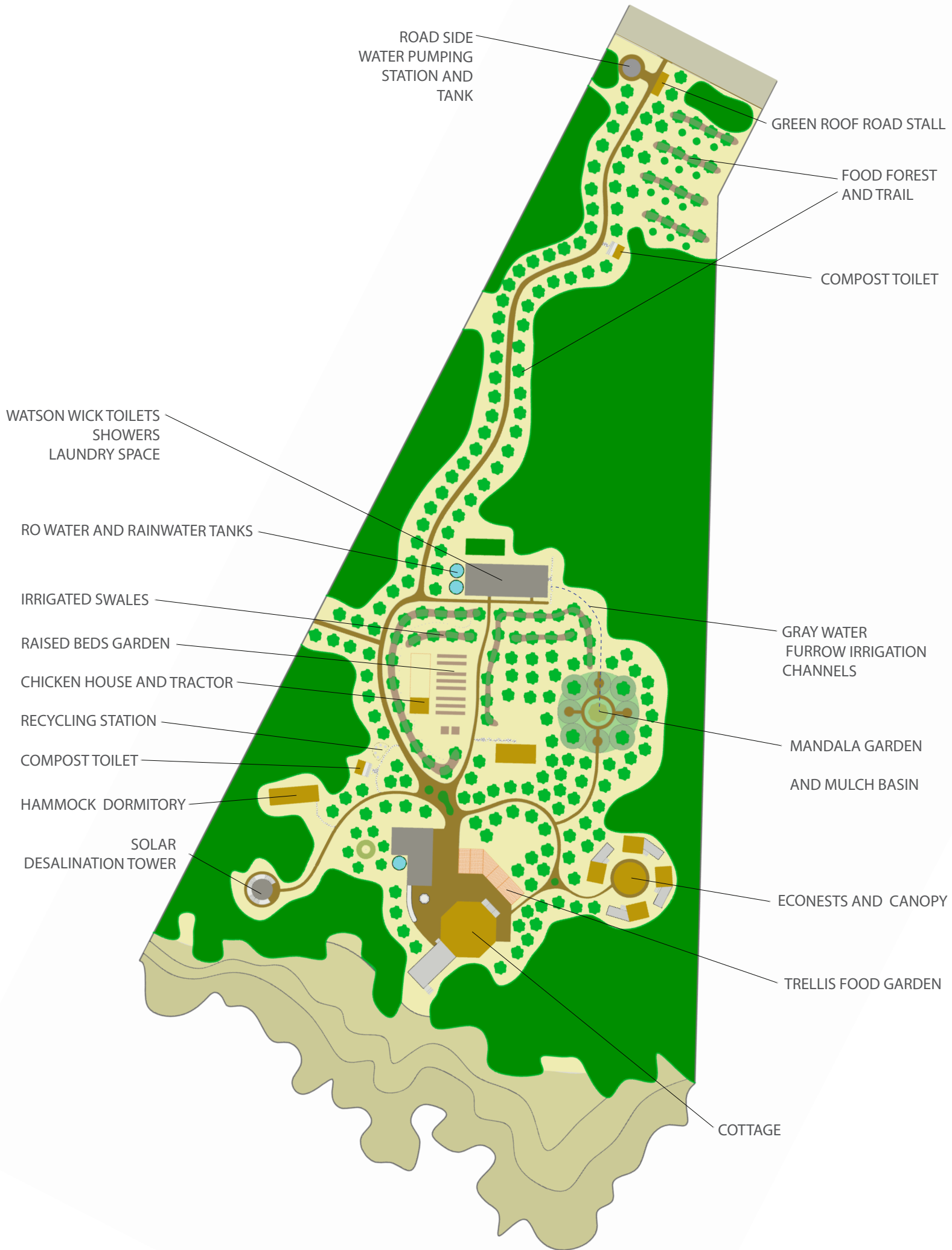


# THE ROCK CENTER

PERMACULTURE DEVELOPMENT AT LITTLE BAY, JAMAICA



## MISSION:

Rock Permaculture Center will contribute to socioeconomic vitality of Little Bay and coastal communities through ecotourism, rotating permaculture residencies, community workshops and partnerships with Island's eco initiatives

