



DESIGN SITE

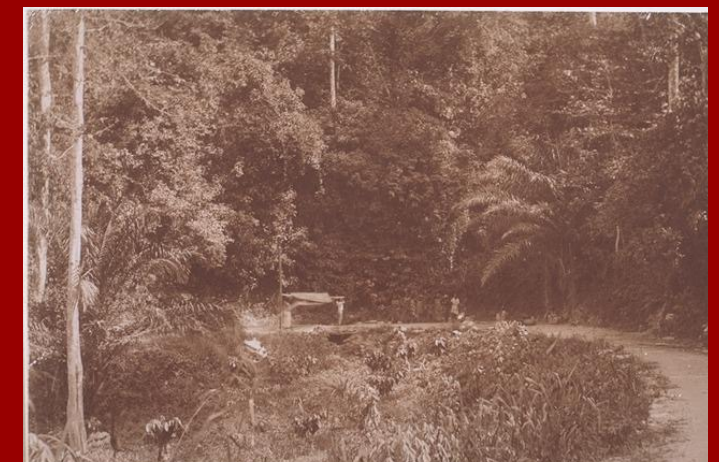
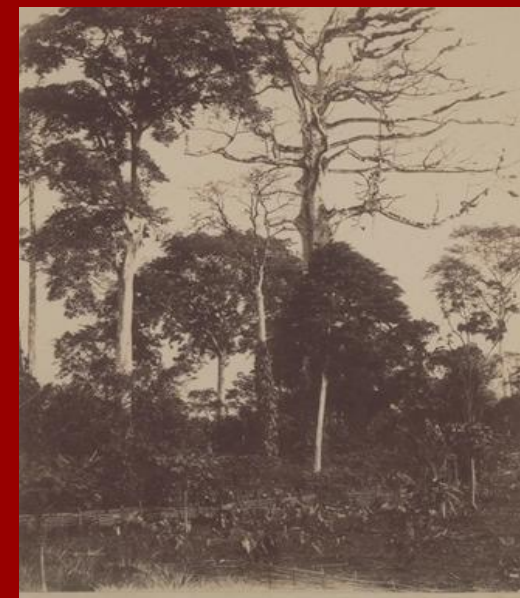
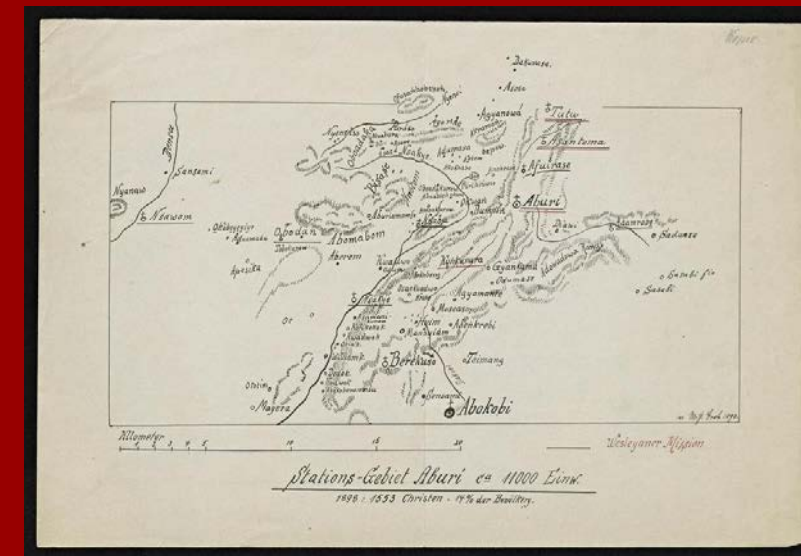
DESIGN SITE | LAND HISTORY

The Akuapem people have been here since the 17th Century and are mostly made up of Guan and Akan (my ethnic group) people. Most of the crops cultivated here are maize, cassava, pineapple, pawpaw, okro, pepper, garden eggs onion, cabbage and tomatoes, as well as tree crops like oil palm, citrus and cocoa. Many families also rear livestock such as cattle, sheep, goats, pigs, and poultry. Indigenous agricultural land management practices include land fallowing, soil water conservation techniques (mulching and application of animal manure) and cropping systems (such as multi-cropping, inter-cropping and crop rotation). Other indigenous land management practices are contour ploughing, traditional terracing, zero grazing, trashlines and minimum tillage

Modern techniques used now include the slash and burn method in pre-processing farmlands before tilling, as well gathering stones and other materials that are likely to obstruct the smooth tilling. Inorganic fertilisers have become very popular. Some are also engaging in the use of improved seeds, compost preparation, and agroforestry.

Nana Oforiatta Ayim: I can trace my ancestry to the Eastern Region back at least 700 years, my mother's side of the family comes more from deeper inside the rainforest of this region, where my grandmother went to farm every day with my mother on a site not far from our house in the rainforest town, Kyebi.. My father's mother comes from the particular area, Aburi, where my site is now.

The images and map are from the 19th Century and come from a colonial archive, the Basel Missionary Archive and it was quite traumatic to see how we and our land had been categorised and described. I'm looking forward to creating new narratives.



