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Southeast Asia

Curt Gabrielson, a science teacher and an Institute Fellow, is observing the re-establishment of education in East Timor.

Consumption and Life In East Timor: Part 1

By Curt Gabrielson

SEPTEMBER 1, 2001

DILI, East Timor—After eight months in East Timor, my partner Pamela and I took a flight to Darwin, Australia. Many of the internationals living in East Timor view Darwin, 1 hour and 45 minutes by plane from Dili, as the closest outpost of civilization. As we strolled through customs, rented a car and drove off to find pizza, I understood why: smooth roads, clean sidewalks, a plethora of food options, magnificent selection of consumer goods, efficient communication with any place in the world, ever-present media gladdening the eye and ear, machines cranking the indoor temperature to within the narrow human-comfort zone and plenty of water drinkable straight from the tap. In short, it was much like my dear home in the US. My body readjusted to the comfort instantly, which left my mind free to think about what was going on.

Life in East Timor is quite different from life in the US. I chewed on this banal observation for days, with possibly even more vigor than when I had first arrived in Dili. Architecture, culture, language, history, geology, flora and fauna, climate, agriculture, food, money and bodily features in East Timor are all different from those in my land. So what?

Like an adolescent newly realizing that most of the world does not live as he does, I churned my brain to identify the reasons for these differences. I was looking for a framework to describe this variation to those who have never seen it, and to better understand it myself. I knew that the framework would be linked to life in my own land, as all descriptions of the foreign must be rooted in the familiar.

After a week in Australia and several weeks back in East Timor, I have chosen a framework. I find that most of the differences I notice between life in East Timor and life in the US are linked to different levels of consumption. By consumption, I mean the quantity of material and energy used. With this as my foundation, I will here elaborate on life in East Timor from the viewpoint of what one will never see in the US.

In the US you won't see someone depending an area of land the size of a tennis court as one of the primary source of food for their family. Here it happens all the time.

Our neighbors have fenced off a yard approximately that size and on it produce corn, cassava, papayas, bananas, beans, and various other edibles. With steady water from a good well and the use of an electric water pump, this land is a godsend for their family. Pamela and I used to chuck our food garbage over the fence on the other side of our house, but when our neighbor, Tiu, found out, he chastised us. After all, that organic richness could be aiding his plants, which in turn give energy to his family. We now dump everything on his crops.

Lest you think we were originally dumping our waste into someone else's back yard, I'll let you know that the other back yard in question is home to a dozen or so chickens. They were the previous beneficiaries of our excess calories, trotting over happily upon hearing the daily splat. This was always difficult for

us to accept, as our opinion of these fowl has never been high. Do you recall that the cock is supposed to crow at dawn? These cocks are unaware of that bit of archaic lore. They make an ungodly amount of noise at all hours of day and night. The hens make different noises, just as annoying, bok-bokking endlessly outside our bedroom window.

One day after an unwanted 4:30 wake-up call (well before the tropical dawn), I decided to walk over and talk to this neighbor about his chickens. I had the idea that I could just buy them all and put them somewhere far away to secure more restful nights for us. After talking to him for a while about everything else I could think of, I asked casually what he used his chickens for: eggs, eating, selling or fighting? He laughed.

“Oh, we just keep them. If they lay eggs, we eat them. If our family or friends need meat for a special meal, we’ll give them one. If we’re short on cash, we’ll sell one. If one turns out to be a good fighter, I’ll take it to the cock-fights.”

I new right then my idea was a bust. They keep chickens because they know the chickens can survive on household waste and worm-scratching alone. It would be unthinkable for them not to keep chickens given the adequate space. To my neighbors, chickens are not a vexation; they are eggs in the basket, meat on the hoof, money in the bank, gifts in the coffer. I would have to pay him an ongoing salary to get rid of them, and even then it would be the most bizarre arrangement in the neighborhood. Instead, a friend coming to visit brought us 200 pairs of earplugs.

This neighbor has perhaps half the area of Tiu, and also raises a bit of corn and papaya. Papaya, like banana, can be used as both fruit and vegetable. Both produce quickly and



Tiu in his garden. The tall straight tree behind him is papaya. The long curving leaves above and to the left are banana. The leafy plant in the foreground is cassava, and most of the rest of the foliage is corn.

continuously. A papaya tree will bud within a year of planting, and then again and again, giving fat fruits off all sides for years. A banana tree constantly sends up shoots, making new banana trees nearby, each of which will give around 80 bananas within a year or less. Both trees also have edible flowers — the banana blossom is especially pleasing to my palate. If the food comes too fast to eat, then selling, bartering or just giving with the hope of eventual reciprocity is always possible.

