

## PLANNING FOR TOMORROW \*

***“If you don’t know where you are going, you’ll end up somewhere else.”***  
***Yogi Berra***

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An essential part of planning our future in Hawaii is the designation of land for four basic purposes, including Urban, Rural, Agriculture, and Conservation, and the classification of land falls under the purview of the State Land Use Commission.

The Counties take these designations and break them down further into smaller categories. For example, Urban is broken down into residential, commercial, light industrial, and other categories.

The County designations are based on a plan called the Community Plan, driven by input from the community and a committee of residents with broad backgrounds, having an intimate understanding of community issues and needs. Such is the Molokai Community Plan Advisory Committee.

The hierarchy of land classification starts with the State Constitution, Hawaii Revised Statutes, County Plans, and the Community Plan. The County Planning Departments are tasked with facilitating the process of updating and overseeing the Community Plan Process, which is supposed to take place every ten years. Each plan review takes into

consideration a twenty-year horizon which is revisited every ten years. However, the last Molokai Community Plan Review took place in 2001, so the process has fallen behind due to increased workload for the Maui County Planning Department.

The make-up of the committee has a strong influence on the outcome of the plan, what will be allowed in the community, and how many acres of land will be allowed in each designation.



*Another subdivision in Wailuku Heights, Maui*

The community plan review committee is supposed to project for future growth in each community and allow for activities that enhance and support the community. This can include parks, schools, new development areas, and

commercial and retail areas, for example.

This process, although not written in stone, allows for development in certain areas while protecting pristine areas from uses that could have an adverse effect on that area such as archeological or cultural sites or certain sites deemed special by residents.

Waste water – Storm water drainage – Solid Waste – Hazards – Land Use and Housing – Economic Development – Water – Telecommunications - Transportation – Parks and Recreation – Natural Heritage and Scenic Resources – Community Design - Fire and Public Safety; these are just some of the categories the committee needs to wrestle with and come up with a best guess of what we need on our island. It's all about breaking it down into its component parts, then putting it back together and hoping that the pieces all fit.



*South Molokai, August 19, 2015: How can the Molokai Community Plan prevent this from happening?*

The planning department can facilitate and suggest, but the community plan advisory committee drives the process.

In theory, they're supposed to represent the community, but they don't always do, and vested interest can easily influence and possibly taint the process. The community, in the meantime, has more important things to do, but usually gets involved in the early 'discovery' or community input stage and late in the process close to approval, which may be too late.

This very important process involves collecting input from the community. Unfortunately, few residents pay attention or get involved, but land owners and developers definitely flock around this process and may even infiltrate it since it allows them to up-zone land, increase the value of their investments, and allow them to sell these 'entitlements' for a potentially high return by just hanging on through the process.

The process of building a hotel, for example, can be costly or it can be a walk in the park, depending on the intensity of opposition to your plan and if you don't cross your 'T's or dot your 'I's. If you need water for your development, especially in an arid area, this can lead to community opposition. Community participation is a key element that can inject reality into the plan, but may also extend the process beyond its time frame, which is usually 120 days.

Although the implementation process is another step where the community can get involved, when land is actually rezoned and specific questions have been asked, sometimes this step is too

late if the train is moving fast and the developer's due diligence has been close to completed.

What seems to be missing in all of this is a crystal ball to see what kind of problems the community could face, and by not anticipating them, what could happen. A key is getting a handle on what the population will look like 10 or even 20 years from now, which is a crap shoot at best.

Population increases are hard to project, but you can be sure in Hawaii that if you leave a lot vacant and allow for resort designation, the chances are great that a hotel will be built there some day, or something resembling it like a golf course surrounded by very expensive



*Can this occur in front of a major resort? The closed Kaluakoi Hotel, West Molokai, January 2014*

homes. As Hawaii is part of the United States, you have no way of controlling growth and this is a big problem. If it was in California, you can just overflow

into Nevada, Oregon, or even Mexico for that matter. If you need water, you could even steal it from another state, but not in Hawaii. We have no one to steal from. In Hawaii, if we overbuild, we can only overflow into the ocean since we have no state to overflow into.

I can still remember a meeting at the State Legislature several years ago when Paul Reppun and I were discussing growth with the State Economist. My question to him was, "What happens when we build on all the land in Hawaii?" His answer was, "Then we go up!" We were both taken aback by what we considered to be the official statement from the State of Hawaii, and we were seriously considering holding him in the corner and beating him up.

