

INTRO (265)

The Mayan civilization of Mesoamerica spans a period of 3.5 millennia from about 2000 BC to its decline in AD 900 and its ultimate demise in the 1500s. This civilization spanned regions of modern day Mexico, Guatemala, Belize, Honduras and El Salvador (Coe 2005). What began as a territory of early hunters spread out across the region developed into an advanced and diverse civilization. This development following the early hunter period includes the archaic period, the preclassic period, the classic period and the post classic period up to the colonization of mesoamerica (Coe 2005). The early hunters period originated over 13,000 years ago and spanned up until the time of the Ice Age where some developments allowed for simple horticulture methods of substance (Coe 2005). Then, during the preclassic period from 2000 BC to AD 250, the Mayans began to spread throughout the regions and create farming settlements (Coe 2005). The later centuries of the preclassic period also saw the rise of advances in technologies and culture, giving way to structures like the Mayan pyramids and stone inscriptions (Coe 2005). Furthermore, the centuries that followed, between AD 250 and 900 gave rise to the inventions of the Mayan calendar and similar significant monuments, but unfortunately concluded with the post classic period of the Spanish Inquisition (Coe 2005). Throughout these periods, the Mayan civilization has shown to grow significantly in size indicating that they had a method of sustaining the rising population. This is attributed to their agricultural methods that they adapted to fit the climates of the highlands and lowlands of the territory.

FORMS OF AGRICULTURE (1000)

The highlands of the Mayan territory were high above sea level in a terrain that was mostly high altitude volcanoes, both active and extinct (Coe 2005). This area covered a portion of Southern Mexico and a majority of what is now modern day Mexico and Guatemala. These conditions also made it so that the crops they planted did not have to compete for nutrients with other native flora to the region, and the steep terrain and soil content created the perfect environment for generating subsistence during the rainy season (Coe 2005). However, while the highlands were more easily adapted for a higher population densities, the land could only be used for a period of 10 years at a time with a break of 15 years in between each rotation (Coe 2005).

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On the other hand, the Mayan lowlands made up what is now the Yucatan Peninsula (Coe 2005). Compared to the highlands, some regions of the Mayan lowlands were full of dense vegetation like fruit trees, mahogany trees, and sapodillas and a humid tropical climate (Coe 2005). Others, though, were dry and barren, resembling a sahara. The lowlands also lacked natural water sources such as lakes, and even though it did have cenotes (Tz'oonot) formed by sinkholes from collapsed caves to collect water, the cenotes were rare and not easily accessible (Coe 2005). The solution to this challenge for the Yucatan maya was the chultun, a man made, bottle shaped water reservoir that the maya dug into the limestone to catch and store rainwater (Coe 2005).

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The various land qualities of the Mayan empire led to numerous forms of agriculture developments that would allow the most use out of the land. The Mayans adjusted their methods of farming to different regions. For instance, Swidden farming, also known as slash-and-burn

agriculture, was common in the wetlands in order to clear out the vegetation for a farming plain (Turner). Raised fields and planting platforms were also common in the wetlands in areas that were too prone to flooding (Turner). Furthermore, in the highlands where large mountainous terrain was common, they used terrace farming to maximize their use of all available land (Turner).

Swidden farming, also known as slash and burn agriculture, was the process of clearing large portions of land by burning the dead vegetation (Pedroso). The leftover ashes would create a nutrient rich soil that would be maintained using methods of crop rotation (Pedroso).

This was typically done in the wetlands “where the water table is at the level of land surface” (CITE).

Raised fields in the regions known to flood allowed the Mayans to maximize the use of the land by using canals to

- Planting platforms/Raised fields/ Irrigation canals?
 - Drainage techniques included: guide walls, seepage outlets, and laterally sloping embankments turner 120
 - Raised fields "include any prepared land involving the transfer and elevation of soil above the natural surface of the earth in order to improve cultivating conditions" turner 121
 - Planting platforms-hundred of meters square separated by canals, adjacent to longer canals which could have been used for transportation and fishing→like tenochtitlan siemens
 - Levees, highest flood plain terrain, people would settle her and work on agriculture, descends away from the water sources see fig 3 170 siemens

