

Neighborhoods Food Production Partnership:

Homeowner-based Commercial Urban Agriculture

MLA

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Introduction



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Sell to



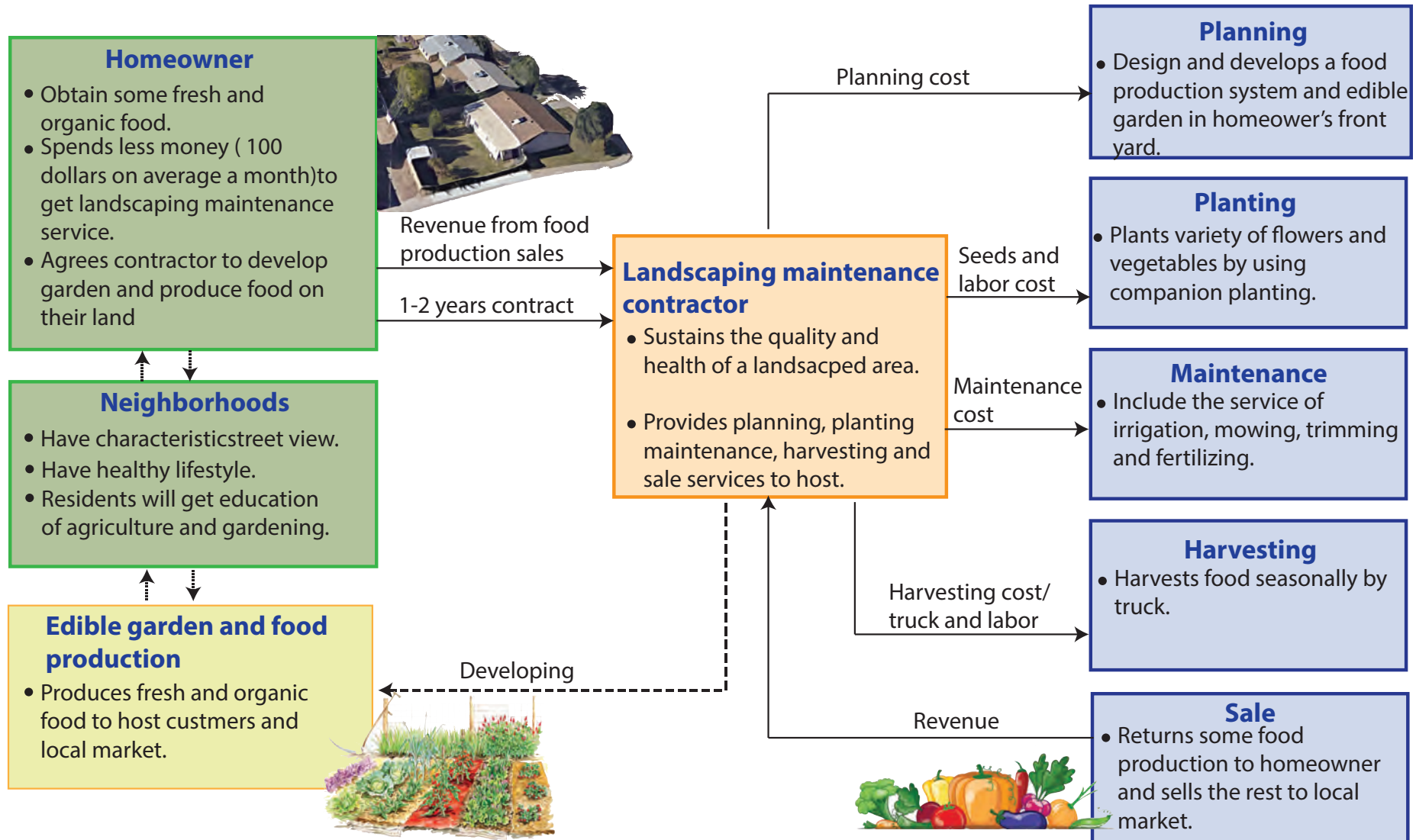
SINGLE FAMILY HOUSE

EDIBLE GARDEN

HOME FOOD PRODUCTION

LOCAL FOOD MARKET

Roles of Neighborhoods Food Production Partnership



Local Food Production on residential lots is saleable

Summary of Economic Costs and Benefits of Home Vegetable Gardens

Source	Cost			*Value of Yield	Net Value			
	*Materials and Supplies	Hours of Labor	*Fair Market Cost of Labor		*Net Value (including Labor Costs)	*Net Value (excluding Labor Costs)	Net Value / square foot (including Labor Costs)	Net Value / square foot (excluding Labor Costs)
Utzinger & Connolly, 1978	\$115	39	\$149	\$322	\$58	\$208	\$0.39	\$1.39
Stall, 1979	\$306	NR	NR	\$1585	NA	\$1279	NA	\$2.13
Stephens et al., 1980	\$162	23	\$201	\$1082	\$720	\$921	\$0.51	\$0.66
Stephens et al., 1980	\$200	68	\$594	\$1172	\$379	\$973	\$0.59	\$1.53
Cleveland et al., 1985	\$187	153	\$1104	\$333	-\$959	\$145	-\$1.16	\$0.17
Cleveland et al., 1985	\$217	111	\$800	\$385	-\$633	\$167	-\$1.01	\$0.27
Doiron, 2009	\$305	NR	NR	\$2072	NA	\$1767	NA	\$1.18
Roth, 2011	\$343	54	\$463	\$651	-\$155	\$308	-\$0.18	\$0.35
Roth, 2011	\$380	72	\$650	\$876	-\$154	\$496	-\$0.18	\$0.56
Roth, 2011	\$158	48	\$421	\$678	\$99	\$520	\$0.11	\$0.59
Mean	\$237	71	\$548	\$916	-\$81	\$678	-\$0.11	\$0.88
Standard Deviation	\$85	40	\$293	\$546	\$499	\$515	\$0.67	\$0.64
Median	\$209	61	\$528	\$777	-\$48	\$508	-\$0.11	\$0.66

*All costs and values reflect dollar values in 2013.