DESIGN SITE: Macro to Micro



DESIGN SITE: Afafranto
Konkonuru, Ghana
5°48'54.6"N
0°12'17.2"W



DESIGN SITE: On the Ground



Birds-eye view of house, land, local stone wall



The land in the middle with neighbouring properties



Pawpaw trees that I planted a year ago









The land before the structure was built

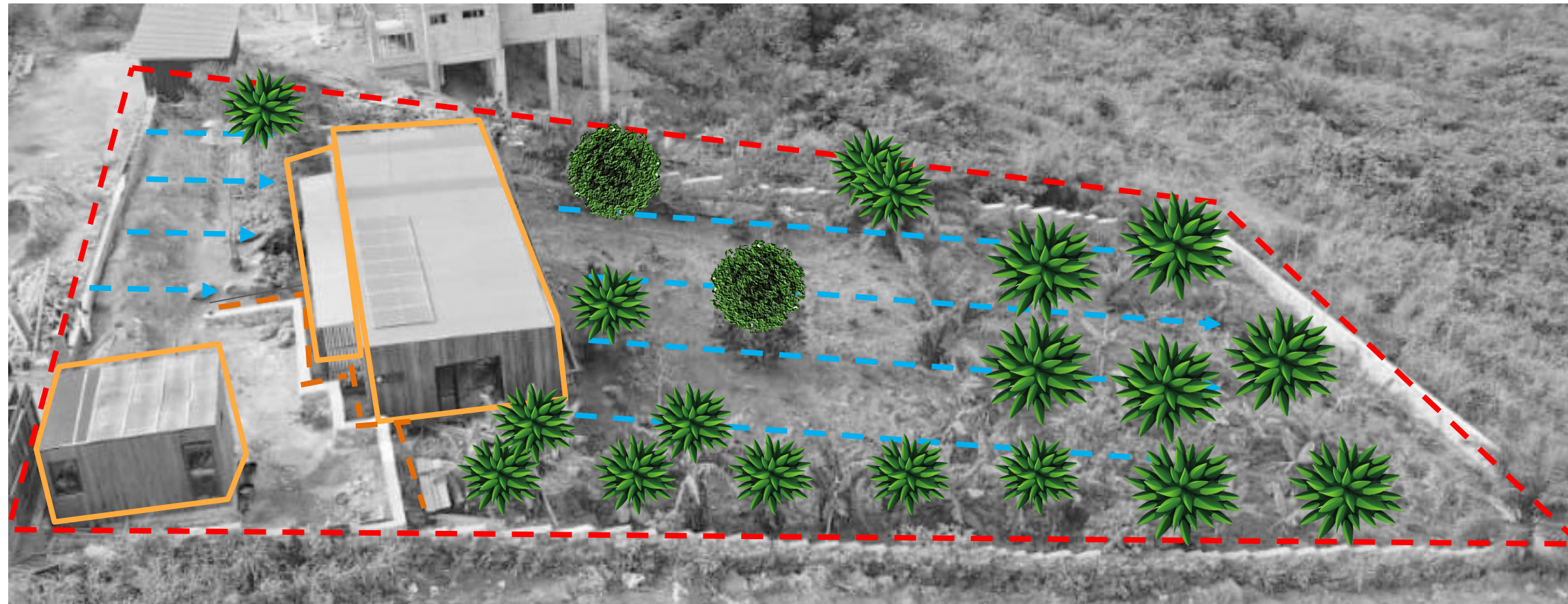


BASE MAP

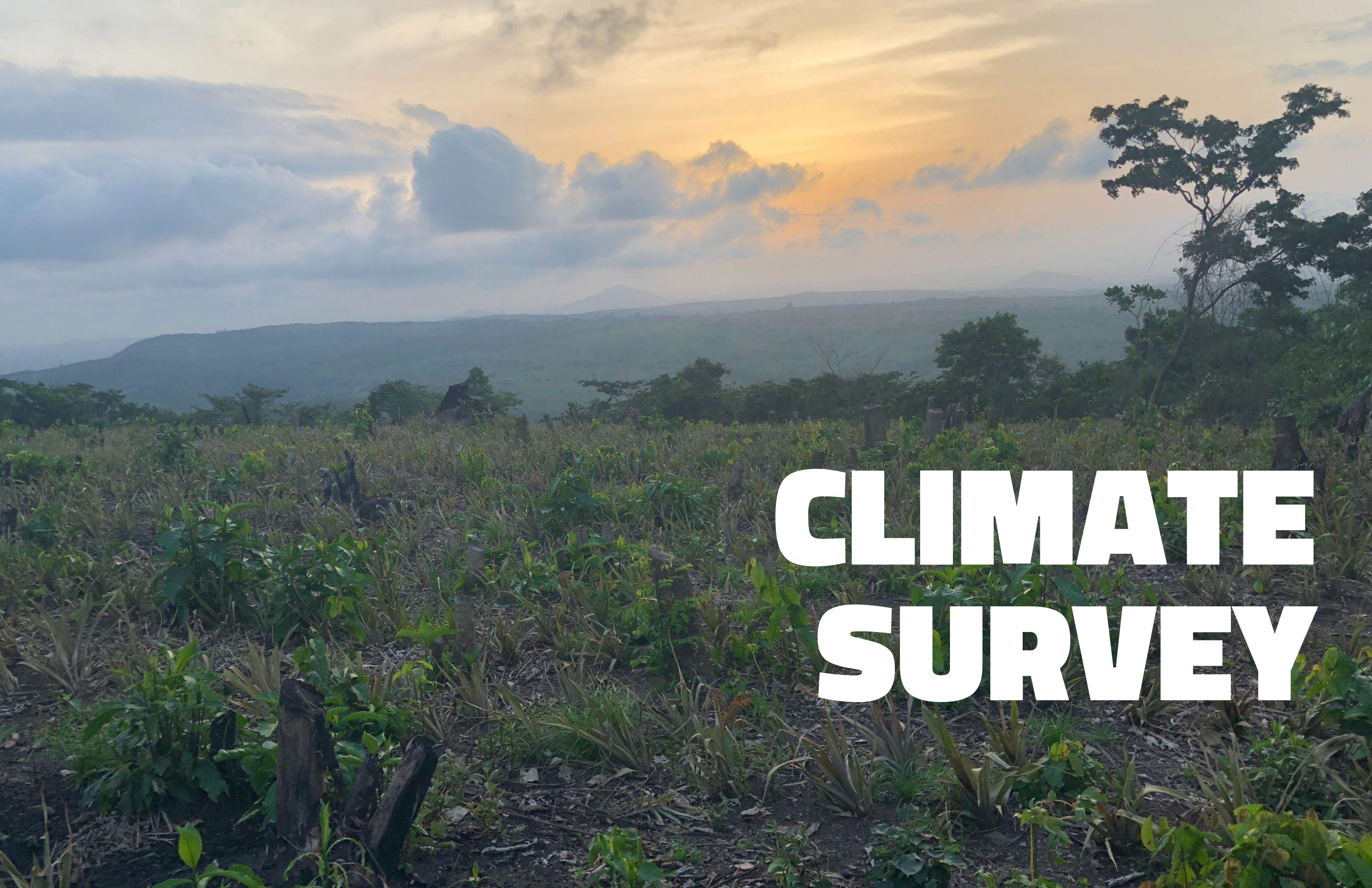
04 BASE MAP

LEGEND :

	Property Boundary
	Fencing
	Water flow
	Palm Trees
	Deciderous trees
	Buildings



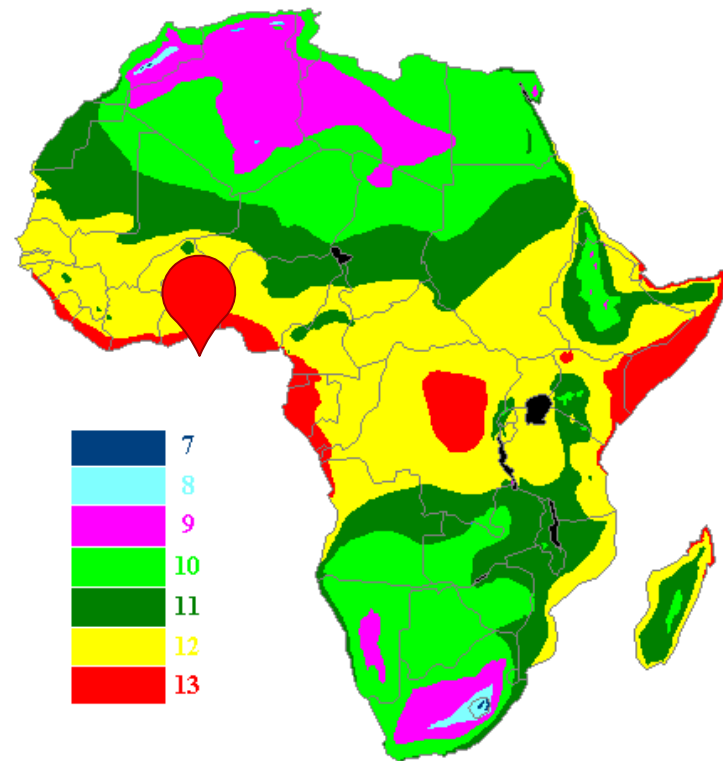
<p>BASE MAP AFAFRANTO</p>	<p>5°48'54.6"N 0°12'17.2"W</p>	<p>½ ACRE / 90.5' X 193.5' X 90.0' X 181.8' / 357m</p>	<p>5°48'54.6"N 0°12'17.2"W</p>	<p>NANA OFORIATTA AYIM / 24.01.23</p>	 <p>10m/ft SCALE 1: 150 (METRES or FEET)</p>	
---	--	--	--	---	---	---



CLIMATE SURVEY

CLIMATE SURVEY

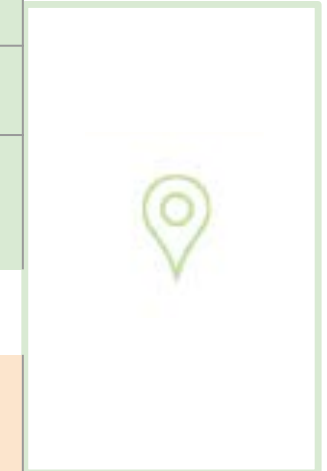
Location: **Konkonuru, Ghana**
 Climate Type: **Tropical Rainforest**
 Koppen Climate: **AW: Tropical Savannah, wet**



AFRICAN CLIMATE ZONES (based on av. coldest temp. in a winter)
 Zone 7 = 0-9 deg F., 8=10-19 deg F., 9=20-29 deg F. [Created by Brandt Maxwell, 2001]
 10=30-39 deg F., 11=40-49 deg F., 12=50-59 deg F., 13=60-69 deg F.

DESIGN SITE: **Afafranto Farm**
Ghana
Hardiness Zone: 12

	<i>Koforidua Weather Station 56km north of Design Site</i>
Elevation	166m above sea level
Location	Urban Area
Coordinates/Address	Latitude: 6°4'59.99" Longitude: -0°15'0"



Average frost-free period	365 days
Average Summer high	27.7 °C March
Record high temperature	39.5 °C January 2021



Average Winter low	24.1 °C August
Record low temperature	2.9 °C January 2020



2-01 Africa Hardiness Zone Map

Source: <https://www.backyardgardener.com/garden-forum-education/hardiness-zones/africa-hardiness-zone-map/>

2-02 Design Site Climate Intro

Source: <https://en.climate-data.org/africa/ghana/eastern-region/aburi-714950/> (accessed Feb 2023).

CLIMATE SURVEY

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature °C (°F)	27 °C (80.6) °F	27.5 °C (81.5) °F	27.7 °C (81.9) °F	27.5 °C (81.4) °F	26.5 °C (79.7) °F	24.9 °C (76.9) °F	24.3 °C (75.7) °F	24.1 °C (75.4) °F	24.6 °C (76.3) °F	25.3 °C (77.6) °F	26.2 °C (79.1) °F	26.8 °C (80.2) °F
Min. Temperature °C (°F)	23.6 °C (74.5) °F	24.4 °C (76) °F	24.8 °C (76.7) °F	24.7 °C (76.5) °F	24.2 °C (75.5) °F	23 °C (73.5) °F	22.4 °C (72.4) °F	22.2 °C (71.9) °F	22.6 °C (72.7) °F	23 °C (73.5) °F	23.5 °C (74.3) °F	23.7 °C (74.7) °F
Max. Temperature °C (°F)	32.1 °C (89.8) °F	32.5 °C (90.5) °F	32.4 °C (90.2) °F	31.7 °C (89.1) °F	30.2 °C (86.3) °F	27.9 °C (82.3) °F	27.2 °C (81) °F	27.3 °C (81.1) °F	28.1 °C (82.6) °F	29 °C (84.2) °F	30.1 °C (86.2) °F	31.3 °C (88.3) °F
Precipitation / Rainfall mm (in)	31 (1)	41 (1)	60 (2)	71 (2)	116 (4)	160 (6)	95 (3)	68 (2)	111 (4)	110 (4)	62 (2)	38 (1)
Humidity(%)	71%	74%	76%	77%	81%	85%	83%	82%	84%	84%	81%	76%
Rainy days (d)	6	7	10	11	16	17	15	14	16	16	13	8
avg. Sun hours (hours)	8.2	7.7	7.7	7.5	6.8	5.4	4.4	3.3	4.5	6.0	7.0	7.9

Data: 1991 - 2021 Min. Temperature °C (°F), Max. Temperature °C (°F), Precipitation / Rainfall mm (in), Humidity, Rainy days. Data: 1999 - 2019: avg. Sun hours

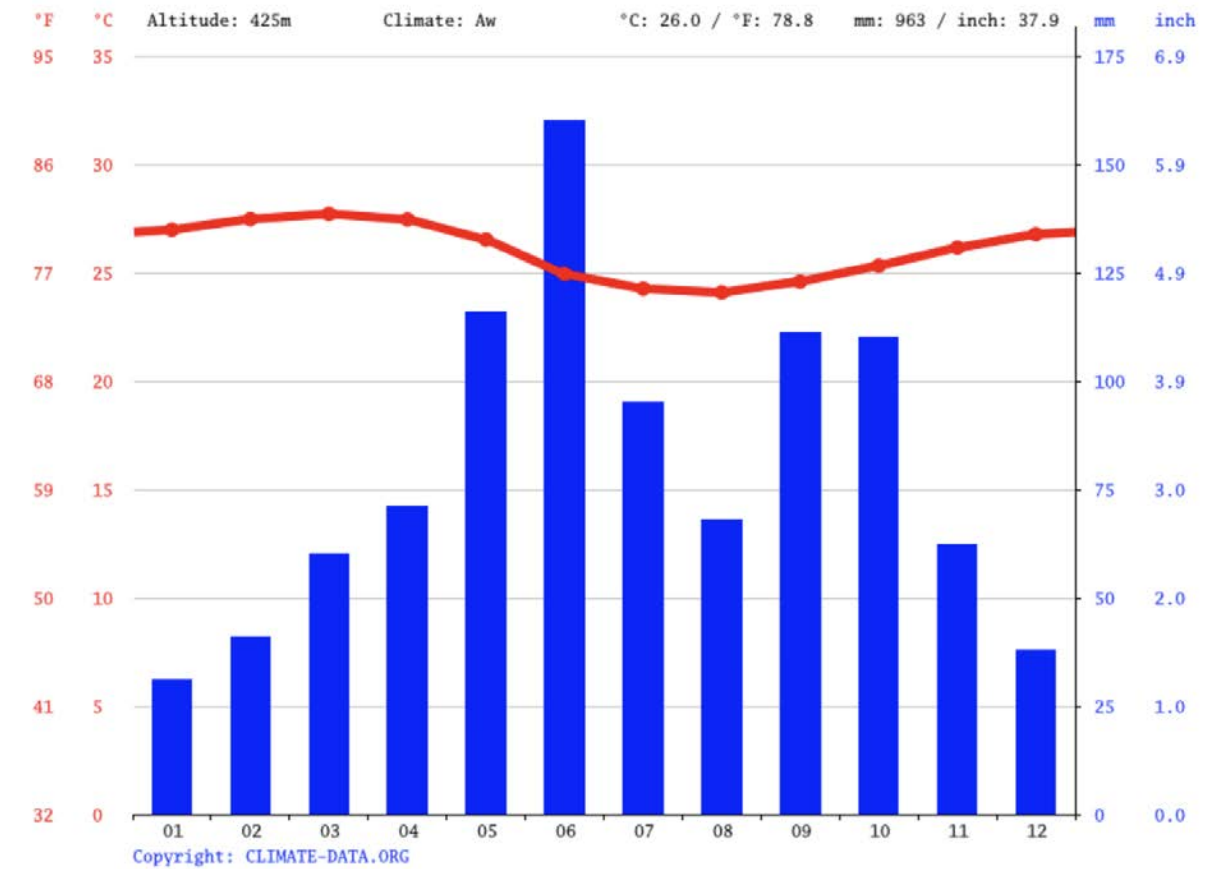
The difference in precipitation between the driest month and the wettest month is 129 mm | 5 inch. The average temperatures vary during the year by 3.6 °C | 6.5 °F.

