



# Life Planters

seeding the future together



Community Food Garden Project  
Proposal developed for People's Association

# Preface

Life Planters represent a diverse team of passionate individuals who seek to empower others and create a sustainable future together.

One of Life Planters key interests is driving the “Grow Your Own Food” movement in our highly urbanised, land-scarce and import-dependent Singapore. We seek to do so by building low-cost and tech-driven aquaponics systems at underused spaces in our heartlands. Besides increasing food security, it creates a new green asset for the community. This can be used to foster communal bonding, provide learning opportunities on urban farming and reduce food miles for a greener environment.

Urban farming is not new. In fact, ~15% of the world’s food is now grown in urban areas and the trend is on the rise. This global momentum is spurred by the increasingly evident impact of climate change, better access to information and growing concerns of our food source. Singapore has all to gain by riding on this wave and we seek to augment that.

We have since obtained seed funding to build a community aquaponics farm and hope to find a community partner to bring our ideas to life.

# About Us



**Zulkanain Sudarman**

If you don't see zul rock climbing or cycling, you can bet he is dismantling a device to understand the inner workings. Graduated from Ngee Ann Polytechnic with a Diploma in Electrical Engineering, he has a keen sense of curiosity when different types of energy gets converted to another. Being a former chief executive member of a community service club (Leo Club) in Ngee Ann Poly, he finds the experience gained in project management beneficial in his current gig as a project engineer. He does not believe in an impossible engineering challenge because engineering is multi-faceted and to discover new solutions is an engineer's challenge. He sees Life Planters as an easy access to practical engineering and opportunities for bonding the community.



**Jonathan Halim**

Jon is a Ngee Ann Polytechnic alumni with a Diploma in Banking and Financial Services. Passionate about serving the community and mitigating environmental issues, he believes that the solutions are found between the two. He served as a project director of Leo Club in Ngee Ann Poly. He was critical in needs evaluation and outreach projects. In his free time, he serves the Jalan Kukoh community through their Resident's Committee. As a greenhorn gardener, from composting to talking to his plants, he is always exploring methods to make his plants grow better. He is currently interning at the World Wildlife Federation as a communications specialist. He believes Life Planters' work is the solution for effective community engagement and greater environmental awareness.



**Kelvin Teo**

Kelvin majors in electrical and electronic engineering at NTU. He loves coming up with new and creative ways to do things and is constantly looking for ways to put his engineering knowledge to good use. A part of him wonders how he could grow strawberries and blueberries in his own home. Beyond studies, Kelvin is a certified lifeguard and a freelance photographer. He serves the Junior Common Room Committee in his NTU residence. To find Kelvin, one only needs to listen for the sound of blue jazz coming from his portable speakers. There is never a dull moment in his life. Through Life Planters, he seeks to satisfy his curiosities, apply his skills and foster relationships within communities.



**Alvin Chew**

Alvin majors in Biological Science at NTU under the Nanyang Scholarship. His love for science goes beyond the books. He co-founded Science Fusion club in his poly days to spark interests in science among his peers. When time permits, he teaches at Nullspace, a technology start-up. In his research, he works on viruses. Beyond science, he champions community causes. He served as Young ChangeMakers Grant Panellist of National Youth Council. During which, he spearheaded "You Come My Picnic" event to thank our migrant workers and foster bonds for a cohesive society. He is also a seasoned volunteer of Trybe, a youth charity organisation. With Life Planters, he desires to shape our heartlands into everyday classrooms and green communal spaces.

# Outline

- **Our Motivations**
- **What others are doing**
- **Existing gaps we seek to fulfil**
- **Our aims and idea**
- **Proposed locations**
- **Community Outreach Strategy**
- **Timeline**
- **Our Budget**
- **Call for support**

# Push & Pull

## In line with Government Initiatives

SG Food Security Roadmap 2013 (AVA), SG Master Plan 2014 (URA)

## Energy, Climate Change

Decreasing greenhouse gases by reducing transportation demands for food.

## Education

Foster education on growing your own food, drive the “Grow your own Food” movement.