Local Food Production on residential lots is saleable

Calculation of economic cost and value of Neighborhoods Food Production Partnership (One year per 1000sq.ft)

Cost	Net Value
Material	Value of Field(Production)
Seeds	200 Beets 1311
Soil amendm	100 Lettuce 630
plant starts	200 Basil 1848
mulch	50 Marigold 200
	Beans 735
Supply	Leeks 306
fertilizers	100
water	300
Total	950 5030
	Net Value 4080

Cost of labor 38000/year Value of labor maintenance 2000sq.ft/hour
one labor one day can maintain 16000sq.ft

Coclusion

So the minimum amount of homeowners needed to start a commercial enterprise is 20 or it is needed about 20000 square feet land to produce food. If we don't have 20000 square feet land, we cannot balance the front cost.

http://www.plangarden.com/app/vegetable_value/

Site Analysis: Existing Condition

Location: Mission Valley , North Chandler

Year Built: 1982

Lot Size on Average: 8000-9000Sq. ft

Front Yard Size on Average: 1000Sq.ft

Household Income: \$50,000/year

Homeowner Association Community



Water Issue



Water will be a big issue to produce food in neighborhoods.

Saving water is a good way to lower the cost.

On average homeowner will spend \$100 every month to pay the irrigation in 1000 square feet.

Water Issue: How to save water



Mulch and woodchips

Mulches of manure or compost will be incorporated naturally into the soil by the activity of worms and other organisms.

Mixing the mulch with soil and putting woodchips on top of the soil will help the soil hold water for longer time to prevent evaporation




It will save half amount of water that usually use to irrigate the plants.

