

KAUAI 2007-2050



Part One: Today

The Beginning of a Post Oil Life on Kauai

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Introduction

The Hawaii 2050 Sustainability Task Force has sought vision statements to be incorporated into its planning efforts for Hawaii's future. The public's opinions and desires on this issue are being sought by February 2007 for inclusion in the Task Force report and recommendations.

As an architect and planner, I was greatly impressed with the kickoff presentation of the Task Force at the Dole Center on Oahu, Saturday, 26 August, 2006. The presentation was supported by Hawaii Institute for Public Affairs (HIPA) and the University of Hawaii, and others.

Over the course of the day, using actors, sets and carefully crafted artifacts, four very carefully conceived future scenarios of Hawaii, in the year 2050, were presented to 500 attendees. Each of the four scenarios characterized what would happen if a single aspect of our current society became dominant by 2050. Those aspects were roughly represented by either Corporations, Scientists, Environmentalists, or the Military.

It was understood that the reality of the future would include other forces and would result in a complex mix of forces. The usefulness of simplifying and reducing the number of possible scenarios was that it dramatized the major trends that hinted at the blends. Elements that were common to all futures foreseen by the Task Force were expensive fuel, climate change, an end to tourism as we know it, and difficulties obtaining food.

Rather than try and paint a utopian picture of a far distant future in 2050, I have chosen to try and write about likely events on Kauai from today to 2050 from the vantage point of someone looking back at those times from the 50th anniversary of 911. I imagined that this person would be someone born on Kauai in September 2001. This future that I describe was created by reviewing recent history and projecting current trends forward.

Note that this saga starts with the troubles of today, goes through some worse times ahead, and ends up with what I think is a happy ending. It is twenty-three pages, so if you get tired of dragging through it, just skip forward to something that looks a bit more promising.

Much of the determination of what I think will unfold will be determined by the America's response to its failure of policy in the Middle East and the economic consequences that follow. Obviously, predicting the future becomes increasingly vague further out, but I will try and outline enough detail to keep a likely narrative of major events plausible.

Since the mid 1970's America has ignored the writing on the wall. Back then we came out of the Vietnam War with our tails between our legs. Losing the war in Iraq had profound effects on the American psyche, with similarities to what happened when the US withdrew from Vietnam in failure, only even worse. Our sense of America's goodness and fairness was damaged then. We were perceived as an arrogant clumsy giant who bullied smaller nations. In 1973 we were bungling losers.

Not long after withdrawing from Southeast Asia we faced economic tough times. OPEC was determined to extract a higher cost for its oil from those who used it most. Then, oil prices doubled overnight. Gas prices followed. It was not long before there were guns fired over places in long gas lines. The American entered into "stagflation". It was a period of rising prices in a stagnating economy. It was something new and unpleasant for us. This will be worse after Iraq. Much worse.

American troops coming back from Iraq will face an economy on the downturn. Home buying has stalled. This will affect the purchase of all those Big Box Store items needed to fill them up. That will slow construction even further damping down income and job opportunities, particularly in the south and and southwest.

After Vietman, we faced the OPEC generated oil crisis that was a mere preview of the disaster we see looming ahead. Americans do not like being reminded we had thirty years to prepare for the storm and that we did nothing to prepare for what we now face, but it needs to be said. President Carter was up to facing the challenge in 1977. He put on a sweater, turned down the thermostat and cut the speed limit. He asked us to downsize our expectations to face the challenge of limited resources in the future. But the American public was not buying it. They swooned over Ronald Reagan's promise that it was still "Morning in America". It was as easy as selling Jimmy Dean sausages. The question is, what can we do at this late date to prepare?

After Iraq the USA is longer a "Superpower"

The War on Terror is in many ways a War for American Consumerism. We were out to protect our supply of cheap oil that kept the SUV's running and the cheap imports coming. Since the world oil supply has already peaked, we must admit we have lost that war. The fact is, we are also at the end of the War in Iraq. Unlike the war against the Taliban in

Afghanistan, the Iraq debacle will prove to be our Achilles' heel. It will come to be seen as the event that unraveled our economy and shattered America's image of itself. Of course, it will not be the underlying cause in itself, but losing the War in Iraq will weigh heavily on the American psyche.

It can be expected that each additional month we stay in Iraq will be at a staggering cost to our future. It has been pointed out that Americans have made themselves hostages in a civil war that is now controlled by Iran, Syria, Saudi Arabia and others players in the Middle East. Everyday we stay in Iraq we are poorer, have more enemies, and less world influence. When we finally load the last helicopter on a roof in the Green Zone, we will be punched out in more ways than one. The overarching debt incurred in fighting the war will be due like a bad hangover.

Oil for transportation, food production and manufacturing will still be available. Humans have only burned half of what was available. The problem will be that the first half of the oil economy game was based on the crude that was the easiest and cheapest to get. In the second half of the game that won't be so, and we will have much more competition. As despised losers, our access to oil in the Middle East will be reduced as China, India, Europe and others closer to the oil fields demand and get their share.



