



Figure 6.123 Bedrock “finger” of the Kaan Group



Figure 6.124 Bedrock “finger” of the Kaan Group



Figure 6.125 Bedrock “finger” of the Kaan Group, looking south

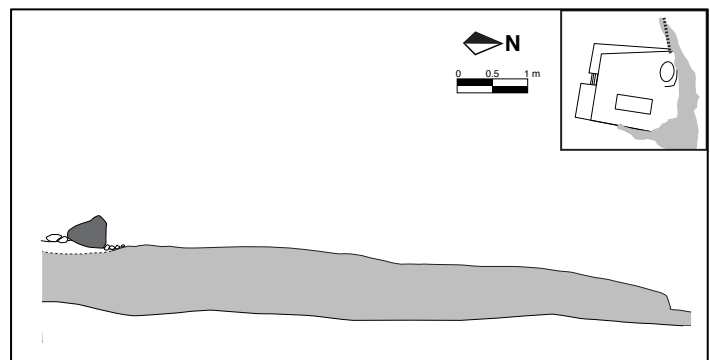


Figure 6.126 Corte along the bedrock “finger” of the Kaan Group

The underlying bedrock outcrop also includes a long, elevated stretch of bedrock spanning the basal platform’s entire eastern side; I will often refer to this as a bedrock “finger” (Figures 6.123-6.126). This bedrock “finger” would have provided people living here with an elevated, stable walkway connecting the basal platform with an area of exposed bedrock to the south. This would have been especially important during the rainy season, not only because it would help pedestrians avoid muddy kancabales, but also because it afforded access to the natural reservoirs (sartenejas) in the bedrock to the south.

Having selected this as a building site, the Formative builders boxed in the bedrock outcrop using boulder alignments, creating the rectangular perimeter of the basal platform (Figures 6.127-6.129). Boulders could be placed directly on top of bedrock, if the surface was already stable enough, or the surface could be prepared by first adding a thin layer of soil and sascab (or other construction material) before placing

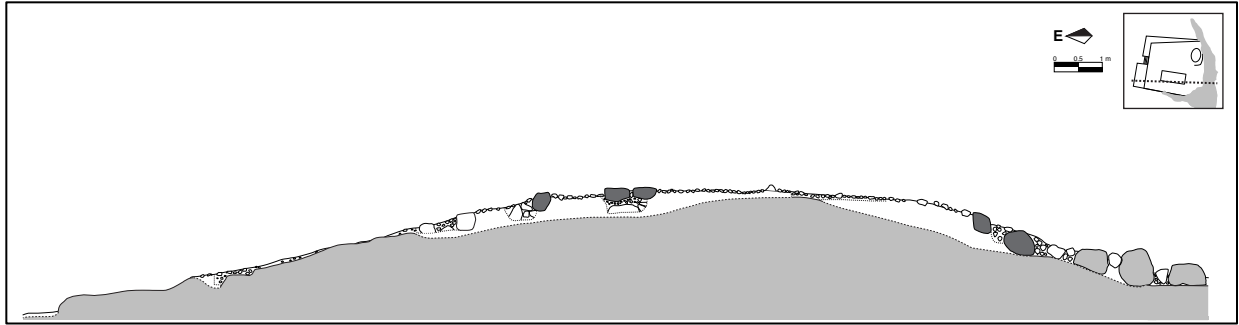


Figure 6.127 East-west *corte* of the Kaan Group, along the N26 line

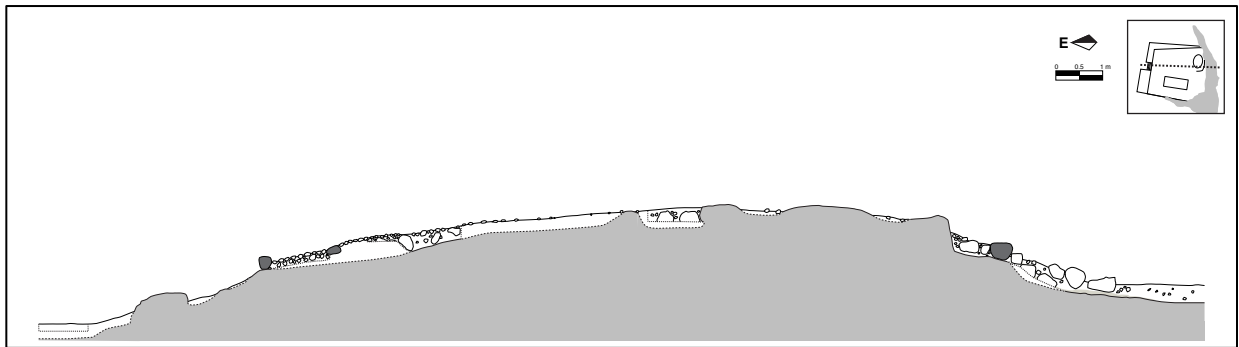


Figure 6.128 East-west *corte* of the Kaan Group, along the center line

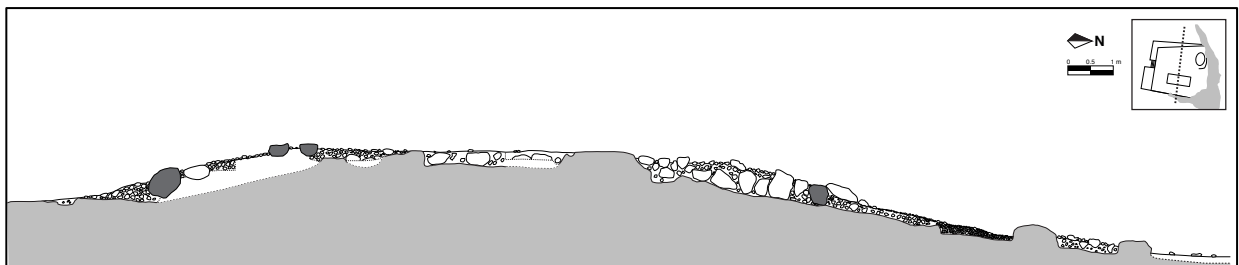


Figure 6.129 North-south *corte* of the Kaan Group, along the E29 line



Figure 6.130 Boulder-lined wall of the Kaan Group basal platform, Unit N20E28



Figure 6.131 Preserved segment of basal platform wall exposed in Unit N26E20, Kaan Group

the boulder if necessary (Figure 6.130). This boulder wall might even have multiple courses, similar to modern albarrada construction, if additional height was needed (Figure 6.131). In areas where extra reinforcement was needed, the builders supplemented the boulder wall by packing a thin layer of chich mixed with soil and sascab (or possibly burnt lime) along the base of the wall stones. When the contours of the bedrock offered ready-made boundaries, the builders did not bother adding a wall; this is seen on the eastern side, where the builders took advantage of the bedrock “finger” by incorporating it into construction.

Once the bedrock outcrop was boxed in with boulder alignments, the box was filled in to seek the level of the outcrop’s highest point. Again, this is similar to what was seen in the other Formative Tzacauil house groups. It appears that most of the builders’ efforts went into building up the northern side of the platform. This is the side facing the Tzacauil Sacbe, and it appears that the builders intended this side to be the formal access of the platform. There may have been a ramp here to access the platform at this time, but the ramp could not be dated definitively to the Formative (the exact nature of the access could not be determined because of Classic period renovations). The Formative builders began filling in the north side by first depositing boulders and broken chunks of bedrock. Once they had almost reached the level of the top of the outcrop, they began adding medium stones, and finally chich and soil. A similar pattern was followed on the west and south sides of the growing platform, but little fill was needed on the east side since the construction took advantage of the bedrock “finger”.

As the platform took shape, the builders would have been able to begin preparing the top of the bedrock outcrop for superstructures. As mentioned, the bedrock was naturally flat on top, and so in many places on top of the basal platform, the builders may have only placed a thin layer of soil and/or chich, if anything at all, to level it. In areas where bedrock dipped lower or had cavities, the builders smoothed the surface using chich and soil.

During its initial occupation in the Formative, the Kaan Group likely supported at least one superstructure, a rectangular structure running roughly east-west at its south side. This has been designated the principal structure, or Structure 5A. If this structure

is indeed Formative, it means that the Kaan Group's layout is identical to that of the other two house groups (Chamal and Sáastun) settled during the Late to Terminal Formative transition. The principal structure was built on top of a low rectangular platform, providing a step up into the structure from the surrounding basal platform. Wall stones for the structure were placed on top of this platform. However, all of this had been disturbed by later occupation and it is difficult to know much about the Formative-era structure. It does seem that it had an interior floor constructed of dense chich and soil – a bahpek surface – that had been placed either directly on bedrock or, where necessary because of dips in the bedrock, on a fill of medium sized stones. When the structure was investigated in 2017, it was mostly identifiable from the dense concentration of surface chich and a few remaining wall alignments.

It is tricky to say much about artifacts when a platform is reoccupied, but it does seem clear looking at Formative ceramics that ceramic density was fairly light at the Kaan Group during this early occupation. However, testing along the eastern side of the basal platform, along the bedrock “finger”, suggests that some refuse was being deposited on this side. It was not enough to be called a midden, but it is interesting to note that these units did not find any Classic ceramics. This is consistent with the idea, as will be discussed in the next chapter, that when Classic people reoccupied this platform, their attention was focused mostly on the platform's west side.

6.9.3 Formative Pool Group construction history

The Pool Group was first identified as a cluster of three structures (designated Structures 6A, 6B, and 6C) occupying a flat, elevated bedrock outcrop just south of the Tzacauil Sacbe (Figures 6.1, 6.132). Excavations during the 2016 field season indicated that this group had at least two occupations: first at the end of the Formative period (Figure 6.133), and then again at the end of the Classic period. In both the Formative and the Classic, people made major alterations to bedrock and built stone foundation braces that would have supported perishable superstructures.

While the majority of the Pool Group's architecture is associated with either of these two occupations, there are also indications that an earlier, more transient

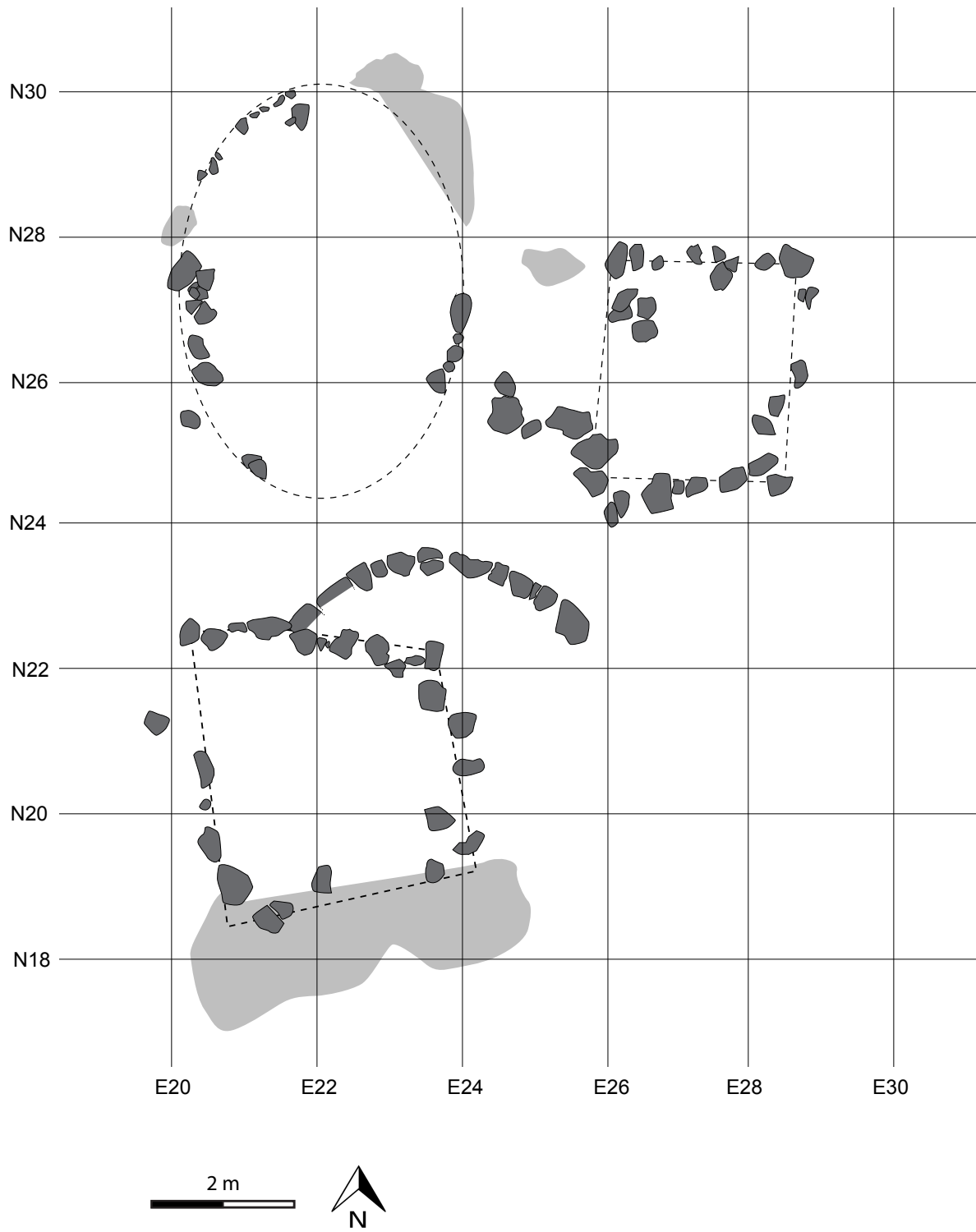


Figure 6.132 Plan of the Pool Group excavation

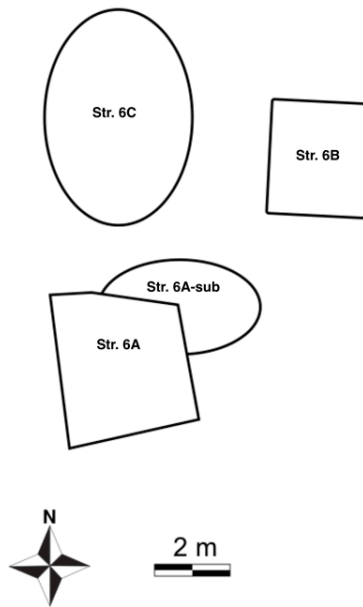


Figure 6.133 Stylized plan of the Pool Group, showing location of Formative period Structure 6A-sub relative to later Classic period structures