## Health & Nutrition

Promoting Vegetable consumption, growing food without chemical pesticides

## Community

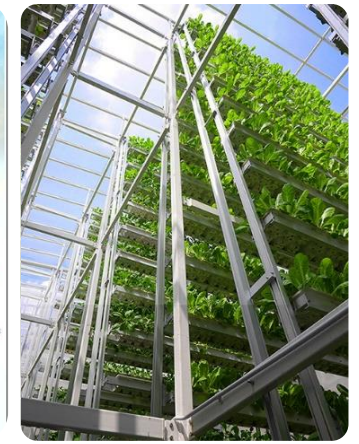
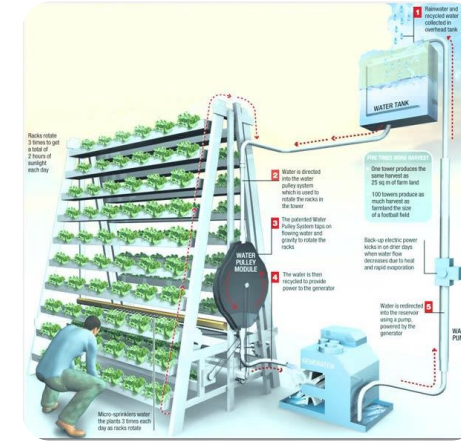
Providing a Green Natural Space for the community, farming as a communal activity.



# SG Urban Farming Landscape



SCAPE Rooftop  
Comcrop



Vertical farm  
Sky Greens



Edible Garden City  
NÓNG (retail)  
Urban Farm School



Farm-to-Table  
Restaurant



Bugis Cube Rooftop





# SG Urban Farming Landscape



Indoor vegetable farm  
Panasonic Factory Solutions Asia Pacific



Community-In-Bloom  
National Parks Board



E-platform for individuals to  
connect, share and learn from one  
another.

# Media and Trends

THE STRAITS TIMES

## Farm in the city: Edible landscape



Mr Alexius Yeo, who also grows fruit such as papaya (above) in his garden.

⌚ PUBLISHED FEB 8, 2015, 11:24 AM SGT

THE STRAITS TIMES

## Urban farms taking off all over Singapore



Mr Allan Lim (in red) co-founded founded Comcrop, which is at youth hub "Scape in Orchard Link and supplies herbs to hotels and eateries nearby. -- ST PHOTO: TIFFANY GOH

⌚ PUBLISHED FEB 8, 2015, 11:24 AM SGT

People are growing their own food in HDB flats and on rooftops of malls as urban farming takes off

The New York Times | <http://nyti.ms/LakdsT>

N.Y. / REGION

## To Find Fields to Farm in New York City, Just Look Up

By LISA W. FODERARO JULY 11, 2012

Back in the 1960s, Lisa Douglas, the Manhattan socialite played by Eva Gabor in the television sitcom "Green Acres," had to give up her "penthouse view" to indulge her husband's desire for "farm livin'."

Today, she could have had both. New York City (the stores!) is suddenly a farming kind of town (the chores!). Almost a decade after the last family farm within the city's boundaries closed, basil and bok choy are growing in Brooklyn, and tomatoes, leeks and cucumbers in Queens. Commercial agriculture is bound for the South Bronx, where the city recently solicited proposals for what would be the largest rooftop farm in the United States, and possibly the world.

Fed by the interest in locally grown produce, the new farm operations in New York are selling greens and other vegetables by the boxful to organically inclined residents, and by the bushel to supermarket chains like Whole Foods. The main difference between this century and previous ones is location: whether soil-based or hydroponic, in which vegetables are grown in water rather than soil, the new farms are spreading on rooftops, perhaps the last slice of untapped real estate in the city.

