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# Family Farm Snapshots



# NYFF+10

"Feeding the world; Caring for the Earth"

a 2014-15 educational resource for family farming and soils at <u>http://familyfarms.enviroed4all.com.au/</u>

# <u>Married to my food forest farm</u> Olambo's at Mfangano Island, Kenya

# **Our Family**

"Habari", "Nan'go", "Gezza" and "Welcome" to Olambo's Organic Paradise Farm. It is my mixed crops and stock family farm on the Kenyan side of Lake Victoria, central east Africa. My greeting is in the languages we use: Kiswahili, (our Kenyan language), and Luo and Suba (our local languages) and English.

I love being dirty with dirt! I love seeing crops and trees growing on my family farm! I began learning about organic farming as a child from my grandfather. All through school, I studied agriculture. Today I own and work my own organic farm (photo right) and help train other farmers.

I was born and raised in the **hilly** Mfangano Island, Mbita district, on the eastern side of Lake-Victoria. Mfangano is about 100 km wide, with Sena, its main town, about 5km from my farm.

Our family of **five people** live here and help with the **many tasks** in our different fields: weeding (*peppers* with my son in the photo right), mulching, digging, watering, planting, harvesting, grazing animals, and feeding fish.

I am the **owner and farm manager**. I check what has to be done on the farm and make sure all the

Kenya

Mfangano Is





# **Our Farm**

I am married to my soil! My farm sustains human life. I come from dirt and will return to dirt (dust)! I understand farming more than anything else. Experience is the best teacher! I share mine as much as I can too. As **permaculture** principles say "Start slow; grow big slowly and, things will be fine!

Ours is a **mixed farm**, as you can see in the photo right. I have **fields** (under permaculture) and **fish** (i.e. aquaculture) on **one hectare**. **My family lives off our farm produce**: plants, animals and fish. Additional **income** comes from work with farming organizations and work on other farms providing **training** in permaculture and organic methods.

We **plant and harvest throughout the year** due to our variety of crops with different maturity intervals. We raise **cows, goats, poultry and fish**. As an organic permaculture farm we are always looking to do more! Currently we are planning to raise local chicks on top of the fish pond, so that the fish can feed from the chicken 'poo'. We also use that water to grow crops by the banks of the pond, as it will be rich in organics.





#### Soils

The soil type is **loamy**. This has all the good features of a balance of sand, silt and clay. It is **fertile**, with **good drainage** which supports plant growth for better yields. It has a lovely rich brown colour which *you can see in the photos right*.



#### Landform

The top photo on this page shows how hilly my farmland is! That brings problems! We had **erosion** along a small stream in the past. To fix it, we dig with trenches, called **swells**, (see photo right) which feed into dams. **Damp areas** are a problem too. We dig '**chinampas**' – raised beds for plants to grow on.





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### Climate

The climate here has a wet-dry season. In the wet season, we have heavy rains, which can erode and leach the soil.

These can be managed more easily than my big challenge – the **dry season**. Using water collected by the swells, I have put in a **watering system** to help us get through this. It is run by a foot pump that helps us **irrigate** the farm. *The photos below from left to right,* show how I water without the foot pump, then how the **foot pump** works *and look at the photo on the right* to see how much more water it delivers quickly to the bananas! No wonder I call this foot pump my *'super money maker'*!



# Our produce - 'Feeding the world' means 'Feeding ourselves' and our local district

My family farm produces foods that feed my world: Plants

## Fruits:

bananas, (photos right, shows me almost hidden as I collect them, and below, ready to eat)

lemons,

mangoes,

oranges,

papaya / pawpaw, (photo above far right, shows how we collect their fruit from up high We know it is ripe when it turns from green to yellow. Photo right shows it ready to eat with bananas in the bowl.. Yum!) passion fruit tomatoes, watermelon,







#### Vegetables:

arrow-roots,

beans,

broccoli,

cabbages,

Capsicum/ Ball Pepper/Green Pepper (in the photo right, you see its bell shape when ripe) cassava, (photo far right)

corn\maize, (photo right in flower)

Kunde (Kiswahili) green-grams/Mung beans

Cow or Black-eyed Peas

pumpkin,

squash,

sugar-cane, (photo far right)

sukumawiki (Kiswahili), Kale (Look how big

they are in the photo just below right!)

sweet-potatoes

swiss chard,

tomatoes, and

**Osuga** (local language), **Managu** (in Kiswahili), **African or Black Nightshade** (*solanum nigrum*) (*photo below right*) *i*s a traditional African vegetable. We eat its cooked leaves for its high Iron content.

# Herbs:

garlic, coriander lemon-grass, Rosemary

# Trees for timber:

We do not draw on the natural forest. We cut from the farm, and we plant more! My trees provide:

- timber for furniture and buildings.
- fire wood when the branches are cut
- wood shavings for mulch
  - $\circ~$  and lighting the fire in the kitchen,
- standing they protect the soil from erosion
- and **add fertility** to it.