The month with the highest relative humidity is June (84.87 %). The month with the lowest relative humidity is January (70.71 percent). The month with the most rainy days is June (23.27 days). The month with the fewest rainy days is January (7.77 days).

2-03 Design Site Average temperature, precipitation & wind

Source: <https://en.climate-data.org/africa/ghana/eastern-region/aburi-714950/> (accessed Feb 2023).

CLIMATE GRAPH // WEATHER BY MONTH ABURI



The driest month is January, with 31 mm | 1.2 inch of rainfall. Most precipitation falls in June, with an average of 160 mm | 6.3 inch.





06 SECTOR COMPASS

WATER FLOW

- + see basemap for site waterflow

USE rainwater harvesting and greywater systems
DEFLECT from main house



POLLUTION

- + ag fields spray **pesticides** last year
- + **smoke**, neighbours burn brushes sometimes

DEFLECT; community plan for littering + approach farmer (pesticides)

VIEWS

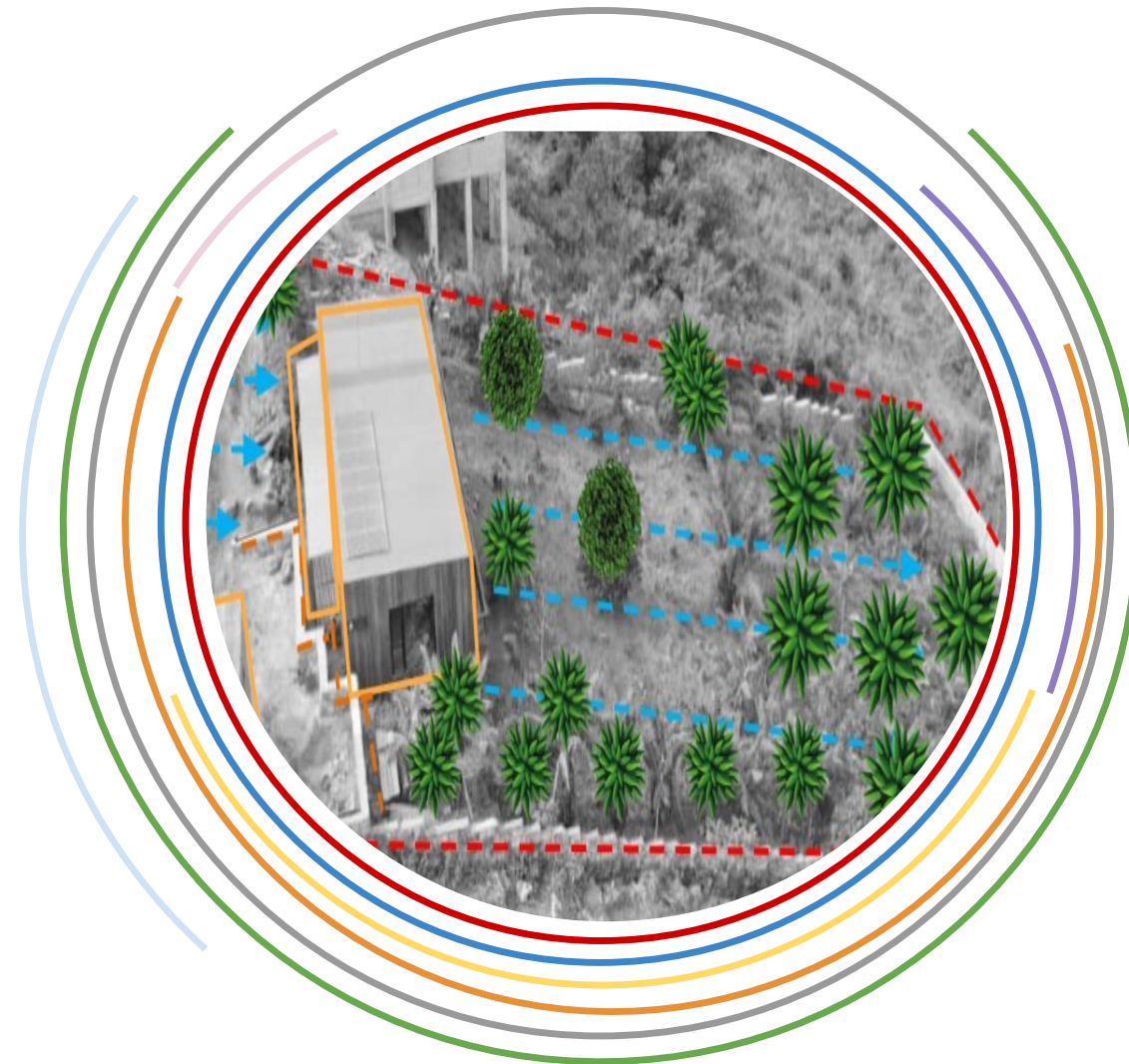
- + beautiful views of the valley below

DEFLECT neighbours looking in with trees

SUMMER SUN

- + **strong** light, **high** angle, long days
- + Solstice 12h 27m (5:49 sunrise, 18:16 sunset)
- + 295° azimuth, 36° altitude

DEFLECT from buildings + **USE** welcome sun into buildings +gardens; PV panels| passive solar dehydrating and cooking



PREVAILING WIND

- + strong hilltop winds, but partial **protection** by surrounding trees

USE breeze for ventilation

FIRE

- + ignition source: **farms, cars**, neighbours
- + fuel source downslope; **fields, woods**

DEFLECT make firebreak coming up the slope

VISITORS

- + limit visitors; guest approach by car or foot through gates

AMPLIFY, welcome guests **DEFLECT** unwanted guests

WILDLIFE

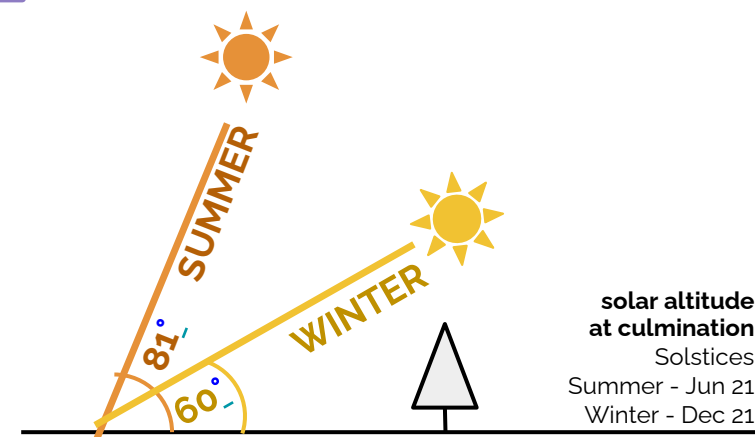
- + snakes
- + scorpions

DEFLECT pet harm

WINTER SUN

- + **strong** light, **high** angle, long days
- + Solstice 11h 47m (6:05 sunrise, 17:52 sunset)
- + 239° azimuth, 29° altitude

DEFLECT from buildings + **USE** welcome sun into buildings +gardens; PV panels| passive solar dehydrating and cooking



SECTOR COMPASS

Afafranto Farm
Konkonuru, Ghana
 5°48'54.6"N 0°12'17.2"W
Area: 1/2 acre
Dimensions: 90.5' X 193.5' X 90.0' X 181.8'
Elevations: 348m

