UNIVERSITY OF HAWAII PACIFIC BUSINESS CENTER PROGRAM LAUNCHES HIGH IMPACT ‘AMA’ SUPPORT FOR TOURISM AND ECONOMIC RECOVERY IN HAWAII

The ‘Ama’ (outrigger) Initiative has been launched by the Pacific Business Center Program (PBCP) via its Multi-Purpose Business Incubator (MPBI) project. As a metaphor, the Ama is used as an economic outrigger to support and prevent the capsizing of Hawaii’s primary economic ship of state (tourism) and while doing so, grow parallel economies and industries for greater economic stability and diversity. Though State and Federal funding support are being sorted out in how to address the local economic conditions, the decision to launch is relative to the emergency needs of the moment. Though limited in resources, PBCP has engaged stakeholders who will complement the Ama, and in time, utilize a set-aside percentage of all TCOM unit sales (currently being negotiated globally) to support the MPBI and supplement the resources to initiate and support the economic recovery, stability and diversification in Hawaii.

The two high impact initiatives are housed under the PBCP Multi-Purpose Business Incubator (MPBI) project that is a partnership initiative between the University of Hawaii PBCP and private industry to create synergies for problem solving or as catalytic tools for economic development to address Hawaii State, Pacific Regional and global challenges. Both PBCP/MPBI initiatives are University Economic Development Association (UEDA) national award-winning entries by the University of Hawaii. They are the Pacific Regional Breadfruit Initiative (2014) and the ‘Hauula Resilience Model Village’, that featured the Thermal Conversion of Organic Material (TCOM) waste management technology (2019). The symbiotic synergies of both are designed to embrace local economic recovery needs holistically vs piece meal fixing.

Breadfruit Initiative (Bi): Hawaii as Global Leader for Ulu Plant Protein & Gluten Free Food Processing and Manufacturing
New opportunities support Hawaii as a Global Leader in Breadfruit Plant Protein and Gluten Free Food Processing & Manufacturing to meet the global need for high quality alternative protein sources and the health food market. Breadfruit is a leader among plant protein-based sources. The plant-based protein market is projected to reach a value of USD 40.6 billion by 2025 (source Research and Markets). Breadfruit is also both gluten free and low glycemic which will impact the global gluten-free products market size to reach USD 43.65 billion by 2027 according to a new report published by Grand View Research, Inc. Recent analysis by the US Agricultural Research, US Department of Defense Deployed War Fighter Research Program and National Tropical Botanical Gardens Breadfruit Institute verified that smoke from dried breadfruit leaves and florescence, used for millenniums among Pacific cultures, contained three compounds more potent than DEET (a synthetic pesticide). The insect pest control market is projected at $17.60 Billion USD by 2023. An additional value-added quality of the breadfruit tree besides its fruits, are its leaves and inflorescence. The leaves and inflorescence are a plant source for Squalene (SQ). SQ is a high demand moisturizer used in the cosmetics industry. The primary source of squalene is extracted from the liver of sharks. Literally millions of sharks are slaughtered annually to meet the cosmetics industry demand. Medical research has also verified that (SQ) has antitumor and anticancer effects against ovarian, breast, lung and colon cancer and that continued oncological research projects a huge market. Utilizing or extracting squalene from the breadfruit leaves and inflorescence will not only provide a plant-based alternative medicine to mitigate cancer, it can stop the slaughter of millions of sharks. With a minimum 2,000,000 standing tree’s in Oceania, leaves and florescence sources of plant-based squalene and an organic pesticide is limitless. Market demand for breadfruit food products and by products are compelling. Supply is the key.

Oceania Ulu (Breadfruit) Supply Link to Hawaii
Oceania has the highest density of breadfruit trees in the world with over 2 Million standing trees. With a low estimate of 700 pounds of fruit per tree annually, the region has the capacity to produce at least 1.4 billion pounds of breadfruit a year. That translates into 700,000 tons of raw breadfruit per annum as a conservative estimate. The Oceania to Honolulu supply link can catapult Hawaii to global leadership in the ulu health food and by-product manufacturing industry. Additional supply links with SE Asia are currently being negotiated further increasing tonnage potential. Agreements with the Pacific Farmers Organization Network (PIFON) an 80,000-farmer membership from across Oceania for TCOM/PIFON unit sales and deployment, are in place and will be activated once travel shutdowns to the Pacific Islands are lifted.
Replacing Old Hawaii Flour Mill & Silos (closed in 2014) with new modern and smaller mills in Honolulu, Hilo and Molokai