Failure of the Suburban Dream

The sourness of the underlying US economy will be tasted for the first time by many who thought they were immune; they were living in the "non-negotiable life style" of America. But an economy with a foundation of building suburban sprawl and filling it with cheap plastic crap will soon seem quaint and naive.

Our efforts to forestall economic disaster with lower interest rates and taking on more debt will fail. The dollar will further erode as the Chinese and Japanese look at our economic death spiral and decide that it's time to stop enabling us.

Bottom line: America is heading for an economic collapse worse than the crash of 1929. Many of the same elements of speculation and economic risk taking will be at play but the underlying failure of growth based economy in a world of finite resources will be clearer. There won't be an easy way out. Epochal change will be at hand.

The signs of the economic collapse of our growth economy are inescapable. The housing market is tanking. People are stretched too thin with too much debt. There will be mortgage failures. Credit cards bills will go unpaid. Chevy Suburbans will not be sold. Plasma HDTVs will never make it past the demo floor.

The crap could really hit the fan as early as the first half of 2007. It could coincide with the beginning of our exit from Iraq. And that does not mean we should stay there. The alternative to leaving Iraq and dealing with the aftermath is worse for America and the world.

If America, feeling cornered and hungering for a sense of power, chose to be led by a charismatic fascist the damage would be incalculable. Self delusion might drive us to seek past glory. That leader is likely preach "It's Not Twilight for America". The hidden message being it is time to grab what we can from the world and bunker down for the end times.

But the world won't put up with that solution for long. Even as the only "superpower", we had been fairly ineffective fighting people hand to hand in their own neighborhoods. Being in a bigger more widespread war with the world won't save our idea of civilization.

Sustainable Self-Reliance Can Save Us

Let me say, before we begin, it is my opinion that many negative effects on the future could be controlled or modified by reasonable action today. These actions include increasing energy independence and greatly reducing consumption, achieving a moratorium on speculative development, reforesting mountain foothills, and becoming self sustaining on local food production.

But without a compelling reason (like economics) people are unlikely to make the changes in lifestyle necessary to avoid future trouble. Thus this cautionary tale may even be too optimistic.

In any case, with or without an fascist political sidetrack, America will face what much of the world already faces - at best dealing with self sufficiency and diminishing expectations - and at worst dealing with starvation and barbaric conditions. We can only hope that the effort to obtain sustainable self reliance reaches a level that preserves a fair amount of knowledge, culture, and civilization.

END OF PART ONE



Part Two: 2007 to 2029

The End of tourism through the “Special Period”

2007 - 2010: Tourism Stumbles

In 2007, there was a consolidation of air carriers flying to Hawaii. The major mainland carriers to Hawaii had been American, United, Continental, Delta, and Northwest. Some of these were taken over or allowed to fail, with the first major tick upwards in jet fuel costs. Consolidation and bankruptcy meant layoffs, reduced service and higher prices. Flight frequency was further diminished.

Increased security and regimentation made it more difficult to fly anywhere. When petroleum climbed over and stayed above a hundred dollars a barrel, it became more expensive and not much fun to fly, even to Hawaii. Middle income people no longer flew to Hawaii as a casual vacation destination. They were too worried about making the next mortgage payment. Those that could take a vacation drove to Orlando. Those who couldn't, took a bus to Vegas for one-in-a-million chance to break even on their credit card debt.

The Hawaiian airline tourist industry began a continued decline from which it never recovered. All the businesses that were attached to this industry faltered as a result. This domino effect began at the rental car counter and went on to effect everything else.

There were several locations on Kauai with concentrations of small businesses fully dependent on middle income tourist dollars. These included Koloa Town's main street; Hanapepe's historic district; Kapaa, Waimea and Spouting Horn's craft fairs, as well as the Port Allen boat tour industry. The bottom began to fall out of the tourism based Kauai economy by 2008. The disappearance of the middle class tourist on Kauai was the beginning of the reduction in the number of middle class residents on Kauai.

The Wealthy Bunker Down

Only the very rich were left as the “visitors” to Kauai. In fact, many of the mainland rich didn’t want to visit so much as reside. They already perceived Kauai as a retreat from the places where they made their fortunes. They suspected that their mainland homes would be unlivable in the near future. Population growth, overdevelopment and environmental degradation made where they had lived unpalatable. As this group retired, or cashed in, they looked for a place to bunker down for the hard times ahead.

That is what had driven the conversion of thousands of acres of agriculture land on Kauai to five acre MacMansion’s through the nineties and the beginning of the century. This process accelerated as the economy flattened and the rich sought cover. Real estate prices for the “right location” on Kauai stayed in the stratosphere long after the high-end markets on the mainland were in a shambles.

The self interest of the very rich helped finance some alternative energy development on Kauai. The rich continued to want to power the telecommunication and entertainment technology they had become used to, even if other tasks had to be performed with manual labor.

The rich encouraged efforts like Apollo Kauai to achieve some level of energy independence for generating electricity using solar and wind sources. Those that could afford to do so continued to live much as in the past, only off the grid and generating their own power.



