

SUSTAINABLE FOOD

Texas prison program provides hope and a purpose

By Ariella Simke

On a 400-acre farm in Anderson County, goldfish roil a huge water tank. The water, thick with nutrient-dense fish droppings, is pumped through rows of PVC pipes where thousands of heads of lettuce poke out from holes drilled in the plastic. Tangled white roots sway in the water, drinking nitrogen as the plants grow. The farmers in white jumpsuits tending these systems are incarcerated residents of the Michael Unit, one of the largest maximum-security prisons in Texas.

Three years ago, when the prison's aquaponics farm started, residents rarely ate fresh greens. For many, that remains the case but the program could eventually grow enough vegetables to feed all 3,800 residents. Despite their many constraints and for most of them a lack of higher education, these residents are pioneering one of the best models we have for feeding ourselves efficiently and sustainably in the future.

With the global population expected to reach nearly 10 billion people by 2050, the need to grow food efficiently and sustainably is more important than ever. As a writer with a background in environmental science, I have reported and seen up close how traditional agriculture uses our finite land and water resources inefficiently: Upwards of 70 percent of freshwater and more than half of arable land are used to grow food. Soil depletion, pesticide use and fertilizer run-off into waterways create far-reaching negative environmental effects. Environmentalists know that improv-



Texas Department of Criminal Justice

The aquaponics farm at the Michael Unit provides skills that can help inmates land better jobs on the outside. This photo was taken before the pandemic.

ing the way we grow food is not only smart, it's necessary.

In an aquaponics system, fish and vegetables grow together using minimal space. All of the nutrients the plants require for growth are contained in the water pumped over from the fish tanks. The plants remove those nutrients as they grow, purifying the water for the fish. Neither one

can grow without the other. According to aquaponic growers, the system uses 90 percent less water than traditional agriculture and eliminates pesticides and chemical fertilizers completely. Until recently the systems were developed and improved upon by passionate backyard enthusiasts, but in recent years sustainability initiatives have made their way into prisons, where

they also bring therapeutic and environmental benefits.

In addition to modelling environmentally friendly food production, the farm is a living classroom where students acquire skills and certifications that will help them land better jobs on the outside.

Aquaponics farming is also a way to reduce recidivism and a blueprint for what institutional food systems could look like if we are willing to work toward it.

Historically, 68 percent of people released from prisons in the United States end up back behind bars within three years. This percentage is much lower in prisons that choose holistic rehabilitation and reintegration into society through skill building. Vocational training programs shift prisons closer to a rehabilitation model rather than one of harsh punishment. Research shows that equipping incarcerated people with the social, emotional and practical skills they will need after release through sustainability programs drastically reduces the number of people who return to prison.

Unlikely as it may seem, the aquaponics farm at this Texas prison stands out as a model for sustainable and locally grown food that could be replicated in other institutions around the world. While the widespread problems within prisons will not be solved by gardening programs, they could fulfill the dual goals of improving food sustainability and reform within the American correctional system.

Whether or not food sustainability programs like this can succeed on a larger

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scale depends on several factors, according to Rice Business professor Doug Schuler, whose research includes analyzing non-profit programs that address food insecurity.

“Usually there’s a confluence of social factors that make one program work in a particular context, where if you went into another context it may not work,” Schuler said. Advocacy from passionate people who are respected within their social context can make all the difference. It’s not just passion that breeds success, he told me, but social standing as well.

Tommy Norris, who helped the Michael Unit program get off the ground, is one of these people. As a member of the board of the American Correctional Association sustainability committee, Norris connects prisons wanting to start green initiatives with difficult-to-find resources.

Sometimes, the money is only the beginning, though. “You don’t need huge budgets to do this kind of stuff,” he told me. “What you need is the management environment and the encouragement to look at new things, be different and be creative.”

The Michael Unit was lucky enough to have one of these innovators: Michael “Mac” McLeon. A former corrections officer, Mac turned in his uniform to transition into his current role as the urban farming instructor through the Windham School District, which offers educational programs exclusively for incarcerated people in prisons across Texas. He developed the course, drafted teaching materials and coordinated lessons that are now being shared with other prisons that want to replicate his model. “This is by far the best job I’ve had in my life,” he says.

The coronavirus pandemic has spread through the Michael Unit and access to visitors has been curtailed. The aquaponics program briefly halted growing but restarted in the summer with social distancing and has increased production.

The voluntary course is different from other training programs and from absurdly low-paid prison farm work. Maria Hinajosa, a correctional officer who ran Herbs Behind Bars, told CBS19 in Tyler, “I have a lot of offenders who walk up to me and they want come work for me.” The students are not paid for the work, and the vegetables are not sold by the prison. As a vocational training program they receive certifications and job skills.

Each morning the students gather in the classroom to discuss the scientific principles that underpin their observations on the farm before heading out into the fresh air to tend to the system. The students check leaves for insects and disease, balance the nutrient levels in the water and sprinkle fish food into the tanks.

“It’s not digging a hole and dropping a seedling in. This is a little bit more like freshman chemistry class,” Norris said. “These guys that would never give a minute’s thought to sitting in a classroom and learning about the pH composition of soil and water are now sitting around taking notes on it.”

Behind the lush greenery of the garden, chain-link fences stretch as far as the eye can see in photographs and reports from before the pandemic. But inside the aquaponics farm is an oasis; a small green sanctuary for anyone who pours energy and care into the living system. Each piece that went into the first iteration of the system was either donated by the corrections officers themselves, or salvaged, including the first fish tank – an old bathtub found in a junkyard.

In addition to the therapeutic and health benefits for the residents, the program also serves the community that the residents will eventually re-enter. When

Hurricane Harvey hit, the vegetables from the farm fed survivors. Now, during the pandemic, their produce goes to homeless shelters and food banks.

For the many “lifers” at the Michael Unit who will live out their remaining days behind bars, this farm creates purpose and a way to contribute to society. For those who one day will rejoin the free world, this visionary sustainable food system may do even more: it can provide skills, build self-esteem and foster entrepreneurship for a group of people who would otherwise lack opportunity.

Brian Bedilion was involved with an aquaponics gardening program much like the one in Texas when he was incarcerated in Washington state. Dealing with a lifetime of undiagnosed vision impairment that left him with only peripheral vision, Bedilion never received the support he needed to succeed in school. Self-medicating with drugs from a young age, he eventually ended up in prison with a nine-year sentence.

“I had nothing. I failed at everything I tried to do while I was locked up. I couldn’t see, I couldn’t read, I couldn’t write,” he told me on the phone.

Without the ability to read books as an escape, Bedilion stared at the prison wall and

languished. His experience changed when he found the aquaponics program that focused on environmental restoration: “It was what saved me.” For Bedilion, the program instilled a brand-new sense of confidence and provided an outlet for the difficult emotions he was dealing with. “You really channel all that crap you’re going through on the inside into a purpose,” he said. Once released, he was able to get full-time work and support himself for the first time in his life.

“When I came home I was very overwhelmed. I was destined to go back to drugs,” he says. “The life skills that I learned in the program absolutely saved me.”

I never expected to find an innovative, sustainable food system growing within prison walls, but the story of the Michael Unit farm is a hopeful one. Successful urban farming initiatives do not require exorbitant amounts of funding, and the tangible benefits these programs can provide for incarcerated people and the wider community are indisputable. To work toward a safer and more sustainable world, prisons across the country should embrace these programs as therapeutic and environmental agents of institutional change.

Simke is a Forbes science contributor and freelance writer.