**SUSTAINABILITY (Sostenibilidad) IN CUBA - Reduce, Reuse, Repurpose, Recycle, Rot**

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Cuba’s history of revolution and isolation over the last half century makes it unique. Sustainability efforts have evolved mostly from necessity. The plethora of vintage American cars from the 50’s and 60’ that remain in service is a good example. Owners rebuild their vehicles using parts available only on the island. Many have been repowered with old diesel engines that spew pollution and leave a gritty black film on everything.

I don’t have data on air quality, but the fact one actually feels the effect of pollution does not bode well for public health. We observed extensive farm field burning on our way to Valle de Viñales that contributes to the palpable dirty air. The reason for the burning was not clear, but farmers often burn cane fields before harvest to burn away leaf blades so only stalks remain, making the plant easier to harvest.

I was not able to go east where there is more industry, but I learned there are large solar installations east of Havana and wind turbines on the east coast, technologies supplied by China. Hopefully these initiatives will be expanded in a country with abundant sun and wind. In the meantime, Venezuela is the main source of dirty fuel that keeps wheels turning. On a positive note, solar is used to power the pole lighting in Marina Hemingway.

Unfortunately trash disposal seems haphazard, ugly, and out of control. There are few trash receptacles in the city, so dumpsters are overflowing and lack options for separating plastic, paper, and trash. I was told trash goes to a landfill south of Havana where some recycling occurs. We noticed enterprising individuals everywhere rooting through trash for metal to sell. The necessary resourcefulness of people to reuse everything is borne, in part, from their isolation the last sixty years.

A three-day trip to Valle de Viñales revealed similar environmental problems and conditions. The smell of garbage and waste from horses and other animals is evident in Havana; similar offensive smells exist in the country. There appear to be no initiatives in place to deal with these problems other than near more upscale restaurants.

Cuban art is often a reflection of resourcefulness and re-use, which a visit to Fusterlandia in the fishing town of Jaimanitas confirms. This is a village made famous by resident artist José Rodriguez Fuster whose extraordinary talent is manifested in buildings, fences, walls, and whimsical structures.
covered in small bits of reclaimed or recovered mosaic tile, much of which is imported due to limited local manufacturing.

Our journey to investigate the food scene began in Havana at Paladar Los Mercaderes, a farm to table restaurant with quiet ambience and great food. They have their own fishing boat and use organic local farms for produce and animal products. I also visited several local market where a look at the produce is evidence enough of its being “organico”. Visiting Viñales confirmed our understanding that Cuba grows most products organically, including sugar cane and tobacco. I was told sugar cane does not require intervention, and tobacco, at least in Viñales, is all grown organically.

In the country, everyone seems to have pigs, chickens, and a garden, so organic eating is a natural consequence. Organic farming in the country has been boosted by innovative methods developed by Fernando Funes Monzote, a university-trained agronomist. He grows more than 60 varieties of vegetables, fruits, and herbs in terraced planting beds designed to conserve water in his eight hectare farm outside Havana. The farm and its irrigation system operate principally on solar power. Funes also uses captured methane gas from animal waste to power his kitchen stove. His model of artisan, organic farming stands in stark contrast to larger agribusiness or state-run models of farming. More information about Fernando Funes Monzote and his revolutionary farming techniques is available here: https://www.theguardian.com/world/2015/aug/31/organic-food-revolution-farming-cuba-restaurants.

Sustainability in Cuba seems to occur naturally, without government initiatives and regulations. Clean air initiatives would be good for the health and welfare of the people and tourists. Sadly, such initiatives would challenge, if not destroy Cuba’s classic American car industry, as they have limited means to bring these vehicles to any reasonable standard of compliance.

As Cuba and the United States ease restrictions on travel and communications, the pace of modernization and innovation will quicken, hopefully for the better and in a way that preserves Cuba’s unique culture and heritage.