The Middle Class Retreat

The rich were not interested in the trinkets offered the tourists. Unless they adjusted, these small tourist businesses were blown out like candles in the wind before 2009. The surviving craft fairs were operating as flea markets. Towns like Hanapepe and Koloa had to start selling useful things to island residents and Port Allen had to become a fishing harbor.

As the middle class contracted further, operations like the Big Box stores became more tenuous. The profit in shipping a plastic bottle of Gatorade across the ocean for consumption on Kauai evaporated. K-Mart, Macy's and Sears, which were marginal operations anyway, were gone from Kauai before 2009.

The middle class continued to yearn for the benefits of the affluence of the bunkered down rich, even though the newly arrived rich were disappointed by the diminishing shopping opportunities and entertainments available on a small isolated island in a shrinking world economy.

They refused to awaken from a lost American Dream. They continued to yearn for a suburban westcoast lifestyle, even after it was proven not to work by Californians who faced recession, water wars, illegal aliens, raging firestorms and mudslides.

Middle class workers looked to the only games left on Kauai for employment - the military contractors, the GMO agribusiness and the County. These jobs paid well with great benefits. But, there were a limited number of them, which created a mafia-like nepotism in their control and distribution.

Kauai's struggling middle class became even more divided from those below them on the socioeconomic ladder. Those who chose, or were forced, to revert to outdoor living, living off the land, or living off charity were perceived as rejecting suburban values, and a scourge of homeless dead-enders. The middle class came to realize that they themselves were closer to the edge than they ever thought possible, and that their friends and families would be joining the needy.

After tourism faltered, the economy on Kauai limped along for a few years. People looked for subsidies, handouts or whatever they could get by on. Increasingly desperate plans were proposed to "jump start" the economy: coal fired ethanol plants; garbage burning power plants; more genetic experimentation; more research and development of high tech weaponry. Some of these ideas were stupid, some were dangerous, and some were scams.

In the wider world, however, the energy spending frenzy of the previous decades peaked. Human carbon dioxide contributions into the atmosphere began to nose down as the world economy cooled and flattened.

Calm before the storm

We saw some positive results of the failure of tourism by 2010. Low and middle cost housing became available. There were thousands of units of vacation time shares, hotel rooms, and other accommodations that used to house as many as twenty-thousand tourists a day. Moreover, there were thousands of fewer cars filled with tourists roaming the highways.

This accommodation to diminishing wealth continued for a short time like the weightlessness at the top of the arc of an inter-island jet flight. The effects of efforts by groups such as Apollo Kauai played a crucial part at this time. How we spent the last of the cheap oil money getting prepared for the future was crucial.

Then there was a sharp economic break when it became obvious to Americans that the restrictions resulting from a Post Peak Oil economy were permanent. There was a crash as sharp as the one in October 1929. Attempts to delay or avoid financial disaster was a top priority for the United States, but such efforts only delayed solutions that could be put in place to make the eventual collapse less painful.

Cuba's "Special Period": 1990 - 1994

Lessons for Kauai were learned from the experiences of Cuba. It had made it through its "Special period" for about four years during the first half of the 1990's.

Cuba had much in common with Kauai. It was a tropical island with a failed sugarcane business in its recent history. Cuba was totally dependent on a far off imperial nation, the USSR, for oil, food, manufactured goods and technology. One day that imperial nation disappeared. When the Soviet Union dissolved in 1989, it left Cuba with no food or fuel imports. So began the Special Period.

What Cuba did to survive the Special Period proved instructive. Among other things, they began a vast and historic conversion to permaculture and urban farming. Cuba became one of the first modern self sustainable economies in the world.

Back in the 1980's Cuba, and the world, could not anticipate how fast the Soviet Union would unravel. The USSR's support for Castro was gone almost instantaneously. The US ban on business with Cuba added fuel to the fire. The Cubans ran out of fuel and fertilizer. They had to adjust to no future importation of manufactured goods, no fuel imports, and no fertilizer and pesticide imports. Besides economic collapse, they faced malnutrition and starvation.

In one way, the authoritarian and centralized organization of Castro's Cuba was an advantage: They could dictate solutions to problems. Large state agriculture programs were rebuilt for small scale organic farmers. Permaculture experts were consulted, and widespread urban farming began. The centralized university system was broken up into over fifty community colleges that were spread across the island.

Here in Kauai things were not so controlled. There was not a tradition that would allow for similar control... unless you went back to the tradition of the alii and the authority of kapu. Faith in these Hawaiian traditions were critical in achieving a rule of law concerning the general well being on Kauai.

Another source of expertise was the WWOOFs. These were Willing Workers On Organic Farms. WWOOFs were generally young people interested in travel and agricultural/ecological sustainability. They acted as interns and apprentices on alternative technology farms (organic, permaculture e.g.) and generally settled for room and board.

They had been the backbone of many marginal farming operations around the world. They had been learning to be the farmers of the future. There had been many WWOOFs who had worked the organic farms of Moloaa on Kauai.