- Conduct restoration of cottage to withstand future hurricane damage, design for resilience
- Infrastructure (energy, water, permaculture)
- Research and implement protective and productive coastal landscapes: food, materials, forage
- Establish youth arts programs with local, national and international artists



## WATER

- 10% of the rural population of Jamaica has no access to clean drinking water
- Water is usually delivered by a tank truck to Little Bay from as far as eight miles away
- Little Bay receives less than 30 inches of rainfall a year, mostly during the wet season
- Nearest well, spring, or river are miles away

### ROCK CENTER = COMMUNITY WATER

- A reverse osmosis water desalination system with the capacity to desalinate and filtrate 5,000 gallons/per day to provide for water needs of center and community
- Rainwater harvesting & site retention

## FOOD

- Dumping of cheap food such as low grade American chicken, powder milk, processed products and even fruits and vegetables replaces many local and island economies
- There are no restrictions on foods exported from the United States to Jamaica

### ROCK CENTER = PERMACULTURE

- Permaculture gardens and hydroponic/aquaponic production
- Organic farming workshops, intensive gardening, composting, seed-saving, perm. irrigation methods, etc.
- Working together with local organizations, businesses, farmers, fishermen, women and children to encourage local economic growth

## SANITATION

- 20% of the population have no access to approved sanitation in rural Jamaica
- Polluted river ways are a major source of drinking water for rural population
- Coastal water pollution is damaging to reef habitats

### ROCK CENTER = ZERO WASTE

- Watson Wick toilet and composting toilets compost contribute to fixing alkaline & acidic soils, diversity of species, gray water system produce zero waste and pose no harm to the coastal ecosystem or water supply
- Living Building Challenge goals





Permaculture Zone 1&2

- 1 Cottage
- 2 Kitchen
- 3 Econests
- 4 'ONE' canopy
- 5 Hammock dormitory
- 6 Workshop
- 7 Chicken coup and tractor
- 8 Toilets and showers
- 9 Compost toilet
- 10 Recycling center
- 11 Trellis garden
- 12 Herb spiral
- 13 Banana circle
- 14 Raised beds
- 15 Mandala garden
- 16 Watson Wick field
- 17 Irrigated swales
- 18 Furrow irrigation
- 19 Mulch basin





"I AM A PROMISE, I AM A POSSIBILITY"



