

Empowerment

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Empowerment was a term used in the 60's and 70's and was also connected to community development in poor communities and also in third-world struggles. It means to encourage people to take control of their lives, and was looked at as a strategy for social change to move people out of poverty in America.

Individuals such as Sol Alinsky taught individuals such as Barrack Obama and Hilary Clinton how to organize around shortcomings in the community. The question for today is has it worked? For many today, this is still a dream and a faraway dream. I still remember giving a presentation on 'Participatory Decision Making in Molokai Agriculture' at the East-West Center to scholars from third world countries. We talked about how we went through a bottom-up community process to set priorities for agriculture and implement many of them. The response by some of the participants was, "We'd be killed if we proposed this in our country!"



One way of empowering people is by transferring knowledge through community workshops. Soils Workshop on Molokai February 26 with Dr. Jonathan Deenik. Over 50 residents attended, included Molokai Middle School students.

The way to keep people in poverty is to give them a heavier tax burden than they can bear in addition to high interest rates, low pay for work produced, predatory lending, and adjusting the game plan regularly so only the rich can succeed. This strategy appears to be the American way of life and is the cards dealt out to many today.

World powers play this same game with weaker nations, making them pawns to a new world order. Weak nations supply cheap natural resources to powerful nations at the expense of their natural environment and the human spirit as long as people of a country cannot comprehend what it means to be better off than the status quo. If they don't comply, we cut them off from the supply chain, or worse, help to overthrow them. Whoever goes against the world order are demons to our society. It happens everyday.

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The unrest in the Ukraine is difficult for a person on the street to comprehend, but can be likened to two world leaders trying to get a hold of the strings of a puppet. The puppet has a brain like Pinnochio but is having a hard time discerning which master is better.

Around 2013, the two world powers were courting the Ukraine with large financial packages to 'build its country'. The Ukraine has some of the richest soil in Europe known as the 'Breadbasket of Europe', and can become a major producer of food in the region.

Ukraine's black soil is ideal for growing grains, and in 2012 Ukrainian farmers harvested more than 20 million tons of corn. The ability of the former Russian Republic to grow its own food, especially wheat, was dependent on the Ukraine wheat harvest, and the U.S. would fly drones over this area to estimate the wheat harvest and determine the country's stability.

The last Ukraine president was thrown out in large part because he made a deal with Russia for financial aid to rebuild his country, \$15 Billion and also discounts on natural gas. The United States comes along with the World Bank and the International Monetary Fund with a little undermining of their own to push Russia out, and puts forth a 'so-called' better deal of \$17 Billion, with a few conditions such as accepting genetically modified crops, among other things. The agreement states that both parties will cooperate to extend the use of biotechnologies.

In May 2013, Monsanto announced plans to invest \$140 million in a non-GMO corn seed plant. A Monsanto spokesman stated that "We will be working with conventional seeds only" because "in Ukraine only conventional seeds are allowed for production and importation." At the same time, there was an undercurrent to push for GMO crops from the Ukraine farming community. Or was this initiated from the West? This is anybody's guess.

To help with empowerment of the Ukrainian farmers, Monsanto has launched a 'social development' program for the country called 'Grain Basket of the Future.' It provides grants to rural villagers so they can "start feeling that they can improve the situation themselves as opposed to waiting for a handout" or is this really a handout that includes a heavy payback similar to predatory lending? And who is really getting the handout in the long run?

Part of American deal is to lift the ban on the sale of Ukraine's rich agricultural lands to the private sector. I can understand how Russia can get really pissed off to the point of constantly putting pressure on the Ukraine along its borders, and on 'red alert' to invade.

There's more to this story and it seems to end up back in the U.S. centered on the federal government, the state department, and big business. The U.S.-Ukraine Business Council's 16 member executive committee is packed with U.S.

agri-business, and also major public relations firms.

Russia's prime minister stated in April 2012, *"We don't have a goal of developing GM products here or to import them. We can feed ourselves with normal, common, not genetically modified products. If the Americans like to eat such products, let them eat them. We don't need to do that; we have enough space and opportunities to produce organic food."*

When I read this stuff, it's really difficult to discern who is right and who is wrong. As I tell my wife sometimes, *"You never know if you never go"* and we can only guess as to what is really going on. As John Mayer sings in one of his songs, *"If you own the information, you can bend it all you want!"* And that says more than we'll ever know.

So what is real and what isn't? I have a friend of mine from Iraq, and he has no family in the U.S. I talk to him a lot about what is going on in Iraq and what he shares with me is totally different from anything you can read in any newspaper or website. I ask him about seeds, since this was the cradle of civilization, Mesopotamia, and he said there's no reliable electricity and suspects that it's all lost because no one is farming.