**2011 - 2014: Kauai's "Special Period"**

The delicacy of our situation in Hawaii lies in our dependence on a far off US economy. The financial stumble Kauai made when tourism tanked was only a prelude to life after cheap oil. Things got really dark when the US economy moved past a failure of confidence and into an extended depression sometime around 2011.

Then we faced our own "Special Period". Food, gas and electricity were scarce.

For Kauai the Special Period began when it was uneconomical to fly a head of lettuce by jet plane to the middle of the Pacific Ocean for consumption on an island that could grow its own lettuce. For the last few decades over 90% of our food was imported.

Kauai also suffered when the regularly scheduled tanker barge deliveries of JP4, diesel and gasoline became irregular. KIUC's Hanapepe power plant was at times not able to deliver all power required. Steady reliable electrical power was only a fond memory.

The average family lived without air conditioning or even regular refrigeration. Those who had hooked up photovoltaic panels or small windmills with storage devices were envied. They still had lights and satellite TV. The rest entertained themselves telling stories around a fire and playing instruments. Eventually, KIUC was dissolved and a true owner-operated cooperative effort replaced it.

As hurricane Iniki illustrated, things could fall apart in a day, and be dark for a while. Iniki had brought Kauaians together, but Iniki had been a local condition. We had been able to get outside help from the State and Federal government. Volunteers had flown in from around the world to help out. However, in the Special Period we had to rely on ourselves.

Unlike Cuba, Kauai did not have an authoritarian centralized government that could dictate “solutions” effectively. The county government had to step up to a more authoritarian role. It took four or five years of disciplined effort to grow our own food to feed our island. In the meantime things were very tough. Some went hungry before 2011.

Kauai was not alone; as in the case of Cuba, permaculture consultants, organic farming associations and the young WWOOFers (Willing Workers On Organic Farms) with tropical farming experience offered help. Their knowledge was valuable in educating our future farmers and increasing local food production by more than an order of magnitude.

The hunting and fishing communities on Kauai played an important part in surviving the Special Period. They supplied critical food supplies, as well as developed into an organized force that was able to maintain discipline on the island. Their wisdom of the forest and sea were essential. They had to ration the resources available to sustain us through rough times. Hunters and fishermen forged deep connections with the sovereignty movement. Bringing back the old ways were a high priority for both groups.

Oahu’s redistribution

All hell broke out on Oahu, with food and fuel shortages causing chaos. The military response to the situation was critical. Martial law was imposed when things got out of hand. There were some rebellions, and some suppression.

Sustainable agriculture on the outer islands could not support the population of almost a million people on the island of Oahu. A new way of living and giving was formulated to get through the hard times.

So many people were an onerous burden. One that required strict production and distribution regulations across the islands. The high-rise tourist, office and residential lifestyle of Honolulu was abandoned. Some of Oahu’s population had to be redistributed to the outer islands. The Superferry was a vector for redistributing population from Oahu to the outer islands for relief and food production. By 2012 it was operated by the US military.

Each of the outer island populations nearly doubled to reduce Oahu’s population to 500,000. That meant a population on Kauai of about 125,000. The redistribution of Oahu residents to the outer islands further slightly reduced available agland on Kauai, but provided needed labor that enabled a twenty fold increase in food production on Kauai. It also reduced food distribution problems. To save Oahu and its inhabitants, the other islands had to give up much.

Many people left the Hawaiian Islands to return to the Mainland. Most of those who stayed, who were not involved in food production, had to rethink their careers. About 25% of the population had to be involved full time with food production. Another 50% needed to have a lesser involvement. Permaculture advisors recommended that the average person supply as much as 50% of their own food requirements in a sustainable system.

The various elements of the sovereignty movement gained strength and were effective in isolated communities, particularly on the outer islands. Local authority in communities like Anahola became increasingly important.



2015 - 2020: The Kona Administrative Prefecture (KAPU)

Kauai, like Cuba, passed through the Special Period within four or five years. It took years to build up soil, or bear fruit from newly planted trees. Rice, taro and breadfruit production grew by an order of magnitude. The Special Period lasted through 2015. By then, with its responsibility to Maui and Oahu, the food production of the Garden Island was barely self-sustaining. At least the worst malnutrition was over.

By 2015, the Navy had installed and was operating a small nuclear plant at the Pacific Missile Range Facility (PMRF) to supply itself power. PMRF lost its funding to experiment with Star Wars and Death Ray research. The base barely survived the 2015 US Military Base Realignment evaluation. Some recommended simply closing the PMRF and moving its assets to Oahu. As a result, the Navy and its attendant private corporations sought new purpose and security.

The Navy, in partnership with the DLNR, created a consortium of its military industrial partners (ITT, Raytheon etc.), the GMO interests (Monsanto, Dupont, Syngenta) and the subsidized ethanol companies (ADM, Cargill). This conglomerate took over the administration and operations of the Mana Plain on the westside of Kauai. The 25 year lease of the 6,000 acres of agland that the DLNR had with the Navy was transferred to these companies, and its area was enlarged. It was dubbed the Kona Administrative Prefecture (KAPU) and became what is in effect an armed, gated community that includes all the land west of Waimea and north to Kokee. This was deeply resented by the local people on Kauai and serious conflicts resulted.