PROPERTY ROAD SIDE WALL AND GATE



ALL AGE AND INFANT SCHOOL



BLUE HOLE



COTTAGE

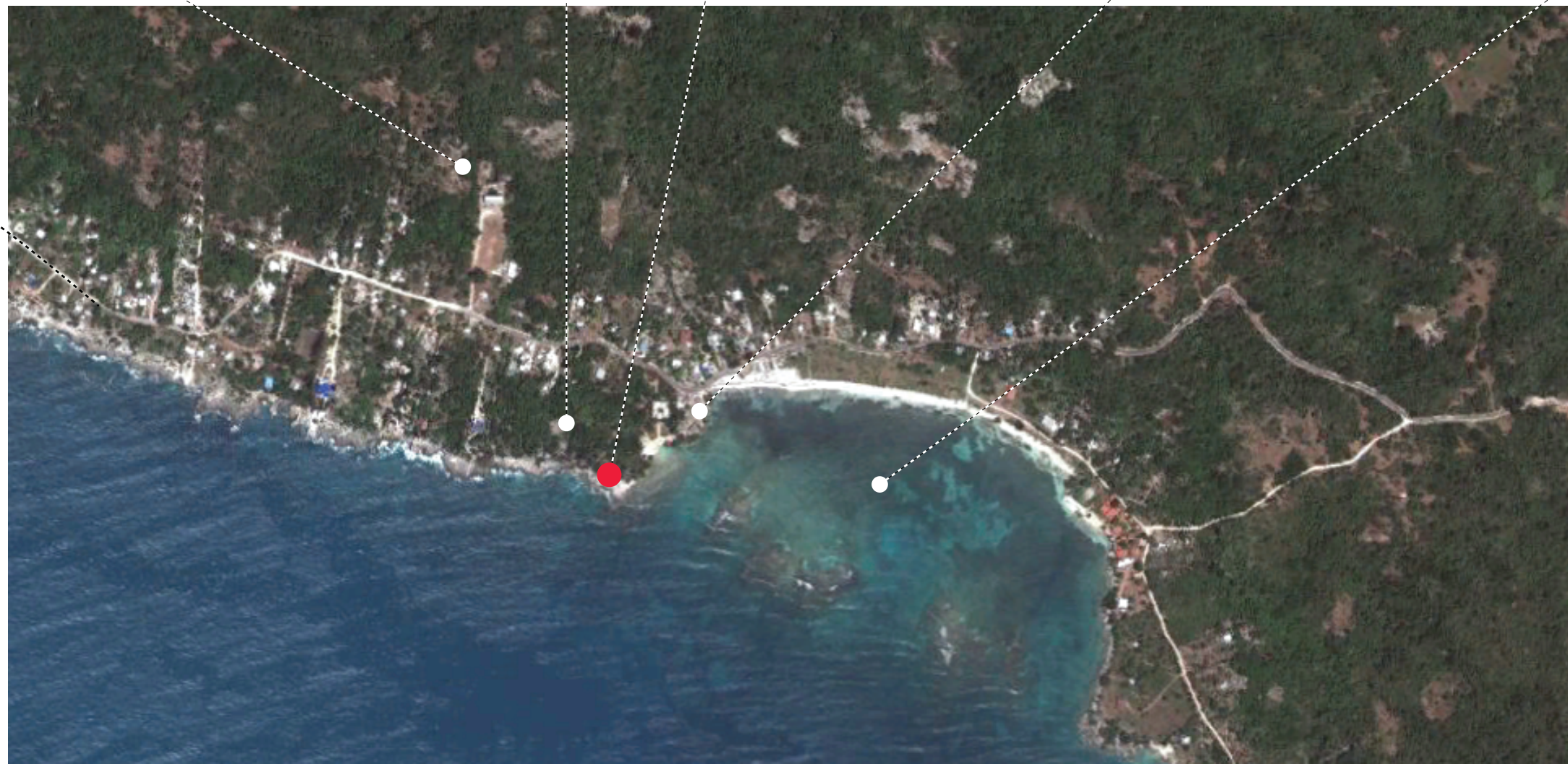


LOCAL BUSINESS/BAR







FISHING BOATS IN THE BAY

TO NEGRIL  
8 MI



LITTLE BAY

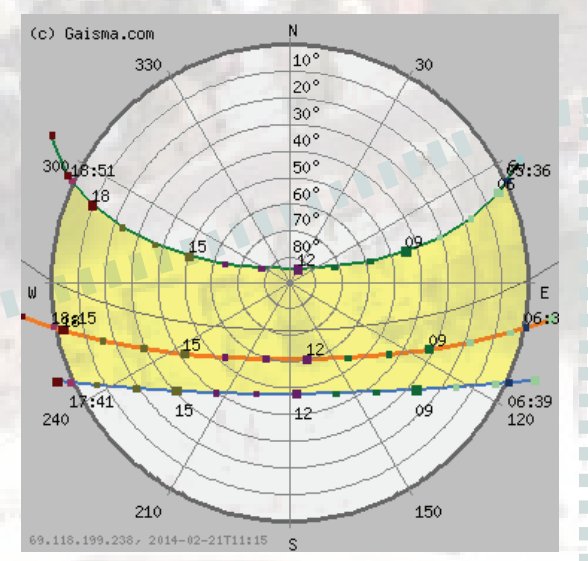
 wind direction and intensity  
 water flow direction  
 coastal restoration  
 property border

