

Intro to Permaculture Tropics Video Transcript

We're now going to look closely at a site located at the equator, to see a tropical perspective on the zone and sector design systems.

Lake Victoria is Africa's largest lake, and is divided between three different countries. Near the village of Kinesi, Tanzania, a group called the Global Resource Alliance built a Permaculture garden to feed and support local orphans.

The site is right on the shore of the lake, with a lot of water coming down the slope through the site during heavy rains.

I'm rotating the site as we zoom in so we can see it more closely, so now the slope goes down the screen, and North is to the left.

This is the site before the gardens were built. The water came pouring through the site during heavy rains. There are wet and dry times of the year here, so this site went between being very inundated with water and very dry, without much moderation. The design responds to this fact, and here is the site early on when you can still see the design pattern before the trees grew in so much.

Remember, this site is located practically on the equator, so both the winter and summer sun are overhead all year round. There is no shady side of the building, nor is there any reason to orient the buildings towards the sun. In fact, the building is oriented towards the lake, for the cooling effects of the lake breeze and the beautiful view.

So the site was designed to bring the water flow into a ditch on contour, called an on-contour swale, where the flow of water then zigzagged through the site, filling a pond, and then continuing to zigzag into the wetlands. Additionally, a windmill pumps water from the fishpond up to a water tank for irrigation of nutrient-filled water into the gardens.

You can now see the site in its more mature form, as the trees have become established. The purpose of moving the water back and forth throughout the site and infiltrating it into the ground with the swales is to super-hydrate the soils during the rainy season, so the plantings will thrive during the dry period and produce abundant food with little or no irrigation.

You can see that the bigger trees wrap around the North, East, and South of the structure, to provide shade and keep the structure as cool as possible, while keeping the West open to the lake breeze and view.

The zonation for the site now makes a lot of sense. There is a shady Zone 1, including the house, adjacent, open areas and a composting toilet facility away from the house. The Zone 2 area consists of a multi-story food forest laden with bananas, citrus, and a wide variety of tropical food plants. There is also a lower growing food, herb, and medicine production garden to keep the site open to the breeze and views to the West. The pond I'm calling Zone 3, as it's a managed fish-production system.

Remember how the water from that pond is pumped with a windmill up to irrigate the food forest. Then, the marshy area below the pond is filled with semi-cultivated wetlands plants. Then finally, there is the uncultivated marsh that borders Lake Victoria.

This site has been so successful that they have now expanded the Permaculture development to a nearby 8 acre, or 3.25-hectare site, where families who take in orphans have plots to grow food. They've planted hundreds of trees there, and have a nursery to raise trees to plant throughout the region. Between 2010-2015 the Global Resource Alliance planted nearly ½ million trees in this region. But that's another story for another time. You can find links to photos and ways to help this project on our resources page.