Water Issue: How to save water

Swimming Pool Backflow to Irrigate

Save 300 gallons portable water per month

Salt-tolerant plants: Can use pool/spa water	Moderately sensitive plants: Limited use of pool/spa water	Plants sensitive to salt: Do not use pool/spa water
<p>Oleander Evergreen Euonymas Rosemary Bougainvillea Natal Plum Texas Ranger Olive Native Mesquite Desert Broom Saltbush Aloe Deer Grass Bear Grass Ice Plant Japanese Honeysuckle Others...</p>	<p>Glossy Privet Pyracantha Lantana Xylosma Juniper Bottlebrush Most Acacia Species Palo Verde Yucca Others...</p>	<p>Fruit Trees Star Jasmine Roses Algerian Ivy Fraser's Photinia Chinese Hibiscus Willow Hopbush Jojoba Others...</p> 

Birds Control

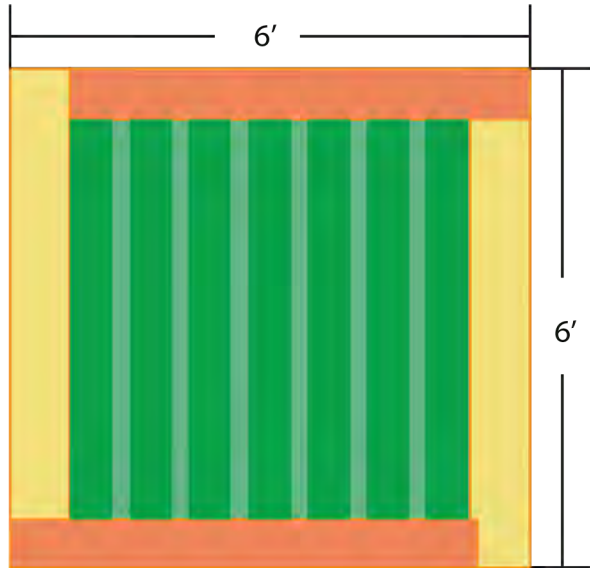
Visual Bird Deterrents

Visual scare devices are things like plastic owls and coyotes, Terror Eyes balloons, and shiny tape. Anything that is supposed to irritate or make the birds feel unsafe by appealing to their visual sense is classified as a visual scare. (Tom Starling , 2011)



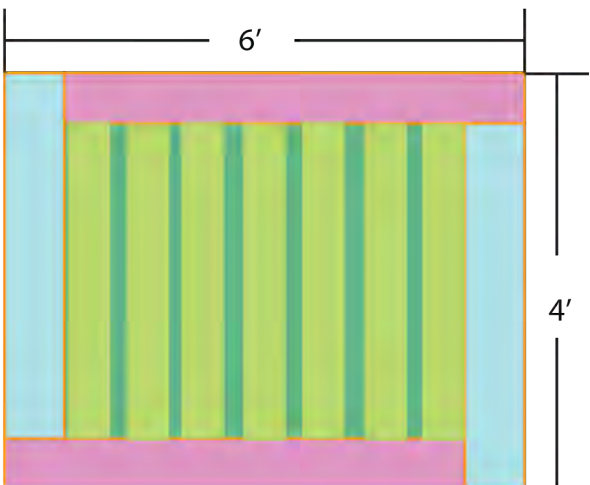
Design Concept

Companion planting



Using companion planting through out the landscape is an important part of integrated pest management.