It is always interesting to get the locals’ reaction to my pestering questions about what grows where and how long it takes. Often they are unaware that everyone in the world doesn’t know. Certainly for them it is a fact of life: food comes from the earth, and their little patches of earth must supply the vast majority of what they consume. Even if one person in the family does bring home a salary, there are plenty of necessities that only money can buy, and food is not one of them.

And the facts of my life in the US? Not only is consumption not in the least related to my land; I don’t even know where most of the food I eat is grown. I do know that I see very little of it growing close to my home. Friends of mine with extensive gardens still buy most of their calories from the store. I consume whatever I can buy with the money I have, which seems to be quite a bit more than the East Timorese consume, and with a variety unimaginable to them.

In the US you won’t see someone walking seven hours to do business or see family. You won’t see many



Significant economic assets, if you have the space.



walking even one hour. Here in East Timor, a one-hour walk is not considered a hardship. People walk enormous distances because there is no other transport, or to save precious cash. In doing so, they avoid consuming fuel.

I recently made a trek from Ramelau, the highest mountain in East Timor, to the town of Ainaro. I was enjoying myself strolling through the high, cool hills when I met up with five men from Ermera going to visit family in Ainaro. They had been walking for five hours when I met them, and I walked with them for the final two hours down to Ainaro. I worked out the alternate trip they could have taken: Ermera to Dili by bus would take two hours, and after a night's layover, the bus to Ainaro would take another five. The price would be around US\$5, which is two days of labor at minimum wage, *if* one has a job. And so they walk.

The terrain in East Timor precludes the extensive use of bicycles. There are plenty in use within the flatter cities, but very few traveling between towns. Motor bikes, on the other hand, are used to their fullest capacity. I daily see families of four traveling on a beat-up motor bike. Enormous cases of goods, heavy mechanical parts and buckets full of water and fish are all things I routinely see hauled around on motor bikes. A motor bike uses far less fuel than a car, as well as less materials in manufacture and upkeep.

Public transportation here is also ultra-efficient. Half-

full busses simply do not run. A bus waits until it is stuffed to the gills before setting off. While this sometimes cuts into the day of those waiting to go, every drop of fuel spent can be divided among all the people stuffed inside and perched on top and hanging out the sides of the ve-



These minibuses, or bemos as they're called, fit 15 folks in moderate comfort, and thus get upwards of 300 person-miles per gallon. They function as buses both within cities and between nearby towns.

hicle. That makes for very impressive numbers in the person-miles per gallon column.¹

When I drive around in the US, it is usually just me and maybe Pamela in our minivan getting 19 miles to the gallon (and squeaking past the smog test every few years). In town I ride my bike, but not if I have to carry more than a gallon of milk. I never walk anywhere that will take more than 10 minutes. What's more, every year or so I make an intercontinental airplane flight, burning nearly 200 gallons of gas in a single trip.²

In the US, you won't find households depending for all their outside energy on wood that can be gathered by hand within walking distance of home. This is the rule rather than the exception for those in East Timor, and though this practice is ravaging the forests and leading to the erosion of hills around many cities in East Timor, as well as causing other human and environmental problems, this is a strong indicator of how little energy the East Timorese are consuming.³

Cooking is the obvious necessity, requiring energy beyond what the human body can provide. Here, especially for those without electricity, that is nearly the end of the story. Gathered wood is used for cooking and an occasional hot bath in the cold season. Candles or oil lamps provide light in the evenings, and perhaps batteries bring a radio to life, but that's it. Clothes washing, food preparation, water delivery, heating and cooling, entertainment, most agriculture and the production of houses, clothes and innumerable household goods are all done using energy from the human body alone.

Our neighbor Pedru and his family have some farm land far on a hill above our house. It takes an hour to walk there and back. When I see them going or coming with big sacks of food or seed or just iron "digging sticks," I often question how many of the calories produced in that high field are spent on the trip back and forth to tend it. Clothes washing is also an energy-intensive operation, no matter how slick the local methods are. Whenever I have stepped in beside a local worker to participate, be it washing clothes, moving rocks, digging holes or hauling water, I become exhausted and always very hungry. It becomes painfully clear that I have made use of no energy save that which I have eaten in the form of food.