I ask him about food, and he said all the food is being imported from the U.S. and sold in stores because no one is farming. So that means there's no native foods available in stores, and he replies in the affirmative. Sounds like the latest

cargo cult. So who really won the war, or is this the continuation of wars of the past from ancient times to today. Or is this the great puppeteer at work?

I have another friend from Iran, and he works at Kinkos, a subsidiary of FEDEX, and I ask him about what he misses about Iran. He says the fruits and spices, such as pistachios, pears and peaches, apples and figs, cumin flavored ethnic food, and the many delicacies you cannot find in America. Iran is also part of the Fertile Crescent, Mesopotamia, and the ancestral home of many of these crops.

I ask him about seeds. I ask everyone about seeds I guess because I'm so fixated on food as a farmer and also as an extension agent. But I thought Iran is one of the bad guys? Why do they still have their culture and their food intact?

There's another scary thing happening in parts of the world, in part due social media. You can see what others have and what you don't, and now you want what they have. In places such as Nepal where over 75% of the people grow their own food, they're tired of doing that when they see others enjoying food they buy, and want to be like them.

But is store-bought with all artificial and adulterated ingredients better for you or is the media really working on many who want to emulate us? Or is it just another cargo cult in the making, moving away from the native diet and probably never returning, with all the trappings of diabetes, hypertension,

obesity, and heart disease. Is that the price of freedom?

Who's right and who's wrong? Are we the bad guys or are they the bad guys? We'll never know but any forward movement or progression must be done with both eyes wide open and with the brain highly functional.

Who's in Charge?

Back at home, we seem to have a microcosm of the big picture going on. Things are hopefully changing for the better, but definitely changing nonetheless. If what people say is real, we may be on the cusp of new 'empowerment' opportunities in Hawaii.

We can continue to mull on 'A New Day in Hawaii' or continue to be confused as to 'What Day Is It?', or we can take on a new frame of mind. It's always a new day in Hawaii, so what did that mean? I was taken aback by that phrase because I think it meant 'Don't tell me what to do or even give me ideas; I'll tell you what to do!' I used to say the same thing to one of my bosses.

Well, we have a new Governor and I have high hopes for him, but I don't think it's a good idea to have high hopes for any man because you'll usually be disappointed. It's better to have low hopes, and anything that happens will be better than you've ever expected.

I've been able to talk story with Senator Ige and now Governor Ige for about four times in the last year, and we've had

some interesting conversations. What's interesting about him is he listens, engages, and knows what he's talking about, but I don't know if this is a temporary thing or long term.

He recently gave a talk to the UH Professional Assembly, the UH faculty union about education and fielded questions. I was impressed by the breadth of his knowledge. He graduated from the UH system so he wasn't an outsider looking in. He knew a lot about the K-12 system since his wife is a vice-principal at Moanalua High School on Oahu.

Probably the most important take-home message I got from him is that the community needs to take control just as the faculty needs to take control of the university, and if they don't then the legislature and the governor's office will intervene and legislate, which is probably the worst thing that could happen. Very few bills are passed at the legislature so we have a chance to take control. Some lobbyists spend all their time just killing bills, and have admitted to this. This is a pretty straightforward message, and he seemed to apply it to everything in Hawaii.

It's kind of reminds me of Senator Inouye's messages of the past. I had many opportunities to interact with him, just him and I. His message was "*Don't knock down the wall unless you have a better wall to put up.*" What this meant is if you identified a problem in Hawaii, he expected you to propose a solution or solutions, and he was even willing to

find funds to implement that solution if it was within reason, but you had to show results, be accountable, and evaluate the project for impact.

With opportunities come responsibilities, and nothing runs by itself in Hawaii; it needs energy which I think has turned into a swear word in Hawaii due to the utility jostle. Everything we do requires energy. Just getting up in the morning requires energy, but what we do with that energy after we get up makes all the difference in the world.

We can spend all our time planning, and never implementing anything. We can look at the cost of doing things, and just make it more expensive just thinking about it without doing anything about it, only increasing overhead costs. Take it from me, I do this a lot. Maybe I should have listened to Michael Jordan, and to ‘Just Do It!’

Lettuce Trials at Poamoho



UH Manoa Lettuce seed from 1977 (left) and the present UH Manoa Lettuce (right).

I was able to visit a leaf lettuce trial at Poamoho Experiment Station between

Wahiawa and Waialua on Oahu recently. The purpose of this variety trial is to fine-tune and improve Manoa Lettuce, a Green Mignonette selection that’s been in Hawaii for several decades.