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Brown Olive (Olea Africana), a hardy hardwood native tree of 800-2500 m altitude

🕈 Gravelea, Gravillia

Lucceana (Leucaena leucocephala (Lam.) de Wit (leucaena)) a multi-purpose tree originally from South America

- Mbarao/Mwalambe (Kiswahili) Browny
  Terminalea, (*Terminalia brownii*), a leafy deciduous native tree.
- Mtimbao (in Kiswahili) Blue Gum, (Eucalyptus Saligna) a quick growing tall plantation timber tree originally from Australia, placed near water for its high water needs.
- 🕈 Siala (local language), Maccamia (Kiswahili), Macadamia, a nut tree from Australia
- Moringa Tree a vegetable tree, whose leaves when eaten, boost the immune system and whose seeds are used in water purification. For more about Moringa see <u>https://www.treesforlife.org/our-work/our-initiatives/moringa</u>

# Animals:

cows,- Kenyan local breed, (photo right) goats, poultry. (photo below right) Fish - stocked a pond (photo below far right) We have put 4000 fingerlings into my

ponds.

These foods are for **our own use** and **for sale locally**. At the market in Sena, we sell our fish, hens, cocks, goats and our fruit and vegies.





The farm is developing a program of **supplying the elderly** with some fresh vegetables and fruits to make their diet healthy. We also offer them organic and permaculture training.

# Sustainability - 'Caring for the Earth'

I learned to **work with Nature** to solve problems when I studied Permaculture. This influence is seen in all the ways that I now work on my farm and care for the Earth through my farming.

So, my farm is based on the permaculture principals of creating a **food forest** - all the plots have **layers** of crops *as shown in the photo right and next page*.





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#### **Farming in layers:**

My food forest *(like in the photo right)* has four key layers:

Climestorey - tall trees which catch rainfall.

**Understorey**- fruit trees, like mangoes and oranges, or vegetable trees like *Moringa* that do not grow very tall.

Climbers-these are like passion fruits.

**Ground Cover**-this is where we have the vegetables like sweet potatoes that trap running water, and so hold the fertile top soil in it.



# Soil care for erosion and leaching from heavy rains

Soils here can be easily **leached** during heavy rains. This means that water soaking into the soil, takes with it, the nutrients deep down into the subsoil, out of reach of food plants.

Soils can also be **eroded** on the surface if they are unprotected. A small stream passes through my farm. In former wet seasons, rainwater runoff used to erode along it.

**Permaculture** makes me think about how to work with nature to find solutions to such problems. How do I work with Nature on this?

I have dug **swells**, (photos above right) to control water movement, so it does not erode the surface. These follow the path of the small stream, into small **dams** (photo right). This water can then be used in the **dry season for watering** (see page 3).

*Can you see the rocks in the banks in this photo right?* What do you think they are for? These **rocks protect** the pond's banks from **eroding**.

How else can we work with Nature? We put **fish** in our ponds. *In the photo right, children feed the fish.* 







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In **swampy** areas, I have made *chinampas*\* (raised beds in rows) (*photo right*) so the soils can drain better for the plants to grow. *Chinampas* is a word that comes from the Americas. In the shallow parts of lakes, the Aztecs built up beds of reeds and mud, separated by water, on which they grew crops. Here I mostly grow Kale, pepper and sweet potatoes.





# Soil care for its fertility

I improve soil quality by:

- **mulching** with wood shavings, banana leaves (rich in potassium), grass, tree leaves, corn stocks and so on. These help maintain soil moisture content and increase soil fertility. (Look carefully at the photos to see the different mulches used.)
- composting with animal waste products, dry plant matter, and ash from firewood. These speed up the fermentation process.
- planting cover crops eg– sweet potatoes, which also add some mulch
- **crop rotation**, is done by:
  - planting a different crop to the one it was before,
  - always putting in a leguminous crop after a non-leguminous crop, e.g. after maize, plant beans, cow peas or bananas
  - leaving some part of the farm **fallow** to rest, become bushy again and regain its fertility over an extended time, so that when you next work on it you get better yield.

## **Planting Trees**

**Trees –forest-** are the backbone of the Agricultural System. For agriculture to be productive, tree planting should be the **first priority**. *Have you noticed all the trees in the photos?* A farm should have 30% -mostly native- trees on its land. **Trees grow quickly** in our hot and wet climate.





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There are many banana palms *in the photos*. Those *in the page 3 photos* are 2 years old. Our tallest, oldest ones are 10 year olds.

Trees are a natural living resource all over the Earth.

They have all that **we need**:

- 🕈 fruits,
- 🕈 firewood /fuel,
- 🕈 oxygen,
- T timber,
- 🕈 medicines,
- $extsf{T}$  Eco-tourism and income.
- shade for soils (see photo right) from the full impact of heavy rains, and hot sunshine.



- Nutrients to help replace those which have been lost through leaching when their leaves fall to, and decay on, the surface into soil particles.
- r a renewable source of timber, instead of using forests;

But **trees need to be protected by us**, you and me. So taking care of the forest is what I now push first-hand on my Island. So now when people are preparing the corn fields by burning our forests, I can go with helpers to **talk with farmers** about the importance of our trees. I visit individual farmers to educate them on **Agro-forestry** -growing trees together with food crops, including fruit trees.