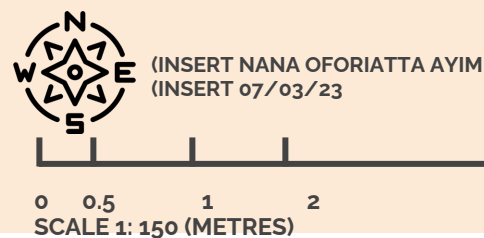
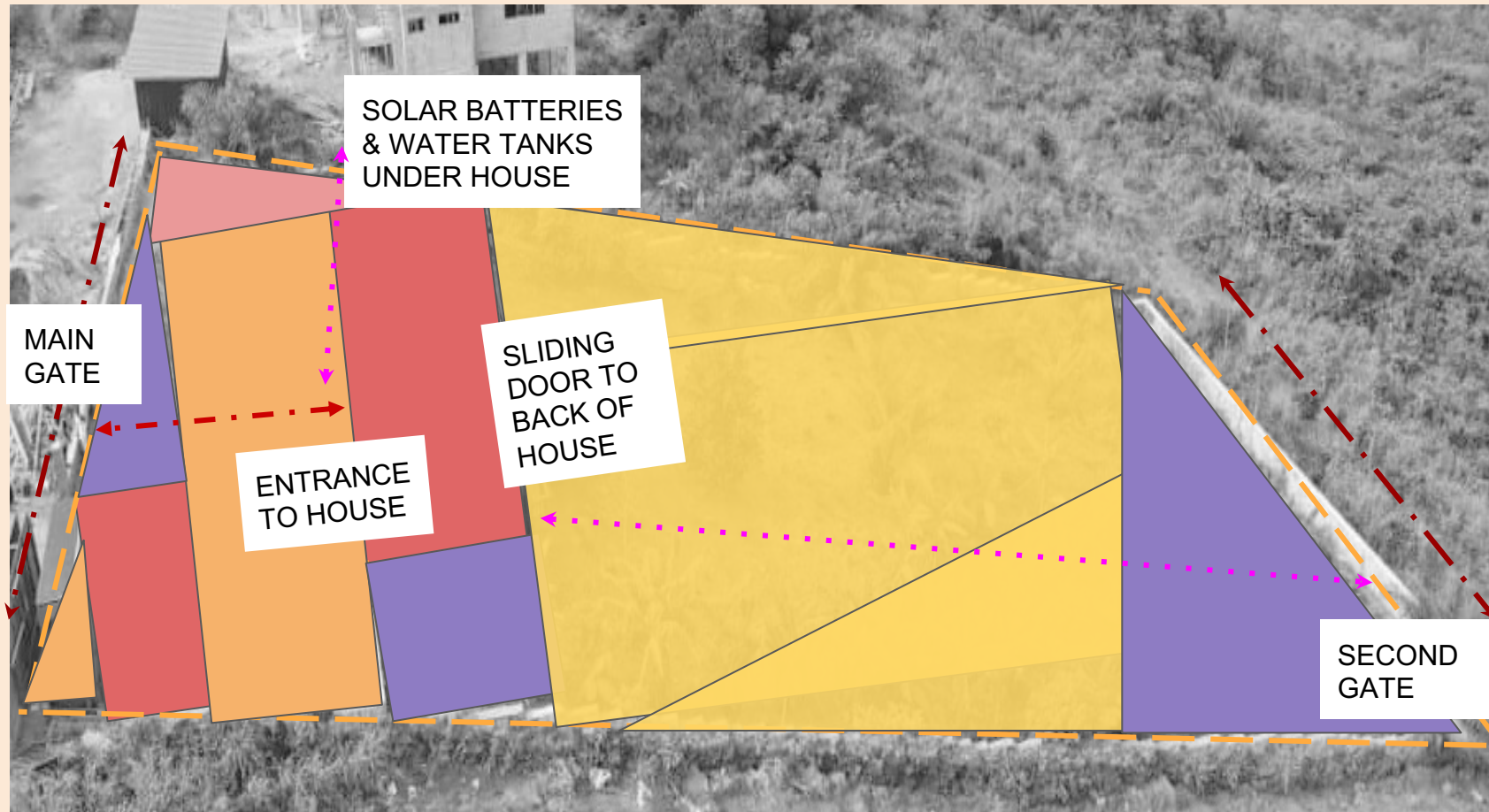


Nana Oforiatta Ayim
 20/02/23

A landscape photograph featuring a cloudy sky, a hillside with trees, and a wooden building on stilts. The text "CURRENT ZONES" is overlaid in large white letters.

CURRENT ZONES

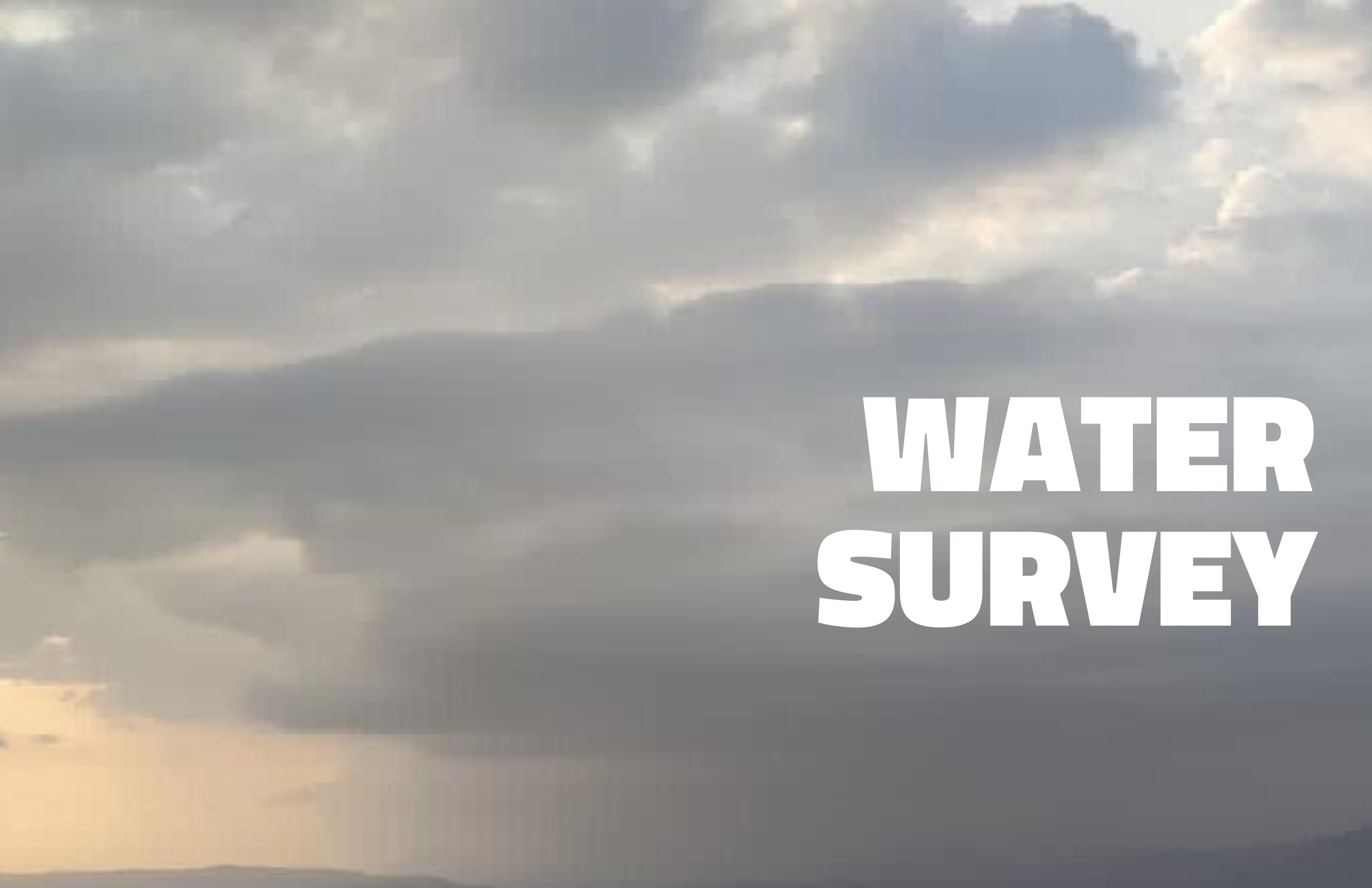
CURRENT ZONES



ZONES:

- ZONE 0**
- Main House & Studio
- ZONE 1**
- Daily use
Between main house, studio, driveway
- ZONE 2**
- Weekly use, watering, maintenance
- ZONE 4**
- Weekly use, solar batteries, water tanks
- ZONE 5**
- Generally untouched, near the fenceline

LEGEND	
	Footpath (<2x/day)
	Footpath (1x/week)
	Car Path
	Fencing
	Doors



WATER SURVEY

WATER SURVEY

DRINKING WATER SOURCE:

1. Rainwater harvesting through roof gutter into pipes into three tanks, though I might be adding a borehole soon

WASTE WATER:

1. Septic System underground: Waste water goes through biodigester separates into soak-away



Water tanks and underground septic system

WATER SURVEY

RAINFALL:

- 116.78 millimeters (4.6 inches) of precipitation
- All time high of 1775.82 mm in 1968

Sources : <https://tradingeconomics.com/ghana/precipitation>

ROOFING MATERIALS:

- PVC sheets on plywood

IMPACT OF MAJOR PRECIPITATION EVENTS:

- Flooding is not as threatening here as it is in Accra. There is danger of flooding coming down the hill into the site and onto the farm, but there are ways to prevent this through additional gutters, swales etc. It is something we will look into during the planning stage, how to avert flooding of the house and farm.