A green selection of Manoa Leopard F2 with nice leaf shape.

This is a team effort with many players, including Extension Agents Jari Sugano and Jensen Uyeda, Seed Store Manager Desmond Ogata, Extension Agent Emeritus Steve Fukuda, Retired Researcher Dr. Ken Takeda, Dr. Russell Nagata, Hawaii County Administrator and former lettuce breeder at the University of Florida, Poamoho Research Station Staff, including Manager Susan Migita, and myself.

This heirloom variety is delicate, juicy, crunchy and sweet taste, and is also known for its heat-tolerance. Its ability to grow in lowland areas of Oahu, such as Kamilonui in Hawaii Kai and even along the Waianae Coast is legion. Hot days and warm nights can raise havoc on many temperate weather vegetables due to their inability to recover from the previous hot day. In cooler upland areas

of Hawaii, and even in the mainland, cool nights allow the plant to rest accumulate carbohydrates and energy to take on the next hot day.



L to R: Anuenue, Bronze Mignonette, Manoa Leopard F3, Kauwela, Manoa 1977, UH Manoa, [(Rex X Little Gem) X Manoa], Manoa Leopard F2

In the 1970's, a breeding program led by Dr. Richard Hartmann sought to improve Manoa lettuce and create a small head on an otherwise open leaf variety, and it was named UH Manoa. The open leaf habit of the original Manoa lettuce didn't handle shipping and sitting on the store shelf well, so creating a head might help to keep the lettuce together and improve shelf life if it wasn't flying off the shelves.

Selecting the right variety in Hawaii is a challenge because everyone has their own ideas on what is the ideal lettuce. Food processors want a large head with a lot of weight, and that means a hefty mid-rib, while growers want a uniform lettuce with a small head that's just right for the consumer. I contributed three of the eight varieties in the trial, including Manoa Leopard F2, Manoa Leopard F3, and Kauwela.

Manoa Leopard is a cross between Manoa and Leopard. Leopard is a cross between Merlot, a red oakleaf with high disease resistance, Dark Green Romaine, and Flashy Trout Back, also known as Forellenschluss, a spotted heirloom from Belgium. It has spots like Leopard. The combination of these two backgrounds should give this cultivar good disease tolerance, good heat tolerance, and great taste.



Manoa Leopard F3 (Leopard X UH Manoa) with red spots

The F2 and F3 combinations will show a lot of variation in plant habit, color, and other resilience characteristics. Manoa Leopard had the largest green plants but was also quite variable in shape and size, some plants displaying spots while others were all green. Selecting for certain characteristics will take about 3 to 4 more generations to stabilize.

Kauwela is a little-known sibling to Anuenue, a cross between Manoa and Great Lakes, an heirloom crisp head lettuce known for its heat tolerance. The objective of this cross, developed in the early 1950's was to increase the weight of Manoa lettuce, while retaining its heat

tolerance. Anuenue grows well in the winter months, and is well adapted to summer weather in many parts of the U.S.



A large-framed green Manoa Leopard F3 with potential for process in salad mixes.

I found Kauwela about 3 years ago in the USDA Seed Repository in New York by accident. While requesting old UH tomato varieties, they told me they only had these lettuces from Hawaii with funny names. There were three lettuces, Kauwela, Laupili, and Kulanui.

An important addition to this trial was the development of a new heat-tolerant lettuce by Dr. Russell Nagata combining Rex, a very tip-burn and heat-tolerant lettuce with Little Gem, a popular miniature Romaine adding compact and upright growth.

This cross has been combined with UH Manoa to develop a super heat tolerant Manoa type, but this is early in the game because it has to be selected for generations or F6 in order to stabilize these characteristics. Along with heat- and tipburn-tolerance, other worthy characteristics include leaf texture which Manoa is known for, crunch and

juiciness, disease resistance, and more. In breeding and selection, you can select for something, but what are you giving up. This is the million dollar question!

The big surprise in this trial was the discovery of a can of UH Manoa lettuce stashed away in a reefer since 1977! Designated Manoa 1977, it's amazing that this seed even germinated. This lettuce was sold by Takii Seed of Japan, and originated from UH since they were contracted to grow Manoa lettuce for the U.H. Seed Store. Side-by-side, there were small differences, but the real test will happen this summer when these lettuces will be run through the gauntlet of a hot summer where its true colors will manifest itself.

Others cultivars in the trial included Anuenue and also Bronze Mignonette, a Brown version of Green Mignonette and also an heirloom. Both Green and Bronze Mignonette are mentioned in seed catalogs from the mid-1800's!