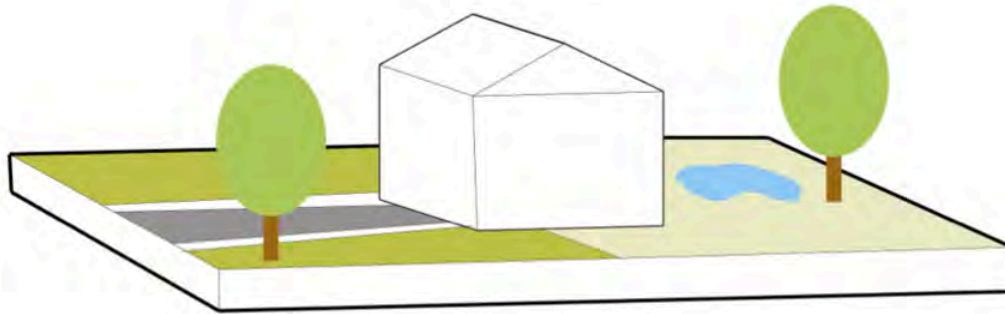
So one of my design concept is that as 6 feet by 6 feet and 6 feet by 4 feet to be an unit to plant vegetables inside and plant flowers around them to group them together.



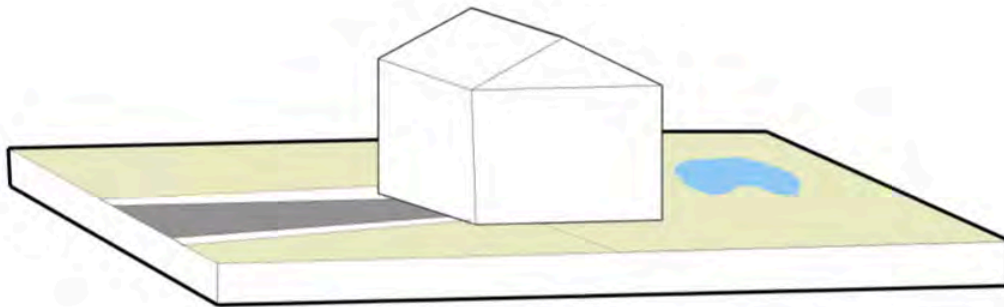
Design Proposal



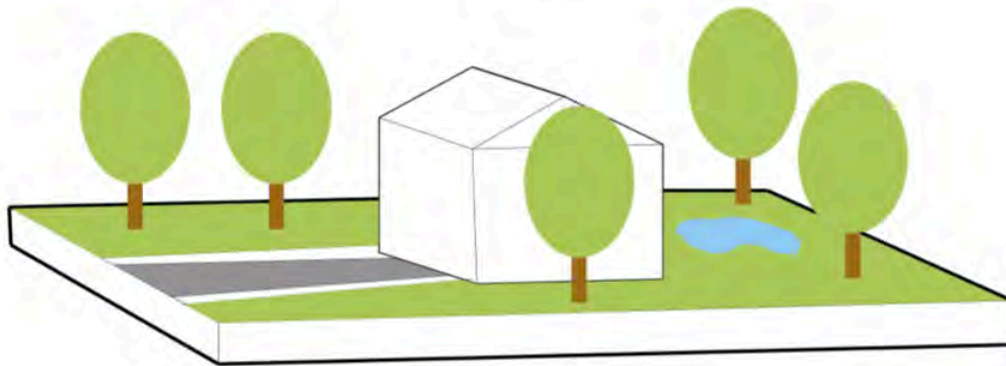
Design Proposal: Front Yard Existing Types



Front yard type 1: grass and tree



Front yard type 2: sand and gravel



Front yard type 1: trees and designed landscape



Design Proposal: Plan



Design Proposal: Plants

Seasonal Vegetables

January--April	May--June	June--July	July--Sept	Sept--October	Oct--Dec
Carrots	Blackberries	Leeks	Chiles	Green beans	Carrots
Bok choy	Garlic	Garlic	black eye peas		Bok choy
Lettuce	Leeks	Green beans	Green beans		Lettuce