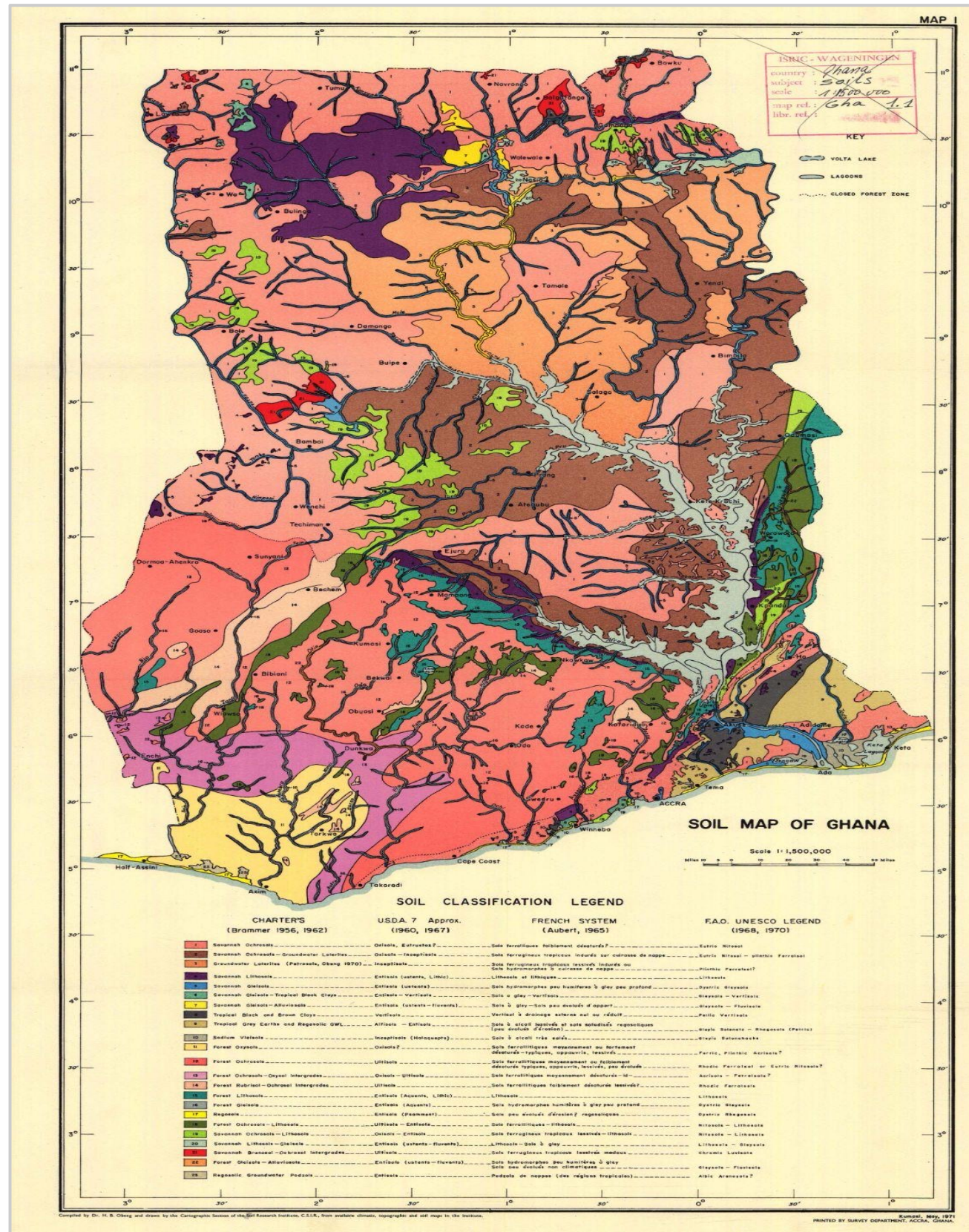
(Roof with gutter and pipes)

SOIL MAP & TESTS



SOIL MAP AND TESTS

SOIL MAPPING | Overview



SOIL DESCRIPTIONS: Map Unit Symbol and Name:

Farmland classification: Sandy loam with clay found in valley bottoms

Typical profile: The geology is mainly sedimentary rocks metamorphosed to quartzites, schist, shale and phillite, forming the Akuapem – Togo ranges. In the most semi-deciduous forest zone, the principal soil is forest ochrosols. However, the location and relief pattern makes modification to the soil. In the lowlands and valleys, the soil shares enough soil water and tend to be water logged near rivers. At higher altitudes and hillside, the soils are shallow, drier and often stony.

Detailed analysis of the soil types, show that there are mainly two types: Sandy loam and clay soil: well-drained but susceptible to draught and erosion due to maximum soil aeration. The vegetation and soil are suitable for cultivation of a variety of crops including cocoa, citrus, oil palm and staple food crops such as plantain, cassava, yam, cocoyam, maize, rice and vegetables.

Drainage: The area has a number of water bodies. These water bodies are in the form of rivers, dams and dugouts. The major rivers in the municipality are Densu, Ponpon, Dobro and Nsakyi.

Parts of the town are liable to floods.

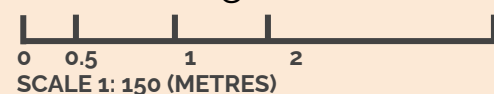
Pools of stagnant water are also common in the rainy season leading to the breeding of mosquitoes.



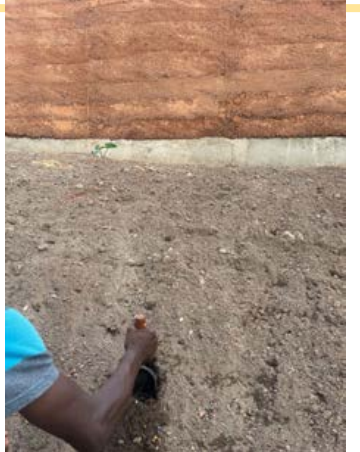
Nearly all the rivers and streams in the district dry up during the dry season usually December-March. This inhibits farming activities greatly; especially in the area where other clay deposits are known to exist.

SOIL TESTING | Locations



13-02 Afafranto Farm: Soil Testing



	<i>Microclimate</i>	<i>Vegetation</i>	<i>Images</i>
<p>Test Site 1</p> <p>26/03/23</p> <p>Reason tested: Wanting to plant trees</p>	<p>Wet grasslands, rainy season: pooling area; dry season: water reservoir</p>	<p>Lush overgrown grasses and short trees</p>	
<p>Test Site 2</p> <p>26/03/23</p> <p>Reason tested: Wanting to plant vegetables</p>	<p>Grassy, dry season: full sunlight; rainy season: shade</p>	<p>Mainly shrubs, bushes, grasses and weeds</p>	
<p>Test Site 3</p> <p>26/03/23</p> <p>Reason tested: Wanting to plant trees, flowers, herbs etc</p>	<p>Dry hill, facing rising sun, north-west facing slope</p>	<p>Dry soil, on top of slope</p>	



SOIL TESTING | Test Site 1

Test Site 1

Microclimate: Wet grasslands,
rainy season: pooling area; dry
season: water reservoir

Reason tested: Wanting to plant
trees

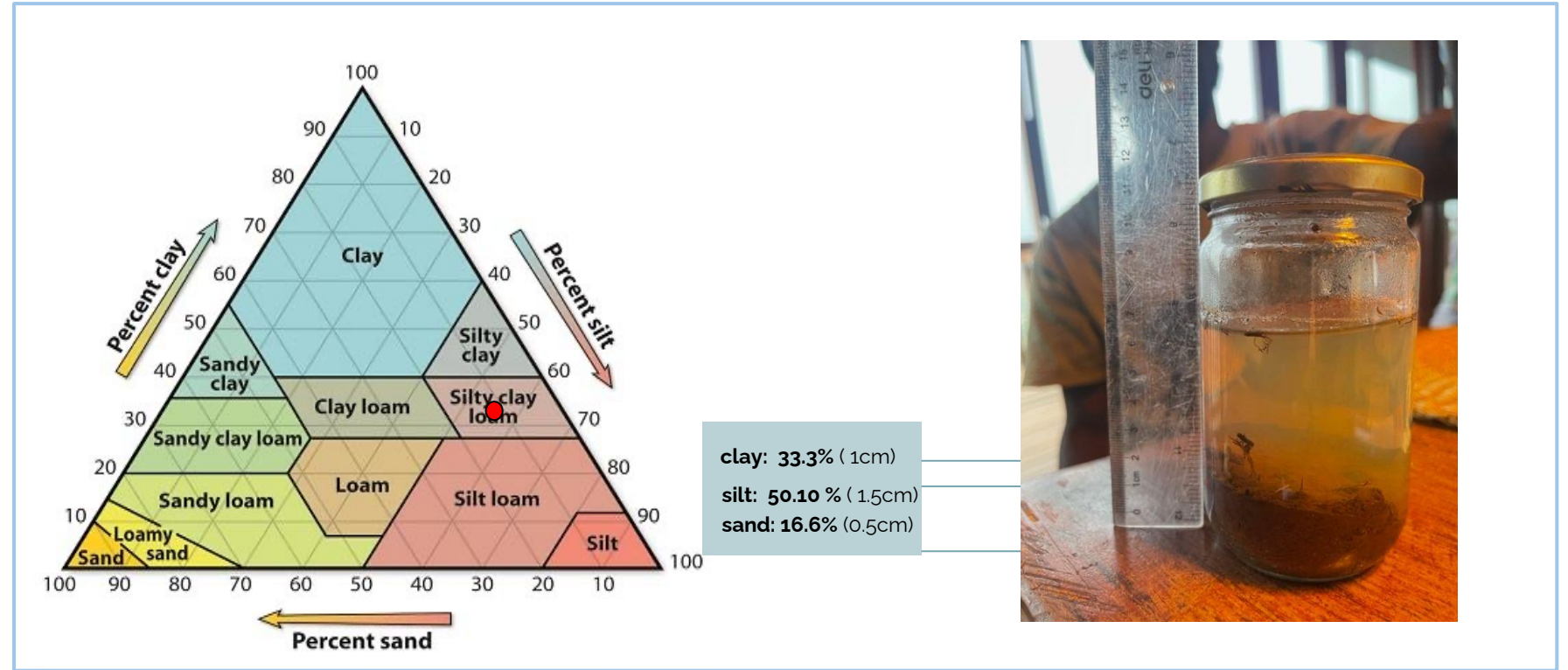


Visual Description of Soil Pit:



SOIL TEST RESULTS:

Shake Jar: Silty Clay Loam
Percolation: 1.5" an hour
Feel: Soil is not too moist, not too dry,
small grain
Hand Ribbon: Wasn't forming, too
wet, falling apart