occupation occurred here. During excavations of Structure 6A, the excavation team reached bedrock and found that in some places it had been covered with a thin layer of construction material, possibly burnt lime or cal (Figure 6.134). This may have been a floor for a perishable structure. Ceramics associated with this floor include Late and Middle Formative types. There could have been an initial occupation or this area could have been used for some other purpose before any formal, permanent residential architecture was constructed here.

Another indication of earlier use of this area, before permanent architecture was built, came from excavations in Structure 6C (Figures 6.135, 6.136). This excavation was a lot like what we encountered in the Chamal Group ancillary structure (Structure 8C) (see above). Before excavations began it appeared that Structure 6C was directly on top of superficial bedrock, since we could see bedrock exposed around its edges. But when we began excavating we found that it was built on top of a deep, circular, filled-in cavity apparently cut into the bedrock (Figures 6.137, 6.138). Based on comparative data reported from the Puuc region (e.g., Seligson), I believe that this cavity may have been a pit-kiln for producing burnt lime. The proximity of the Tzacuil

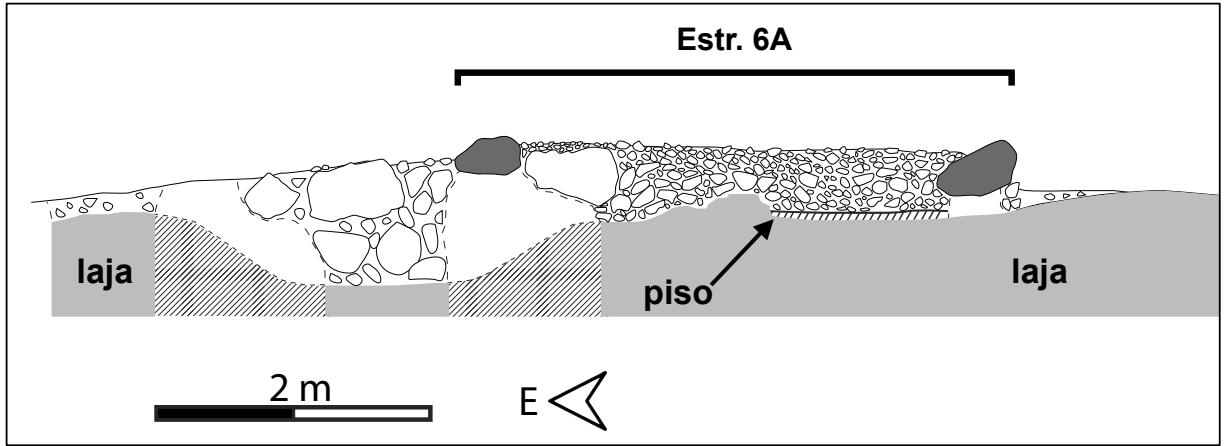


Figure 6.134 Profile drawing of Pool Group Structures 6A and 6A-sub

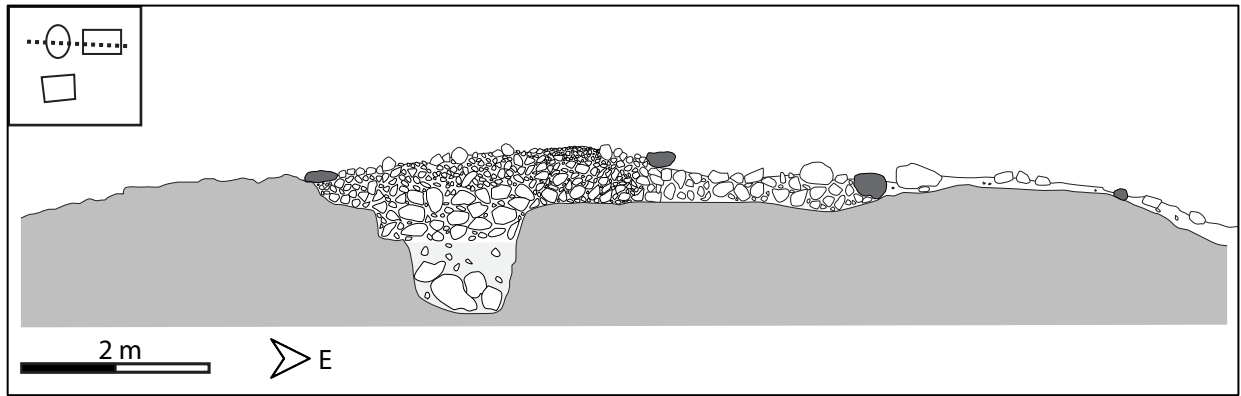


Figure 6.135 East-west *corte* of Structure 6C and 6B of the Pool Group

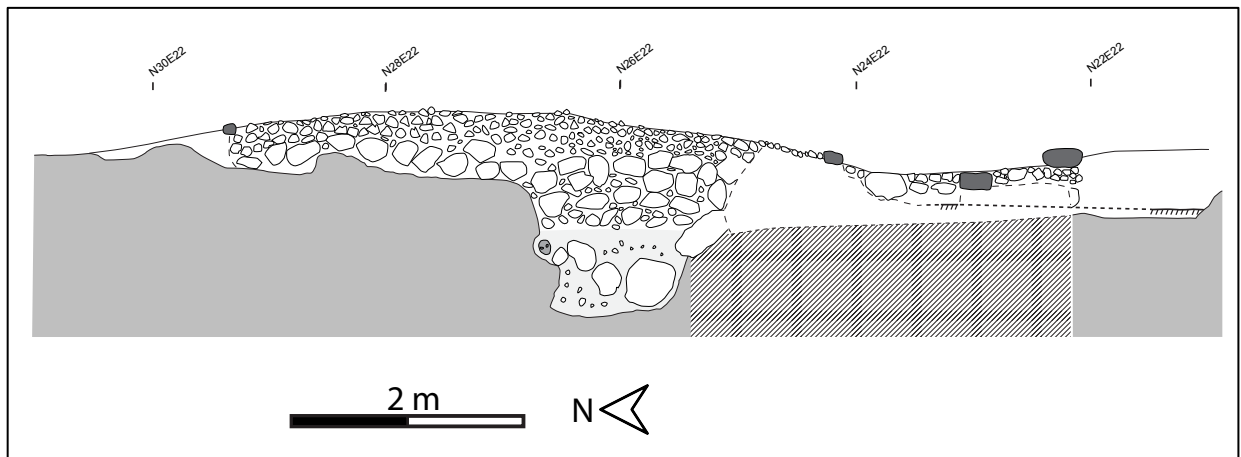


Figure 6.136 North-south *corte* of Structure 6C of the Pool Group, showing underlying bedrock cavity



Figure 6.137 Excavating the bedrock cavity beneath Pool Group Structure 6C



Figure 6.138 Bedrock cavity beneath Pool Group Structure 6C

Sacbe, just north of here, suggests that construction materials were prepared here when the sacbe was being built. Ceramics found in the fill that had been deposited in this pit suggest it was filled in the Late Formative; I interpret this to mean that the pit-kiln (if that is what it was) was active in an earlier period in the Late Formative. This is consistent with the estimated date for the sacbe's construction.

When this pit was no longer being used, it seems that this particular bedrock outcrop transitioned to a more domestic function. My interpretation of the ceramic data suggests that this outcrop was selected as the building site for a permanent structure sometime during the Late to Terminal Formative transition. The first task for the builders appears to have been to fill in the exhausted pit kiln. They deposited light colored soil and large stones.

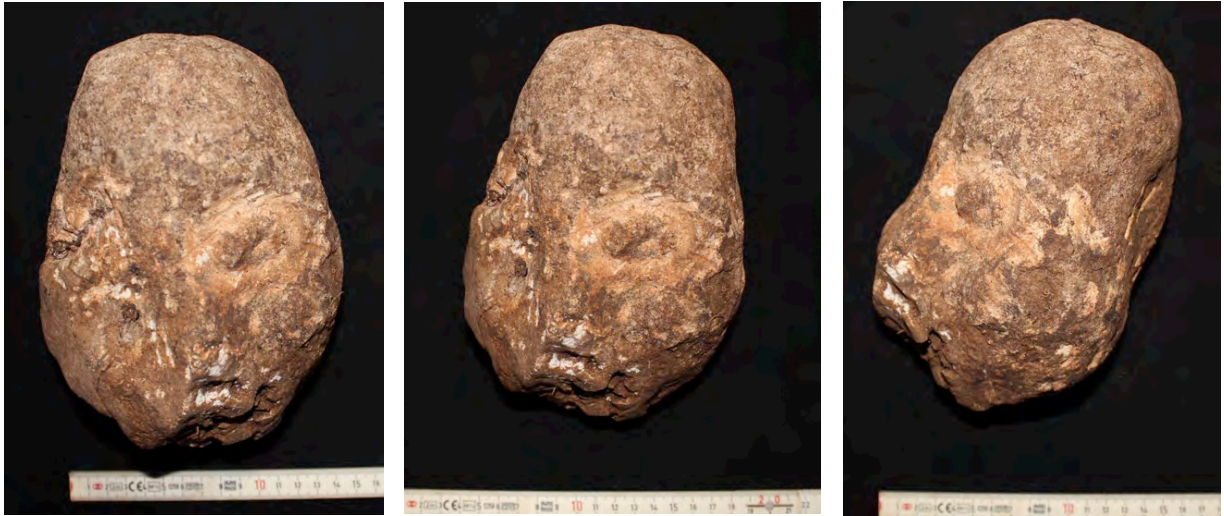


Figure 6.139 Possible sculpted head found in the bedrock cavity below Structure 6C of the Pool Group

Filling this pit may have been a significant event for the people involved. During excavations of the bedrock cavity, excavators found what appears to be a roughly carved stone head. The head is not particularly sophisticated. It could, plausibly, be a freak creation of natural limestone erosion – but I and the *ejidatarios* all agreed that the features, pecked out eyes, and form of the stone suggest that it was, in fact, a rough sculpture of a human head (Figure 6.139). This head had been placed on a small ledge in a niche in the side of the bedrock cavity. If it is some sort of ritual deposit, it was placed there when this pit was filled in, likely at the very beginning of the Terminal Formative.

After the bedrock had been evened out, the builders began constructing a round structure, which I designate Structure 6A-sub (it is beneath a later Classic period structure, designated Structure 6A) (Figures 6.140, 6.141). They selected as their building site the flat area of bedrock to the south, where the patches of earlier floor had been identified. The builders elevated the area by placing medium and large stones, creating a raised and level surface. In a section of the area that the Formative builders filled in (Unit N23E24, Level 4 Lot 1), the excavation team recovered a stone discarded in the fill that appeared to have been carved with rough, circular shapes; apart from this it was indistinguishable from the rest of the fill and seems to have been thrown in as

rubble. It does, however, support the idea that stone-working was an important part of the Formative occupation of Tzacauil.

On top of this fill they added soil and chich. Once this surface was prepared, they situated wall stones on it, creating a round foundation brace that would be able to support a perishable superstructure. They may have stabilized the wall of the structure using a construction material made of burned cal or sascab. Outside this wall, they finished the surface around the structure by packing gravel and soil into a living surface. Inside the structure, they added more chich and soil, which probably acted as the subfloor ballast for a packed earth floor.