Left to Right: [(Rex X Little Gem) X Manoa] and Manoa Leopard F2



Variability in color and shape in Manoa X Leopard F3.

Bronze Mignonette from Eden Brothers, was a large framed lettuce with brown edges and an open habit and looked nothing like Green Mignonette. This is also related to how a cultivar is selected and maintained in the field.

From this trial, we will make individual plant selections and increase this seed for further trials, one of which will be to grow it through the summer to evaluate heat-tolerance, including tip-burn and premature bolting tolerance. There's still disease tolerance, consumer acceptance, and more...

The Hula Girl's Flower

The local tradition of lei giving and receiving are an important part of special local events, including May Day and graduation celebrations, bedecked with leis of all colors, shapes, and fragrances. Lei flowers, especially plumeria and its alluring fragrance

remind us of bygone days, of growing up, and of special events in our lives.

Plumeria is also an old favorite of hula dancers, and was made famous by the Kodak Hula Show. Plumeria, also known as Frangipani and pua melia, is native to Tropical America, and include two main species, *Plumeria obtusa* and *acuminata* that will cross to produce an array of colors, including white, yellow, pink, and red.

The most famous variety is Celadine or Common Yellow, also known as Graveyard Yellow because it's found in old graveyards in Hawaii. Very prolific, it has sturdy yellow flowers with a good shelf life and ideal for the sewing of lei. One flower cluster can produce over 200 flowers in a season.



One of the Rainbow cultivars.

Most plumeria species are deciduous, dropping leaves at the onset of winter as they enter a period of dormancy triggered by shortening day length and cooler temperatures. After the passing of winter and with increasing day length, buds will form and burst into flower

through springtime. April to June is the peak season for plumeria flowers, and coincides with our May Day and graduation ceremonies.



A Moragne plumeria selection from Kauai

Caution should be exercised when picking flowers since some individuals have an allergic to the milky sap. Wearing protective glasses and a long-sleeved shirt can help to protect eyes and skin. Ideally, flowers should be picked early in the morning when flowers are fresh.



Plumeria 'Plastic Pink'.

About 50 flowers are needed to make a lei. Place flowers in cold water soon after picking to allow them to absorb

water and regain their turgidity. Remove excess water before placing them in a plastic bag, and store in warmer parts of the refrigerator.

Plumeria is very drought tolerant, but can benefit from water to enhance the quality and size of flowers. In irrigation trials conducted in Kalamaula with three water levels, five gallons evenly distributed under each plant was optimal for lei flower production in months when plants are actively growing and flowering.

Inadequate water causes branches to shrivel, while higher water levels will cause branches to stretch, requiring frequent pruning to keep flowers within picking height.

Easily propagated from cuttings, they should be on the dry side until rooted. Varieties with compact growth are desirable for landscape use, including Lei Rainbow, Dwarf Singapore, Heidi, and Pretty Pansy.

There are few pests that affect plumeria, including a rust fungus prevalent in wetter areas. Scales, mealy bugs, and the Serpentine Leaf miner can be troublesome, but most are controlled by predators such as tiny lady bugs and predatory wasps. The plumeria stem borer can kill whole branches especially when plants are under water and nutrient stress, but prefer varieties with softer wood.

Keeping plants healthy is the best way to mitigate pests and disease problems.



Molokai Plumeria is one of the largest plumeria farms in Hawaii, and where you can view the prolific flowers blooming, and occasionally experience its wafting fragrance as you drive by the farm. For more information on growing plumeria, you can download this publication from the UH CTAHR website:

<http://www.ctahr.hawaii.edu/oc/freepubs/pdf/OF-31.pdf>

Kalamungay Craze

In the Phillipines and on Molokai, it's called Kalamungay. Its Latin name is *Moringa oleifera*, and is known in many parts of the world as Moringa. Its leaves and young pods are important additions to chicken papaya, mungo beans, and other local Filipino delicacies. And it's known as a super food due to its high nutrient content.

Known by many common names, including drumstick, ben oil, and horse radish tree, Moringa is native to the Himalayan foothills around India and Bangladesh, with over 1.1 million tons of

immature pods is processed annually in India.

Aside from its food uses, Moringa is also grown in parts of Africa as live fence posts to contain animals and leaves are used to fertilize vegetables and other food crops and is grown adjacent to the garden in a farming system called 'alley cropping'.

Moringa seed cake, obtained pressing seeds to obtain oil, is used to filter water using flocculation to produce potable water for animal or human consumption. Moringa seeds contain dimeric cationic proteins which absorb and neutralize colloidal charges in turbid water, causing the colloidal particles to clump together, making the suspended particles easier to remove as sludge by either settling or filtration.