13-03 Jar Test - with Silty Clay Loam



13-04 Soil texture by feel



13-05 Percolation test



13-06 Hand Ribbon

SOIL TESTING | Test Site 2

Test Site 2

Microclimate: Grassy, dry season: full sunlight; rainy season: shade

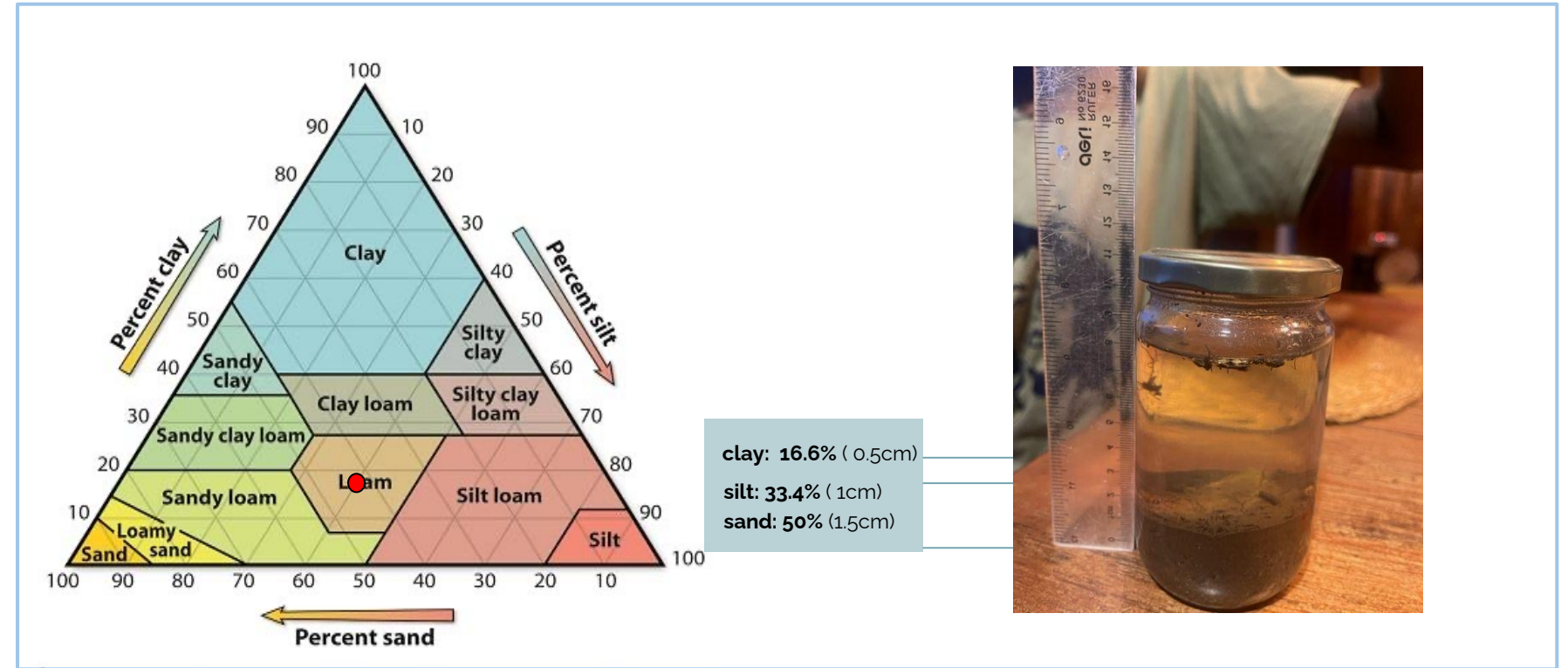
Reason tested: Wanting to plant vegetables

Visual Description of Soil Pit:



SOIL TEST RESULTS:

Shake Jar: Loam
 Percolation: 7.3cm an hour
 Feel: Very soft, not grainy
 Ribbon Length: 8cm
 Hand Ribbon: More firm, but still not holding



14-03 Jar Test - with Loam



14-04 Soil by Feel



14-05 Percolation test



14-06 Measuring Hand Ribbon

SOIL TESTING | Test Site 3

Test Site 3

Microclimate: Dry hill, facing rising sun, north-west facing slope

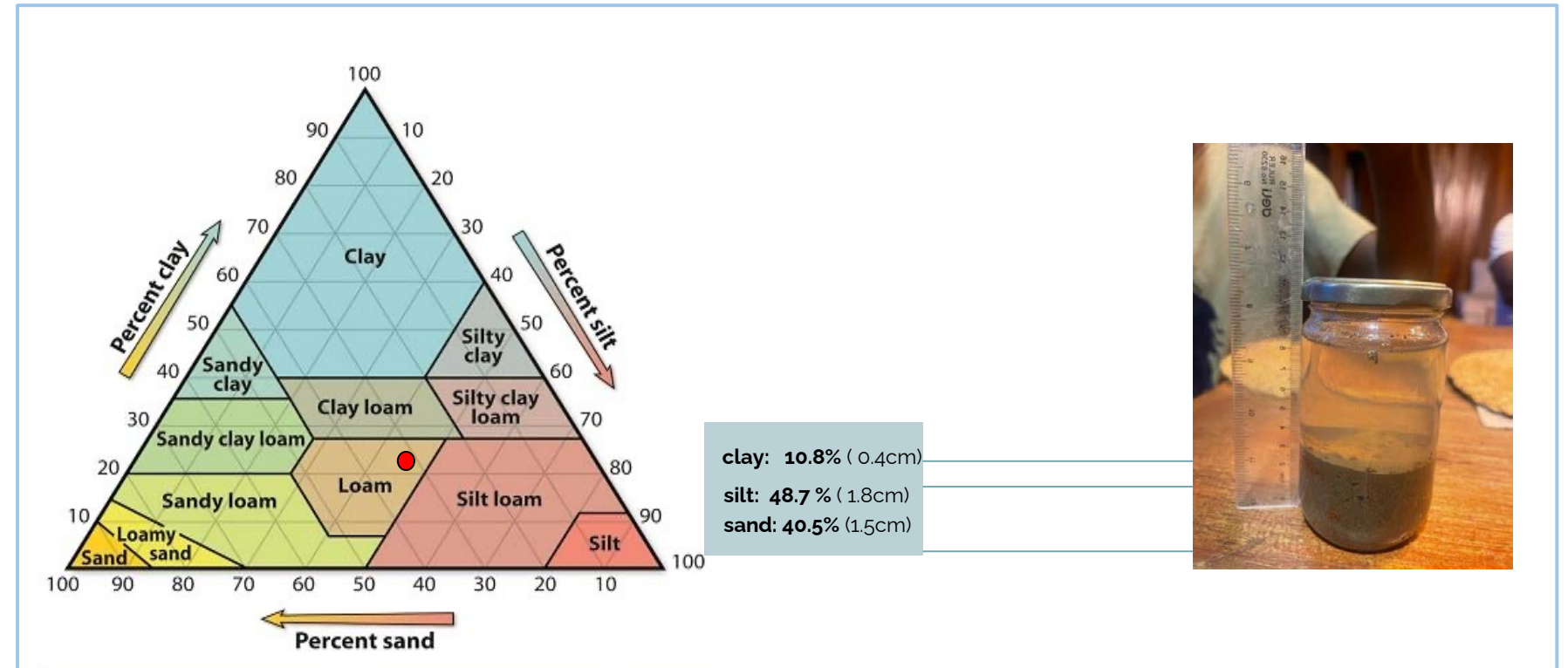
Reason tested: Wanting to plant trees, flowers, herbs etc

Visual Description of Soil Pit:



SOIL TEST RESULTS:

Shake Jar: Loam
 Percolation: 5cm per hour
 Feel: Soft, not as grainy
 Ribbon Length: 8 cm
 Hand Ribbon: Firmer, soft, but still not holding



15-03 Jar Test - with Loam



15-04 Soil by Feel

15-05 Percolation Test

15-06 Hand Ribbon

SOIL ANALYSIS | Local Resources For Building Soil

Limiting Factors for Soil Type:

- *Contains stones that may affect harvesting of some crops.*
- *More likely to erode.*
- *Moderate to low permeability.*

<i>Nitrogen Rich (Greens or "Juicies")</i>
Vegetable Scraps: beans, potatoes etc
Garden debris
Cover Crops
Palm tree leaves, husks, shell
Chicken droppings

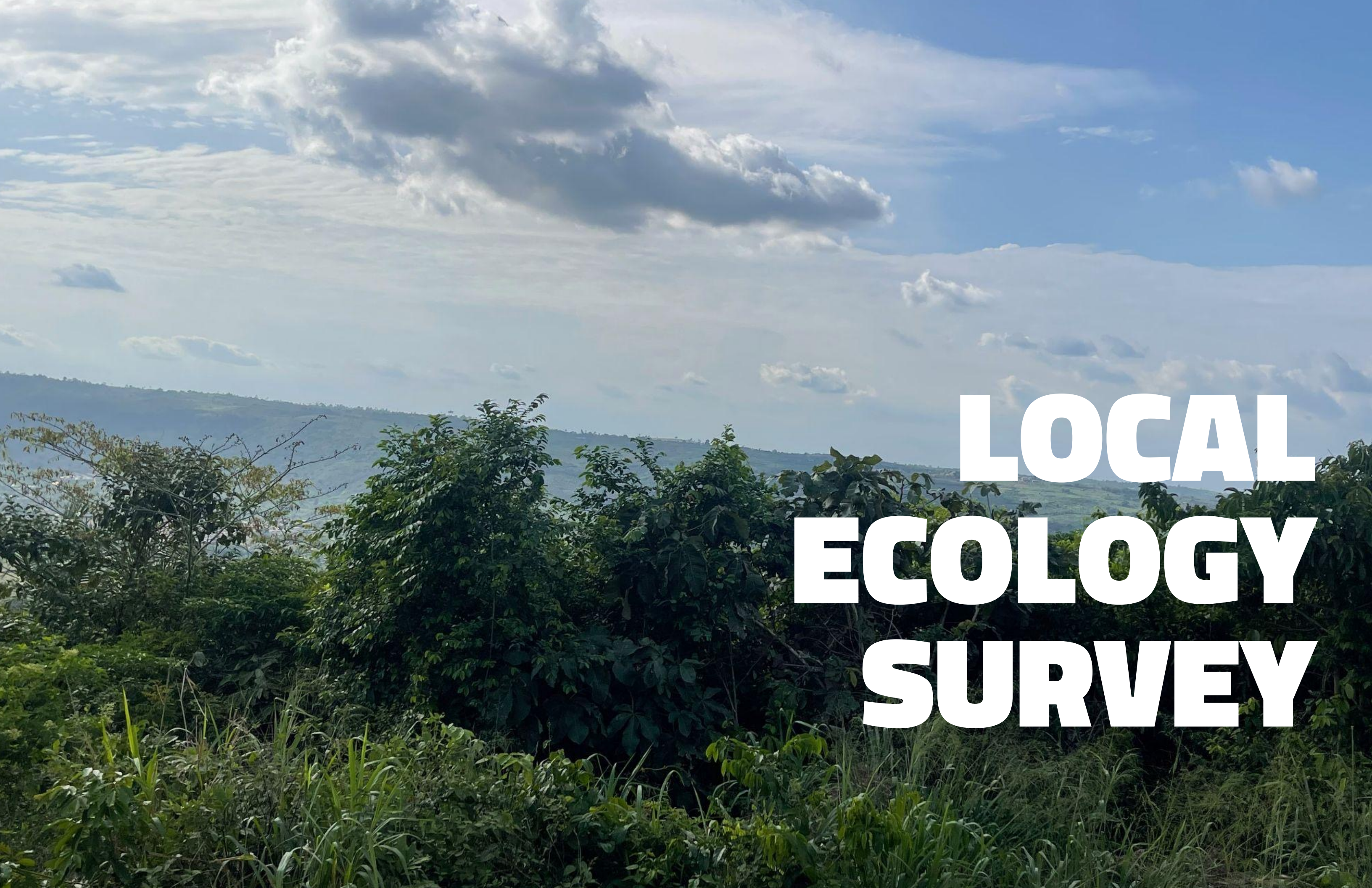
<i>Carbon Rich (Browns or "Crunchies")</i>
Old newspaper
Coconut peat
Leaves
Branches
Cardboard
Sawdust

