Gaviotas: an exemplary ecovillage, planted over 1.5 million trees

Contributed by Albert Bates
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Gaviotas is an exemplary ecovillage founded in 1971 by Paolo Lugari located in the llanos of the Colombian department of Vichada. Lugari assembled a group of talented and creative engineers and infected them with his vision of sustainable habitat design in one of the least hospitable political and geographical regions of the world.

In addition to providing medical and educational services to a rural population, Gaviotas is noted for the planting over 1.5 million trees, which altered the hydrologic cycle and climate, provided shade that attracted wildlife, built soil, and nursed back into existence tropical rainforest plant species which were once native to the region. Resin harvested from the planted trees, international solar and wind sales and services, and water bottling using recyclable "bricks" for bottles (fill them with sand and they fit together like Legos), has now provided Gaviotas with adequate income to supplant its initial multi-million-dollar UN seed grants and private donations.

Paolo Lugari reports:

By natural law, energy is neither created nor destroyed - it simply transforms from one medium into another. No matter where you are, it is always there for the taking. One might even say that it is so close, that most people are unable to see it! One should always use all the locally available energy first - tap all locally available resources first - before even thinking of bringing in energy from somewhere else. In that spirit, here is what Gaviotas has done recently:

For years, Gaviotas has been generating its electricity by means of a steam turbine running on wood culled from its forest. This year, the villagers have developed a novel fuel mix made of turpentine (distilled resin tapped from the pine trees in the forest) and plant oil (extracted from the fruit of the palm trees in the forest or from recycled cooking oil) that now runs all their diesel engines - electric generators, tractors, and soon trucks as well. All that was needed were stainless steel filters (developed in-house) to replace the regular paper oil filters in their engines. This new fuel mix doesn't require any changes to the engines' diesel fuel injection pumps.

Gaviotas features a community dining hall that is very popular with the villagers. Its kitchen makes about 200 meals a day. The massive cooking stoves have now been equipped with internal piping through which water is heated to near boiling and is then circulated without a pump, simply via natural convection (thermosiphon). This new heat exchange system replaces the 30 solar collectors that used to sit on the roof of the dining hall. The old collectors (also thermosiphon with no moving parts) are still in top shape, so they will simply get a new paint job and be sold for $1,000 a piece!

Biodiversity in the Gaviotas forest continues to increase. The villagers have planted a mix of pine and palm, and now fruit trees, and nature is adding the rest: hundreds of native plant and animal species are emerging that had not been seen on these arid plains in ages.

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