By 2015 energy consumption across the island was reduced to what could be generated from island resources alone. Wind power and photo-voltaic generation played the central part in keeping some lights burning at our libraries and community centers.

Climate change on Kauai

The twentieth anniversary of the Kyoto Protocol was noted in places by people old enough to remember that voluntary effort to curb global warming. Not much had been accomplished and the people of Hawaii began to seriously feel the heat.

Coastal erosion and higher seas combined with more chaotic weather to make obvious incursions into areas that for generations had been heavily populated. A great cost in relocating human infrastructure was required to deal with this aspect of climate change throughout the world, and certainly in Hawaii.

The related effects of climate change made the stresses on coral reefs and breeding areas of birds and fish greater. The die-off of ocean species accelerated. It was obvious to all who relied on fishing that the bounty of the seas had been reduced.

The shoreline became a more extreme environment with fewer beaches. It would take the lifetimes of several generations of future Hawaiians before improvements to Kauai's coastlines yield significant changes to the bio-diversity and health of reefs and wetlands.

Kauai population peaks

High energy consumption appliances such as air conditioners, refrigerators and washing machines had to be abandoned by the average Kauai household. Fortunately, they were not absolute necessities in our climate.

An industry of repair and replacement for critical industrial products flourished. Abandoned equipment, reused wiring and scrap metal were valuable and found their way into still usable technology.

There were ad hoc solutions to rising problems. County roads were turned into mixed use roadways. Alternative vehicles like horse drawn carts, bikes and photovoltaic recharged electric carts became common on our highways. The county operated a widespread shuttle system of biodiesel buses. Personal gasoline-fueled cars all but disappeared.

We were "using down" the products of a previous industrial economy, but at least we were not dependent on new influxes of Walmart junk to survive. We were clever enough to find new means of creating needed items with what the natural environment produced as the old materials wore away.

Isolation, change in lifestyle, and diminished expectations weighed heavily on some residents transplanted from the mainland. Many of those returned to the mainland to make a final stand with their families in familiar places.

By 2020, many of those who stayed and who were born during the baby boom were lost through attrition. The population of Hawaiian Islands was under one million by then. On Kauai the peak population of 125,000 began to ease.

**2020 - 2025: Strategic shift underfoot**

For the survivors, America's superpower dominance were a faint memory. By the time the youngsters born after 9/11/2001 were past twenty-one, identification with mainland US culture was no longer existent. In fact, the young thought of themselves first as Hawaiians.

The strategic importance of Kauai to the military diminished as well. Most of the foreigners "threatening" the USA would likely walk there, and not have the capability of sending intercontinental ballistic missiles flying over the Pacific Ocean to make an impression.

The United States Defense Department actually earned their name. In 2025, it was reorganized much like the Japanese, as a homeland defensive force to deal with domestic problems.

Much of GMO open field testing techniques were proven unsound. Most of the GMO corporation efforts were withdraw from Kauai and replaced by mainland laboratory experimentation. Some serious efforts to rebuild Mana Plain fisheries began on land once filled in to grow cane and later mutant corn.

The last vestiges of large scale mainland economics vanished from the island. The plantations were gone; the tourists were gone; the GMO's were gone, the county mafia were gone and the suburban sprawl was bankrupt. Those jobs had been replaced by food growing; small scale repair and manufacturing; personal services and neighborhood shops.

2026 - 2029: We are on our own

Less and less commerce and exchange of currency takes place between Hawaii and the mainland. What little capital that is available has to be used for basic necessities on the islands. Little business is conducted in US dollars. Hawaii begins using its own currency in 2026. Two representatives from each island sit on the Hawaii Reserve Board to regulate banking and the new currency, the Hawaiian “Kalo”, worth one man-hour of work.

In 2029 the KAPU’s lease arrangement on the Mana Plain expired and was not renewed. Most of the remaining military and corporate personal left Kauai with their organizations, although some of them were too attached to the island to leave it.

The nuclear plant was shut down, sealed up and quarantined; its fuel rods removed and left on Johnston Island. Much of the area around the nuclear site became a buffer zone that was surrounded by a reestablished natural wetland. Fish ponds abounded, and Pueo owls hunted vast the westside marshes again.

After 2029 Kauai turned to the future, still under great stress, but with new skills and new goals.

END OF PART TWO



Part Three: 2030 to 2050

Permaculture to Permanent Culture

Aftermath of “The Burning”

During the early decades of the 21st century the high consumption by the seven billion plus human population required the burning of a considerable portion of the available fossil fuels found on earth. The demand for coal and oil for use by the remnants of industrialized economies did not slacken as the stability of the environments and economies of the world collapsed. Even the most vigorously pursued preventative methods were ineffective against world climate change.