I have a **demonstration field of trees** to show their importance in farming to my community. *In the photos right and elsewhere,* you can see how steep how the land is. Here I have planted trees. Some examples of trees I have planted are the banana palms (*photo right*) and Rosemary (*photo far right*). To help us recover lost plant cover, I encourage people to plant trees on their homes and farms, by **distributing free tree seedlings**. We are expanding our **tree nursery** to serve more people now showing interest in planting trees!



# **Habitats for Native Creatures**

Having so many trees and native plants on my farm also provides **habitat** for native creatures to live, like birds (Weaver-bird, Kite, and Pigeon), the Monitor Lizard and rats.



Can you see a native reptile in the photo right? Look how well it is camouflaged! It is a Jackson's Chameleon, native to our part of Africa. It helps us by eating grasshoppers, and houseflies. The flies damage crops and fruits during flowering by dropping their toxic fluid on them.



Can you see native birds in the photo right? Look how well they are camouflaged too! Look at their long thin beaks. These **Hadada Ibis** beaks are made for pecking – insects, worms, spiders, snails. They **remove some pests** from crops for us. Sometimes they peck into our fruit too, like papaya, after insects there. They poop on the farmland and that **adds to soil fertility**, helps our farm in this way too.



#### Using local biodiversity for food production

We choose as many local crops and local breeds of animals, as we can. These have **developed in, and are used to, our environment** and help us grow organic produce.

#### Managing Kayongo – a dangerous weed to grain crops

Like all farms we have **weeds**: **introduced**,like Blackjack, Sodom Apple, Lantana camara; and **natives**, like Aloevera and *Kayongo* (in our local Luo language) or **Striger Weed**. It is the purple flowered plant *in the photo right*, a **native plant** of western Kenya, especially on Lake Victoria's islands, under 1400m altitude. It is a very **dangerous** weed to a grain crop, like my maize or sugarcane.



#### Kayongo uses nutrients and moisture before the

crops can. It releases a **poison** into the soil, which further damages the crops, so that their leaves go yellow and the plant does not grow to full height and eventually dies.

Then there are *Kayongo's* **tiny seeds**! They travel in wind, rain and running water, on tools and on the feet of animals and people. These are such strong seeds that may sit in soils for over 20 years before sprouting and damaging a new crop. Their purple flowers produce huge numbers of seeds - some 20,000 for each mature plant! Imagine trying to weed that out! New ones keep replacing what is pulled up!



How can I **manage** them? They have a weakness! The *Kayongo* don't like **nitrogen** in soil, so they don't harm legumes, which put Nitrogen back into soil. So they do not grow well where there are crops of legumes, like beans, or cow peas (*photo right*). So we **plant** these **legumes** where these weeds can be found! We get good foods like beans to eat, the soils get nitrogen, the *Kayongo* doesn't get to grow - a **win-win** way to manage this weed problem!



#### Sharing Knowledge - It's our time guys to save the world, with the way we grow our food!

As a **teacher**, I can have a bigger impact on caring for the Earth by sharing my knowledge about how to bring back forgotten traditional farming practises. So I teach other **farmers** (and my family) farming techniques by working with them e.g. planting trees.

I work with **people from other countries** who visit as **WOOFERS** (see 'helpx' website) and help out on our farm. WOOFER volunteers both help, and learn from, us about our farm methods, e.g. *in the photo right*, the young French man is learning about growing Bell Pepper/Capsicum.

I have found another exciting way to share this knowledge **with youth** – through **football**. I helped set up and run "the Foundation for Revolution Football Club" (see photo right). The revolution is for youth to enjoy football as part of helping to **care for our environment** eg by tree-planting, litter clean-ups and learning sustainable farming techniques as well as ones for playing football! It's great!





# And I hope I am **helping you** too by sharing my experience as an organic fulltime family farmer from Kenya **in this snapshot**. Perhaps you will visit me someday!

Based on text by Nicholas Olambo, *Olambo's Organic Paradise Farm*, Mfangango Island, Kenya; photos by Clement Burle French WOOFER; and map and editing and additional text by Jeanie Clark, Warracknabeal Australia Nicholas Olambo and Clement Burle give Jeanie Clark permission for their information and photos to be used under a CC licence., 2015

For more on *Olambo's Organic Paradise Farm* go to: <a href="http://www.helpx.net/hostlist.asp?host\_region=944&network=9">http://www.helpx.net/hostlist.asp?host\_region=944&network=9</a> For more family farming snapshots go to <a href="http://familyfarms.enviroed4all.com.au/family-farm-snapshots/">http://familyfarms.enviroed4all.com.au/family-farm-snapshots/</a> For more stories about soils for the 2015 International Year of Soils go to <a href="http://soils.enviroed4all.com">http://soils.enviroed4all.com</a>.

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