

Copying Nature Revives Local South Africa Economy

Citrus co-op learns to 'cascade' outputs, create multiple revenue streams, more from ecosystems

When South Africa's largest citrus farm, Lisboa, found it couldn't compete against the global citrus market because its prices were too high, the co-operative ended up turning to nature for a solution, with notable results.

The farm called in Belgian economist and entrepreneur Gunter Pauli, who has been a passionate advocate of nature-inspired ecosystems systems for more than 10 years.

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Gunter Pauli

Lisboa is located next to Africa's oldest natural park, the Kruger Park, which is an international tourist destination for sightseeing the continent's five big animals.

Gunter immediately saw in the 600 tourist lodges capitalizing on this tourist market an opportunity for the citrus farm to thrive.

Lisboa took new measures to deliver local juice fresh to all 600 lodges every day. No more importing juice from Europe.

The farm then created a natural laundry detergent out of the prodigious amount of

leftover orange peels — a solar-powered process enables the extraction of something called d-Limonene from the peels, which is the detergent.

In keeping with what Gunter would consider a signature characteristic of natural ecosystems, the farm then began to diversify its revenue streams, and started offering laundry services to the 600-plus lodges, using the local and natural detergent.

Because the laundry water is polluted only with extract from local foods, it can be reused for irrigation back at the farm.

Under Gunter's guidance — and, again, keeping in mind the key question, what would nature do — the farm also began reusing its citrus tree prunings, which are rich in amino acids, to farm mushrooms. The mushrooms are sold to the lodges.

After harvesting the mushrooms, the prunings which are usually not edible, are now digested and enriched in amino-acids, an excellent food for chickens. Why not start a chicken and egg farm? Yes, said the Lisboa co-op members.

Building on the increasingly integrated relationship with the lodges, arrangements have also been made to collect their food waste as feed for a new series of pig farms.

The Kruger Park region is savannah-like where chicken and pig farms are typically expensive to run, but arrangements like the above now make them cost-effective.

Since these measures have been put in place, seven revenue streams have been generated around the farm, the world market price for citrus has become a moot point and employment is up by 50 per cent.

That, says Gunter, is what he is always looking for. That is what ecosystems inspire him to do.

Nature's Magic

Natural systems offer several specific lessons, according to Gunter.

First, there is what he describes as “their continuous cascading, their continuous flow of matter, energy and nutrients.” This is essentially finding uses for all outputs, including what could be considered waste. It might entail turning these outputs into components that enable new revenue streams — think of orange peels from a citrus farm being transformed into laundry detergent for a new laundry service.

Not only do ecosystems teach the value of continuous cascading, but also multiple revenue streams, which can then enable lower prices on any one service or product.

If at the same time there’s a commitment to keeping cash circulating locally — as per nature’s approach — this reduces the likelihood of inflationary pressure and helps ensure there is more money to buy other things.

Integral to this approach are unique service offerings, as opposed to standardization or economies of scale producing more of the same through a supply chain system.

Thus you have great potential for a healthy, local economy in harmony with nature, according to Gunter.

“If I am producing local cherries, and I am only having local bio cherries, I’m sorry, it’s not going to work against those massive cherry production schemes you have in Chile, for example,” Gunter sums up.

“But if you do it the way the ecosystems work, cascade nutrients, cascade matter and secure that the energy flows locally, you’re going to outcompete the global market.

“That is the magic of nature.”

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Calls to Action

1. Biomimicry can show us how to build resilience and cultures of innovation throughout our various systems. What’s such a notion spark for you? If you want to learn more, check out [Biomimicry 3.8](#). You could also add a thought or question

below, and we'll do our best to add clarity or other ideas that might be helpful.

2. But there's biomimicry, and then there's the idea of an economic and social transition. What's it all about? What are other features, tools, fields of action? *Axiom News* is committed to further journalistic exploration of these and related questions. If you want to become of this somehow, send us a note and we can set up a chat to discuss co-creation possibilities.

3. Connect with us on [Facebook](#) and [Twitter](#). We will be using these hashtags for the biomimicry news feature: [#NewEconomy](#), [#Biomimicry](#), [#BlueEconomy](#), [#Resilience](#), [#Innovation](#), [#Biophilic](#)

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