For those living on islands in the Pacific, the changes in ocean temperature and chemistry were the most important. For human purposes, due to carbon emissions, the increased acidity and chemical changes in the ocean might as well have been permanent. It will take another ten thousand years to achieve the carbon balance of the pre-industrial earth.

By 2030, the result of “The Burning” was the death sentence for ocean reefs throughout Hawaii, and the rest of the Pacific. This triggered the die-off of the ocean mega-fauna throughout the ocean: great fish, turtles, seals, sharks, dolphins, and whales. We in Hawaii could no longer rely on the bounty of the ocean.

Agriculture and Food

Yet, Kauai was well on it's way to an agricultural system which would sustain a steady-state population of 30,000 people. There was a big effort during the special period to encourage permaculture practices and organic farming, which were not dependent on petrochemical fertilizers, pesticides, and mechanical tilling.

Almost all food consumed was either grown at home, hunted nearby or purchased in the daily farmer's market operated in every town. The bulk of food production continued to come from backyard gardens and small community horticulture and permaculture efforts. Over half of the food produced on Kauai was grown in residential settings.

The backbone of the vegetable portion of the Kauai diet was provided by a combination of the Polynesian plants that had proven successful for over 1000 years; including taro, breadfruit, yam, banana, coconut, and papaya, as well as a variety of new well suited plants that were hardy and sustainable that bore seed, nut, and fruits.

The majority of young people worked in agriculture to feed the populace, which was the top priority on the island. Agricultural jobs were of higher value, carried more prestige and paid more than in the past. Almost everyone had some connection to supplying food; whether tending a small family garden plot or simply harvesting fruits and nuts from the trees.

There were some commercial cash crops, like marijuana, cacao and coffee. These products played a role in Kauai's export economy. Extensive efforts were directed towards commercial cultivation of bamboo and hemp. These plants were used for manufacture of a variety of products.

To the degree our efforts could effect events, restoring reefs and wetlands became a great investment in the future. These places were cradles for increasing bird and fish populations lost to human meddling. Early twenty-first century program successes spurred a second wave of intense efforts.

Reforestation efforts were vital too. Planting grasses as well as food and timber trees on eroded hillsides was well underway. A restoration of a robust Koa and Sandalwood timber industry was one long term goal. Soil that had been exhausted by generations of sugarcane was being revitalized and lowland forest rebuilt.

Loosening of Central Authority

Local military and police provided career opportunities for many until 2030. The Hawaiian National Guard and Reserves played a role in inter-island population and food distribution, maintaining order and population control. But that authority began to erode as young dislocated people, who had restarted life in an unfamiliar feudal economy began to come into their own.

It took at least a generation from the "Crash" and the difficulties of the "Special Period" for the conditions to improve enough for a loosening of central authority that maintained a strict kapu order on Kauai. Eventually, the population reduced enough and food production was plentiful enough for this less authoritarian society.

Energy & Communication

Some agricultural fields were used for growing the best adapted biodiesel crops, including hemp. The resulting diesel fuel could not even provide 10% of what had been supplied by imported petroleum products, but it was a crucial source of energy for a small group of selected critical missions. These included electrical generators at the four central hospitals in Waimea, Lihue, Kapaa and Kilauea; the radio stations and their transmitters; and other emergency services and telecommunications equipment.

Most residences and businesses that used any electricity were producing their own; almost all from windmills or solar-voltaic panels. Many small long-lived generators were still operating more than a decade after the Peak Oil Crash.

Those little generators still going strong were capable of supporting a small home office, a craft shop or even a few home entertainment systems that still worked.

Keeping this technology running through 2030 proved to be difficult. The telecommunications systems connecting Hawaiians to a worldwide information network continued through 2030, but just barely. Just enough technology survived on the mainland, and was manufactured cheaply enough, that Hawaiians could still afford using it.



Manufacturing & Imported goods

The daily influence of the mainland economy was reduced substantially in Hawaii by 2030. The staples of everyday life were made on Kauai, or at least within the Hawaiian island chain.

The cultivation and commercial use of Hemp (the industrial variety, not the drug variety) facilitated the local manufacture of a large variety of very functional products. Hemp grew very quickly, needed no fertilizer and little water, and had great tensile strength. It was used for making cloth, canvas, rope, paper, biodiesel, and for building construction.

Growing hemp allowed us to make our own clothing, something which had been completely lost on the islands. Tapa making was also revived, but hemp clothing was more easily mass produced for clothing. Paper made from hemp was an abundant local product. Bookmaking and printing became important industries.

Wood, bamboo, and coconut also was used in manufacturing useful products such as furniture, dishes, utensils, musical instruments, and homes. Many things that were once made of Douglas Fir or plastic were made of bamboo. Local tree and bamboo farms grew these materials for both home construction and manufacturing. These new industries created jobs which produced useful products, unlike the tourism and service jobs that had driven our economy in the past.