The latest buzzword in planning is 'mixed use' and it can mean a lot of different things to different people. One example of mixed use is a two story building with a retail outlet downstairs and your residence upstairs. I saw this in Taiwan even in rural areas, and this was the original plan for much of downtown Honolulu, especially Chinatown.

The concern I have is can this process increase the value of land to the point where people who were born and raised here can no longer afford to live here? It just sounds like urban sprawl waiting to happen but this is the latest trend being pushed by county planners. It's difficult to envision what this zoning will evolve into. If you don't lock in the zoning such

as residential or commercial, it just seems to get upzoned.

In Hawaii, highest and best use seems to be the mantra these days, and someone will buy a piece of land and try to make the maximum return on it. Before you know it, people who live nearby who have no plans to sell will not be able to afford the land taxes.

Just as a 'mixed plate' can mean different things to different people, I'm starting to get a little leery about the mixed-use designation because I cannot see clearly what the picture could possibly turn into. Making more money from a piece of the rock will always be the driver in Hawaii, especially when your goal is flipping and buying more.

Maui is definitely the prime example as large tracts of land zoned agricultural are being used to build a giant house on a huge foot print with no plans to farm the land. All you're doing is driving up the cost of farm land far beyond what any farmer can afford, and is not really addressing the goal of the State Constitution in food self-sufficiency.

We can only look on the north and south of West Maui and see this. This is the result of poor planning, or successful lobbying by large land owners with no forward thinking or vision.

I still remember being a part of a group of individuals updating the County of Maui Agricultural Ordinance over a decade ago. When it came time to approve changes, including a

moratorium on agricultural subdivisions, the County Council decided to approve the measure a year later. In the process, a pile of agricultural subdivisions slipped through the cracks, including Launiupoko on South Maui. I can still recall the land owners sitting in the meetings not adding anything to conversation, but they probably had a lot of input behind closed doors.

In a state where land is finite, how can we allow so much land to be used for 'fake farms' that add nothing to food security. *It's a wonder why homelessness is growing at a faster rate than affordable homes!*

### ***It's Always about Water***

Resolving water issues on Molokai will either be the biggest limiting factor or the biggest driver for future development. With over 28,000 acres of Hawaiian Home Lands, and their first rights to water reaffirmed in two State Supreme Court cases over the last 25 years, everyone else has to stand in line. But it will still come down to weathering legal challenges, making sure the law is enforced, and getting to the water trough before everyone else does.

It seems that many developers want to create resorts in dry areas and this is understandable considering every visitor wants a sunny beach with no rain, which is becoming a rare commodity these days. With no water nearby, developers will look at ways to transport water from wet areas through arid areas to its final

resort destination, and Maui is another example of this in Wailea.

Molokai is no different. The arid West Molokai has been identified as the future resort area for over 40 years but due to community opposition, it hasn't happened. But they keep trying, and we just have to blame ourselves for giving up too easily if the population explodes out there in the future.

*We can look around us and see what we don't want happening to us, but what do we want to see?*

Water is the biggest limiting factor in development, and it becomes a very political issue with little semblance to rational planning. Excellent examples include the Maui water battles of East Maui Irrigation (EMI) and Na Wai Eha. According to the State Water Code hierarchy of rights, taro growers have first rights, followed by Hawaiian Home Lands.

But what has happened is the Commission on Water Resource Management has decided it's better to making the wrong decision and tie things up court than to make the right decision. In this respect, they have failed to live up to their responsibilities.

It's also by design that the new CEO of the State Commission on Water Resource Management is from Maui, and I guess the hope is he will temper the Maui water decisions, but to me it just gives the Maui power brokers more input into water decisions that will take it

away from the State Water Code and rational community planning.

Sugar production is a way of keeping the water within Maui's Central Plains until it's time to build more resorts and upscale houses. In that way, the water will there for the grabbing and easy to move to residential and resort development. And if the environmentalists and concerned citizens have their way by curtailing cane-burning, the land owners, Alexander and Baldwin, have someone to blame as to why they have to phase out sugar production and shift to houses and resorts.

In the Community Plan process, there are basic tenets of planning we try to adhere to. One is conflicting uses. To allow a corn seed field across the street from an elementary school is a no-no, but it presently exists.