It cannot be known if other structures would have accompanied Structure 6A-sub during the Terminal Formative occupation of the Pool Group. Bedrock is quite shallow on this elevated outcrop, and the fact that it was reoccupied in the Classic has meant that Formative contexts are heavily disturbed.

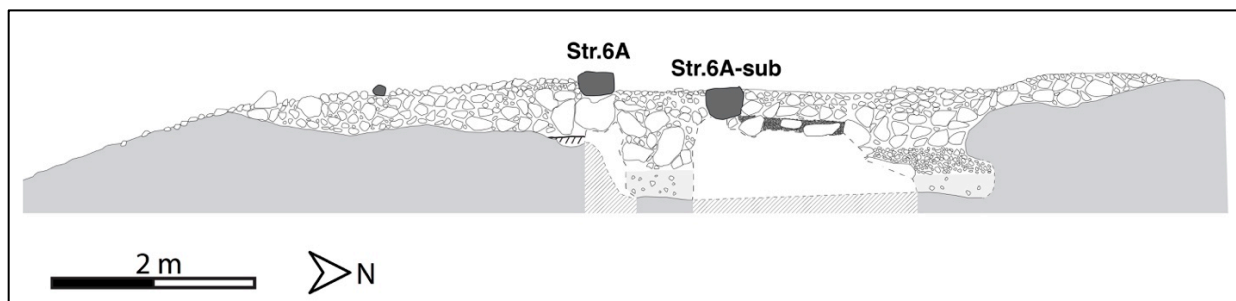


Figure 6.140 North-south *corte* drawing of Structure 6A and Structure 6A-sub of the Pool Group



Figure 6.141 Structure 6A and Structure 6A-sub, Pool Group

6.9.4 Intra-settlement features in southwestern Tzacauil

The southwestern part of Tzacauil is predominantly exposed bedrock, framing smaller pockets of soil-rich terrain. The most interesting findings from our excavations of the intra-settlement area here relate to how people were moving around Tzacauil, both in the Formative and later Classic periods.

Permanent architecture was built in this area of the site during the Late to Terminal Formative transition. The Tzacauil settlement was filling in, and it seems the settlers of the Kaan and Pool Groups prioritized proximity to the Tzacauil Sacbe in selecting their building sites. The Kaan Group is particularly interesting because it maximized access to soil-rich areas as well as areas of exposed bedrock. By incorporating the bedrock “finger” into the construction of its basal platform, inhabitants of the Kaan Group essentially had an elevated walkway that would allow them to move more easily through the surrounding kancabal, particularly in the rainy season. Supporting the idea of this bedrock “finger” as a seasonal advantage, walking it leads you back to an area riddled with natural cavities that collect rainfall that could have been used as seasonal reservoirs (Figure 6.142). The survey team of *ejidatarios* identified another larger modified reservoir – a *charco* – back in this area, much like the one we identified south of the Chamal Group.

Flat bedrock abuts the western side of the Kaan Group’s basal platform. It is only a short walk to cross over and up to the enormous outcrop that would eventually support the Pool Group. Running along the southwest side of this outcrop, the survey team of *ejidatarios* and I identified a constructed surface (Figures 6.142-6.144). I had first identified evidence of construction here during the excavation of the pilot intra-settlement trench in 2016, when we found a rough boulder alignment running parallel to the bedrock outcrop (Figure 6.145). Revisiting this area with the *ejidatarios* in 2017, they almost immediately recognized what I had not seen – this rough alignment was retaining a wide band of modified soil running several meters along the outcrop. The wall I had identified did not continue along the entire length of this band, but the feature was recognizable based on its high density of small stones and gravel. The *ejidatarios* recognized these as a sign of modification. The whole area had been reinforced by

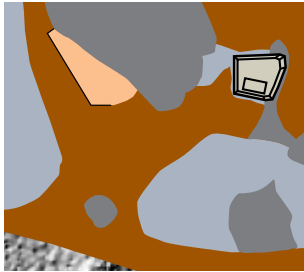


Figure 6.142 Kaan Group and the constructed walkway



Figure 6.143 Constructed walkway



Figure 6.144 Close-up of constructed walkway

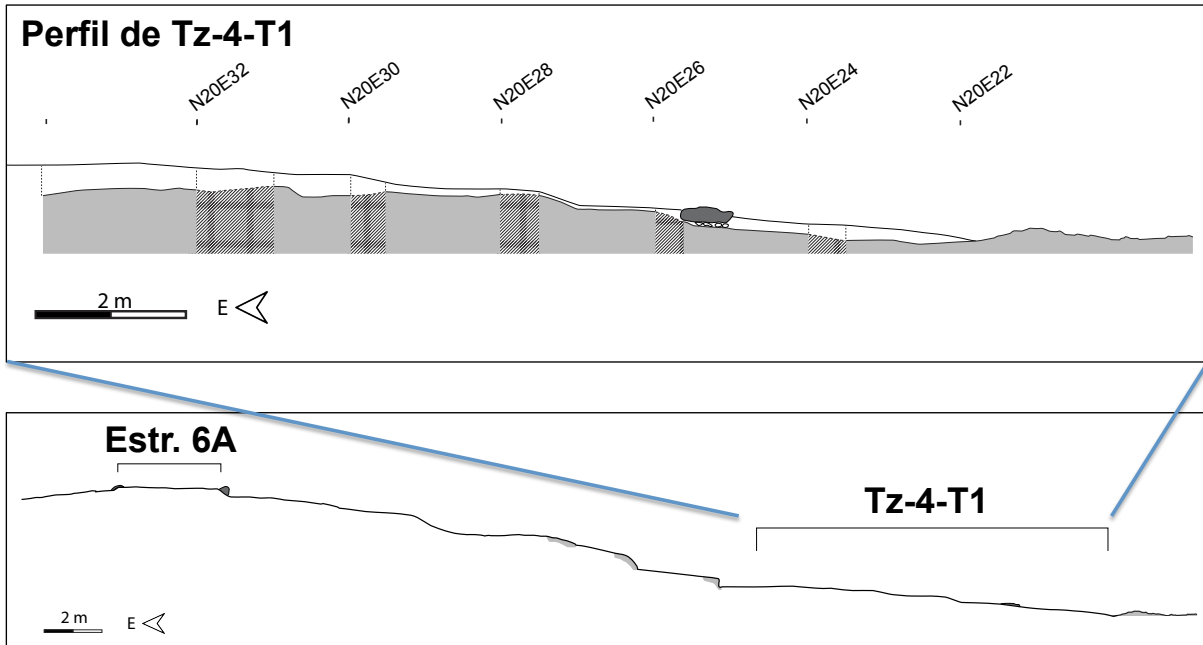


Figure 6.145 Profile of Trench 1 and its relationship to Structure 6A of the Pool Group

mixing the soil with stones. When I went back to the data from the previous year's excavation of Trench 1, I saw that the sherds found in this construction were Sierra, diagnostic of the Late to Terminal Formative period. These sherds, plus the overall light artifact density we found in the area, indicate that this surface was created during the early occupation of Tzacauil.

What was this surface used for? I had thought it could be a terrace for cultivation, but the *ejidatarios* dismissed this – the land was too stony and there were deeper *kancabales* a little further away that were much better for planting. Instead they suggested that it was both a walkway and an activity area, what we might call a staging area, for people living nearby. The walkway interpretation points, again, to a fact that I had not appreciated until surveying Tzacauil with the *ejidatarios*: *kancabales* are really

difficult and sloppy to walk on during the rainy season months. This point was emphasized by house groups whose builders laid stones around their edges as informal walkways (e.g., Jach and P'aak Groups), as well as by the Kaan Group's incorporation of natural bedrock walkways into its basal platform. Adding gravel and stones to the soil here would have helped provide a stable surface, even when the rest of the kancabales had turned to mud.

Trench 1 was a little shorter than the trenches we subsequently excavated, so there are fewer samples. This makes comparing averages a little shakier. However, it stands that one of the samples from Trench 1 had the highest pH and highest phosphate values of any soils tested at Tzacauil (Figures 5.22-5.33; Appendix D). This suggests that habitual discard of ash and organic matter took place here, both of which are consistent with cooking areas. These elevated levels could also indicate a lengthier occupation, but I suspect that most of the activity concentrated here took place in the Formative period. True, this area would go on to be one of the heaviest trafficked in the Classic period, but we found no Classic period sherds associated with this walkway. Unlike in the Formative period, when ceramic densities are typically very light, Classic period people generally left greater concentrations of sherds behind; this was simply a product of increased access to pottery in the Classic. This makes it even more telling that we do not find Classic sherds in this area. It does not seem that the later people living here were regularly using this staging area.

In the 2017 season we also collected soil samples from a transect (Trench 11) radiating out from the southwestern side of a pocket of kancab between the Kaan and Mukul Groups. These samples also show elevated pH and phosphate levels, which, given that this is an open expanse of kancabal, suggests the interrelated practices of refuse management and soil enhancement here (Figures 5.22-5.33; Appendix D).

It is difficult to put together the pieces of what was happening here in the Formative period, but my suspicion is that the household living at the Kaan Group was responsible for building the staging area and for amending the kancabales in this area. Claiming soil-rich areas seems to have been paramount for households in the Formative period, and they expressed those claims by reorganizing matter into structures. The

Late to Terminal Formative transition seems to have been a dynamic time at Tzacauil, with a flurry of building activity and no end in sight to the community's growth.

I suspect that the Kaan Group was formalizing a connection to these kancabales, even though they were a bit further away, through the construction of this walkway. Settlement decisions at this transition period suggest that settlers were having to make compromises about where to live, indicating that pressure over household access to arable lands was rising. Perhaps expecting that additional settlers would soon arrive and increase this pressure even more, the Kaan Group staked out its claim to the nearest kancabales by building on them.

I further suspect that the household living at the Kaan Group built Structure 6A-sub at the Pool Group as a way of further expressing their relationship to these lands. If I am wrong, and if Structure 6A-sub was a separate household or social unit, then they were living in a house – a solitary structure – completely at odds with the preferred style of the time – boulder-lined basal platforms supporting superstructures. I think a better explanation is that people living at the Kaan Group built this structure to deepen their claim to the kancabales below. I see further evidence for this connection between the Formative Kaan Group and Structure 6A-sub in the fact that the Kaan Group is nearly identical to its contemporaries, the Sáastun Group and the Chamal Group, except for one thing: it lacks a clearly associated ancillary structure (likely a kitchen). The Sáastun Group had Structure 3C, the Chamal Group had Structure 8C. Might not Structure 6A-sub been the Kaan Group's equivalent? The Classic period overburden makes it impossible to know for sure.

6.10 Chapter summary

The interactions between early Maya farmers and their local environment are recorded in the landscape of Tzacauil. What can we say about this chapter in Tzacauil's agricultural past? Most of my exploration and synthesis of this topic will come in Chapter 9, but here let us just lay out a few key points before moving on from the Formative.

When Formative farming households picked a place to settle, their first priority was to find an isolated bedrock outcrop surrounded by kancabales, or soil expanses.

Their second priority seems to have been to be close to Tzacauil's ceremonial heart and central artery, the Tzacauil Acropolis and Tzacauil Sacbe. In the Late Formative, the first two households that were settled (the Jach and P'aak Groups) were perched on outcrops in the deep kancabales abutting the western side of the acropolis. When the settlement began to fill in during the transition from the Late to Terminal Formative, new arrivals had to make compromises about where to live. Two households (at the Chamal and Kaan Groups) prioritized proximity to the Tzacauil Sacbe, and dealt with a greater ratio of bedrock to kancabal to make it work; this proximity may have also been related to household status. The third household to settle permanently at this time (at the Sáastun Group) found a kancabal, but had to go relatively far away from the sacbe and acropolis for it. These settlement decisions materialize social differences.

That the Formative farming households seem to have been adamant about embedding their homes directly in the middle of arable parcels is important. Kancabales are good for cultivation, but turn to mud during the months of the rainy season. Formative householders went to considerable lengths to make their commitments to kancabales work year-round. We see this particularly clearly in the ways that pedestrian movement was facilitated around the house groups. Households created rough walkways of stepping stones around their basal platforms (Jach and P'aak Groups), incorporated natural walkways of bedrock into their house groups to facilitate movement (Sáastun, Chamal, and Kaan Groups), and labored to stabilize kancabales through the construction of artificial surfaces (Kaan Group). It was apparently so important for households to embed themselves in parcels of kancab – even when bedrock expanses offer several advantages – that they figured out ways to make it work.

Formative farming households seem to have expected that their settlement was going to keep filling in, and so it became important to leverage multigenerational relationships with their intra-settlement lands. Once they had planted themselves in kancabales, they set about formalizing their relationships to those particular places through the reorganization of natural materials. Bedrock was re-shaped, and stones of all sizes amassed and formed into basal platforms and foundation braces. One way we can think of Late and Terminal Formative architecture, both of house groups and of the

acropolis and sacbe, is as the inversion of stony lands (this is an idea I will explore more in Chapter 9). Around houses, soil was gradually improved with ash and organic waste. Physical improvements like walkways and reservoirs deepened household claims to lands.