PBCP recommends building three scaled, modern Hawaii breadfruit flour mills and storage silos for dried breadfruit, agricultural products, processing, milling, manufacturing and shipping. Main site would be in Honolulu, the central hub for most shipping to and from the Hawaiian Islands. Hilo on the Big Island would be another site where a million acres in diversified agricultural production occurs. The third site would be located in Molokai. Molokai’s aloha aina and malama aina (love and care for the land) island community vision, promotion of traditional crops, food sustainability and self-sufficiency weaves traditional wisdom and pule O’O (power of prayer and spirituality) with modern science and technology. Molokai’s community vision aligns with PBCP’s advocacy of regenerative economic development, food security, self-reliance and preservation of local lifestyles. The Ulu (breadfruit initiative) and TCOM technologies are designed for local development, ownership and guidance consonant with that weave.

State-wide Planting of Breadfruit Plantlets: Goal One million trees by 2022

The breadfruit Industry can be in full operations by 2022 with limited production starting as early as late 2020. The Breadfruit Initiative proposes laying (in most cases restoring) breadfruit agroforestry belts on all major islands of the State with the first-year goal of local training workshops and establishing green houses to support the two-year goal of 1 million trees utilizing root cuttings from standing breadfruit trees in the State. Project will move from community to community as interest and resources allow. With greater State or Federal support funding, the entire State can be engaged with goal achievement time frames reduced significantly.

Thermal Conversion of Organic Materials (TCOM)

The TCOM technology is designed to reduce and convert organic waste into value added products including activated carbon. Landfills for trash and waste inundation is a constant threat in Hawaii in particular and islands globally. The manufacturing of TCOM parts are in process with the first shipment, assembly and deployment goal to occur by August 2020, in Hawaii. Deployment sites in Hawaii have been identified. They are over-flowing landfills and sewage facilities throughout the State, and at large breadfruit agroforestry and commercial agricultural developments where solid carbons (TCOM waste converted product) as a soil amendment that is up to 200% more potent than the leading commercial fertilizer, can be worked back into the fields for soil regeneration and enrichment. The soil amendment is a natural substance that can replace imported manufactured chemical mixtures prepared as commercial fertilizer. Heat generated by the TCOM system will support an attachment dehydrator deployed to the regions farmers for drying breadfruit and ancillary agricultural products for shipping to Hawaii as the manufacturing center for national and global markets. Deployment of TCOM units globally to regenerate agriculture and exhausted chemically debilitated soils will significantly alter human and natural environments in a positive way. Current deployment considerations being discussed include PIFON of the Pacific, US Pacific Territories, French Polynesia, Independent Island Nation of Samoa, St. Croix US Virgin Islands in the Caribbean and Dubai in the Middle East.

The technology is a patented formula by scientist/inventor Michael Lurvey an MPBI client and partner. TCOM reduces and converts organic based waste, including raw sewage (called cake) to elemental solid carbon, and/or gaseous hydrocarbons some of which can be refined into fuels and or chemicals. Green Wastes include such things as agricultural residue, forestry residue, landscape cuttings, MSW, food wastes, etc.; Hydrocarbons include tires, single use plastics and packaging plastics. The TCOM technology system is designed and retrofitted into freight containers for easy deployment by land, air and sea to isolated rural areas, coastal communities/villages or remote islands. TCOM as distributive units can avoid centralized infrastructure collapses common in disasters.

A single TCOM unit can convert one ton of waste to 650 pounds of solid carbon per hr. Operating eight hours a day each retrofitted unit is capable of producing 1,248,000 pounds of solid carbon per year, 80,640 gallons of synthetic liquid fuel and 2070.56 of (1,000 c3) Synthetic Gas. Carbon is an export commodity and is a financially dependable export for island farmers and nations. TCOM converts approximately one ton of solid waste per hour into approximately one half ton of solid carbon products and varied amounts of renewable natural gas that can be condensed into renewable liquid fuels (diesel/kerosene) depending on the feedstock. The value of one ton of lowest grade carbon (as of 06/28/2019) is $475.00 per ton. TCOM produces liquid renewable fuels that can be utilized in equipment, vehicles and/or sold locally. Renewable natural gases can also be captured for use in cooking or electrical generation and transportation or for sale. TCOM processing also qualifies for CARBON CREDITS as an added economic value. The TCOM system does not emit toxic gases nor uses incineration as method of waste management.
Local Capacity Development: Building on the Network of Community Colleges, Technical/agricultural Trainings and Certifications that include Children and Elders in Hawaii and global regions.