Within the larger cities, electricity is available. After

having been free for nearly two years now, next month the meter readers will begin their rounds to collect fees for electricity usage. The cost will be 25¢ per kilowatt hour, making a four-hour evening under the light of a 75 watt bulb 30¢. Already many of the light bulbs available in the corner store are 40 watts and less. These bulbs go not in corner lamps with decorative shades, but in bare sockets in the middle of the important room of the house. Next month, some will decide that candles or kerosene lamps are cheaper and use them instead.

My neighbor's 340-watt water pump pumps for around an hour a day to fully irrigate his tennis court of land. When the meter readers come, they'll charge \$10 per month for his pumping, and he may end up raising the water by hand instead.

Maybe he could get a horse to do this work, but he won't. Here, horses are used only for transport, and buffalo are used to till fields in some places. Aside from these two examples, there appear to be no other animals giving their energy to the human cause.

Meanwhile, back in the US, horses are primarily used for entertainment, light bulbs are chosen for the mood they create, power tools are used in cooking and construction alike with no regard to their expenditure of energy, petroleum powers nearly 100 percent of all agricultural enterprises, and no one thinks at all about the energy required to bring water to a household tap. Wood is burned for pleasant atmosphere, or to reduce petroleum costs, and is never, ever transported to one's home by hand.

In the US you won't find a house built entirely out of things found within a 10 mile radius of itself. In East Timor, there are still plenty of houses built this way, and even houses using imported items use them in extreme moderation.

Three major items are imported for building "modern" houses in East Timor: cement, plywood and corrugated sheet metal for roofing. Standard concrete bricks made in East Timor with imported cement and sand from the river beds are approximately five inches wide. Thus, walls in concrete buildings are five inches wide, plus a covering of cement on either side. I have inspected walls in progress, and found that the mason doing the job must be careful not to lean against the wall until it has been

¹Here's a look at the numbers: A bus to Baukau gets 10 miles to the gallon. Though it seats 30, it is very common to see 50 people in or on it. Baukau is 80 miles from Dili, so the bus uses about 8 gallons of gas. Eight gallons divided by 50 people is only 0.16 gallons per person (a pint and a half). Each person traveled the 80 miles, so each person got 80/0.16 or 500 miles to the gallon on their trip. To get that person-mileage even with an ultra-efficient car getting 50 miles to the gallon would require putting 10 people in it.

²While jumbo jets also get good person-mileage when filled to capacity – some upwards of 200 person-miles/gallon when full – a long distance still demands a large amount of fuel.

³Wood burning in East Timor is extremely inefficient, generally in the form of an open, three-stone fire with a pot atop it. Most of the heat is lost to the surrounding air. More efficient stoves are available, and some organizations are trying to introduce them to the local population. In addition, smoke from wood fires is worse for the atmosphere and the lungs of the primarily female cooks than petroleum exhaust.

connected to the roof bracing. I nearly knocked a wall over with one hand while checking its sturdiness. After the wall was finished and connected to the building as a whole though, it was plenty strong. The plywood and corrugated sheet metal are also much thinner than the similar products we used to divide and roof our hog sheds in Missouri — I was surprised to find both cuttable with a standard pair of household scissors. Thinner means less total materials used, less resources consumed.⁴

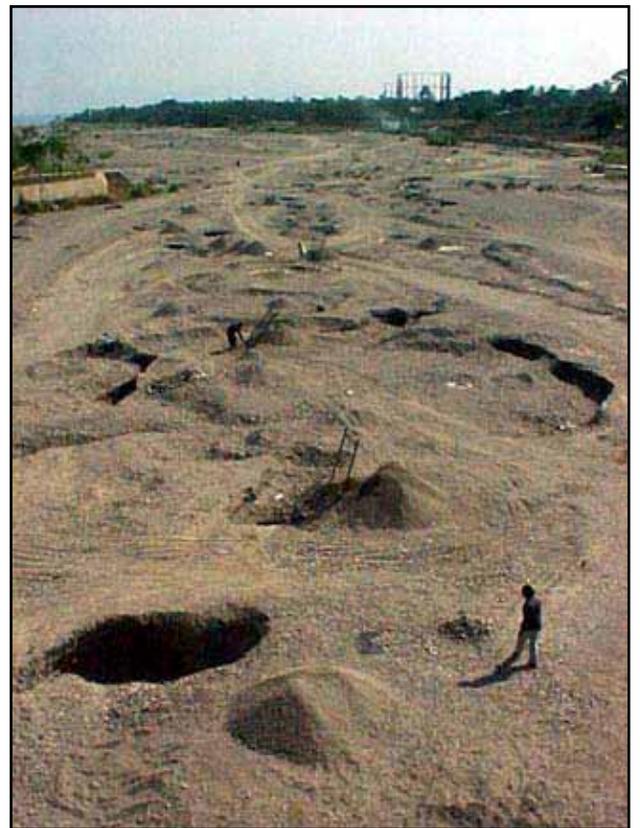
While most houses here use imported nails, it is easy to find houses without nails. Complex, carved-wood joints link the main beams and sinuous palm leaves attach the roofing material. Traditional roofs are made from palm branches or bundles of grass, depending on which