Multigenerational narratives and links to earlier people were integral to how households enacted their relationships to the landscape. Renovations and expansions of house group architecture may have expressed a household's growth and permanence of place (Jach, P'aak, Chamal, and possibly Kaan Groups). Further, all of the Late Formative house groups had earlier Middle Formative sherds in their construction fills. Though likely unintentional, this tells us that the places the Late Formative farmers selected to settle were also places that had been visited by pre-agricultural people. Households could also more deliberately invoke these connections through the caching of heirloom Middle Formative vessels (Jach and P'aak Group) and (possibly) sculpted depictions of ancestors (Kaan Group) into house group architecture.

Even as Tzacauil households created and re-created autonomous claims to lands, they were also participating in a community identity. Their houses share a similar aesthetic and organizational sensibility, and all are oriented towards the Tzacauil Sacbe. Each household appears to have maintained a similar inventory of food preparation and serving equipment, including metates, two-hand grinding stones, one-hand grinding stones, as well as bowls and jars (at a consistent ratio of about 2:1). Each household had a similar assemblage of stone tools made from locally available limestone that would have allowed them to process a variety of raw materials.

House groups' shared emphasis on the Tzacauil Sacbe suggests to me that Formative householders had been the ones to build it, along with the Tzacauil Acropolis. We see evidence of Late Formative limestone processing in places that would later be claimed by households during the Late to Terminal Formative transition. While we are limited in what we can say about the Tzacauil Acropolis and Sacbe's function, the complex suggests the direct presence of a local political and religious authority in Tzacauil, one that was closely affiliated with Yaxuná.

The households of Late and Terminal Formative Tzacauil were quite clearly participants in a larger community identity that connected them to Yaxuná. Near as we can tell, the Tzacauil way of living – dispersed boulder-lined basal platforms, loosely aggregated into clusters and oriented around focal points of monumental complexes – is identical to the Yaxuná way of living at the same time. The Tzacauil Acropolis and Sacbe resemble contemporary Triadic Group complexes from Yaxuná, and the fact that the Tzacauil Sacbe reaches out to Yaxuná further emphasizes this connection. These are the key points to keep in mind from the archaeological investigations of Formative Tzacauil. We will now turn to the Classic period.

Chapter 7

Tzacauil in the Classic Period

7.1 Introduction

In this chapter, I will present the findings of my project's investigations of Classic period contexts at Tzacauil (Figure 7.1). I will first look at how Classic-era monumentality in the hinterland east of Yaxuná bypassed Tzacauil. Then I will introduce the Tzacauil settlement, starting with a cluster of house groups in the southwestern part of the site. I will then focus on two other house groups north of the Tzacauil Sacbe, which I interpret to be ancillary structures used by Classic period farmers living elsewhere. As with the previous chapter, data will be presented on the house groups' construction history, location and intra-settlement features, and material culture. I will offer some preliminary discussion at the end of the chapter, but most of the synthesis is reserved for Chapter 9.

7.2 Monumentality and life by the wayside

The Tzacauil Acropolis and Tzacauil Sacbe show no signs of renovation after the Terminal Formative; they were allowed to fall into ruin when the Formative period community was abandoned. There was no more monumental architecture built at Tzacauil, and whatever social and political significance it once had was now absent. Emphasizing this, Sacbe 1 – the Late Classic road connecting Yaxuná to Cobá (see Chapter 4; Figures 1.3, 1.17) – passes just south of Tzacauil. Whereas earlier this place had been the destination of the most ambitious road-building project of its time, now it was literally by the wayside.

There are signs that this hinterland east of Yaxuná still has more to reveal to us about the transition from the Formative to the Classic. Joya, the site located around the Joya Rejollada west of Tzacauil, has its own sacbe (Joya Sacbe) running towards

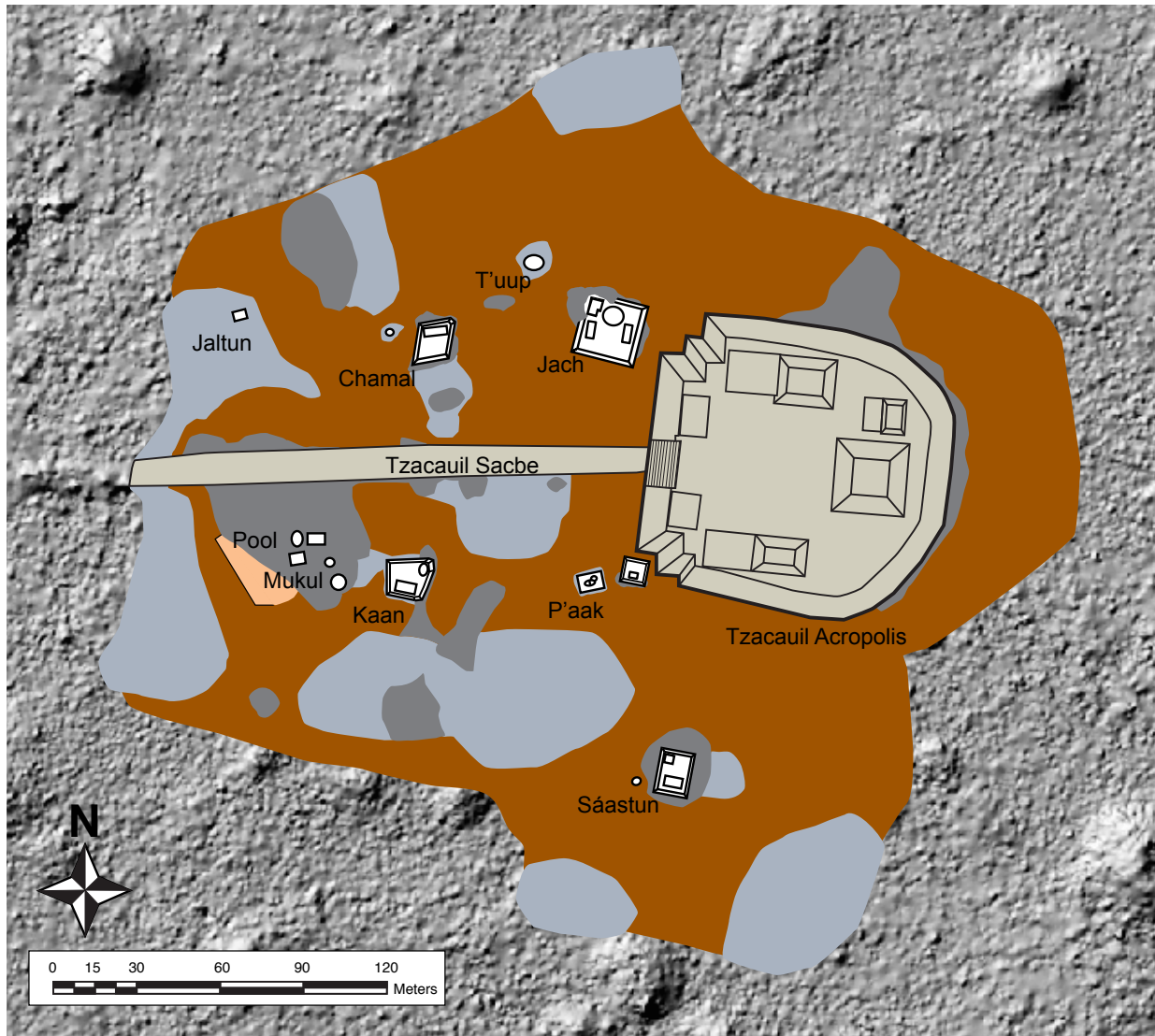


Figure 7.1 Map of Tzacauil in the Classic period

Yaxuná (Figure 7.2). PIPCY surface collection at Joya has led some to conclude this was predominantly a Classic period site, but Formative ceramics are also reported (Hutson 2012a, 2012b; Stanton and Magnoni 2011). It has also been proposed that Joya eclipsed Tzacauil, an interpretation I believe to be premature based on the very limited data collection conducted at Joya or at Tzacauil, at the time this interpretation was first published.

Even with the data I present here, there is no way to evaluate this hypothesis until Joya is more fully investigated. It would be interesting to see whether, during the turbulence of the Terminal Formative period, Yaxuná reduced its presence in the

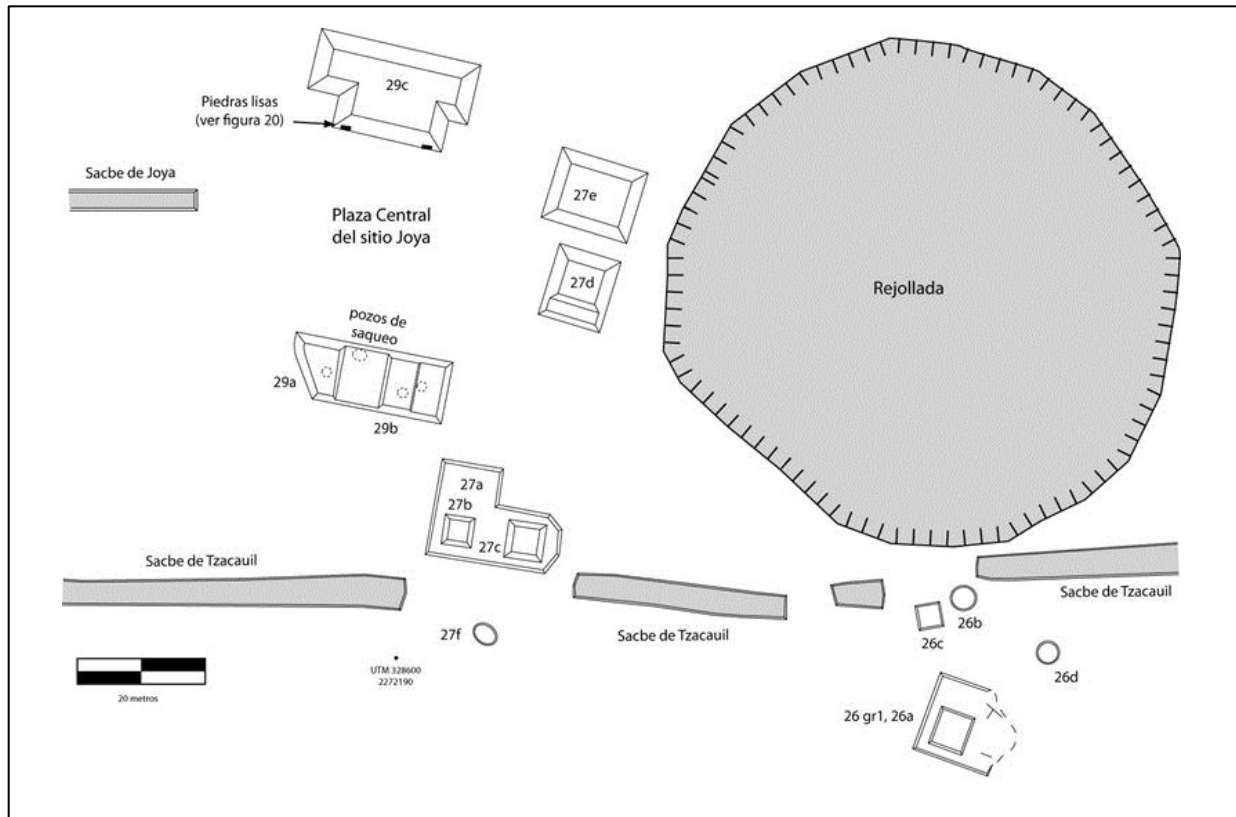


Figure 7.2 Joya archaeological site (from Stanton and Magnoni 2011)

eastern hinterlands by relocating inhabitants to Joya. Such a scenario would underscore the importance of Joya’s rejollada and cenote. Until more thorough investigations are conducted at Joya, there is very little we can say about the relationship between these three sacbes and their associated settlements.

7.3 The Tzacauil settlement in the Classic

People returned to live in the lands of the Tzacauil archaeological site in the Late Classic, centuries after the earlier Formative community had been abandoned. I am watching my words when I say the “lands of the Tzacauil archaeological site” because the data suggest that this was not a cohesive community in the same way Formative Tzacauil had been. Houses were built up in the southwestern part of the site, as people reoccupied the Kaan Group’s basal platform as well as the large bedrock promontory where Structure 6A-sub had been built (Figure 7.1).

At the beginning of my fieldwork, I divided the Classic settlement in this part of the site into three discrete house groups (Kaan, Mukul, and Pool). However, since first designating those groupings, I have come to doubt whether they would have been meaningful to the people living here. North of the Tzacauil Sacbe – which would have already been an ancient ruin – there are two small structures dating to the Classic, which I designate the Jaltun and T'uup Groups. They, too, mark a dramatic restructuring of hinterland agrarian life at Classic period Tzacauil.