There are laws in place that prevent an establishment selling liquor from locating itself within 500 feet of a school, but not a corn field. Corn fields need to be sprayed for pests on a regular basis, sometimes weekly, but unless the community says NO, these kinds of planning directions can happen. So as Cat Stevens used to sing, "Where do the children play?"

Look at Ho'opili on Oahu, built on prime agricultural land and displacing thousands of acres of existing vegetable production! The State Constitution is supposed to protect agricultural land as a resource, but highest and best use

seems to prevail because it has the potential of generating a lot more taxes for the state coffers.

Building around existing residential and industrial areas is the norm, but how far do you allow this to happen? Important infrastructure such as schools has to be figured into the equation, so projecting future growth is important in locating schools where they're needed. Knowing the demographics of an area is important since a high concentration of elderly will not populate an elementary school, but may require long-term elderly care.

Land is a finite resource in Hawaii, but everyone wants a 'piece of the rock' and you cannot discriminate between someone who has lived here for generations and someone who just arrived. It really comes down to who has the money to buy the land and we can just look around us to see that this is the case. Developers know this so they can continue to build and we can continue to grumble, but the developers always win even if it means more congestion on the highways.

Honolulu is the prime example of backwards planning, and it's interesting to note that many island countries in the Pacific and elsewhere look to Honolulu for direction. Hopefully it's because they want to know what NOT to follow in Hawaii's planning direction. It's almost tragic to see all the homeless in Kakaako when in ten years, this will be a land of skyscrapers.

### ***The Future of Kaunakakai Town***

A major direction for the Molokai Community Plan is the long-term relocation of Kaunakakai Town. All future development, including residences and establishments, will be moved away from the shore due to projected sea level rise. The County has even taken a bold direction in stating it will not be responsible for any disasters if you build on the shore.

There are some shocking photos of sea level rise or the disappearance of sand, however you look at it, on West Maui where the shore is right at the corner on the resort structure. There are barriers along the highway on both Maui and East Molokai where the shore has been washed away, and the doozy of them all is a house built along Kupeke Fishpond on East Molokai with water under the house! And this is not water under the bridge!

Another example of poor planning, again on East Molokai is where a residence was approved on a cliff because planners located on Maui reviewed maps and they all appeared to be flat.

The new Molokai Community Plan is projecting the relocation of the town north of the present town. Although Molokai is the only island with a fringing or barrier reef that extends  $\frac{1}{4}$  to  $\frac{1}{2}$  mile from shore and acts as a cushion against and protection from a tsunami, sea level rise will still affect us like any other island.

Recently, the Federal Emergency Management Agency completed an assessment and downgraded the insurance coverage for Kaunakakai Town due to the potential of Kaunakakai Stream banks overflowing. What this means is that everyone's insurance policy increases if you can even secure insurance at all.

A real dilemma will be petroleum facilities presently located less than 100 yards from shore. If located far from shore, there's more potential exposure to the environment if the pipeline ruptures, so a shorter pipeline is better from a planning standpoint than a long one.

### ***The Maui Model***

Many don't understand that allowing a little convenience store in a predominantly agricultural-zoned area will only attract more little convenience stores, and sooner or later, a big box store will buy out a bunch of convenience stores. Again, Maui is the example of what we don't wanna be. Throughout the community plan process, alluding to the Maui Example is an easy one because there are so many things happening on Maui than we don't want happening on Molokai.

On Maui, you have few large landowners calling the shots like a cartel and they have everything sewed up. We can only sit on the curb, watch the parade go by, and shut our mouths because speaking out does nothing. Whether there's smoke in the air from

sugar cane burning or traffic jams, that's not important. What is important is will you be able to afford to live there?

With rampant development, there are shopping centers, such as the Ka'ahumanu Shopping Center with vacant store sites. They've overbuilt Kahului, and now there's a major shake-up with the small local stores are 'down the road' unless they can come up with a way to constantly attract customers without a lot of new competition. But there's a new Target next to Walmart?!?!?

There's a new development between the Maui Community Correctional Center and Ka'ahumanu Shopping Center in which Alexander and Baldwin netted \$1 billion! Do you think they'll want to stop there after this windfall? I don't think so.

Tourism, if not well planned can create havoc on a small island community. A couple of months ago, I was on Maui for a visit. After flying in, I had to walk a short distance to a Budget Car Rental stop to jump on their bus. As I was about to reach there, a jet had just arrived and tourists were scrambling to stand in line for the bus with their luggage. I had to stand in line behind over 130 tourists, and I couldn't believe it! This has never happened to me in all my years renting a car on any island.