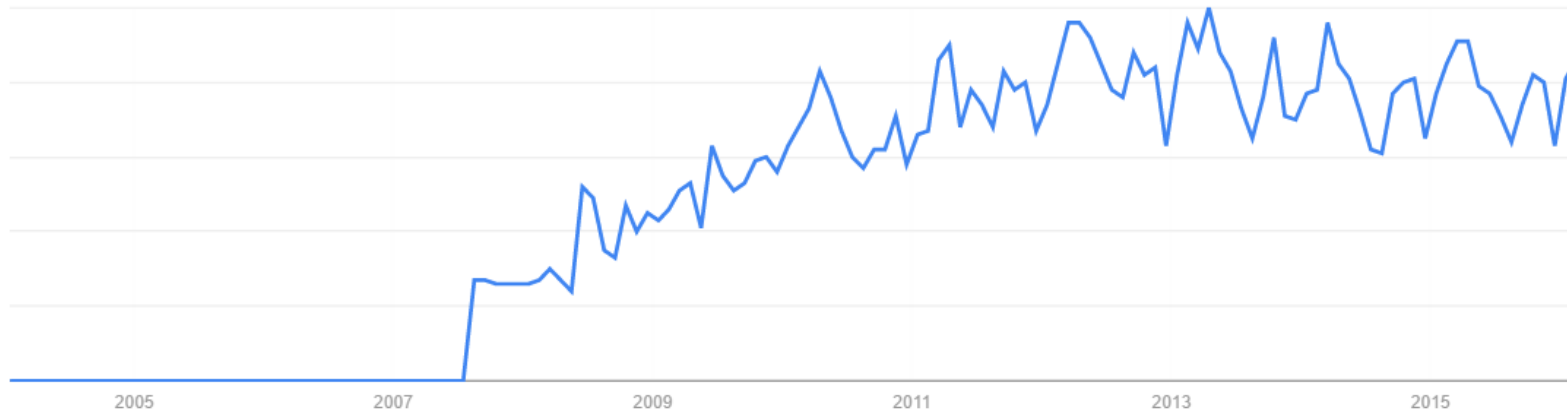
"In terms of rooftop commercial agriculture, New York is definitely a leader at this moment," said Joe Nasr, co-author of "Carrot City: Creating Places for Urban Agriculture" and a researcher at the Centre for Studies in



# Media and Trends

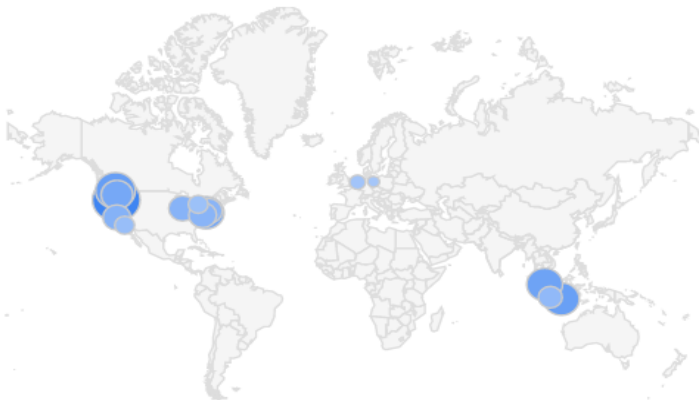
Interest over time ?

News headlines ? Forecast ?



Urban Farming

Regional interest ?



Region | City

Portland	100	<div><div></div></div>
Vancouver	73	<div><div></div></div>
Surabaya	71	<div><div></div></div>
Singapore	68	<div><div></div></div>
Philadelphia	65	<div><div></div></div>
Seattle	62	<div><div></div></div>
San Francisco	52	<div><div></div></div>

Data obtained from Google Trends on 29/2/2016

# Summary

- ✓ Commercial urban farms and gardens
- ✓ Farm-to-table concept restaurants
- ✓ Farmers' Market events
- ✓ Community-In-Bloom (CIB)
  - Initiative by Nparks, currently >850 CIB, >20,000 residents engaged
  - Traditional gardens
- ✓ Individual gardening efforts in their homes



# Existing Gap

- ✗ Technology driven vertical garden systems for the community
- ✗ Wider access to meet demand for urban farming