It is also important to note that even the way I describe the Classic settlement, as being clustered in the southwestern part of Tzacauil, is itself an artifice of biases towards discrete “sites” in archaeology. PIPCY mapped a transect out of the eastern side of Yaxuná, following the trajectory of the Yaxuná-Cobá Sacbe (Sacbe 1) (Figure 1.18). The whole area was populated in the Late and Terminal Classic, in settlements that ranged from a couple of isolated structures to larger aggregations of houses (Hutson et al. 2012a, 2012b; Stanton and Magnoni 2011). Two of those larger aggregations include the Classic period archaeological sites of Joya (west of Tzacauil) and Xauil (east of Tzacauil). While boundaries were assigned to mark these as separate archaeological sites, I wonder whether these boundaries would have meant much to the people living in these places during the Classic. I will revisit these ideas about political and social integration in Chapter 9, but for now suffice it to say that the people living at Tzacauil in the Classic were part of a sparsely but continuously inhabited hinterland east of Yaxuná.

The structures of the Tzacauil settlement in the Classic reflect larger shifts in domestic organization and architectural techniques. Late and Terminal Classic houses in central Yucatán tend to be crude and hastily built. Their architecture suggests that Classic builders looked to raise structures as expediently as possible. As a result their houses often have an ad hoc or improvised feel compared to the formal, flamboyant house groups of the Late and Terminal Formative.

With that said, we will turn now to the Tzacauil house groups that were built and/or occupied during the Late and Terminal Classic reoccupation. As I did in Chapter 6, I will introduce each house group's construction history, location and intra-settlement

features, and material culture. I will start with the three groups located in the southwest part of Tzacauil, the Kaan, Pool, and Mukul Groups. Because these groups are all clustered in the same area of the site, I will discuss their location and intra-settlement features in a single section. Then I will move on to the two Classic structures we identified north of the Tzacauil Sacbe, the Jaltun and T'uup Groups.

7.4 The Kaan Group

7.4.1 Overview of the Kaan Group in the Classic

The Kaan Group was reoccupied in the Late Classic (Figures 6.118-6.129). Upon arrival, Classic period people would have found the abandoned basal platform built during the Late to Terminal Formative transition, just off the southern side of the Tzacauil Sacbe. They set about renovating the platform, reorienting it towards the rest of the Classic period settlement at Tzacauil, clustered in the southwest (Figure 7.3). The changes made and the material culture left behind help inform our understanding of how villagers' relationship with the local environment had changed significantly since the Formative.

7.4.2 Classic Kaan Group construction history

I suspect that Late Classic people were living here at the Kaan Group for some time before they decided to renovate its Formative basal platform. We found significant amounts of Late Classic ceramic sherds in construction fills of these renovations, suggesting substantial amounts of refuse had accumulated before these renovations happened.

When the Late Classic inhabitants of the Kaan Group set about rearranging the pre-existing Formative architecture, it seems their primary goal was to shift the platform's focus from the north side (where the Tzacauil Sacbe is) to the west side (facing the Mukul and Pool Groups) (Figure 7.3). The Tzacauil Sacbe was already a ruin at this point, and appears not to have held any special significance for the new occupants of this platform. A formal access facing this long-abandoned road held little

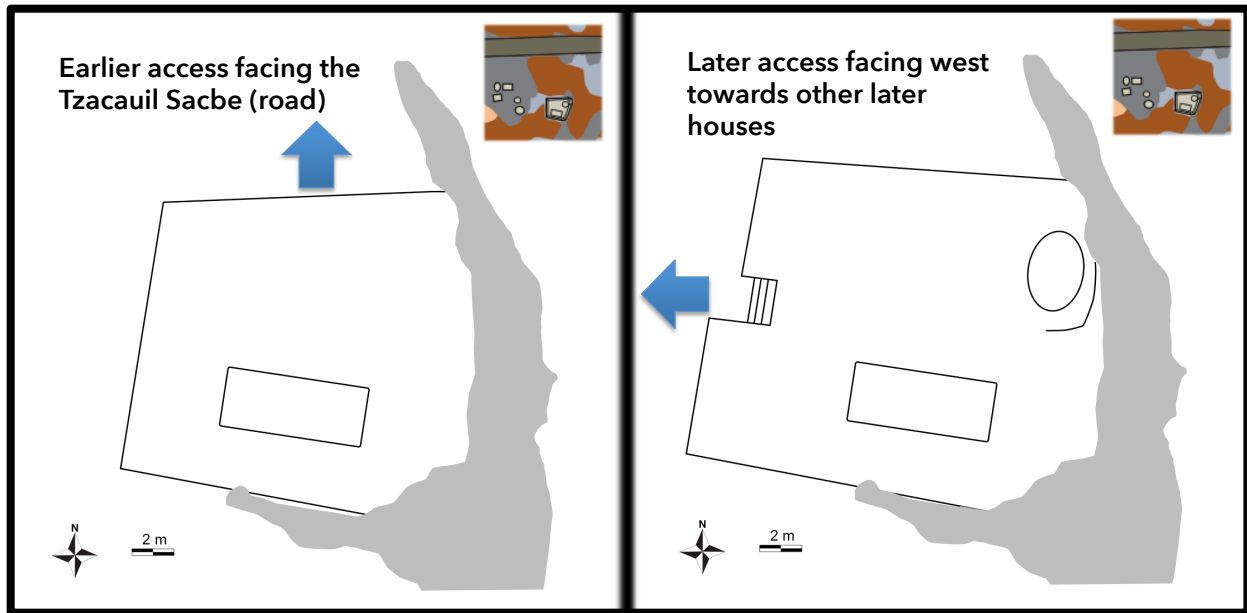


Figure 7.3 Classic period modifications to pre-existing Formative architecture at the Kaan Group



Figure 7.4 Late Classic renovations to the western side of the Kaan Group basal platform, Unit N36E26



Figure 7.5 Classic period access added to the western side of the Kaan Group, Unit N30E22

interest for the Classic Kaan residents. Their neighbors – likely, I imagine, family members – living just to the west were much more interesting.

With this in mind, the Late Classic builders expanded the western side of the basal platform. They pushed out some of the boulders of the earlier walls, extending the platform’s perimeter to the west. They deposited a tremendous amount of soil and rubble on top of the earlier walls (Figure 7.4). Creating a formal wall for this platform expansion seems not to have been a concern (or if there was one, it was unidentifiable), as the builders left the side sloping and without clearly defined boundaries.



Figure 7.6 View from above of Classic period access added to the western side of the Kaan Group, Unit N30E22



Figure 7.7 Close-up of stucco on Classic period access on the west side of the Kaan Group, Unit N30E20



Figure 7.8 Classic period expansion of the Kaan Group basal platform, showing possible capstones



Figure 7.9 Classic period expansion of the Kaan Group basal platform, showing possible capstones



Figure 7.10 Structure 5B of the Kaan Group

Set into the middle of this expansion, the builders added a small stairway to make it easier to climb up to and down from the basal platform. The stairs (or possibly a ramp; the whole construction was poorly preserved) were built of rough stones finished off with a thick layer of crudely made plaster (Figures 7.5-7.7). Unlike the earlier Formative access facing the sacbe, which had spanned the north side of the platform, this stairway was narrow.

When we were excavating the Late Classic fill abutting this platform to the south, we identified a possible crypt placed into the construction. I suggest this because the arrangement of stones that we uncovered at the base of the fill (visible in Figures 7.8 and 7.9) strongly resemble the capstones placed over Late and Terminal Classic crypts in Yaxuná house group architecture (Stanton et al. 2010; Tiesler et al. 2017). For various reasons, I decided not to open this crypt. But such a practice at Tzacuil at this time period would not be surprising; there is a widespread shift towards placing burials in architecture documented over the course of the Classic period. This ranged from humble crypts in house group architecture (a Late and Terminal Classic practice), to royal tombs built into monumental architecture (known through the investigation of Early Classic royal burials in the Yaxuná North Acropolis). This shift is remarkable, too, when we consider that no Formative burials have been found at either Yaxuná or Tzacuil. This shift in mortuary practices is important as we think about broader social and political changes in central Yucatán; in particular, I think this marks a shift in the way people were enacting community and land tenure (see also McAnany 1995). I will return to this idea at the end of the chapter, and expand it more in Chapter 9.

Returning to the Classic renovation of the Kaan Group, once the platform's surface had been expanded, the Classic builders added at least one new superstructure. This structure, designated Structure 5B, is a crudely built round structure on the northeast part of the platform (Figure 7.10). It was difficult to determine the precise plan of this structure because of its rough construction and the ways it takes advantage of pre-existing Formative architecture. From what we could tell, it seems the structure was built by first reinforcing the eastern side of the platform with two retention walls, almost as if the builders were terracing into the side of the basal platform. There

were no foundation braces for a perishable structure besides a few possible wall stones, but there was a subfloor ballast of dense chich and soil packed into a bahpek surface. This interior floor surface was finished with a layer of packed soil.

On the platform's south side, it seems that the Classic Kaan household continued to utilize the foundation braces of Structure 5A, the principal structure that had been built by the Formative inhabitants. It was difficult, though, to determine this for sure: the top of the bedrock outcrop is peeking through in several places around this structure, and so our hopes of recovering any sort of secure stratigraphy were quickly dashed.

7.4.3 Kaan Group material culture

Because the Kaan Group had two distinct occupations, what we can say about its material culture is somewhat compromised. There were very few secure contexts excavated, and very few areas that had anything resembling stratigraphy – as I mentioned, bedrock was exposed in much of the platform's surface. So when we consider the group's material culture, we must do so taking a step back and focusing on the general patterns that emerge when the assemblage is viewed as a whole, without pretending that we can neatly pull apart what goes with the Formative and what goes with the Classic. With that caveat, there are broad patterns that emerge in these data, and they do inform our understanding of broad community shifts.

The inventory of all artifacts recovered from excavations in the Kaan Group can be found in Appendices A, B, and C. A brief summary of what was found will be provided here, to facilitate the inter-house group comparisons that will be made at the end of this chapter, and expanded on in Chapter 9.

A total of 121 square meters were occupied at the Kaan Group. Across that area, 713 sherds or 7185.9 grams of ceramic were found, making for an average ceramic density of 5.89 sherds or 59.39 grams of ceramic per square meter (Figure 7.11, Table 7.1). This is more than twice the ceramic density of any of the "pure" Formative house groups, and second only to the Pool Group for all excavated contexts at Tzacauil (Figure 7.12, Table 7.2). It is important to note that this includes a considerable amount of Formative sherds. Some of these earlier sherds were likely included in fills during the