For Kauai, direct contact with off island people and manufactured goods occurred through visits of ocean going sailing ships. There was not any Second Day Air delivery by FedEx or UPS in 2030. Off island cargo came through Nawiliwili and Port Allen Harbors with some seasonal delivery to Hanalei. The Big Box stores of Kukui Grove and Lihue were long closed. Those buildings still standing did warehouse duty for goods still coming from cargo sailing ships entering Nawiliwili Harbor.

At Port Allen the tour boats that began serving visitors at the beginning of the 21st century were long gone and replaced by fishing vessels. Some cargo arrived there and was stored in parts of the old industrial buildings that formerly housed tee shirt emporiums and tourist traps. Much of the commercial space was used for the fishing industry and agriculture exporters.

Most metal manufactured goods were not new, but recycled parts of the technology of the industrial age. Most of that “high” technology; like televisions, computers and automobiles; were unusable because of lack of crucial working parts or lack of energy to operate them.

The Kekaha Landfill was mined for glass bottles, pieces of stainless steel and anything else useful that could be retrieved from the decomposing mountain of trash. Unbroken bottles were the only reliable sterile containers available on the island.

The non-working appliances and vehicles, particularly the bulk of abandoned cars, were a vital and plentiful resource for such things as plastic parts, sheet metal, glass and the like. The success of keeping some technology running was dependent on recycling and reusing parts of other abandoned manufactured goods. Recycled sheet metal was a fountainhead of small local manufacturing businesses in Kekaha, Port Allen, Puhi, Nawiliwili, Hanamaulu and Anahola.

These businesses thrived as long as recycled material could be found or traded. There were operations for cutting and shaping recycled sheet metal into small wood burning stoves; and retooling unusable equipment into foot powered water pumps and the like.

Rail and Transportation

Lihue airport had no direct traffic from the mainland and did not operate at night. The airports in Hanalei, Lihue, Hanapepe and PMRF had small intra-island flights and there were irregular shuttles from Oahu. The few long runways became too unreliable for big jets. On Kauai, only ultra lights and small planes that were meticulously maintained were even operating by 2050.

A steel foundry operated in Lihue and Port Allen, and there was barely enough salvageable steel from scrap metal, engine blocks, and unusable heavy equipment to manufacture a light rail system system connecting Kapaa to Waimea along the mauka side of the old Kamualii and Kuhio Highways. Railroad trucks were cobbled together to support timber framed railcars for carrying people and goods.

The decision to commit so many of the resources left on the island to a rail line linking the

major populations from west to east was not popular with the communities on the north shore that were beyond the service, but the lack of resources and the difficulty of engineering a route were simply too overwhelming to justify reaching them.



Other traffic on the old highway was a mix of various transportation modes limited to 30 mph that included horse drawn carriages, bicycles and a limited number of lightweight electric cars. Moreover, small manufacturing cannibalized old bikes to fashion new family trikes. Heavy carts were produced from the frames and suspensions of abandoned vehicles and pulled by draft animals to rail heads.

Increasingly, canoes and footpaths were used to connect people from point to point around the island. Traditional ancestral paths that were long forgotten were cleared and well traveled. The craft and knowledge gathered in the Hokulea project at the beginning of the century proved pivotal in the development of oceangoing sailing vessels that had access to the entire Pacific Rim and were built on Kauai. Kauai had excellent cash crops that it could trade throughout the Pacific.

Technology & Science

In 2040 the population of Kauai was just over 100,000 and dropping slowly by attrition of the elderly baby-boomers. More than half the population had been born after September 11th, 2001, and about half had migrated to Kauai from Oahu after "The Crash".

The decade up to 2040 was the most productive years for these young people. To them, September 11th was a date used to commemorate the beginning of the "Dark Time", before the Crash. These young people had no memory of the events immediately following "911" and little memory of 21st century technical luxuries like hand held electronic game machines and daily scheduled jet travel to Vegas.

Many technologies based on maintaining and recycling Pre-Crash industries disappeared before 2030. Some persisted for a few generations. Those with the fewest moving parts had a leg up: the less complex and fragile, the better. But sustaining those old technologies and the need for them faded.

In 2040, after more than seventy years after Woodstock, a forty year old Kauaian, had little desire to dig out a Crosby, Stills, Nash & Young CD and give it a spin on the the wind powered boombox. In fact, most born on Kauai after the Crash found little interest in the entertainments or technology that had permeated the age of petroleum.

Technology and science was low-tech, in that they did not rely on highly refined materials or multilevel abstract structures that required continual use of energy and constant maintenance. The knowledge of the behavior of agriculture and applied crafts became our technology. With the loss of the Baby Boom, X and Y generations, we lost the techno-culture of electronic media.

Art & Sport

In a permaculture society where agriculture largely takes care of itself, the population was lowered, and the climate pleasant, there was a lot of time for fun.

With the decline of electronic entertainment, ocean sports became even more important. Swimming, body boarding, and surfing were a daily pastime for many on Kauai. Canoeing and kayaking became more important as a means of transportation around the island.

