil should be bombarded with seeds of vegetables and trees of all kinds, to recover its green skin this way would survive the humanity. Planting trees on any soil should be a civic duty, which must become a local, national and global obsession. Because the trees sustain atmospheric chemical architecture are the backbone of ecosystems and natural landscapes."

Sightseeing

According Lugari, the natural landscapes are fundamental for Colombian tourism offer to 'developed' countries, with nature deficit.

"Leveraging our geography, that's all I cannot change, you could do tourism in harmony with nature, as Costa Rica did. To give priority to its ecological wealth, he doubled the area of its forests and brought high technologies with low environmental impact. In Colombia, with one of the greatest biodiversity in the world, the tropical ecotourism should be a national goal. "



Lugari (beard), Gabo, Felipe González (hat) and Master Alejandro Obregón (with sunglasses) in 1984.

After transforming 8,000 hectares of savannah in a forest of tropical pines, Lugari says that in the Amazon, as it is now, could be organized ecological tourism. And also develop the pharmacopoeia, after all 50 percent of the drugs come from plants.

"In the Orinoco you could plant tropical forests, interspersed with different food species, never leaving the ground bare. The mixture becomes a sanitary shield of trees, that will protect plantations against diseases and becomes an organic matter permanent factory. The soil in tropical areas should remain with hats, with caps, as I explained in a talk to children from the Plains. I propose developments with a mentality typical of the tropics, without rejecting the rest. It's what we do in Gaviotas".

Use of the rivers

Lugari says that products from those regions one should mobilize through the Orinoco, Meta and sea. "It's the most logical choice, and the country is in default of its implementation. The roads should not be parallel to the river. They must be transversal, to incorporate more areas. "

Global pioneer in harnessing solar energy to heat water in cities, Lugari and his people continue to investigate.

"We act with broad educational sense, without losing enthusiasm. We look the Tropics with a tropical rationality. Besides producing biodiesel from tropical pine, we employ hydraulic micro turbines for electricity generation.

"We make windmills of double effect to extract water, solar water heaters, and water pumps as ram and sleeve devices, and investigate how to do more products of tropical pine resin.

"We are working to achieve a familiar, autonomous and intelligent housing, which generates their own renewable energy and using its interior and exterior spaces, for competing economically with traditional homes."

Lugari has been praised by personalities who have known Gaviotas. The president of Costa Rica Jose Figueres said: "With this project, Paolo Lugari has set a new milestone. If the world had a little more reason, all of us would study much better this experience and imitate it everywhere".

'Inventor of the world' named him, the Nobel literature prize, Gabriel García Márquez. 'Don Quixote of renewable energies', nicknamed him the former Minister of Mines and Energy Amilkar Acosta. And the Italian, Aurelio Peccei, founder and president of the Club of Rome, said in 1984, after visiting Gaviotas: "This is what the world needs."