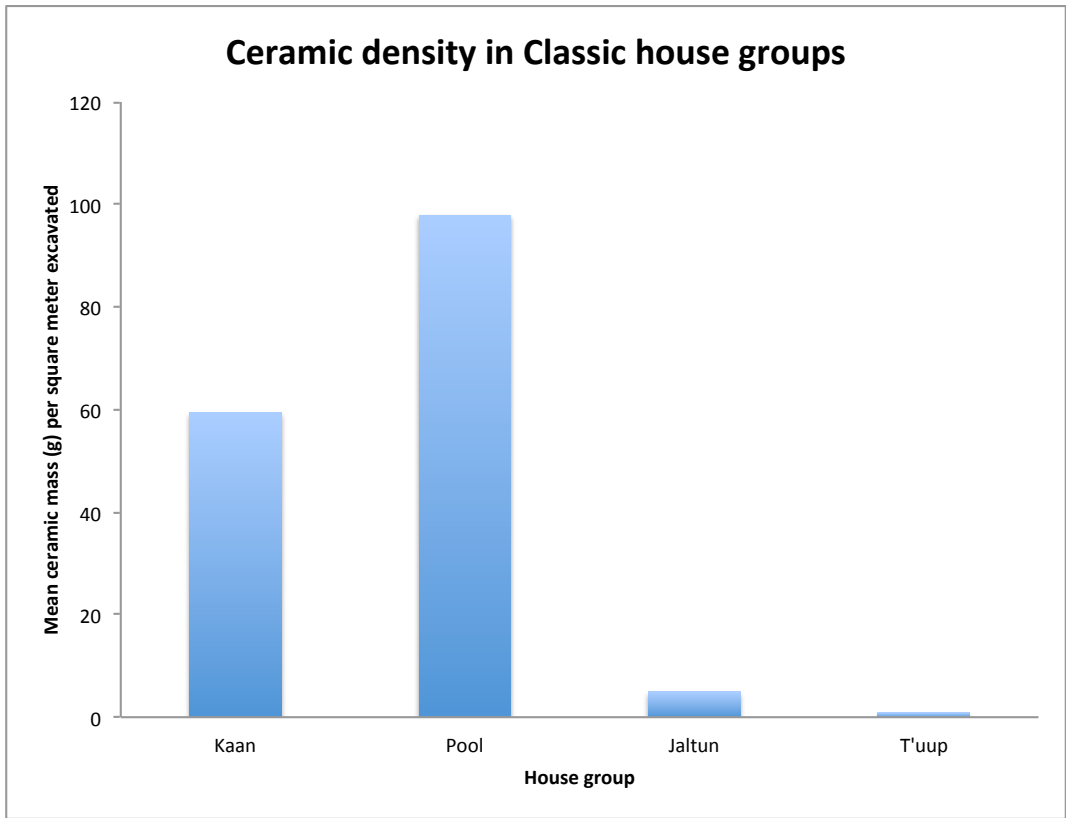


Figure 7.11 Ceramic density in Classic house groups at Tzacuil

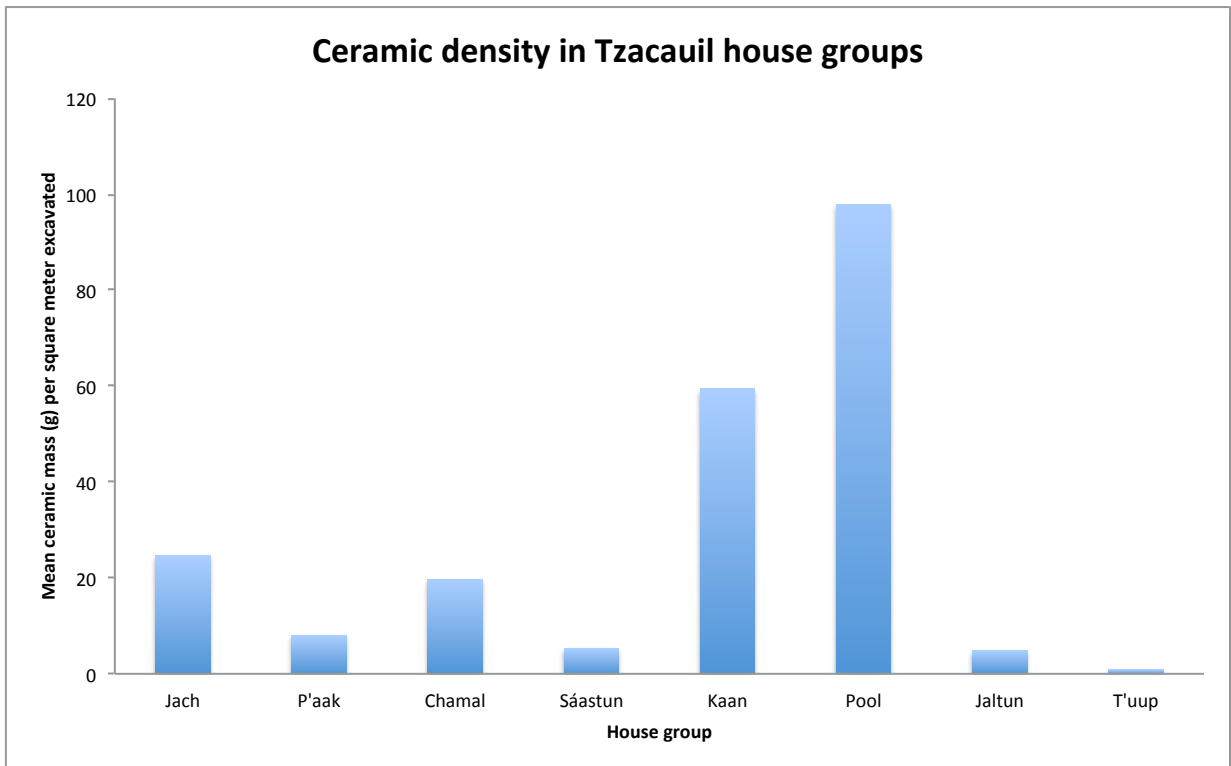


Figure 7.12 Ceramic density across all Tzacuil house groups

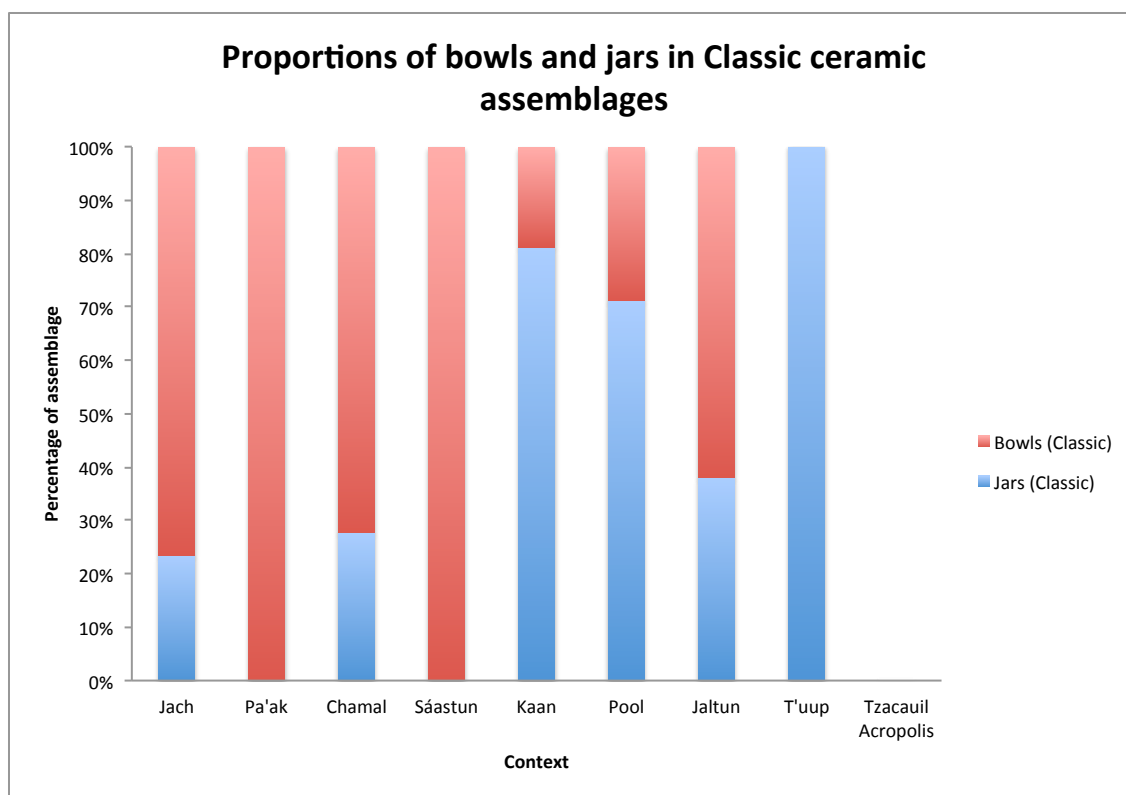


Figure 7.13 Proportions of bowls and jars in Classic ceramic assemblages

House group	Square meters excavated	Total sherd count	Mean sherds per m ² excavated	Total mass of ceramics (g)	Mean ceramic mass (g) per m ² excavated
Kaan	121	713	5.893	7185.9	59.388
Pool	106	999	9.424	10377.8	97.904
Jaltun	44.5	43	0.966	219.9	4.942
T'uup	51	8	0.157	49.1	0.963

Table 7.1 Ceramic density across Classic house groups

House group	Square meters excavated	Total sherd count	Mean sherds per m ² excavated	Total mass of ceramics (g)	Mean ceramic mass (g) per m ² excavated
Jach	230	498	2.165	5657.4	24.597
P'aak	161	118	0.733	1302.8	8.092
Chamal	262	610	2.328	5177.9	19.763
Sáastun	178	150	0.843	953.7	5.358
Kaan	121	713	5.893	7185.9	59.388
Pool	106	999	9.424	10377.8	97.904
Jaltun	44.5	43	0.966	219.9	4.942
T'uup	51	8	0.157	49.1	0.963

Table 7.2 Ceramic density across all house groups at Tzacauil

Late and Terminal Formative occupation of the Kaan Group, but I suspect that most of them came from earlier midden deposits, which were then scooped up by Classic builders as a ready source of fill. The assemblage also included 23 Middle Formative sherds, weighing a total of 340.3 grams.

In terms of dating, the ceramics found in the multiple layers of fill of the basal platform renovations and elsewhere on the platform suggest that the Kaan Group was reoccupied and renovated in the Late Classic. There are also sherds that can be dated to the first part of the Terminal Classic (Yaxuna IVa), but notably no diagnostic sherds from the later part of the Terminal Classic (Yaxuna IVb).

Vessel shape could be assigned to many of the ceramic sherds in the Kaan assemblage (Table 6.3; Figure 7.13). Of the Middle Formative sherds, there were 9 jar fragments and 14 bowl fragments. Looking at all Formative sherds, there were slightly more jar fragments (n=159) than bowl fragments (n=131). Across sherds that could securely be linked to the Classic period, there were many more jar fragments (n=52) than bowl fragments (n=12). This was a pattern that holds when we look at the entire identifiable assemblage, which included 397 jar fragments and 144 bowl fragments. This also marks a shift from the Formative occupation, when bowls tended to account for at least half of house group assemblages.

The Kaan Group's lithic assemblage (see Appendix B) is mostly comprised of tools made from locally available limestone. There was a handful of chert artifacts but none that stood out as clearly non-local. The majority, if not all, of these artifacts cannot be linked to either the Formative or Classic occupation of the platform, so again, we have to step back and consider the assemblage as a whole. Grinding stones included 3 two-hand grinding stones and 8 one-hand grinding stones, as well as 5 indeterminate grinding stones. No metate fragments were found.

Of the remaining stone tools, most were typical for Tzacauil in that they were fairly crude. It was difficult to assign a function to many of them. But I tentatively identified tools for polishing (n=5), scraping (n=3), chopping (n=3), cutting (n=5), perforating (n=1), and stone-working (including chipped stone debris) (n=15). These tools suggest the processing of various kinds of raw materials.

A single flake of obsidian was found during excavations of the Kaan Group. I believe that this flake probably dates to the Classic period, based on the assemblages found elsewhere at Tzacauil. What is interesting is that even while obsidian can be linked to Classic period Tzacauil's household assemblages, it still seems to have been an extremely scarce resource. When we compare this to what has been reported for Late and Terminal Classic Yaxuná house groups (Fisher 2016, 2017; Stanton et al. 2010) it is clear that Tzacauil householders had little access to obsidian compared to the access enjoyed by their contemporaries in Yaxuná.

7.5 The Pool Group

7.5.1 Overview of the Pool Group in the Classic

The Pool Group is perched on top of the highest exposed bedrock outcrop at Tzacauil, just south of where the Tzacauil Sacbe passes by on its route west towards Yaxuná. As we found it during excavations in the 2016 season, the Pool Group consisted of three small structures (Structures 6A, 6B, and 6C) visible on the surface. Bedrock was exposed in much of the area on this promontory, and so it had seemed at first that the group's construction history would be fairly simple. Excavations would reveal, as has been discussed in Chapter 6, that the story of this group was more complicated; there had been an earlier Formative structure here, as well as a possible burnt lime pit-kiln. As had happened at the Kaan Group, the pre-existing Formative architecture of the Pool Group was modified by Classic period settlers.

7.5.2 Classic Pool Group construction history

When we last left the Pool Group in the Terminal Formative (Chapter 6) (Figures 6.132-6.141), it was a single round structure (Structure 6A-sub) perched on top of the highest exposed bedrock outcrop in the Tzacauil settlement. This structure had been built following massive efforts to level the surface of the bedrock here, including the filling in of a Late Formative pit kiln.

When people returned to live at Tzacauil in the Late and Terminal Classic, they were clearly attracted to this modified bedrock outcrop. But they also seem to have seen

it as a “fixer-upper”. They set about completely remodeling the group. Their primary goal seems to have been to increase the area and height of the bedrock outcrop so that it could support more superstructures. With this in mind, they deposited a huge amount of fill over the entire area to tie the depressions in the bedrock up into the level of the outcrop’s highest natural point. First they deposited medium and large stones (the fact that Structure 6A-sub is missing many of its wall stones suggests that the Classic builders grabbed them as a handy source of rubble). This fill deposit, covering nearly the entire area we excavated and raising the surface considerably, marks a major effort. The builders finished the surface with smaller stones and soil. Now level, they were ready to build the foundation braces for three perishable superstructures (Figure 7.14).

One of these, Structure 6A, incorporated the earlier Structure 6A-sub into its architecture (Figure 7.15). Structure 6A-sub had been round, from what we can tell, but this later Structure 6A was roughly rectangular. Taking advantage of the earlier underlying structure, the builders had only to add a thin layer of soil and chich to create an interior sub-floor ballast for their new structure. The structure also took advantage of shallower, flat areas of bedrock to the south and west that facilitated the building process.