This seed cake can remove most of the impurities from water. This is a nontoxic and sustainable way of cleaning water compared to other materials in moringa-growing regions where drinking water is polluted.

The bark and wood pulp are suitable for making paper, and the wood yields a blue dye. Grown from cuttings and from seed, it's a fast growing plant and is usually intercropped with vegetables in many countries. In windy areas, planting by seed will create a long taproot with less chance of trees blowing over. It favors hot weather with lots of sunlight, and is drought tolerant.

Both leaves and seeds have food and medicinal value. Nutritionally, moringa leaves contain 20-35% protein on a dry weight basis, and is of a high quality with significant quantities of all essential amino acids. It also contains significant amounts of Vitamin A, Vitamin C, and Potassium. Moringa's anti-microbial properties are tied to isothiocyanates and related compounds found in the cabbage family, including anti-tumor and anti-carcinogenic effects. Work at Johns Hopkins University is supporting traditional use of moringa to treat cancer.

The strong tradition of medical uses combined with recent scientific work has resulted in increased marketing of supplements and so-called superfoods based on moringa. Moringa powder is catching on in western countries, but is heavily used in Africa and other third world countries where 1-2 tablespoons of dried powder is added to soups and stews to enhance the nutrition of these meals.

In these countries, pregnant women take 25 grams of moringa powder daily to improve prenatal nutrition. Teas are also made from the dried leaves. The oil in seeds is valued by the culinary and cosmetic industry since it contains 60-75% oleic acid and is similar to olive oil in taste and nutritional value. It also has a high antioxidant content which protects the oil from turning rancid.



It starts with SEED. Seed selections are being made here between Indian and Hawaii cultivars for leaf and seed production, and also plant habit, among others.

The leaves are also an excellent animal feed similar to Leucaena or Koa Haole, but must be kept below 50% of total feed consumption due to some anti-nutritional compounds found at high doses. Research conducted at UH College of Tropical Agriculture and Human Resources by Dr. Ted Radovich are focused on evaluating moringa selections for food uses, and trials on Molokai are on-going utilizing both India and Hawaii selections and clones.

There have also been on-going efforts statewide to kick start production by refining production systems, conducting feasibility studies, and identifying markets, and products are already being shipped to the West Coast and beyond. There may be opportunities for small scale production of value-added products with strong niche marketing.

Some dried Moringa leaves are being sold on Molokai, and are usually snatched up when available. For home use, a couple of trees would be sufficient to supply a family's needs and

can be an important food security plant for Molokai.

Sources of information include the Moringa News Network http://www.moringanews.org/moringa_en.html and Specialty Crops for Pacific Island Agroforestry <http://agroforestry.net/scps> under Moringa.

Conservation Reserve Program

This information was shared with me by Kalani Matsumura, a former student at UH College of Tropical Agriculture and Human Resources who's now working with USDA Natural Resources Conservation Service. Sharing costs to grow trees sounds like a great idea for the long-term especially for those who are not into row cropping, but want to put their lands into permanent agriculture or agroforestry.

“A Chinese proverb states, “The best time to plant a tree was 20 years ago. The second best time is now.”

The Hawai'i Conservation Reserve Enhancement Program (CREP) encourages farmers, ranchers, and landowners to voluntarily set aside land to restore forest cover. This partnership with the U.S. Department of Agriculture's Farm Service Agency (FSA) and Natural Resources Conservation Service (NRCS), and the State of Hawai'i Division of Forestry and Wildlife (DOFAW) provides financial

incentives and technical assistance to help restore forested, previously forested, degraded, or cropped agricultural land.

The environmental goals of Hawai'i CREP are to use tree plantings and native riparian buffers to reduce sediment and nutrient runoff, increase coral reef cover and health, improve wildlife and plant habitats for Hawai'i's threatened and endangered native species, increase groundwater recharge, and reduce invasive species.

Landowners and lessees may be eligible to enroll land into the program if they have owned or leased the land for at least one year, the land is physically and legally capable of agricultural production, and they meet the adjusted gross income limitation of \$900,000. Once enrolled, landowners are asked to commit to a 15 year contract to implement conservation practices, maintain their plantings, and refrain from harvesting. Financial incentives include a Signing Incentive Payment of \$100/acre, Federal Annual Rental Payment ranging from \$43/acre/year to \$225/acre/year, State Annual Rental Payment of \$17/acre/year, cost-share payments for %50 of the typical costs to implement conservation practices, and a one-time Practice Incentive Payment of up to %40 eligible expenses.

Common practices include weedy species control, fencing to exclude ungulates, site preparation, native tree