LOCATION: 18°13'12.07"N 78°16'1.61"W

GEOGRAPHY  
 Dry scrub-forest in the rain shadow of NE mountains

CLIMATIC DATA  
 Average precipitation: 30 in per year  
 Average temperature: 81 °F  
 Average humidity: 75%  
 Wettest month: October  
 Driest month: March  
 Average sun hours: 8.2 h  
 Annual sun hours: 3002 h  
 Light coastal winds, stronger winds from NE

PROTECTION ZONE  
 Coastal protection and restoration  
 -black, red and white mangroves along the coast  
 -restoring sea grass ecosystems and reef habitats



SITE CONSIDERATIONS

# ROCK PERMACULTURE CENTER

stage 1:

- BUILD/RESTORE COTTAGE
- INSTALL SOLAR WATER DESALINATION
- RESTORE OUTDOOR KITCHEN
- COMPOST TOILETS
- GRAY WATER SYSTEMS
- ESTABLISH TRAILS & EDGES
- STRUCTURE/CULTURE SCRUB FOREST
- RAISED BEDS AND CHICKEN TRACTOR
- ESTABLISH MANGROVE & LEGUMES\*

## LEGUMES

(SOIL BUILDING - NITROGEN, MULCH, FIREWOOD)

- LEUCAENA
- ACACIA
- TAMARIND

stage 2:

- LEARN LOCAL RESOURCE STREAMS
- LAY OUT FURROW IRRIGATION
- ESTABLISH BANANA CIRCLE COMPOST
- CULTIVATE FOOD FOREST CANOPY
  - PLANT LEGUMES ON SWALES,
  - START PIONEER SPECIES
- CONTINUE COASTAL FORAGING & PRODUCTION RESEARCH

## STABILIZING THE SHORE LINE

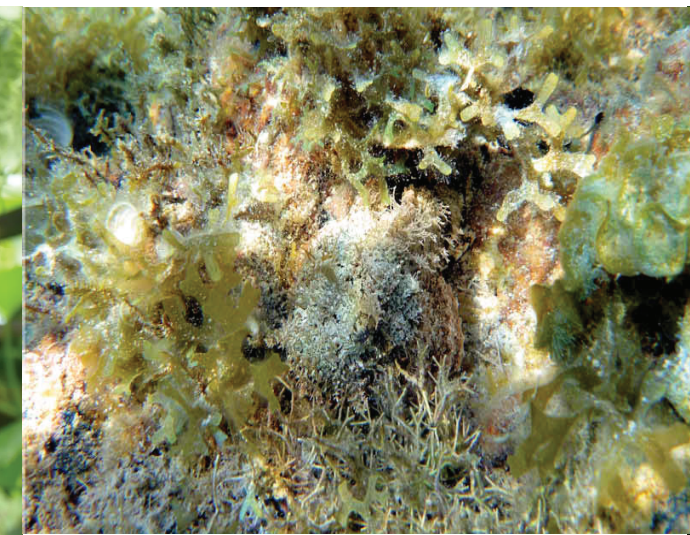
- BLACK MANGROVE
- RED MANGROVE
- WHITE MANGROVE

stage 3:

- ROADSIDE GATHERING AREA
- BUILD HAMMOCK CANOPY
- CABANAS & 'ONE' CANOPY
- START THE MANDALA GARDEN
- TIDAL POOL CULTIVATION
- GARDEN CULTIVATION

## TIDAL POOL

- ESTABLISH SEA GRASS



## FOOD - DRY SCRUB FOREST

- POMELO
- TAMARIND

## TRELLIS GARDEN

- CHAYOTE
- BEANS

## RAISED GARDEN VEGETABLES AND HERBS

### HERBAL SPIRAL: SPICES AND TEA HERBS

### BANANA CIRCLE

### CASHEW TREES

## FOOD FOREST

### LAYER ONE

- CASAVA
- TARO
- SWEET POTATO

### LAYER TWO

- YAM
- PAPAYA

### LAYER THREE

- GUAVA
- RAMBUTAN