A second structure, Structure 6B, is in the northeast of the group. While also rectangular, Structure 6B is unique among the structures of the Pool Group (and in fact among all the structures at Tzacauil, save for the Sáastun Group’s Structure 3C) in that it lacks a chich sub-floor ballast inside its walls. Instead, its interior floor was simply a thin layer of soil packed over the underlying bedrock. Yaxuneros on the excavation team remarked to me that such earthen floors were once a common feature of kitchens; earthen floors absorb liquid, making it easier to deal with kitchen spills. We cannot know for sure if Structure 6B was a kitchen, but we did find nine handheld maize-grinding stones in this small structure alone (Figure 7.16). So it seems possible that this building did serve, at least for a time, as a kitchen.

The third structure, Structure 6C, is in the northwest area of the group (Figure 7.17). With the underlying pit-kiln long ago filled in, and with the addition of extra fill in the Classic, this area provided a stable, flat surface for the construction of a

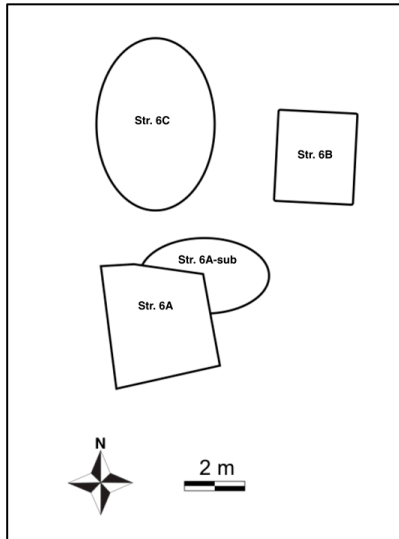


Figure 7.14 Stylized plan of the Pool Group



Figure 7.15 Excavations of Structure 6A of the Pool Group

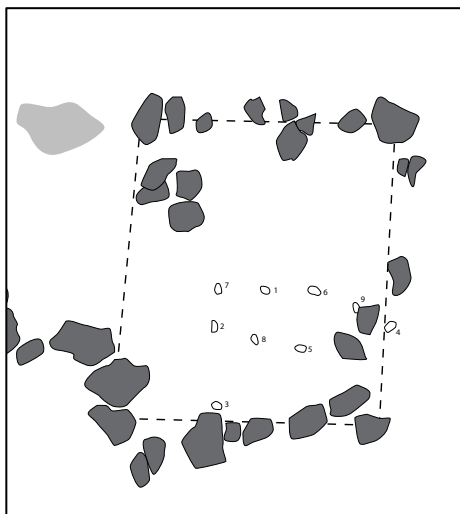


Figure 7.16 Structure 6B of the Pool Group, showing location of maize-grinding tools



Figure 7.17 Excavating Structure 6C of the Pool Group

superstructure. Unlike the other structures of the group, Structure 6C lacks formal walls. It is simply an apsidal-shaped mound of chich – a pile of rocks, really. I tentatively identified a few wall stones, but it seems that the builders deemed formal foundation braces unnecessary for the structure they set up here. Chich mounds like this are fairly common Late to Terminal Classic architectural features at Yaxuná (Stanton et al. 2010).

7.5.3 Pool Group material culture

As with the Kaan Group, it is difficult to make clear associations between the Pool Group's material culture and its two distinct occupations. It is best if we take a step back and regard the assemblage as a whole, rather than try to assign parts of it to one period or another. The inventory of all artifacts recovered from excavations in the Pool Group can be found in Appendices A, B, and C. A brief summary of its artifact assemblage will be provided here.

The Pool Group has the highest ceramic density of all Tzacauil house groups (Figures 7.11, 7.12; Tables 7.1, 7.2). With 106 square meters excavated and 999 sherds or 10,377.8 grams of ceramic recovered, ceramic density was 9.42 sherds or 97.90 grams per square meter. The Formative ceramic assemblage included 11 Middle Formative sherds, with a total mass of 69.8 grams. Of the Classic period ceramics found, most can be securely linked to the Late Classic (Yaxuná III), but there are also quite a few Terminal Classic types (both Yaxuná IVa and IVb). The ceramic data suggest that most of the renovations and occupation of the Pool Group occurred during the Late Classic, but that the group continued to be a place where people stayed – perhaps only seasonally or even less frequently – for centuries longer.

Looking at vessel form, we see a shift towards greater proportions of jars than bowls, a pattern consistent with the overall trend for Classic period Tzacauil (Figure 7.13). The group's Formative sherds emphasize bowls: there are 4 Middle Formative jar fragments compared to 7 Middle Formative bowl fragments, and across all Formative sherds there are 94 jar fragments and 250 bowl fragments. The identifiable Classic assemblage consists of 111 jar fragments and 45 bowl fragments. If we remove chronological period and look at the assemblage as a whole (including the nondiagnostic sherds that cannot be assigned to a period), the emphasis on jars remains: there were 488 jar fragments and 296 bowl fragments at the Pool Group.

The Pool Group's lithic assemblage consists predominantly of artifacts made of locally available limestone, but it also includes the most "exotic" (i.e. clearly non-local) of any of the lithics seen at Tzacauil. A small greenstone celt was found in the excavations of Structure 6B (Figure 7.18). A broken perforator of high-quality chert, most likely from a non-local source, was found during excavations of Structure 6C (Figure 7.19). Both of



Figure 7.18 Greenstone celt from the Pool Group



Figure 7.19 Broken chert perforator from the Pool Group



Figure 7.20 Fragment of marine shell from the Pool Group

these artifacts were unmatched in quality compared to any of the limestone tools found in Tzacauil, and suggest that the Late and Terminal Classic inhabitants of the site were tied into wide-reaching exchange networks. This is further suggested by small amounts of marine shell fragments found in the Pool Group excavations (Figure 7.20). However, it is just as interesting that not a single piece of obsidian – a fairly common find in Classic period house group assemblages at Yaxuná – was found in the Pool Group excavations.

Still, locally available limestone tools were also ubiquitous. Grinding stones at the Pool Group included 1 metate fragment, 5 two-hand grinding stones, 31 one-hand grinding stones, and 3 indeterminate grinding stones. The abundance of grinding stones is remarkable, especially when you consider that 9 of the one-hand grinding stones were found in excavations of Structure 6B's interior alone. This suggests that not only was Structure 6B used as a kitchen, but also that it may have been shared by more than one household as a place for food preparation and processing. Put differently, I suspect that people living at the Kaan, Mukul, and Pool Groups may have been pooling their labor efforts, at least their maize grinding efforts, and performing some domestic labor as a collective rather than as autonomous households. We can imagine, perhaps, women from extended families coming together to socialize while grinding corn on this bedrock promontory. This is where it is critical to remember that my division of this

Classic settlement into discrete house groups is my own artifact, and not necessarily a division that would have been meaningful to the Classic people who lived here.

Overall the lithic assemblage, like most of the lithic assemblages at Tzacauil, eludes easy interpretation. I was able to tentatively recognize tools for polishing (n=1), scraping (n=3), chopping (n=2), perforating (n=1), and stone-working (including chipped stone debris) (n=26). This assemblage suggests that processing of several kinds of raw materials would have taken place here at the Pool Group during its occupation.

7.6 The Mukul Group

The Mukul Group (Figures 7.21-7.24) has not been horizontally excavated. The group – a pair of round structures occupying a modified section of bedrock sandwiched between the Kaan and Pool Groups – was missed during PIPCY’s mapping efforts at Tzacauil. This is understandable; the structures’ foundation braces are low and blend in visually with the surrounding bedrock. There had been some confusion on my end, too, in the 2016 season when we excavated the Pool Group. Since the Mukul Group was right off the side of the Pool Group’s bedrock outcrop, I often visited it and thought, mistakenly, that it was the mapped basal platform I would later dub the Kaan Group. I never saw the actual Kaan Group until the survey at the beginning of our 2017 season. So, when I realized that the “real” Kaan Group – a truly enormous platform – was actually what I had proposed to excavate, and not, as I had thought, these two little structures, I had to reevaluate our excavation schedule to fit it in. There simply was no time to investigate the unmapped group beyond a simple test pit. The unmapped group became the Mukul Group (*mukul* means “hidden” or “secret” in Maya) and we excavated a single test pit next to the larger of its two structures (Structure 2A). These structures are low chich piles delineated by foundation braces, extremely similar to structures associated with the Classic occupations of the Kaan and Pool Groups.

That one test pit was enough to confirm what I suspected based on the Mukul Group’s surface architecture and proximity to known Classic period house groups: it, too, was part of the Classic reoccupation of Tzacauil. In the 2 x 2 meter test pit we found 68 sherds weighing 727.4 grams, which works out to 17 sherds or 181.85 g of ceramic

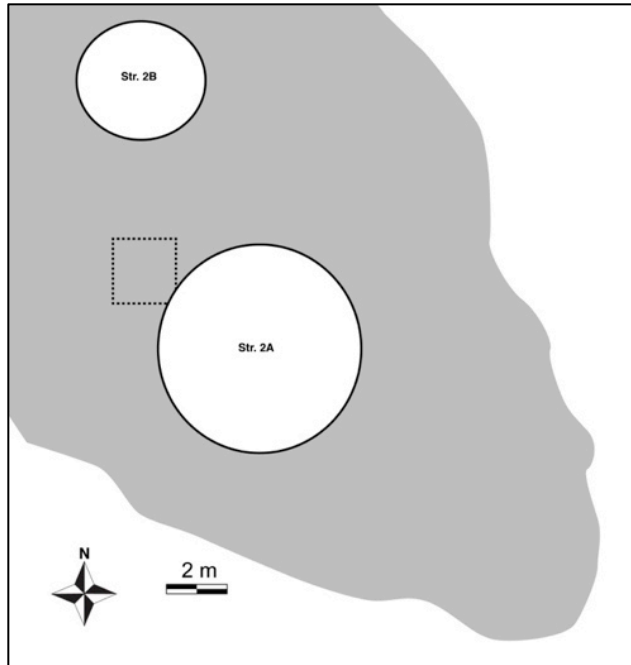


Figure 7.21 Sketch of the Mukul Group indicating location of test pit

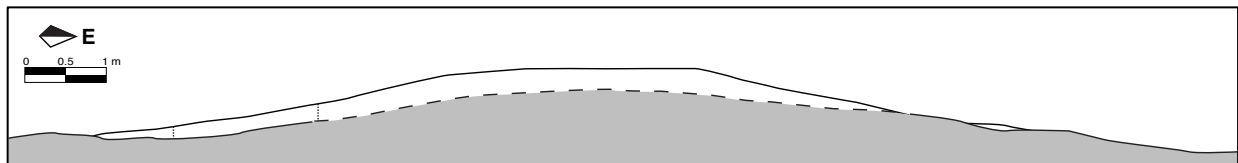


Figure 7.22 *Corte* drawing of Structure 2A of the Mukul Group, including test pit profile



Figure 7.23 View from the Mukul Group to the Kaan Group



Figure 7.24 Mukul Group

per square meter. This sample is too small to reasonably compare to the ceramic densities reported from the horizontally excavated house groups, but it is much more consistent with the high densities reported for the Kaan and Pool Groups. The ceramic assemblage from the Mukul Group test pit also included a mix of Late and Terminal

Formative material, Late Classic material, and many sherds that could not be linked to a specific time period. Obviously more excavation would be required to understand the Mukul Group's particular construction history (especially its Formative antecedents or lack thereof), but the evidence suggests that its two surface structures were built and occupied during the Late Classic period.

7.7 Classic intra-settlement land in southwestern Tzacauil

When Tzacauil was resettled in the Late Classic, what drew people to the southwestern part of the site? Here, the terrain is predominantly bedrock. The places so favored by Late and Terminal Formative householders – isolated bedrock outcrops “floating” in expansive kancabales – were not favored for house group sites during the Classic. Instead what we see is Classic people taking advantage of pre-existing constructions and, perhaps even more so, of natural bedrock.

The Kaan Group was re-settled in the Late Classic. Thinking back to the previous chapter, we saw how the Kaan Group incorporates a large natural “finger” of bedrock into the eastern side its basal platform. This “finger” provides a natural elevated, flat walkway connecting the group back to an area of exposed bedrock. This back bedrock area is riddled with *sartenejas*, the natural cavities that can be used for container gardening or, more often, as small reservoirs in the rainy season. By living close to this area, the Classic-era villagers at Tzacauil gave themselves convenient access to a seasonal source of water to use for cooking, cleaning, and drinking.

The Kaan Group is located just west of the largest and highest expanse of bedrock at Tzacauil. The Mukul and Pool Groups, also occupied in the Late to Terminal Classic, were built on top of this outcrop. Patches of exposed bedrock off the western side of the Kaan Group basal platform – the same side where the stairway was added – would have allowed pedestrians to move between the Kaan Group and this massive bedrock outcrop without ever having to step on kancab.

Furthermore, as was discussed in the previous chapter, there is a constructed surface running along the base of this large bedrock outcrop. We investigated this constructed surface, which may have been a walkway or staging area, with the

excavation of Trench 1 (Figure 6.145). Trench 1 excavations in the constructed surface found that it was a homogeneous layer (measuring 25-40 cm thick) of soil mixed with stones that had been tamped down over bedrock. Moving southwest into the non-constructed *kancabal*, soil depth ranged from 10-30 cm, but in some places bedrock was exposed at the surface.