grows close to the house. Traditional walls are made from one of four materials, also depending on the climate of the specific area. If there is bamboo, individual tubes of the stalk are “unrolled” into flat segmented sheets. These long narrow sheets are then woven like fabric to make a two-layer, largely impermeable wall. If there are sago palm trees, hundreds of the long branches, which have a corrugated cross-section, are fit together like Legos and lined up vertically. The third wall material used is earth itself in the form of rocks and dried mud bricks, in places where the earth is suitable, and the fourth is wood planks where there are plentiful large trees.

Building from local products puts real limitations on the size and complexity of a house, thus putting



(left) Called “bebak” (pronounced “bay-Bach”), this building material is available at the top of every sago palm tree. Each long strip in the photo is a sago branch, honed to uniformity, nestled inside another one and skewered on three thin sticks. Standard panels this size are for sale in areas where the sago palm thrives. (bottom left) A house with mud brick walls and grass roof in Suai. (below) An endless source of sand lies within the city limits of Dili: the Comoro River Delta. Sand is separated from larger stones by flinging the mixture on tilted screens. Concrete-brick factories are scattered along the banks making immediate use of the sand.



⁴For this to be true, the house also must last as long as a house with more materials. This is a hard comparison to make, but there are plenty of these thin concrete houses that have been around for many decades, so I estimate that their lifespan must be at least in the same realm of thicker, sturdier houses.



No waste here: these tires were taken out of service only when their tread was completely gone. They are still being used as weights to hold down construction materials.

a cap on the total consumption of materials. In addition, using local products avoids the consumption of fuel for transport.

An occasional fan, in areas with electricity, is the only domestic climate control to be found needing outside energy. In addition, the average house here is much smaller than in the US, and shelters more people. It is rare to find someone who does not sleep in the same room with someone else.

And in the US, my brother and I were in separate rooms before I reached age eight. Having a room for each of the kids is a matter of pride for many families I know. Heaters of all varieties, air conditioners, humidifiers and dehumidifiers attempt to insure perfect bodily comfort year round. Building one's own home in the US generally means purchasing all the materials from the local lumber yard, and even professionals are unclear on where any given building product is produced. Certainly, a US home is far, far removed from the vegetation and earth surrounding it. Spaciousness, climate control and transport of materials make US houses vastly more consumptive than those in East Timor.

In the US you won't see goats trimming the grass of a sports field. Here, it would be an unthinkable waste of grass to bar animals from entering the field between games.

I recall the several gas-gulping machines my small-town high school had for groom-

ing its football field. I never once considered where the cut grass went. Most likely it got dumped in a nearby ditch to rot without ever giving its nutrients to animal or plant — a blatant waste by East Timor standards.

Waste is hard to find in East Timor. When I first arrived, I went walking to find some spare bricks with which to elevate our stove. After a long walk, I concluded that there aren't any spare bricks in East Timor. Each one is either in use, for sale, or an integral element in a future construction project. The same is true for wood — after all, it takes only about four feet of 2x4 to cook dinner for the family, and that's if the wood is in such poor shape that it can't be sold or added to the house. There are many houses here abandoned and falling down, victims of the mass destruction of 1999. It not uncommon to see people chipping the bricks out of these houses' old walls one by one. (New bricks cost 30¢ each, and minimum wage is about \$3 per day: chipping out ten bricks will save you a day's wage.)

A large tree died on the beach near our place. It was immediately felled and divided up between three men who commenced to make outrigger canoes from it. I watched them with interest, and found that it takes about a week of solid chopping to complete the main body of a canoe. With a canoe one can catch fish, a source of food and income. I will never view a fallen tree the same again.

When I mentioned that Tiu's garden plot was fenced off, did you picture some sort of uniform, mass-produced fencing material, or perhaps a quaint picket arrangement? Actually, Tiu made it entirely from random bits of rusted sheet metal that he scavenged from the junk piles around



Do you recognize this fencing material? These panels used to be 200-liter petroleum barrels. The barrels' tops and bottoms have been cut off, and the sides hammered flat. As the steel is quite thick, these barrel panels make a very sturdy wall. Behind this wall lies a respectable place of business.

our house, and propped up between stakes and live trees.

