



Urban Agenda Platform

The global platform for sharing progress, action and knowledge on the implementation of the New Urban Agenda to achieve sustainable urban development.

Care Farming and Therapeutic Horticulture

Region	Asia and the Pacific
Award Scheme	EXPO Dubai Global Best Practices
Themes	Youth & Livelihoods
Start Year	2020
Sustainable Development Goals	Goal 2 - End hunger, achieve food security and improved nutrition and promote sustainable agriculture Goal 3 - Ensure healthy lives and promote well-being for all at all ages Goal 11 - Make cities and human settlements inclusive, safe, resilient and sustainable Goal 15 - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Summary

Edible Garden City has embarked on a holistic Therapeutic Horticulture and Care Farming initiative, to help alleviate social issues faced by Singapore's fast-ageing population. Gardening has incredible physical, mental and emotional benefits, and has been scientifically proven to improve the health and well-being of everyone from stressed-out office workers to the elderly.

Background and Objective

Background The Singapore Government announced the 30 by 30 plan – to grow 30% of our nutritional needs by 2030. We currently only grow 10% of what we eat, and import 90%. A study published by the Lien Foundation indicated that the number of people aged 65 years and older will reach 1 million by 2030. And based on the United Nations' projections, this number will rise, and almost half of Singapore's population will be aged 65 or older in 2050. According to the Well-being of the Singapore Elderly (WiSE), one in 10 people aged 60 and above may have dementia. The strain on elderly and dementia caretakers will be increased. Additionally, by 2030, the elder care spending in Singapore is set to skyrocket to \$49 billion per year, and Singapore will spend an estimated \$9 billion to care for dementia patients. Over the past few years, the company has worked with the National University of Singapore and the National Parks Board on a series of studies investigating the effects of habitual gardening on elderly with early-stage dementia. Results showed that gardening had positive emotional, mental and physiological impact on participants. The company has also observed anecdotal evidence of improved spirits and social wellbeing amongst socially employed adults with autism spectrum disorder and low-income seniors in other elderly gardening programmes. These results have spurred Edible Garden City to pursue therapeutic horticulture and care farming in a deeper and more structured way. The company is developing a holistic initiative that includes software and hardware elements - from garden builds to gardening programmes. It will also include further research into gardening as healing and the growing of nutrient-dense vegetable varieties. In addition, the company will focus on training practitioners and sharing of outcomes, with the eventual outcome to open source the initiative, so that others in Singapore and around the world might take similar steps for positive social change through agriculture.

Outcomes and Impacts

We are deepening our current farming programme to include care farming and therapeutic horticulture. The goals of this programme are to better the quality of life of elderly in Singapore, as well as to alleviate reliance on social spending on elderly, particularly those with Dementia. Over the past few years, Edible Garden City has worked with the National University of Singapore and the National Parks Board on a series of studies investigating the effects of habitual gardening on elderly with early-stage dementia. Results showed that gardening had positive emotional, mental and physiological impact on participants. The company has also observed anecdotal evidence of improved spirits and social wellbeing amongst socially employed adults with autism spectrum disorder and low-income seniors in other elderly gardening programmes. This is through Edible Garden City's continued employment of adults with Autism, as well as our efforts working with Montfort Care Centre on the Ah Gong Farm, where at-risk elderly males were taught to garden as a means of building mental and physical wellness.

Sustainability and Scalability



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The eventual goal of Edible Garden City's therapeutic horticulture research, curriculum development and design and build of gardens is to open source the information, so that it can be replicated in Singapore and across cities around the globe. The benefits of gardening are universal, and people of all ages and walks of life would be able to enjoy them. Beyond the elderly, stressed-out office workers, at-risk youth, prison inmates and the differently-abled can all participate. The open sourced programme will be adaptable to any of these groups. Particularly, cities that are facing similar ageing population issues, or space constraints, could benefit in adapting the horticulture therapy recommendations by Edible Garden City. City farms can be activated into care farming spaces, that are not only productive but that can also be activated into community gardening spaces.

Initiative Contribution

• Goal 2 - End hunger, achieve food security and improved nutrition and promote sustainable agriculture • Goal 3 - Ensure healthy lives and promote well-being for all at all ages

Innovative Initiative

Gardening has long been employed in Singapore as a means of community bonding. The local parks authority, along with the Singapore Housing Board, has built more than 1,500 community gardens located in the housing estates, where Singaporeans can gather to garden with their neighbours. The Government has also launched integrated developments like Kampung Admiralty, where elderly housing, medical facilities and community gardens are co-located within the same building. Hospitals like Khoo Teck Phuat Hospital and the Institute of Mental Health have also built their own farms. Hence, gardening closer to the living space is not uncommon in Singapore. However, the space is seldom specially designed to be safe for therapeutic horticulture, and the garden is seldom specially activated with programming that is meant to encourage more people to garden. Typically, the community gardens are left to the Resident's Committee or a group of gardeners to man, and the space is locked up and inaccessible to curious visitors. While rooted in research, therapeutic horticulture programming and garden design is not yet commonly employed in Singapore. The programmes will be different from typical gardening programmes. They will be more holistic, targeted at stimulating both cognitive ability, as well as physical movement. This could be activating memory recall through scent of a plant, or enhancing motor skills by learning how to plant seeds. The actions and thoughts will be guided to be much more deliberate. In terms of the productivity of care farming, an innovative practice Edible Garden City will be adopting is research and implementation in growing varieties of vegetables that are high in glucosinolates, which are found to be very beneficial to health. These care farms will not only grow fresh vegetables for the community, these vegetables will be ultra—nutritious as well. Right now, most farms are growing according to demand. We hope to shift mindsets through awareness building and education, to grow these ultra-nutritious varieties that would be even more beneficial. Lastly, with Singapore moving towards 30 by 30 – the Government plan to grow 30% of our nutritional needs by 2030 – agritech is booming in our city state. Edible Garden City is going against the grain. Where farmers are going more high tech, we hope to preserve the traditions of natural farming. Where other farmers are looking at light and nutrient technology, we will be studying biodynamic farming, improving soil health and nourishing our earth as naturally and efficiently as possible.