

APPENDIX A: PLANT LIST

SPECIES	POSITION & ROLE IN AGROFORESTRY	CLIMATE ADAPTABILITY	SOIL ADAPTABILITY
Breadfruit		Great - Site provides ideal rainfall, temperature & humidity	Good - Shallow root system may benefit from improved soil drainage
Jackfruit		Great - Site provides ideal rainfall, temperature & humidity	Good - May benefit from improved soil drainage
Banana/Plantains		Great - Site provides ideal rainfall, temperature & humidity	Good - Short roots may benefit from improved soil drainage
Moringa		Good - Ideal in semiarid regions but adapted to many areas	Fair - Prefers lighter soils but tolerant of all soil types
Chaya		Great - Thrives in heavy rain with high temperatures	Great - Well adapted to heavy soils
Pigeon Pea		Good - Ideal in semiarid regions but adopted to many climates	Great - Tap root well adapted to break up clay soils
Cassava		Good - Tolerant of high rainfall & moisture content	Good - Large tubers help loosen clay soil
Mexican Sunflower		Good - Well adapted to high heat and rainfall	Great - Aggressive root system helps to loosen clay soil
Taro		Great - Site provides ideal rainfall, temperature & humidity	Great - Thrives in wet, clay soils
Sweet Potato		Great - Prefers steady moisture and semishade from hot sun.	Good - Large tubers help to break apart heavy clay though may be deformed
Comfrey		Good - Adapted to steady moisture, high temps may prevent flowering	Great - Thrives in wet, clay soil. Tap root helps to break up clay soils
Seminole Pumpkin		Great - Native to rainy, humid regions.	Great - Well adapted to heavy soils

- Overstory
- Shade Resistant
- Starchy
- Staple
- Edible Seeds
- Ripe and Unripe Fruits

- Understory
- Dessert
- Leaves
- Suppress Weeds
- Shrub
- Nutrient Dense

- Protein Rich
- Seed Pods
- Cooking Greens
- Nitrogen-Fixing
- Green Manure
- Beneficial Insect

- Groundcover
- Vining
- Food
- Provides Shade
- Medicinal
- Cash Crop




- Heavy mulch
- Fast Growing
- Edible Fern

APPENDIX A: PLANT LIST




Understory Fruit Trees

SPECIES	POSITION & ROLE IN AGROFORESTRY	CLIMATE ADAPTABILITY	SOIL ADAPTABILITY
Rollinia	Sweet lemony fruit superior to Atemoya	Good - May need protection from high winds	Great - Thrives in wet, heavy soils
Carambola	High production fruit, rich in Vitamin-C & antioxidants	Great - High production with steady moisture	Great - Tolerant of many soil types
Guava	Crispy sweet or dessert fruits	Great - Site provides ideal rainfall, temperature & humidity	Great - Highly adaptable of wet, heavy clay soils
Fig	High fiber, fresh or dried fruit	Good - Excess, sudden rain can cause fruits split	Great - Adapted to wide range, clay soil reduces risk of nematodes
Wax Jambu	Crispy sweet or dessert fruits	Great - High production in high rainfall areas	Great - Well adapted to heavy clay soils
Sapodilla	Sweet brown sugar fruit	Great - Well adapted to high winds & heavy rain	Good - Prefers well drained soil to tolerates clay
Avocado	High fat and protein fruit	Good - High winds may damage fruit production	Fair - May require increased drainage

Nitrogen Fixing Trees

SPECIES	POSITION & ROLE IN AGROFORESTRY	CLIMATE ADAPTABILITY	SOIL ADAPTABILITY
Ice Cream Bean		Great - Native to lowland rainforest of South America	Great - Tolerant of waterlogging and heavy clay soils
Gliricidia Sepium		Great - High precipitation improves vigor	Great - Well adapted to wide range of soil types
Sesbania Sesban		Great - Well adapted to heavy rains and even temporary flooding	Great - Well adapted to wide range of soil types

Medicinal & Annual Crops

SPECIES	POSITION & ROLE IN AGROFORESTRY	CLIMATE ADAPTABILITY	SOIL ADAPTABILITY
Turmeric		Great - Shallow roots require steady moisture	Fair - Rocky clay soils needs drainage improvements
Ginger		Great - Optimum growth with steady moisture and shade	Fair - Rocky clay soils needs drainage improvements
Warabi		Good - Steady moisture and shade required	Great - Performs well in heavy, wet soils

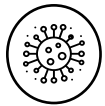
APPENDIX B

Agroforestry Techniques



Mulching

Aids in moisture retention, slope stability, increased microbial life and soil structure. Mulching mimicking nature by creating rich, abundant, healthy forest food in fast forward.