Carrots



Bok choy



Lettuce



Blackberries



Green beans



Chiles

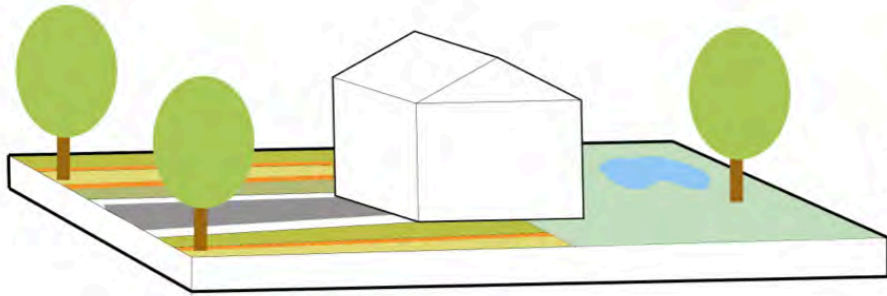


black eye peas

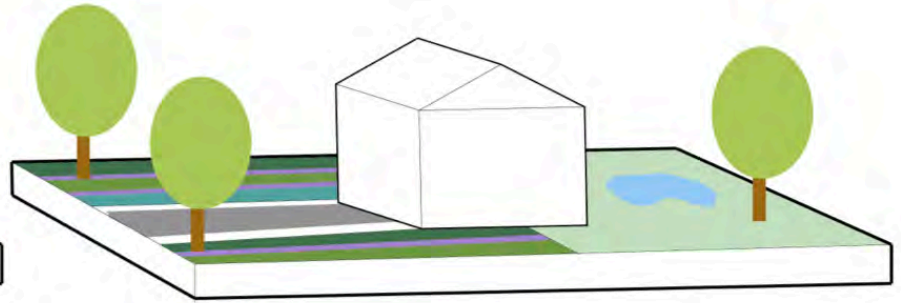


Garlic

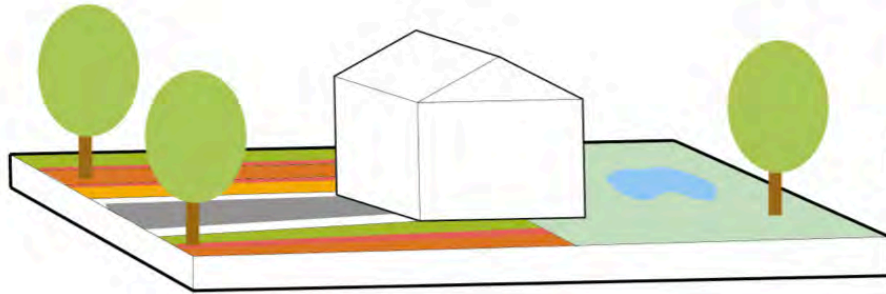
Design Proposal: Analysis and Section



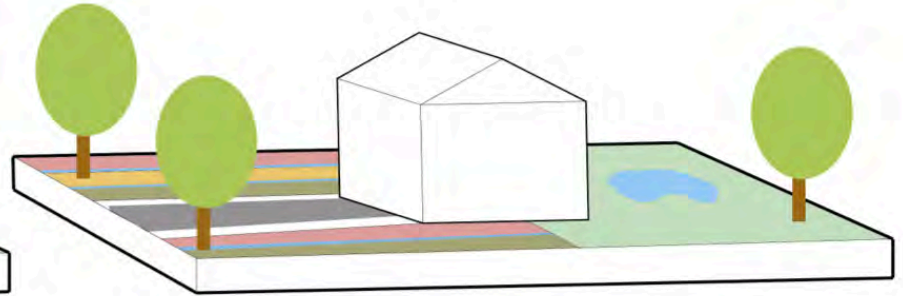
Front yard Design type 1: Face South



Front yard Design type 2: Face North



Front yard Design type 3: Face West



Front yard Design type 4: Face East



Design Proposal: Perspective



Design Performance

Quadruple Bottom Lin

Economic

Creates 146,880 dollars value of field per year

Ecological

Reduces 4800 gallons portable water use per year.

Social

Produces 28 tons organic food production

Aesthetic

Builds 36000sq.ft Street landscape in neighborhoods