Student internship and training certifications programs for assembly, operations, maintenance and business development will be required of all participating governments, organizations and interested public/private partners seeking to engage the ‘Ama’ Outrigger initiative. Technologies and agroforestry methods are designed specifically to enable the inclusion of age groups from 7 years of age to 60+ years of age. Central to all Ama related initiatives is training, community resilience (Hauula Community Association partnered with PBCP that was awarded the 2019 UEDA Award of Excellence that featured the TCOM technology) and disaster preparedness. Initiatives and methods are designed for easy utilization, operation, maintenance and teaching the importance of regenerative practices. It’s all designed so that even grandmother can take the helm in the face of disaster.

SUMMATION

The ‘Ama’ initiative proposes to help tourism in Hawaii and all island tourist destinations, by growing local support ‘breadfruit and waste conversion industries’ to parallel its recovery with ancillary jobs and industries with breadfruit and waste conversion products and by-products that loop back as sources to support tourism not replace it. It's imperative that ‘Ama’ solutions be viewed as the support and recovery of tourism, not the demise or replacement of it. The approach focuses on healing not fixing, transition and adapting, not replacement; and helping Ohana (with jobs) by creating new opportunities.

The economic recovery projections for the State of Hawaii range from two to five + years. The High Impact technologies and initiatives described are beyond the conceptual and developmental stages. The Ama Initiative can be engaged, operationalized and accelerated within six months contingent on resource funding support. Otherwise, the initiative will continue with what resources, sponsorships and volunteerism that have enabled both initiatives to achieve current capacities in the manner it always has driven by creativity and innovation; just slower. The ama is in place and ready to conjoin with initial phases able to occur such as the Breadfruit Initiative that can be launched within two months. The TCOM can be launched within six months once prototype manufacturing of specialized parts can be initiated and shipped to the Pacific for assembly, training and deployments. The Team of technical/scientific experts developed over years of collaboration and network building who share common values led by aloha aina with a passion to raise the common good will be available as resources are available. The two initiatives operate best synergistically for food security, water needs for social, agricultural and industry purposes, energy for power & fuel needs, and waste conversion for cleaning the environment and converting waste into useful byproducts for economic development, disaster preparedness and recovery.

PBCP/MPBI’s has acquired new partners and clients; Sustainable Ocean Systems (SOS) technologies for harvesting palatable water with a capacity of producing 1 million gallons of water a day for social, agricultural and industry needs led by Scientist Inventor Ken Ostebo and HITmethods, a Service-Disabled Veteran Owned Business. HITmethods specializes in Global Health Emergencies to include Pandemic, Ebola, Zika, and natural and man-made disasters led by CEO, retired Lt Commander (USN) Leroy Harris. Both additions increase the synergistic capacity of the Ama for problem solving as catalytic tools for economic development to address Hawaii State, Pacific Regional and global challenges.

The deployment of the Ama (outrigger) to disaster impacted areas of the world, including global refugee camps (like land locked islands) is a model originating from Hawaii that can support hundreds of thousands of refugees and provide unprecedented opportunities to regenerate lives and spirit that begins the process of renewal. The Ama initiative will be managed by the University of Hawaii Pacific Business Center under the auspices of University of Hawaii Vice President for Community Colleges, Dr. Erika Lacro.
For more information contact the University of Hawaii, Pacific Business Center Program at:

Papalii Dr. Tusi Avegalio, Director
PACIFIC BUSINESS CENTER PROGRAM
Shidler College of Business
University of Hawaii at Manoa
2404 Maile Way, A-410
Honolulu, Hawai‘i 96822
Telephone: (808) 956-6286  Cell: (808) 741-2494
Email: pbcp@hawaii.edu
Website: www.hawaii.edu/pbcp

“With minimal investment, both ideas could be ready to go in about six months,” Kymberly Pine, Chair of the Honolulu City Council Committee on Business, Economic Development and Tourism. Quote from Star Advertiser, 5/11 article titled: Lack of Clear Plan to Replace Tourism leaves Hawaii’s Economic Future in Doubt.