<i>Other Resources that could be used for Building Soil</i>
Biochar from straw, wood, sawdust, charcoal, ash burnt in controlled environment

SOIL ANALYSIS | Soil Building Goals and Plan

<i>Top Goals for Soil Building Onsite</i>	<i>When will this happen?</i>	<i>Materials or Resources Needed</i>
1) Layer with sticks	<i>Spring 2023</i>	<i>Sticks, branches</i>
2) Mulch with organic matter	<i>Spring 2023</i>	<i>Sawdust</i>
3) Layer with compost	<i>Spring 2023 - ongoing</i>	<i>Food scraps</i>
4) Layer with biochar	<i>Spring - ongoing</i>	<i>Straw, wood, sawdust, charcoal</i>
5) Slow down erosion by planting grass, raised beds & box beds	<i>Spring - ongoing</i>	<i>Plants</i>

We need to build up the soil, especially in the top areas where the soil has been washed away by erosion and the nutrient level is low. We will plant things like moringa, ginger, onions, herbs and spices that can grow relatively well here. We will need to slow down erosion going down the slope by planting grass, raising beds and creating box beds. We will create compost areas close to the house.



**LOCAL
ECOLOGY
SURVEY**

LOCAL ECOLOGY SURVEY | Ecological Succession

Tropical Rainforest Climax Community

Disturbance

Found on site

There were so many trees when I first looked at the site, but these were cut by the landowner and then further cut by the farmer I asked to help me with the site, as well as pesticide sprayed when I wasn't there.

Gold Tree
Roseodendron
donnell-smithii

River koko
Inga Vera

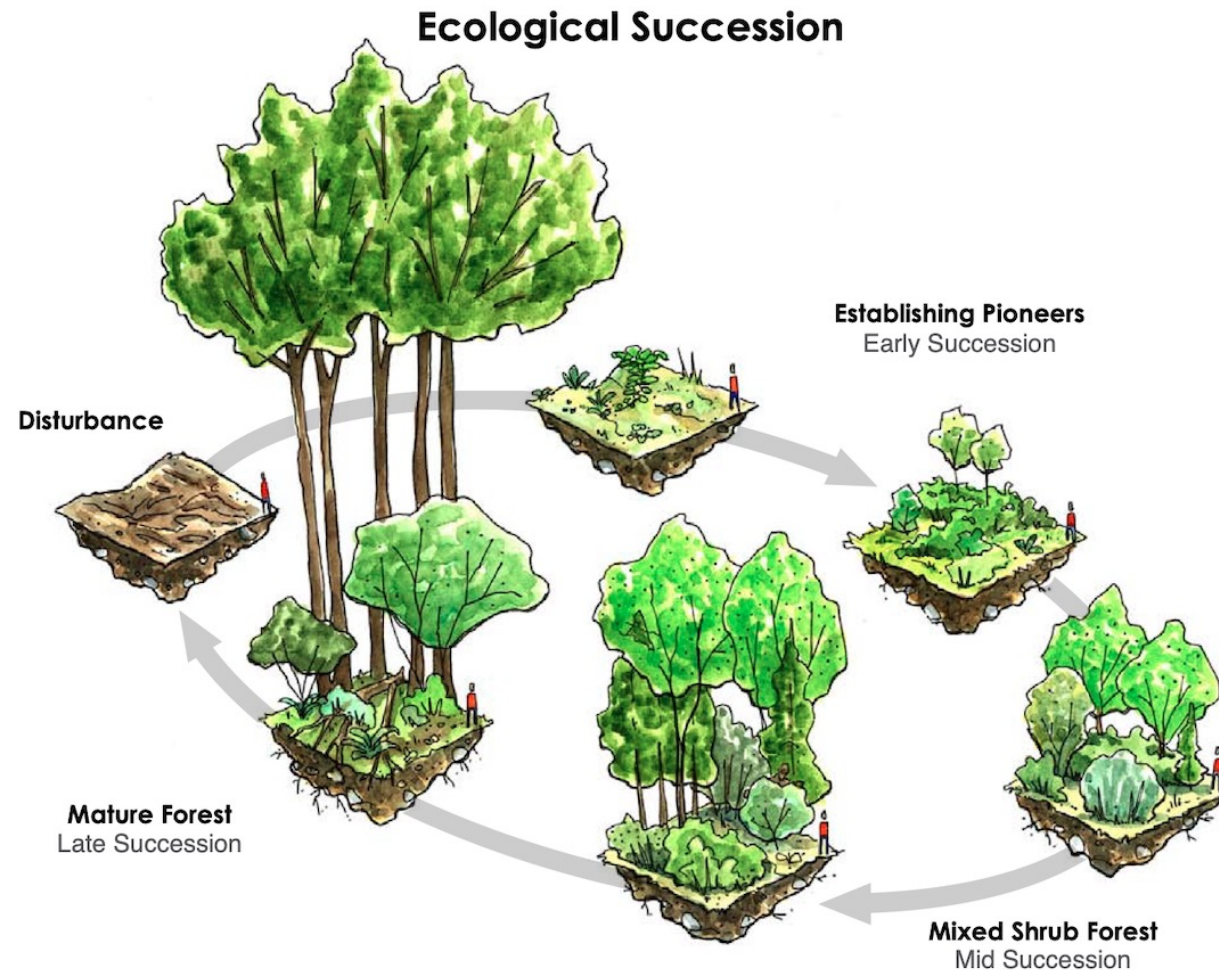
Forest fever tree
Anthocleista
grandiflora



[Stage 4] Climax forest

Found on the site

Some large trees like the Roseodendron donnell-smithii or Gold Tree that stabilize soils and prevent erosion; it habitually seeds in abandoned farmland, disturbed areas and roadsides and can be used to provide shelter and protection for the establishment of more sensitive trees. Also the Inga vera or River Koko which is an evergreen tree that fixes atmospheric nitrogen and also enriches the soil in which it grows, and is also used as a shade tree, particularly in cacao plantations. The Anthocleista grandiflora or forest fever tree occurs mostly in forests or along forest margins, and needs a lot of water



Tabog
Swinglea
glutinosa

Aluguntugui
Annona
purpurea

Nutgall tree
Rhus
chinensis



[Stage 3] Young forest community

Found on the site

Smaller trees such as the tabog or Swinglea glutinosa, a small tropical tree used as a natural barrier with inedible fruits, and Annona purpurea or aluguntugui, which are [edible fruit](#) as well as [medicinal](#); and Rhus chinensis, or nutgall tree, a [deciduous](#) small tree, which also has medicinal properties

What are 3 [pioneer plants](#) in your local ecology?

Worm-grass
Spigelia anhelmia



Elephant Grass
Panicum
Maximum



Sissoo spinach
Alternanthera
sessilis



[Stage 1] Weeds & grasses

Found on the site

Mostly weeds and grasses like Worm-grass/Spigelia anhelmia that are also medicinal, Elephant Grass/Panicum Maximum that attract seed-eating birds to the garden and can be used to make hay, as well as ones like Sissoo spinach/Alternanthera sessilis, flowering weeds that grow wild and can be used for food and herbal medicines.

Weak-leaf
yucca
Yucca flaccida



Coinvine
Dalbergia
ecastaphyllum



Rubberplant
Cryptostegia
grandiflora



[Stage 2] Shrubs

Found on the site

Shrubs like Yucca flaccida or weak-leaf yucca that bear fruit that can be cooked and eaten after the seeds are removed, as well as large flower petals that can be used in salads; also Coinvine or Dalbergia ecastaphyllum, which also bears flowers, and whose bark can be used as rope; as well as cryptostegia grandiflora or rubberplant which can be very invasive but whose leaves and latex can be used to treat fungal infections and heart problems

LOCAL ECOLOGY SURVEY : Seasonal Food



AKOKOMESA
Lamiaceae

Leaves used for flavoring, oil, its oil and seeds can also be used to provide dietary fiber or reduce constipation. It is said to reduce blood glucose, especially in type 2 diabetes levels. The herb can be used to treat colds, fevers, parasitic infestations on the body and inflammation of joints and headaches. It is also used as an insect repellent and for rituals and as incense to protect the home.



ABE
Areaceae

Red palm oil extracted from fruit and palm kernel oil extracted from the seeds are used extensively in food preparation. The fruits are also used to make palm nut soup. Yellow leaves are used in the treatment of anaemia and fever. Leaves are taken to promote easy delivery in women. It is also used to remove poison and thorns from the body. Root is used as an aphrodisiac and for the treatment of piles. Preparations made from the palm heart are used to treat perinatal abdominal pain, and are considered laxative, anti-emetic and diuretic. The leaf sap is used in preparations used to treat skin affections. The roots as analgesic.



BOKOBOKO
Talinum Triangulare

Leaves are used in making stews and soup. Bokoboko leaves or water leaf are also said to be good for diarrhea, liver enlargement, and hepatitis. Water leaf contains proteins, pectin, vitamin B, essential amino acids, omega 3-fatty acid, resins, iron, calcium, copper, lead, manganese and zinc. It is also a rich source of carotenoids, vitamin C, A, thiamine, riboflavin, niacin, alpha and beta tocopherols.