More extreme sports such as windsurfing, para-sailing, hiking and climbing continued to appeal to young people. Ancient Hawaiian footpaths along the Na Pali coast and over the mountains were reclaimed. Soccer and other contests of physical prowess provided competition and entertainment between towns.

Art was locally made. Music was live, acoustic and everywhere. Cutting petroglyphs, creating body art, designing floral arrangements, painting tapa cloth, making bamboo toys, and uncountable other craft activities and art forms played a central role in passing the time and making life meaningful.

There was a great revival of storytelling as an entertainment and a way of preserving culture. Besides ancient Hawaiian and other ethnic legends, there were new stories created to pass on the lessons learned through the Dark Times and the Special Period.

Education & Religion

Education became much less centralized by 2040. There were small neighborhood schools within walking distance of most Kauai children. In some ways, they resembled the plantation schools that had been built for each encampment, but now were centered around the small towns across the island. For the most part, elementary schools served those neighborhoods, but with the shortage of fuel, and cost of transportation rising, even Middle and High School levels were included in small neighborhood schools.

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Sustainability became a core value that was integrated into all levels of the curriculum. Care of our aina and its limited resources, in addition to the principles of ecology and environmental education, were a centerpiece of education.

While elementary schools still focused on reading, writing, and arithmetic; secondary education included more vocational courses teaching the basics of agriculture, manufacturing, and renewable energy technology.

These courses took place off campus, on location in the fields and factories, and were more like apprenticeships or internships. There were still college bound students, most of whom were be educated on Kauai at the Community College, which had been expanded to include higher degrees to provide the professionals needed on the island.

Religion became more nature based, since people were more connected with the earth. Since more than half of the population was involved with growing food, the natural cycles of the seasons became more significant. There were more planting and harvest festivals. There was a revival of some traditional Hawaiian religious traditions. Of course, Kauai still kept its multi-cultural tolerance of the many religious traditions that had been brought here over the centuries.

Hawaiian Sovereignty

Those that were governing realized the wisdom of reverting back to the Hawaiian Ahupuaa system of land management. It incorporated sound practices of bio-regionalism that were practical in determining the best land use, political divisions, and ecological sustainability. This approach redefined county government as the relationship and health of the natural watersheds of the island. Kauai was divided into eight major districts that each had a representative on the Island Council. Those districts closely followed the traditional ones and include (counter-clockwise):

- 1) West Kona (Polihale to Waimea)**
- 2) Central Kona (Makaweli to Numila)**
- 3) East Kona (Kalheo to Mahaulepu)**
- 4) South Puna (Kipukai to Hanamaulu)**
- 5) North Puna (Wailua to Kealia)**
- 6) Koolau (Anahola to Kilauea)**
- 7) Halelea (Kalihiwai to Haena)**
- 8) Na Pali (Kee Beach to Polihale)**

As in the ancient past, the communities in each district developed their own relationship that best suited them to the land. There was also an intricate system of trading to mutual advantage between the districts. These developments lead naturally to social structures which lead to greater independence of each Hawaiian island and a move towards true sovereignty for Hawaii as an independent nation once more.

There weren't many on the mainland who even noticed when sovereignty was restored to the Hawaiian islands.

Friends & Family

By 2050 life was more like the "Old Days" that people used to reminisce about. We lived in a simpler, less materialistic culture. People were living, working and going to church and school in their local communities, and stayed close to home by necessity, which strengthened neighborhood and family ties. Someone with a good story or a pretty song became the center of attention.

The new entertainment consisted of local community events within walking distance; including parties, musical performances, plays, harvest dinners, and local sporting events. There were communal work gatherings for big projects like water diversion, planting trees, or harvesting.



Extended families were more prevalent again, with nuclear families being too isolated. Kauai had always kept more extended families intact with a big emphasis on Ohana. During the hard times, these values were strengthened even more.

Once the population stabilized to a sustainable level, and food and energy production systems were in place, there was more leisure time. Families and friends were once again on “Island Time”, talking story, and working a little to have just enough to be comfortable. The rat race of constant pressure and stress to make money and acquire the things that had constituted the “American Dream” were a thing of the past.

Walking, gardening, farming, rather than sitting in front of the TV, a computer, or in a car improved the overall fitness of the young. There were no more highly processed, sweetened or fatty junk foods. The new diet of whole, natural foods grown without pesticides and rich in fresh fruits and vegetables greatly reduced diabetes and obesity in Hawaii. People had closer ties to the aina, and to ohana and friends. They lived a happier, simpler and healthier lives.

The Good Life

With some self control we got the population of the islands down to 500,000 by 2050. The smaller the population we achieved, the freer our lives were. With under 50,000 on Kauai we were quite comfortable and laid back.

With little stress to put food on the table, and a tropical climate that made life very comfortable, people were more relaxed and happy. They learned that simple pleasures and close relationships, with family and neighbors, brought greater joy than the old consumer rat race ever did.

By then the old question of "What chance does mankind have if we can't live in balance on a tropical island paradise like Kauai?" was tested and proved.'

END OF PART THREE

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*Images by Juan Wilson. All others images gathered from the internet with Google.

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