# Aims



**Bringing neighbours together,  
building communities**



**Stable fresh produce**

# Deliverables

(within 1<sup>st</sup> year)



**Organisational support**



**Active participation from neighbours  
and interest groups**

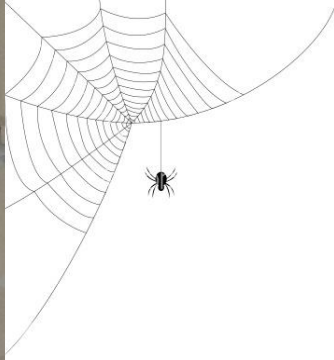


**Functioning vertical aquaponics system**





Idea



**Underused Spaces**

**Low cost DIY Vertical Aquaponics Systems**



**Technology**



**Community Gardens**





# Proposed Location



Community Centres

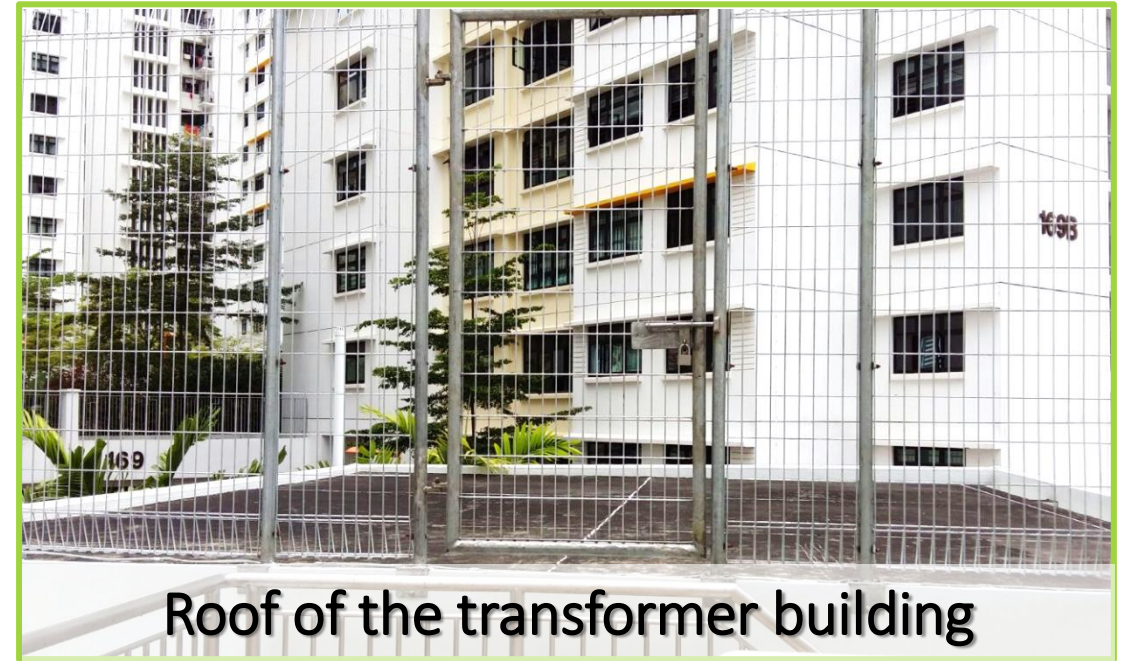
Spacious Corridors

Underused green spaces

Key design considerations:

Maximum load of the roof

PowerPoints



Roof of the transformer building



1. Punggol 21 CC



Back corridor



Open Deck on 4<sup>th</sup> Floor



# Proposed Location



Advocacy towards #zerohunger  
as part of UN Sustainable  
Development Goals

Celebrate events such as  
World Food Day  
16 October

Develop Urban Farming  
Interest Group

Contribute to open-  
source communities  
for the design of  
urban farms

### Engineers

- Design and build Vertical Aquaponics System
- Cultivate plants and fishes



### Grassroots

- Community outreach strategy
- Engage and build networks



## Life Planters Team Strategy



### Media

- Web Development
- Social Media Marketing Strategy



### Educators

- Lesson development and execution
- Research and sustainability projects

Collaborate with  
schools around the  
community centre

Courses on Plant  
biology, soil science...