ABEDURO
Solanaceae

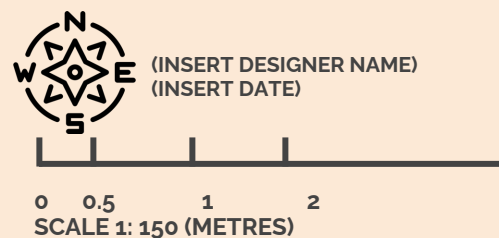
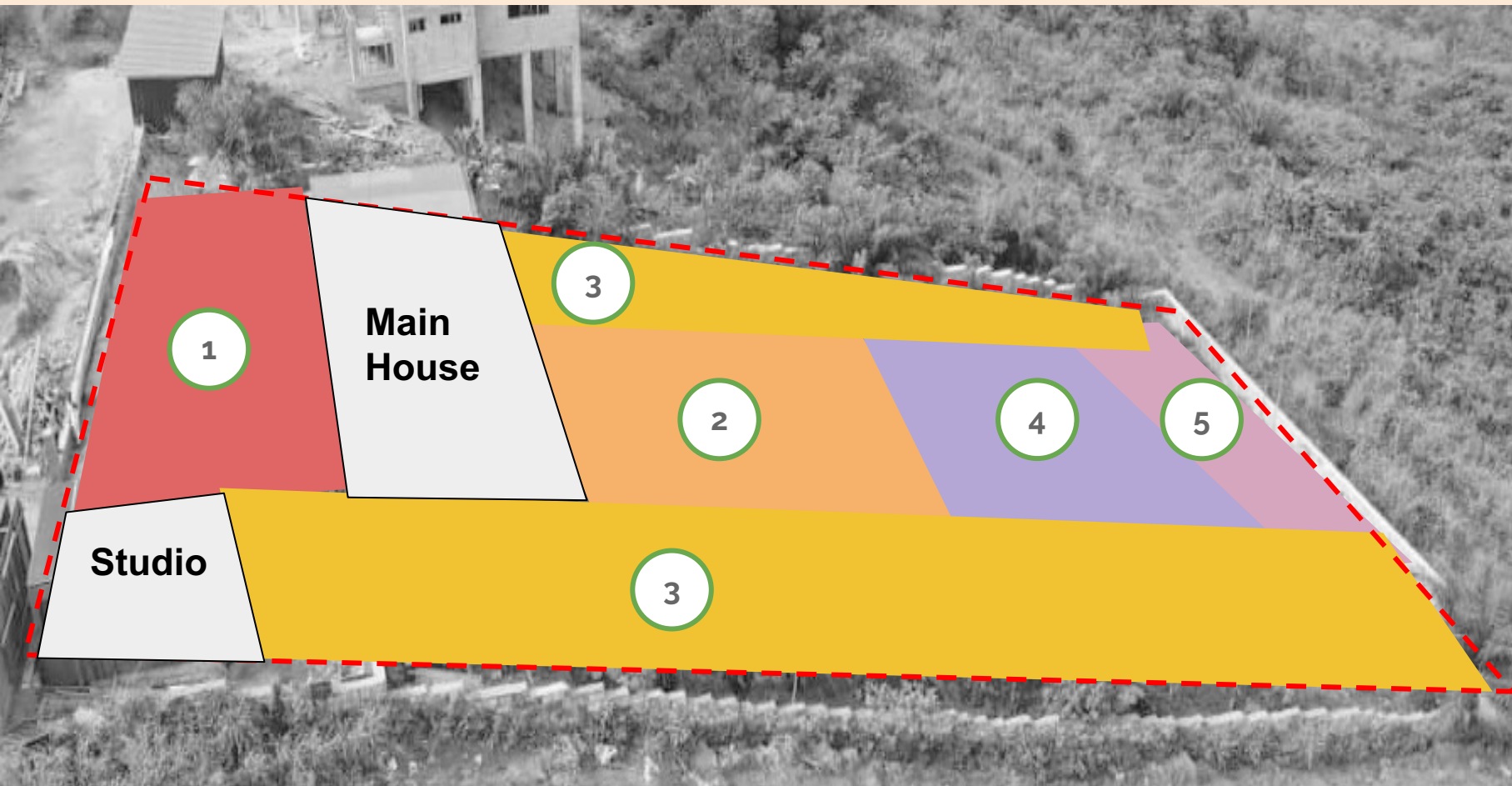
Used as food in making stews and soup. Leaves are also used in the treatment of, asthma and anaemia.

There are two seasons the dry and rainy season, each of these grow through both seasons.



MICRO- CLIMATES

MICROCLIMATES








MICROCLIMATES:

- Dry hill, facing rising sun, north-west facing slope
- Dry clearing, strong sun at midday, north-west facing slope, rainy season: run-off water, bare land, erosion; dry season: rocky & dry
- Shaded grassland edges, dry season: shaded, cool; rainy season: wild growth
- Grassland, dry season: full sunlight; rainy season: shade
- Wet grasslands, rainy season: pooling area; dry season: water reservoir

PLANT SPECIES IDENTIFICATION:

- 1 **TOONA**
Red Cedar
- 2 **TALINUM TRINGULARE**
Bokoboko
- 3 **MATCHWOOD**
Schefflera morototoni
- 4 **PALM TREE**
Elaeis
- 5 **FOREST FEVER-TREE**
Anthocleista

MICROCLIMATES: Plant Identification

	FORM	NATIVE / PREFERRED HABITAT	MICROCLIMATE	USES	ECOLOGICAL FUNCTION		
1	TOONA Red cedar Meliaceae	Deciduous tree	Subtropical forests, abundant in shade or open habitats: valleys, ravines, woods, thickets, forests, hillsides, mountaintops, slopes, near rivers and streams	It can grow in full shade (deep woodland) semi-shade (light woodland) or no shade. It prefers moist or wet soil and can tolerate drought.	Its bark is a powerful astringent, febrifuge, tonic, and antiperiodic, used to treat chronic dysentery and wounds. A resinous gum obtained from the bark is used to treat boils. The flowers are emmenagogue	It has been used in reforestation projects and is also planted to provide firebreaks	
2	TALINUM TRINGULARE Bokoboko Portulacaceae	Shrub (herbaceous perennial)	Terrestrial, Africa	It prefers a moderate to rich loam and to be kept moist. Plant in partial shade.	The leaves can be eaten raw in salads or lightly cooked as a green vegetable in stir-fries, and is rich in vitamins A and C , and minerals such as iron and calcium .	Bee-attracting	
3	MATCHWOOD Schefflera morototoni Polygonaceae	Evergreen tree	Wet forests, upland forests, old open woodland, open forests with abundant light	Moist tropics, often where there is a distinct dry season. Requires a sunny position. Also succeeds in dappled shade. Succeeds in a range of soils, but most frequently found in the wild in clayey, acid soils	The leaves have been known to serve as home remedies A cold water infusion of the bark is used in the treatment of malaria. The bark is used to treat scorpion bite, sores, wounds and cuts. The boiled bark is used to bring relief to itching skin. The inner bark and leaves are prepared in a decoction for the treatment of malaria and other fevers. The sap of the inner bark is used for treating abscesses	A fast-growing tree that is a natural pioneer, tolerant of a wide range of habitats, and is a good source of food for the native fauna. It makes an excellent pioneer species for re-establishing woodland	
4	PALM TREE Elaeis Arecaceae	Evergreen tree	Tropical west and central Africa	More or less open forest in moist, sandy soils that are often poorly drained. Often found along the edges of rivers.	Palm oil has a wide range of uses, including as a cooking oil. The boiled and pounded nuts yield palm nut butter. Palm wine is commonly produced in West Africa. Preparations made from the palm heart are used to treat perinatal abdominal pain, and are considered laxative, anti-emetic and diuretic. The leaf sap is used in preparations used to treat skin affections. The roots as analgesic. The oil from the pulp is used as an excipient for herbal ointments.	Oil palm is a good crop for rehabilitating degraded areas.	
5	FOREST FEVER-TREE Anthocleista Gentianaceae	Semi-deciduous tree	Rain-forest; guinean and soudanian savannah; usually in damp sites; often riverain.	Primarily in wet savannah woodland, spreading into gallery woodland and along rivers in moist forests. Low elevations in open woodland and riverine fringes	It is a widely used herbal treatment in Africa, being used in the treatment of a great many complaints. The fruits are most commonly used, though all parts of the plant have similar properties. The diversity of complaints against which the plant is used includes digestive problems, fainting, anaemia, sickle-cell anaemia, epilepsy, respiratory ailments, hepatic and cardiac disorders, and nutritional illnesses such as kwashiorkor, rickets, wasting and weakness.	The extensive root system makes the plant suitable for erosion control and riverbank stabilization. The tree does not compete with nearby crops	

MICROCLIMATES: Attributes

			SUN		MOISTURE		TEMPERATURE		WIND		PLANTS	FEATURES
			dry	rainy	dry	rainy	dry	rainy	dry	rainy		
DRY HILL north-west facing slope	Image of site		facing rising sun/ hot	facing rising sun/ hot	dry	wet	hot	moderate	blocked by wind, moderate	higher	Red cedar (Toona)Purslane, bokoboko, cocoyam	By the front wall, in front of the house
			DRY CLEARING north-west facing slope,	Image of site	full sun	part-cloudy, part-sunny	rocky & dry	run-off water, bare land, erosion	hot	moderate	moderate	moderate
GRASSLAND EDGES	Microclima te Image		Half-sun/half- shade until midday	Half-sun/half- shade until	moist	very wet	cooler	cooler	moderate	moderate	Palm tree, matchwood (Schefflera morototoni), Hoopvine (trichostigma octandrum), Painted euphorbia (euphorbia heterophylla), eye-opening tree (duboisia myoporoides)	Planted orange, mango
GRASSLAND	Microclima te Image		full sunlight	sunny	less moist	high moisture	hot	moderate	most windy	windy	Palm tree, Hollowheart (Acnistus), puriri (vitex), wild ackkee (cupania)	Lots of palm trees and natural grasses
WET GRASSLAND	Microclima te Image		slighy shaded	more shaded	water reservoir	pooling area	moderate	cooler	moderate	windiest	Forest fever-tree (Anthocleista), prickly hibiscus creeper (hibiscus), wampi (clausena)	Next to the lower wall

SAMPLE OF EXISTING SPECIES				
matchwood (Schefflera morototoni), Hoopvine (trichostigma octandrum), Painted euphorbia (euphorbia heterophylla),	Painted euphorbia (euphorbia heterophylla), eye-opening tree (duboisia myoporoides)	Yellowwood (cladrastis), African sandalwood (Baphia)	Hollowheart (Acnistus), Puriri (vitex), Wild ackkee (cupania)	Forest fever-tree (Anthocleista), prickly hibiscus creeper (hibiscus) Wampi (clausena)