

# Chinampas

## Building Your Own Floating Garden

Welcome to Tenochtitlán, capital of the Aztec Empire! You and your family have chosen to settle in a land blessed by the gods. We invite you to build a new life in this heartland.



Navigating the Chinampas by Canoe

Tenochtitlán is located on a small island in Lake Texcoco, which is nestled in the Xochimilco-Chalco Basin in the Valley of Mexico. You'll enjoy the Valley of Mexico's pleasant climate: sunshine is constant, and frost and snow are rare. The rainy season is short, from June to September.

This land grew out of humble beginnings. Our people transformed a land of swamps and marshes unfit for human habitation into lush, productive farmland. Our way of life centers around *chinampas*, or floating gardens. In fact, three-fourths of some lakes in this valley are covered with chinampas. More than half of Tenochtitlán's population are farmers, and because of our extensive chinampa system, we have become the world's greatest plant cultivators of our time.

A Tenochca farmer and his family till several chinampas, usually six. Even though chinampas are owned by *clans*, or groups of families, each family works its own collection of chinampas. The first and most important task for you and your family in your new life is to build your own chinampa. It's not that difficult to do, and the building supplies are affordable and easy to find. All you'll need are rotting vegetables (yuck!), human waste (ewww!), mud (fun!), and several other unlikely ingredients.

What is a chinampa? It is a floating garden, a plot of land built on a swamp, a man-made field built on a lake. A chinampa can be described with many words, but the best way to understand a chinampa is to explain how to build one.

## How to Build a Chinampa

Here is a simple guide to building your first chinampa.

- Step 1. Stake out a rectangular area in Lake Texcoco near Tenochtitlán. The area should measure approximately 300 feet long and 20 feet wide. Hammer posts into the bottom of the marsh to form the shape of the rectangular strip.
- Step 2. Take woven reed or maguey matting large enough to cover the chinampa area and attach the matting to the posts.
- Step 3. Sink the matting between the posts by placing stones on top. The stones will weigh the matting down and force it to the bottom of the marsh. This serves as the foundation of your chinampa.
- Step 4. Pile loads of mud, reeds, and rotting vegetables on top of the matting matting. Pile, pile, pile! You'll know when to stop once the pile of mud, reeds, and rotting vegetables appears above water.
- Step 5. Cover the top of the pile with a layer of dirt and fertilize it with human waste.
- Step 6. Plant saplings, preferably willow trees, around the perimeter of the chinampa. Over time, the trees will take root and anchor your chinampa's retaining walls to the lake bottom.
- Step 7. Congratulations! You have just built your first chinampa. Mark your farming calendar: it will soon be time to plant your first crop.

## All About Your Chinampa

Do you like carrying heavy loads? What about large buckets of water? One of the advantages of chinampas is that you won't ever have to haul water to your crops. Your chinampa sits right on top of swamps and shallow lakes – you've already brought the land to the water! Seepage from your chinampa's retaining walls irrigate your crops without you having to lift even one finger. It makes your job much easier.

What about fertilizer? Whether you know it or not, you already started fertilizing your chinampa when you first built it. The mud, which was taken from the bottom of the lake, is rich and full of nutrients, and is a perfect fertilizer. Don't forget human waste. Human dung, which is carried in boats from Tenochtitlán's public bathrooms, works well as fertilizer and also helps keep the city clean.

Like so many other Tenochcas, you'll also build your house on your chinampa and live there. But don't worry about getting stranded in the middle of the lake; you'll still be able to leave your chinampa at any time. No doubt you've already seen many chinampas built side by side. Wedged conveniently between chinampas are narrow water alleys that allow farmers to maneuver and transport crops and supplies using their canoes. All you need to do is build your own canoe by hollowing out a tree trunk. You'll soon be circulating in your canoe, tending to the crops, and traveling back to land.

By now you've figured out that a chinampa doesn't really "float" on water. The willow trees that you've planted along its perimeter anchor it to the bottom of the lake. Then why is it called a floating garden? Visitors who come from faraway lands and who have never seen our chinampa system sometimes mistake our moveable nurseries for chinampas. Moveable nurseries, some of them 20 to 30 feet long, carry seedbeds for various vegetables. Farmers plant maize seedbeds and lay them on rush and cattail, which float on water. We tow the nurseries from one place to another using ropes. Eventually, these seedbeds are transplanted to permanent homes on chinampas.

## Working on Your Chinampa

What about the actual farming on chinampas? We work extremely hard, from dawn to dusk every day. Women and children take care of the weeds and scare away the birds. Sometimes, male farmers must heed the call to duty and go away to fight in battles and wars. Don't worry! Because chinampas are owned by clans, other members of your clan will tend to your crops while you're away.

## Discussion or Essay Questions

The Aztecs took the worst land in the Valley of Mexico and became almost agriculturally self-sufficient. They came up with a creative way to turn unusable land into the most productive land of the time in that area. Find a map and locate the area where the chinampa system once extended. Can you think of other examples of places in the world where people have turned seemingly unusable and barren land into something productive and useful?

The Aztec's network of chinampas was vastly reduced when the Spaniards arrived and began draining the lakes of the Xochimilco-Chalco Basin. Do some research and find out what happened to the chinampas. Do chinampas still exist today? If so, how are they used? How are they different or the same as the chinampas of the Aztec period?

Using the description in the step-by-step guide to building a chinampa in this article, draw out and number each step. Don't forget to label each item in your drawings. When you have finished, experiment and see if someone can figure out how to build a chinampa by referring only to your step-by-step drawings.

The Aztecs were able to keep chinampas fertile and nutrient-rich with their use of human waste and mud from the lake bottom. Do some research and find out how modern-day farmers keep land fertile and nutrient-rich.

Where does your family get the fruits and vegetables that you eat? Do you garden or farm and grow this produce on your own? If not, do some investigation and find out where they came from. Where did the person or store who sold it to you get the fruits and vegetables? Explain the chain of events through which the fruits and vegetables get from the farm to your dinner table. Compare this process to the Aztecs' process of getting food to their tables.



What tools will you need for farming? We don't use animals for plowing or for carrying loads. We do everything by hand, so the more hands in your family, the better. We dig with pointed sticks. And we have special days for planting and sowing, weeding, and harvesting. We work hard not only to provide enough food for our families, but also to honor the gods. Plants are children of sacred Mother Earth, and we must praise the gods with our sincere efforts.

Don't forget to talk to the seeds before you plant them. Pray for a good harvest. Pray especially to the god Tlaloc, who brings rain and makes the earth rich.

What should you plant? *Maize*, or corn, is the main Aztec food, so no doubt you will plant maize on your chinampas. Soon enough, you'll have plenty of tortillas to eat. But don't forget to plant other crops such as tomatoes, squash, beans, and flowers.

You've put in the hard work to build your first chinampa. In no time, you'll have plenty of maize and vegetables to feed your family! Because of the mild climate, chinampas regularly produce two crops of vegetables each year. Each 2.5 acres feeds more than twenty Tenochcas. In fact, the most productive crops are always grown on chinampas.

On the lakes of Xochimilco and Chalco alone, chinampas cover over 22,000 acres and produce enough crops to feed one hundred thousand people. Imagine that! By building your first chinampa, you've become part of the greatest agricultural endeavor in world history. Long live the Aztec Empire!



### About the author

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