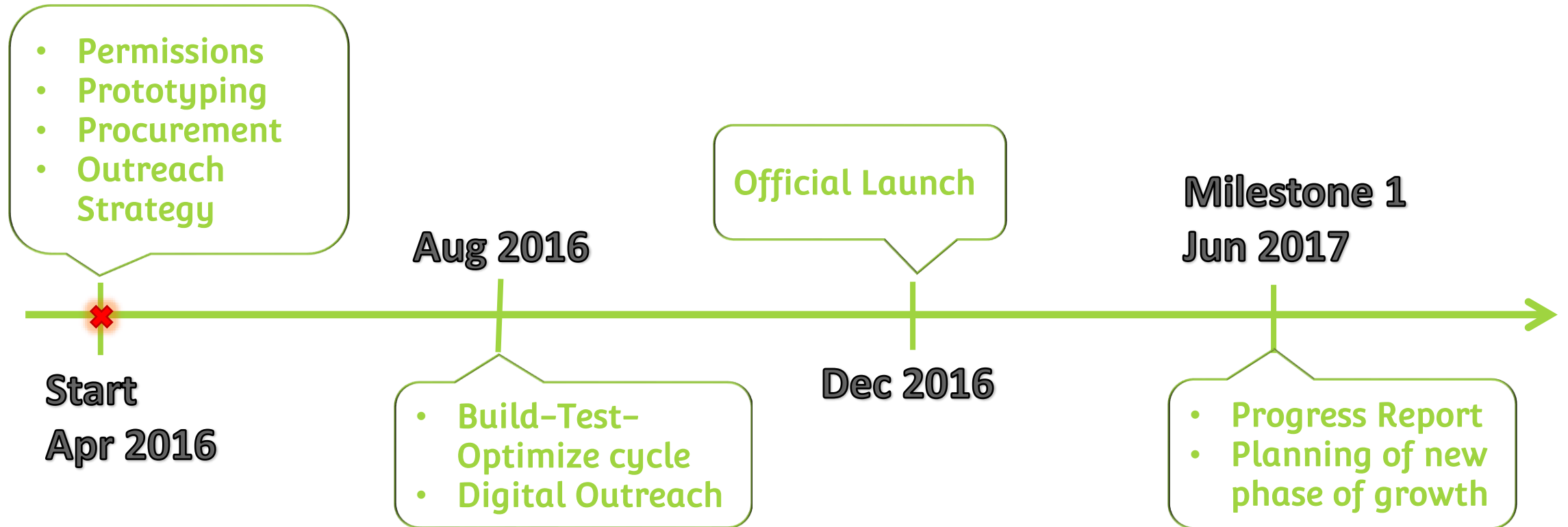
Maintain active  
digital presence

Manage public  
relations

Research Projects for students  
developed by resident scientist



# Timeline



# Finance



Initial Funding	Amount (S\$)
OG Departmental Stores – Mr Tay Tee Peng award	1,500
Projected Expenditure	
Electrical components for connected garden <ul style="list-style-type: none"><li>- Microprocessor</li><li>- LED lights</li></ul>	200
Structure <ul style="list-style-type: none"><li>- Frame Rack</li></ul>	250
Web Development	150
Consumables <ul style="list-style-type: none"><li>- Fish fry, food</li><li>- Plant seeds, media</li></ul>	900

# Call for support

“ Ending hunger is everyone’s responsibility. We need all partners: fashion experts, diplomats, business leaders, rock stars and global world leaders, and cities’ mayors, governors and **most of all we need local communities.** ”

Ban Ki-moon, Secretary-General of the UN,  
during World Food Day Ceremony at Expo Milan,  
16 May 2015.

# Call for support

**117** cities around the world have signed the Global Urban Food Policy Pact committing to implement smart food policies moving towards the goal of a world without hunger.

**You and I can put Singapore on the list.**