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- Terraces
 - Soil trap terraces used to delay/stop solid erosion from the heavy rainfall Turner

120

FORMS OF SUBSISTENCE (1000)

- Maize
- Squash

HOW DID THEY USE THE LAND (1000)

- Soil trap terraces used to delay/stop solid erosion from the heavy rainfall 120 turner
- Raised fields created to combat floods
- Forms of agriculture were created to keep up with the demand of subsistence as the population increased→ took over the swidden agriculture

Wetlands in the Candelara river were oart of the aklan mayan province, aklan province had about 10k people siemesns

- Itzamkanac was the capital, 4k people
- Surrounded by 75 villages
- Used waterways as a link to other regions to the province, described as a productive place after being there the spanish “obtained canoes, paddles, shawls, honey, copal, hens, beans, squash, seeds, chili, cotton, and calabashes as tribute.”
- Canaluation helped advance the availability of the cropping available during seasonally flooded wetlands 178 siemens
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MATH/CALCULATIONS (500)

Turner

“Tens of thousands of relic terraces crisscross the hillsides of southern Campeche and Quintana Roo, encompassing an area exceeding 10,000 square kilometers. Rio Bee terracing was recorded radiating north from Xpujil, Campeche, 62.5 km; south, 13.8 km; east, 77.7 km; and west, 96.2 km (26, 27). The frequency of terracing varies throughout the region. By far the greatest number of terraced slopes are located along an east-west axis from Nicola's Bravo, Quintana Roo, to Xpujil” turner 119

“terraces occur on hillsides varying in slope from 40 to 47°. In most instances, slopes exceeding 500 are void of terracing. As expected, the distance between embankments is directly related to the degree of slope and, with minor exceptions, decreases as the slope increases. The following distances between terrace embankments have been recorded: 42.24 m at slope angles of from 40 to 140; 24.10m at 150 to 29°; and 19.00m at 300 to 47°” 120

Attempts to calculate the carrying capacity of the Mayan population are based on assumptions and interpretations 122

- About 28-85 people per sq km (73-220 per sq mi)

Bronson

Tikal sustained about a total of 11k people with about 2400 people per sq m

- A sq mile of maize milpa can support an average of 60 people, so a 20 mi radius of land of Tikal should have supported 75,000 people
- But only $\frac{3}{4}$ of the land was actually arable so that would have been about 56K people
- $\frac{4}{5}$ s of the population of Tikal worked on food production, sustaining the remaining $\frac{1}{5}$ th
 - Implies a well organized tax/economic system

- Rural people were surplus farmers that could provide for those in the center of the cities

LIMITATIONS (500)

CONCLUSION

Mayan highlands” 1000 ft above sea level and the terrain is made of volcanoes both active and extinct (up to 13,000ft in altitude) Coe 15

- Farming depends on the Isop, can only be used for 10 years and then abandoned for 15 years (16)
- Has heavy soils good for farming and less flora competition for nutrients than the forest
- Gow maiz (milpas) beans squashes sweet manic, chili peppers
- Highland farming system are better adapted to higher density population
- Lowlands, peten yucatan peninsula: single limestone shelf shitting into the gulf of mexico17
 - Hot and dry, not a significant amount of rain
 - Rare lakes-relied on Tz’onot (cenotes in spanish) r sinkholes formed from collapsed cavse
- Not all of the lowlands have accesible cenotes
 - Puuk i.e- relied on chultunob singular chultun: constructed by the maya by excavating and construction thousands of underground bottle shaped cistern(tank)
- 17
- Monsoon forest with fruit trees , mahogany trees, and sapodillas

- Open savannahs with coarse egrasses and flat topped rees
- Some parts of the Lowlands like peten had fertile soils for agriculture and some parts were the opposite

Swidden farming/ Slash and burn agriculture

- Wetland is a place where the water table is at the level of land surface 167
siemens
- Marceno, (practiced in tabasco mexico) water level forms, water plants are cut, and maize is planted. Then when the debris is dried up, the area is burned which doesn't harm the maize but it does help reduce pests and reintroduce nutrients to the soil 170 siemens