Mycorrhizal fungi

Forms symbiotic relationships with plant roots to aid in the uptake of water & nutrients, reducing the need for supplemental irrigation and fertilizers, particularly phosphorus.



Nitrogen-Fixing Trees (NFT)

Pioneering, fast growing leguminous trees form symbiotic relationship with rhizobia bacteria. When pruned, NFTs release nitrogens into the soil, providing fertility to surrounding trees.



Green Manures/Dynamic Accumulators

Specialized at accumulating a wide range of nutrients through their aggressive root systems, these plants provide a surplus of nutrient rich biomass for mulching & composting.



Beneficial Insect Attractors

Perennial flowering plants such as Wild Basil & Chicory provide habitats for beneficial insects & wildlife to create balanced ecosystems and mitigate the use for pesticides.



Biochar

Permanently sequesters carbon in the form of charred biomass to remediate compacted and degraded lands. Biochar provides aids in the retention of nutrients and plays host to a diverse range of soil microbial life.



Companion Planting

Understanding plant functions & needs is critical to good design. Planting comfrey at the base of a banana patch is one example of this. Comfreys tap root mines nutrients, particularly calcium & potassium, from deep in the subsoil and accumulates it in its leaves. When pruned and mulched, these leaves feed the shallow roots of the banana with large amount of the potassium needed for healthy growth & production.

APPENDIX C

Estimated Labor before canopy closes

TASK	ESTIMATED TIME TO COMPLETE
Clearing and land prep	15-20 Hours
Gathering and seed starting of planting	10 Hours
Planting	20-25 Hours
Weeding (every two weeks until canopy closes)	2-3 Hours
Topographic Survey	4 Hours
Filming	5 Hours
Creating educational materials	5 Hours
TOTAL TIME	61-72 Hours

Estimated Labor after canopy closes

TASK	ESTIMATED TIME TO COMPLETE
Pruning (every two weeks)	2-3 Hours
Harvest (every two weeks)	2-4 Hours
Food distribution/sales	1-2 Hours
TOTAL TIME	5-9 Hours

CALCULATED PER HALF-ACRE CLEARING.

APPENDIX D: PROJECTED PRODUCE

YIELDS/REVENUE (PER HALF-ACRE)

		Year 1		Year 2		Year 3		Year 4		Year 5	
PLANT NAME		YIELDS	REVENUE	YIELDS	REVENUE	YIELDS	REVENUE	YIELDS	REVENUE	YIELDS	REVENUE
EARLY SUCCESSION	Squash (25%)	1500 lbs	\$2,250.00	1275 lbs	\$1,912.50	1050 lbs	\$1,575.00	825 lbs	\$1,237.00	600 lbs	\$900.00
	Sweet Potato (25%)	2400 lbs	\$2,208.00	2040 lbs	\$1,876.00	1680 lbs	\$1,545.00	1320 lbs	\$1,214.00	960 lbs	\$883.00
	Moringa (10%)	1000 lbs	\$1,428.00	850 lbs	\$1,214.00	700 lbs	\$1,000.00	550 lbs	\$785.00	400 lbs	\$571.00
	Taro (10%)	1000 lbs	\$500.00	850 lbs	\$425.00	700 lbs	\$350.00	550 lbs	\$275.00	400 lbs	\$200.00
STEADY	Bananas (50%)	-	-	1300 lbs	\$533.00	1300 lbs	\$533.00	1300 lbs	\$533.00	1300 lbs	\$533.00
CLIMAX SPECIES	Breadfruit (50%)	-	-	-	-	1320 lbs	\$1,320.00	2640 lbs	\$2,640.00	3960 lbs	\$3,960.00
	Understory Fruit Trees (25%)	-	-	-	-	432 lbs	\$734.00	846 lbs	\$1,438.00	1270 lbs	\$2,159.00
TOTAL YIELDS		5900 lbs	\$6,386.00	6315 lbs	\$6,386.00	7182 lbs	\$5,960.50	8031 lbs	\$8,122.00	8890 lbs	\$9,206.00



Revenue calculated based on wholesale prices.

Revenue could double or triple if sold directly to consumers.

- % represents planting density of each plant at initial planting (compared to standard mono-crop production)

- Early Succession Crop yields diminish by 15% each year as Climax Species canopy begins to close

- Climax Species yields increase by 20% each year once production begins at Year 3