

## Agriculture Within Architecture

Hawai'i is being stolen from. Not by an individual criminal, but by the collective negligence of our 'āina. This lush, green paradise is being robbed of its beauty, particularly in Honolulu, where new buildings are constantly rising. When people think about living in O'ahu, they dream of life away from the city, waking up to rolling blue waves, bright foliage, and inhaling crisp, fresh-smelling air with every breath. The reality is that we, the people of O'ahu's town-side yearn for that as well, for we wake up to the sight of dull, towering buildings and the obnoxious view of cranes and concrete. The problem addressed deals not with the progressive construction and modern advancements that are taking place on our island, but rather the current lack of greenery, specifically in our beloved city of Honolulu.

50 years from now, the island of O'ahu could be even more crowded with buildings and machinery, as urbanization and construction expand past existing boundaries over the years. 50 years from today, this island could have no more than a minute speck of green amid a sea of lofty grey structures. The 'āina is a sacred and essential part of Hawai'i's culture, for it has sustained our people for many years; however, I am afraid that without any action being taken, we will soon lose much more of it. With such loss will come an array of other problems in addition to changes in appearance and loss of culture, such as air and noise pollution.

Proposing to end construction would be impossible and costly, especially because that industry is the source of many jobs. According to a KHON2 report, the construction industry was expected to "increase 12.1 percent, creating 3,880 jobs between the first

quarters of 2015 and 2017” (Uyeno). Without it, Hawai‘i’s unemployment rate would increase. Instead, I propose that we work around the construction, rather than against it, by integrating agriculture with architecture.

Land space may not be available where apartments, condominiums, and establishments are erected, but with each new building comes available roof space that is, unfortunately, currently being wasted. Atop rooftops of the many buildings that Honolulu has, we could install urban rooftop gardens. This solution has been tested by the company Farmroof, who states that their system differs from other rooftop gardens across the United States because instead of using dirt, which is “very heavy and a lot of maintenance,” their system uses “modules [that] are filled with organic compost and natural fibers, set on top of an aeration core which provides drainage and keeps everything cool.” It has proven to be a “very simple and effective system,” says its founder, Alan Joaquin (“News You Can Use...”). Because of that, I believe that every single building should partake in such a system.

An alternative, yet similar, solution I would like to propose is the method of vertical farming. This method involves growing produce in an indoor environment in a vertical orientation, maximizing the use of the location’s square footage through the use of growing shelves suspended on a wall or fence. This solution has also been put to the test in a small warehouse run by Kerry Kakazu in Kaka‘ako since 2014. According to Kakazu, his farm, called MetroGrow, will “conserve water, reduce pesticide usage, pollute less and prevent soil degradation. It can only help better Hawai‘i’s food production self-sufficiency.” With such success, it is no question that vertical farming

should become much more common in Hawai'i, and could possibly be installed on the side of buildings or on rooftops, perhaps upon balconies and lanais.

Creating more rooftop gardens and vertical farms would not only make the cities of Hawai'i greener in light of the growing construction industry, but it would yield many more benefits, as well. More foliage could mean cleaner air and a possible increase in the tourism industry due to an enhancement in our island's physical appearance. Not only that, these systems could create more jobs, especially for the homeless, who could quickly learn how to take care of the produce and maintain the gardens and farms. With more agriculture being locally grown, Hawai'i could become more self-sufficient and less dependent on imports, which would be beneficial in a crisis in which importing goods would not be an option for us.

Clarence T.C. Ching had a vision of helping people in need. His values stood by providing succeeding generations with a better future. These solutions would comply with Ching's vision of improving the well-being of his homeland. His problem-solving process was based on the idea of legacy—contributing to the prosperity of future generations. If we could put these plans to action, the benefits that they will yield will last far longer than this current generation, and even the next generation. The time to act is now, for if we do, Hawai'i will become a much greener place, and our communities would have the perfect opportunity to come together to make our dreams of living in a lush O'ahu a reality. Ching's vision and philanthropy would most definitely support the coming together of different people for the sake of working towards a single goal: making Hawai'i a better place.

## Works Cited

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