

2017 CSAC Challenge Awards – Entry Category: Agriculture, Environment & Natural Resources

Overview - TGE is a model of urban agriculture, environmental sustainability and natural resource conservation, providing affordable food access, skills training, and education for underserved County residents.

Challenge - To fulfill its mission to, "Build Better Lives and Better Neighborhoods," the Housing Authority of the County of Los Angeles (HACoLA) sought to address challenges encountered by underserved individuals residing within the County in which it serves. These challenges include:

- 1) Absence of an accessible and sustainable local food system, resulting in limited affordable healthy food options for disadvantaged community residents;
- 2) Limited opportunity for underserved youth and young adults to pursue meaningful skills training and education; and
- 3) Lack of knowledge, education, and available information about environmental sustainability issues regarding conservation and waste reduction efforts.

Innovative Solution - In response to the aforementioned challenges, HACoLA began development of **The Growing Experience Environmental Resource Center (TGE-ERC)**, located within the Carmelitos Public Housing community in Long Beach, CA, to expand an existing 7-acre urban farm and community garden. The expansion includes four new programs and initiatives implemented in phases from 2014 through 2017, all of which continue to date, and serve a large cross-section of county constituents, including over 2,000 public housing residents.

The first initiative, implemented in 2014, was the "Aquaponics and Vertical Towers Growing System," a creative solution to address the challenge of providing affordable access to healthy foods for growing numbers of underserved residents. The climate-controlled, space and water saving system combines agriculture with science and technology to greatly increase growing capacity of fresh produce affording accessible to hundreds of families.

The second initiative, also implemented in 2014, "Youth Urban Agriculture Training Program," engages underserved young adult community residents. An informal training curriculum centers around urban agriculture, resource and energy conservation with hands-on training on all aspects of operations at TGE-ERC. There is an emphasis to develop teamwork and leadership skills.

The third initiative included two conservation focused demonstration projects, a "Community Food Forest" and a "Food Waste Composting Program," implemented in 2015, and 2016, respectively. The Community Food Forest showcases drought-tolerant plants with an edible/herbal value for home landscape use. The Food Waste Composting Program diverts food waste collected from local restaurants that would otherwise go to landfill, and turns it into nutrient rich compost.

The fourth initiative, the "Passive Solar Energy" project, included the installation of a solar array in early 2017, which generates power passively to offset electricity needs of the aquaponics and vertical growing towers system, maximizing efficiencies to achieve greater environmental sustainability. The solar generation system also complements TGE-ERC's other initiatives to provide education and community outreach efforts on energy and resource conservation.

Originality – TGE-ERC is a creative, comprehensive solution, which addresses a variety of challenges occurring in Los Angeles County. There is no other program known in operation with similar scope and breadth located within the County, and not within a public housing community on a national level. It has transformed underutilized vacant, blighted land into a thriving facility: 1) growing large amounts of fresh produce increasing healthy food access, 2) diverting tons of food waste from landfill, 3) conserving resources via smart landscaping and solar energy, 4) engaging underserved young adults to learn valuable technical and life skills, and 5) providing community residents with knowledge on environmental sustainability.

Cost Effectiveness - The budget to develop TGE-ERC's four new initiatives was approximately \$125,000, which was offset entirely by grants received for implementation: 1) Aquaponics and Vertical Growing Towers System was funded with a \$50,000 grant received from the Los Angeles County Productivity Investment Fund, 2) Community Food Forest was funded by State of CA Natural Resources Agency also for \$50,000, and 3) Passive Solar Energy was funded by Boeing Company and Horizon Solar in the amount of \$25,000. Youth Urban Agriculture Training Program and Food Waste Composting did not require any additional start-up costs.

There are approximately \$36,000 in total annual benefits to the project, with a breakdown as follows: 1) \$24,000 revenues produced by sales of fresh produce grown in the vertical towers system, 2) cost savings of \$6,500 from reduced electric and water consumption from the solar energy project and aquaponics system, and 3) cost avoidance of \$5,500 from compost produced by the Food Waste Composting Program, that is used onsite for in-ground growing of agricultural crops.

Results - Since implementation of TGE-ERC's initiatives:

- 36,000 pounds of fresh produce for the local community have been grown in the Aquaponics and Vertical Growing Towers System, providing hundreds of residents with year-round affordable access to healthy food options.
- 75 at-risk youth/young adults from Carmelitos and North Long Beach have participated in the Youth Urban Agriculture Training Programs to gain valuable technical and life skills, and in the process, forming an integral part of the farm's seasonal operations.
- Approximately 48 tons of food and green waste have been diverted from landfills and transformed into nutrient rich compost used for soil amendment in the growing of agricultural crops made possible by the Food Waste Composting Program.
- Over 45,000 gallons of water has been saved through the implementation of the demonstration Community Food Forest and Aquaponics system.
- Approximately 30mWh of electricity has been saved through the Passive Solar Energy project.
- More than 2,000 Carmelitos Public Housing residents and over 80,000 LA County constituents visited TGE-ERC for its educational programming and seasonal community events.

Project or Program Contact - Jimmy Ng, Program Development Manager; Jimmy.Ng@hacola.org, HACoLA - Carmelitos Public Housing Development, 1000 Via Carmelitos, Long Beach, CA 90805, 562-756-0988.