There are many cars in East Timor that seem to defy the laws of mechanics. Casual observation would lead to the conclusion that these cars are far beyond their years of mobile service, yet these immortal beasts continue to creep up and down the roads. Just to keep these ancient automobiles on the roads of East Timor is to avoid consuming the materials for new ones.⁵ Mechanics I've seen here seem never to throw a part away, no matter how terribly it has been mangled.

I am constantly on the prowl for thin wire with which to make electromagnets for science projects. One place to find such wire is in the starter motor or spark coil of a car. I wandered into a large mechanic's shop near our house and asked him for a gnarled old coil I spotted in one of his many piles of wreckage. He hemmed and hawed and said he couldn't give it to me. I offered to pay. He still refused. I said I'd pay whatever it was worth, having become very interested in what it was worth. At last the story came out. The laminated metal wrapping frame for that coil is not produced any more, whereas there are plenty of cars around that still use this type of starter. With wire scrounged from somewhere else, this



Who would have thought that this boat was hiding inside a tree trunk? A rusted piece of flotsam could be made to start a car.

The mechanic knew that I would dissect and destroy this precious coil for dubious purposes and he would not sell it. That very coil may put a few more years on the life of someone's car someday.

I have come to see waste in a much broader perspective. For example, I'm sure our neighbors see our car as going to waste, in that we use it only a couple times a week. Every car owned by an East Timorese is used every day. If a car will propel itself down the street, it is a resource, and paying passengers can be found or business drummed up. To have such a resource getting old in one's driveway while riding a bike around town every day is folly.



This goat is converting the grass growing on a grave in an old Indonesian-military cemetery into meat for some East Timorese family. The area surrounding the gravestones is planted in cassava and papaya.

Don't get me wrong: there is plenty of trash in East Timor. Careful observation of the local junk heap, however, will reveal that there is very little of use within it. Most of the bulk is concrete or metal too small or rusted to form into anything useful. Much of the smaller stuff tends to be the pesky by-products of "modern" life: instant noodle wrappers, plastic bags, cans and bottles. Though East Timor needs more extensive recycling facilities, aluminum cans are presently all recycled, and bottles

⁵ It is true that the more worn the machine, the less efficient it is, and that some newer model cars are designed with more efficient engines. It is not likely that these efficient new cars will soon make a debut here in East Timor. Quite to the contrary, in the last two years international trading companies have flooded Dili with hundreds of beat-up cars from Japan and Singapore. The old motors in this fleet of junkers clearly pollute more than new ones. While air pollution has yet to become an issue in Dili it should definitely be monitored.

with sealable lids are reused by families. The rubbish piles are remarkable in that they don't seem to grow much over time.⁶ This may be the best indicator that even here in the metropolis of Dili, consumption is at a very low level.

Is there need to describe waste in the US? It could be mistaken for a national pastime.

In each of the observations I have given, the East Timorese consume much less than their counterparts in the US. What I have described is not poverty. While poverty definitely exists in East Timor, even East Timorese living comfortably follow the consumption practices outlined above.

While this may not be big news, it also cannot be ignored. We are all living on the same planet, eating from the same pie. In most of the cases cited above, East-Timorese consumption is limited not by culture, society or personal choice, but by shortages of local resources and lack of currency with which to participate in the global economy. Oil, coffee and tourism all provide modest revenues for East Timor, and the nation will depend on

these revenue sources for stable economic and political systems. These resources will each be developed over the next few years, and the resulting rise in income will in all likelihood increase the level of consumption of the East Timorese.

Hopefully this will make a positive impact on poverty in East Timor by providing the poorest citizens with access to consumption in the form of clean water, sufficient food, adequate shelter, decent education and good medical care. These sorts of consumption increase one's quality of life and standard of living. At the other end of the spectrum, increased consumption will likely create increased waste needing disposal and increased pressure on the fragile environment of this half of a small island.

Revenue, development, poverty, quality of life, standard of living, environment: these are big words pointing to big questions. How is consumption across the globe interrelated? How is quality of life or standard of living related to consumption? How is "development" related to consumption? What is a fair share of consumption, and who is taking more than their share? How much is enough? For my next newsletter, I'll see what answers I can find here in East Timor. □

⁶On the negative side, the piles are burned periodically, which is a terrible health hazard for those standing nearby as well as the biosphere at large.

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