So we have the two drivers on Maui, land development and tourism, and somehow they're connected. Tourists come to Maui, they love it, and they

want to move there. And who is going to stop them? The monster is alive, and you just have to feed the monster because it brings in new money, creates jobs, and allows long-time residents and new ones to survive or thrive.

This is what life is all about, and nothing else really matters in the bigger scheme of things. Everyone else is just a voice in the forest. The writing is on the wall, and there will be more new walls to write on.

Back to Molokai, it all comes down to community involvement in driving the process, and members of the Molokai Community Plan Advisory chiming in on these concerns and acting on it in the right or 'pono' way.

### *THE HEAT IS ON!!!*

We've had over a week of 90 degree weather with little breezes on Molokai. If you think you can't bear this kind of weather, just think about the plants that are stuck out there in the field. The impact on two crops was stark and striking.

Lettuce is being impacted by tip burn and also bolting before their time. These problems are here to stay especially with more weather extremes. High temperatures affect plants in many ways. Like us, heat stroke can be a killer, and the solutions are to cool down by drinking lots of water, seeking shade or finding an air conditioned room.

Some of us can handle more heat than others, while some of us can wilt from a

little heat. Same with plants; some will wilt if you look at them in the wrong way. When the plants metabolic rate accelerates due to high temperatures, they consume more water and food, and therein lies the problem. Sometimes, the roots cannot take up water or nutrients fast enough and they either sacrifice a part of the plant to save the rest or totally crash. Other times, the problem is more subtle such as high milk production creating bad tasting lettuce.



*Heirloom tomato Blondkofchen or Blond Girl with trusses of flowers about to face the worst summer.*

The problems created by high temperatures are addressed in a couple of ways. Either change the environment or change the variety of lettuce. Both genetics and the environment have a play in this problem.

You can change the environment which can be very costly or you can change the genetics by choosing the right variety which can be a little cheaper.

The heat-tolerant ones are the last to bolt, and there are many to test, but there are other pieces to the puzzle if you're selling them. What does the market want? There's a bunch of lettuce



varieties touted as heat-tolerant but Hawaii has a unique kind of heat, combined with high humidity and warm nights. Field testing a mix of varieties is the start as well as asking other farmers and gardeners what their favorite varieties are.



*Tipburn on Manoa Lettuce*

Tomatoes were dropping flowers, and if they still had fruits left on the vine, there blossom end rot was right behind finishing off the rest. I watched a row of trellis tomatoes lose about 25% of its fruit, then the melon fly came to pick off the ones close to harvest. After that the insidious tomato pinworm showed up when fruits were ripening in boxes.

On top of this, the Tomato Russet Mite was working its magic from the bottom up causing yellowed leaves and early defoliation. High temperatures accelerate the life cycle of many of these insects and arthropods, and if you don't have a good handle on them early in the season, it's way too late when the season is in full swing.

We have to change our evil ways in coming up with a new strategy to grow resilient crops adjusted to climate change and global warming. This means adjusting to erratic weather mood swings and using all your tools to make this happen. It's not business as usual; it's about survival.

And what is the impact on our water supply? Well, not as bad as California, but predictions from those in the know say that it will take a while for us to recover from droughts even in Hawaii, but with just a slight shift in the winds and a heating of the ocean, you have major downpours unprecedented in Hawaii, but will little retention of water by the aquifer, and heavy runoff into our near-shore waters. But that's us, and it may just be for now, but you never know.

If you look at the amount of days with north east trade winds, it's starting to wane by some estimates of 20% lately. Some say it's El Nino, but it could be the sign of the times. With higher temperature bring a higher potential for cyclones and hurricanes which requires a clash between hot and cold.

Water is becoming the biggest issue across the nation, especially in California where many farmers and residents are being demanded to cut back on water use by 25%. Even movie stars and the rich and famous are getting busted stealing water from fire hydrants to keep their green lawns green.



*Looking for food in a drought when the grass is always greener on the other side of the fence*

A whole new ethic is evolving there in cooking and how we live, centering on water reuse. This means coming up with innovative ways of growing food such as tomatoes like turning off the water soon after fruit set and fruit gel formation, and letting them fend for themselves.



*Blossom-end rot aggravated by high temperatures, water stress, and calcium deficiency combined.*

This takes special upbringing for the crop, and maybe even the right drought-tolerant, low-input cultivar. If you never learn how to swim, when will you learn?

Hopefully before you're in a situation where you have no choice but to swim. Plant roots have natural tendencies that have to be exploited.

If there's insufficient nutrients in the ground, roots have a propensity to stay close to the surface since they know this is where the nutrients usually hangout, if there's nutrients at all. If there's no water in the soil, roots head south because that's where the water is usually hanging out, if you have water in the ground. Having varieties with large scavenging root systems helps, but how you raise crops changes dramatically. Do you focus on luxury consumption, then cutting them off and sending them to the streets to fend for themselves?

Utilizing these tendencies to benefit plants starts with tough love. Don't baby them early on so they become dependent on you for water. Don't give them too much food so they have a large buff body to maintain, but not enough food around to maintain them. Maybe lean and mean is a better strategy. This is usually called hardening off, but it needs to be taken to another level, and not just making seedlings strong and stiff before transplanting.

Today, there's never a dull moment in farming, and sometimes you have to forego *siesta*.

### *Oriental Fruit Fly*

The most damaging pest of fruits in Hawaii is the Oriental Fruit Fly, a small

fly about 3/16" in length. It arrived in Hawaii around the mid-1940's, and is a major pest of over 230 kinds of fruits and vegetables. Native to Southern Asia, it's also found on the islands of Sri Lanka and Taiwan.

In the U.S., it's only found in Hawaii but has been intercepted in California several times. Summer is their heyday when mango, papaya, and banana are in full production, and can be distinguished from another fruit fly, the Melon Fly, by its clear wings and a black T on its abdomen.

The female Oriental Fruit Fly has a pointed abdomen or ovipositor that's used to inject eggs into fruits and vegetables. It can lay over 130 eggs a day in clusters of 10 but as many as 100 or more, laying more than 1000 eggs in her 90-day lifetime.

After eggs are laid in fruits, they grow into maggots or larvae that burrow through and consume fruit flesh, rotting them in the process. They complete two growth stages in the fruit, shedding their skin and exiting the fruit through the hole they were laid in as pupae.

Dropping to the ground, they work their way 1-2" into the ground where after 10-12 days in the ground, they grow into adults. It takes an additional 10 days before they're sexually mature and can lay eggs. It takes one generation 37 days to complete their life cycle.

This egg to egg-laying adult life cycle takes a little more than days. They

usually feed at dawn and mate at dusk, and when not doing either of this, they're hanging out in shady areas nearby. The adult is a strong flyer and can fly over 30 miles. A research project on Lanai successfully eradicated the Oriental Fruit Fly, but an on-going concern was re-infestation from Maui or Molokai.

To test this theory, researchers painted adult flies on Lanai and set up traps on Maui and Molokai. Unsurprisingly, painted flies were intercepted in traps along the south shore of Molokai.



*A female Oriental Fruit fly sticking it to a fruit, laying its eggs. Photo: University of Florida*

Oriental Fruit Fly populations can explode during spring and summer months, and their ability to fly long distances and attack hundreds of different crops makes them a formidable pest. In California, the value of fruits and vegetables attacked by the Oriental Fruit Fly exceeds \$10 billion, which makes

this pest a high priority for quarantine and containment.

There are many control methods used in Hawaii. The use of Methyl Eugenol lure on cotton balls in plastic water bottles hung near fruit trees is used to attract males. Another control option is the use of a bait, GF 120 developed by USDA to attract and kill both males and females. GF 120 contains attractants such as proteins that mimic fruit fragrances along with an organic pesticide, and is mixed and applied to plants near susceptible crops.

Another very important control method is sanitation, including collecting, bagging, and disposing of fallen and rotted fruit so larvae cannot emerge from fruits and re-infest the area. During the mango months, this can be a major chore, but is one of the most important methods of breaking their life cycle.

Since females prefer ripe fruit for egg-laying, picking fruits when not fully ripe is another control strategy. For more information, you can download this publication from the UH College of Tropical Agriculture and Human Resources website:

<http://www.ctahr.hawaii.edu/oc/freepubs/pdf/IP-4.pdf>

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Well, that's it for this quarter. I've moved to a quarterly format so I can manage my time better instead of spending so much time writing. There's so much to do on Molokai because the needs are

great, and you can't run away on Molokai. They'll stop you in the store isles, at the airport, at the service station, and even on the main road. You can't get away...

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