Units in Trench 1 found only a few sherds— and what we did find (a few Sierra Red fragments) point to a Late or Terminal Formative construction date for the walkway. It is surprising, given the abundance of Classic period sherds up on top of the bedrock outcrop, associated with the Pool and Mukul Groups, that we found no Classic period sherds in this excavation. When we revisited this area during survey with the Yaxunah *ejidatarios*, we tried to conduct an impromptu surface collection of the walkway, but we found no sherds to collect. This paucity of pottery fragments would be unusual for a Classic period activity area, but fairly standard for Formative period activity areas, at Tzacauil.

Soil chemistry analyses of samples from Trench 1 indicate that this area was regularly used for domestic activities (Figures 5.22-5.33; Appendix D). As I discussed in the last chapter, the highest recorded reading of phosphate, pH, and nitrite, as well as one of the highest readings of carbonate, come from a single sample in this trench. These elevated levels lend support to the idea of this constructed walkway as a staging area for household activities. Soil chemistry analyses were similarly conducted on samples from a transect, called Trench 11, running southwest from an area just off from the Mukul Group's bedrock outcrop. This transect crosses the *kancabal* just south of the constructed walkway or staging area (the trench was not excavated but soil samples were collected for comparative purposes). Averaged across all samples, Trench 11 had lower phosphate levels but slightly elevated pH levels.

It is difficult to interpret the soil chemistry data from these two trenches in the southwest part of the site because we know that this area bears the residues of two distinct occupations. Given that, though, it is surprising that there is not more Classic period debris down here in the *kancabal* abutting the bedrock outcrop. This absence is especially remarkable given that there are so many Classic period sherds associated

with the house groups on top of the bedrock. Together these lines of evidence suggest to me that this kancabal was not regularly used for household activities during the Classic period reoccupation, or at least not for household activities requiring the use of ceramics or stone tools. I tend to associate the soil chemistry signals here with Formative period occupation, as discussed in Chapter 6. However, even if this area were not being used for activities that left a strong archaeological signature, it still would have provided access, thanks to the stability of the constructed walkway. If activities were taking place here in the Classic, they seem to have been more ephemeral than the place-based land-use strategies of the earlier Formative occupation.

So taken together, the picture that emerges of these intra-settlement areas in Classic period southwest Tzacauil is one that maximized certain seasonal advantages – specifically, rainy season advantages. The elevated bedrock outcrop provides natural drainage and a stable surface, even during torrential downpours. The ubiquity of *sartenejas* in the bedrock in this part of the site would have provided readily available water sources during the rainy months. Those *sartenejas* are made accessible via a network of natural and pre-existing constructed pathways: the Kaan Group’s bedrock “finger”, the Late to Terminal Formative constructed walkway, and exposed bedrock together make it possible to move about this part of the site without ever having to touch the ground itself.

The logistics of rainy season walking were not something I had thought a lot about before conducting survey with the Yaxunah *ejidatarios*. However, this was something that repeatedly came up during my work with Yaxuneros, particularly in our conversations about why Tzacauil houses were built where they were. Kancab turns to gluey mud in the rainy season, and figuring out ways to avoid stepping in that mud is a basic consideration for people living in Yaxunah today. Understanding the seasonal incentives of living on and being surrounded by bedrock, as opposed to soil, is an important step in tracking changing agricultural practices and rural community organization at Classic period Tzacauil.

7.8 The Jaltun Group

7.8.1 Overview of the Jaltun Group

The Jaltun Group consists of a single rectangular structure (designated Structure 7) built directly on a wide expanse of fairly flat bedrock (Figures 7.25-7.28). It is situated on the north side of the Tzacauil Sacbe and located about 60 m west of the Chamal Group. On the site map, this structure appears very small, but in reality its builders seem to have taken advantage of the surrounding expanse of exposed bedrock as a natural platform. This area of exposed bedrock includes numerous large bedrock cavities – *sartenejas* – that can serve as planters for container-style gardening and, more often, as seasonal reservoirs (these are the group’s namesake; *jaltun* is the Maya word for *sarteneja*) (Figure 7.29).

7.8.2 Jaltun Group construction history

The Jaltun Group was built over a flat expanse of exposed bedrock. While we could not discern any clear Formative antecedents here, there are some indications – sharp cuts and flat edges in the bedrock – that could suggest this outcrop was modified before the Classic period structure was built. Such activities would be consistent with other evidence for mining and stoneworking noted in the intra-settlement area around the Chamal Group. Regardless of how this outcrop had been used earlier, the Classic period settlers took skillful advantage of the natural contours of bedrock to expedite their construction whenever possible.

South of the structure, there appears to have been a small porch or step. To construct this, the builders first “sealed” cavities in the underlying bedrock using large flat stones. We excavated a couple of these cavities and they were completely empty. One measured more than a meter deep. No artifacts were found in any of them. As we had observed elsewhere (e.g., Sáastun Group), “sealing” off these bedrock cavities before construction was an expedient way to prevent construction fill from slumping into them over time. They then added about 30 cm of large stones to elevate this area, reinforced the fill with a perimeter wall of rough stones (but only in places), and then packed chich on top of the fill to create a finished surface. This constructed surface is



Figure 7.25 Jaltun Group

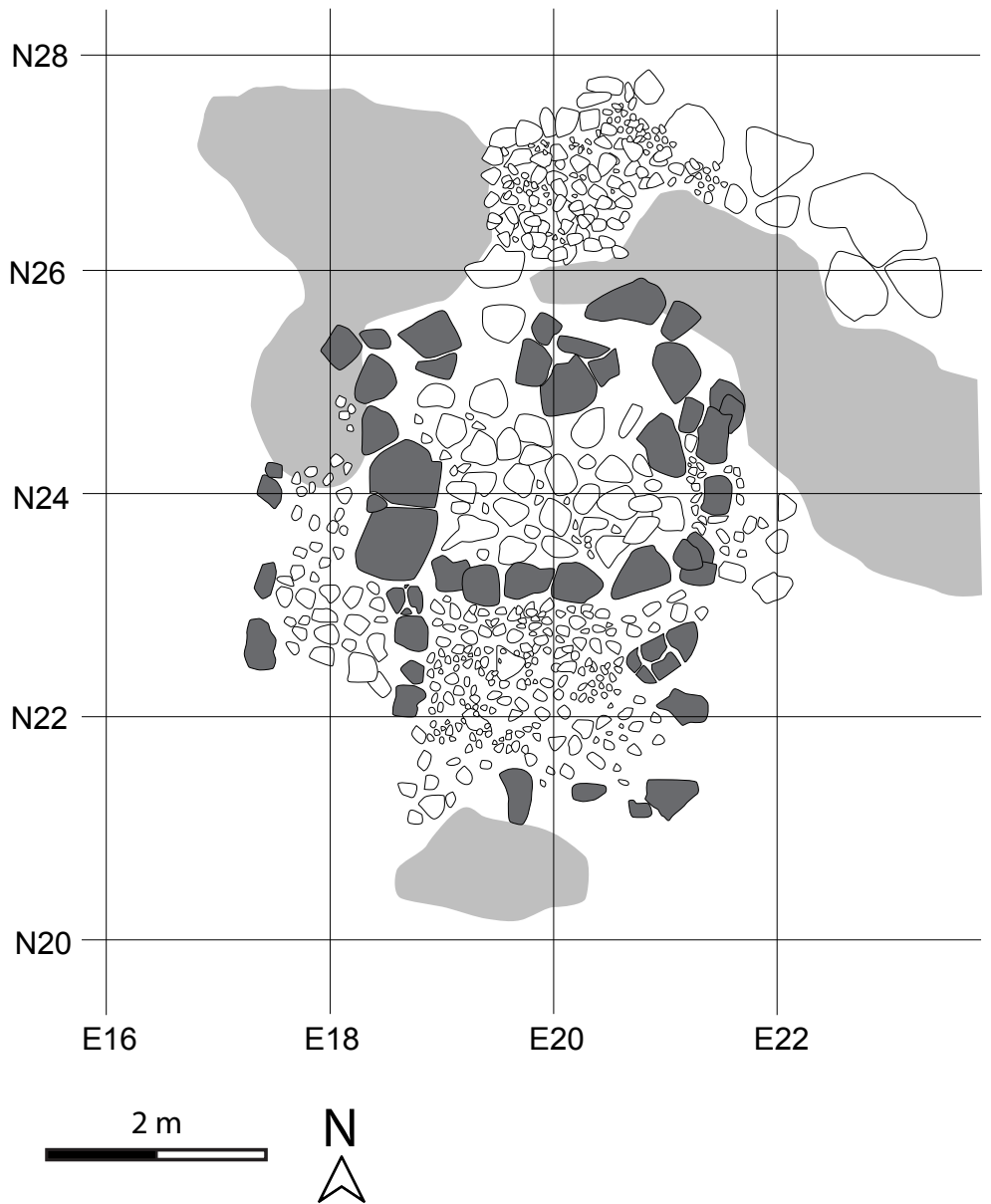


Figure 7.26 Plan of the Jaltun Group excavation

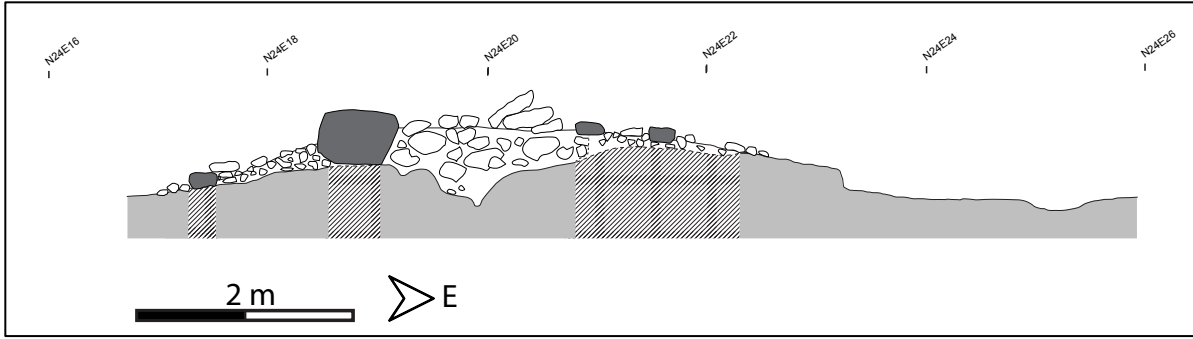


Figure 7.27 East-west *corte* of the Jaltun Group

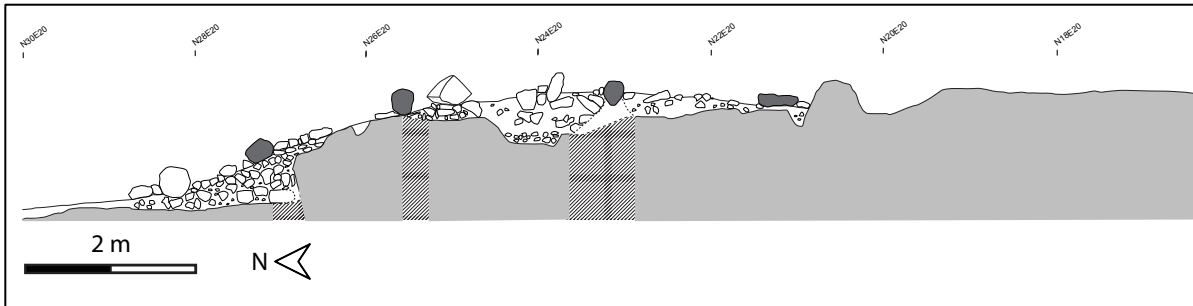


Figure 7.28 North-south *corte* of the Jaltun Group



Figure 7.29 *Sarteneja* south of the Jaltun Group

abutted by the structure itself on its north side, and on its south side is bookended with a boulder-like bulge in the bedrock. While this bedrock does reinforce the small area of fill, it also partially obstructs access to the structure's south side. It is unclear whether this

small constructed area was meant to serve as a formal access or possibly just as an extended living surface.

Slightly further to the north, Structure 7 was built. The builders leveled the surface of the underlying bedrock with rocks and rubble. Only a small amount of soil was noted in this fill. Large boulders delimited a rectangular space, and rested either directly on bedrock or on a layer of fill. The excavation team and I noted that inside this structure, there were a number of large, irregular stones jutting out from the surface. This jumbled layer measured about 40-60 cm and was directly over bedrock. The dramatic unevenness of the structure's interior was unusual; most structures at Tzacauil have fairly flat interior surfaces. One possible explanation for this is that originally Structure 7 had had multicourse al barrada-style walls, and that over time as the higher courses of stone collapsed, they fell into the structure and were jumbled up by tree growth and other formation processes. However, other al barrada-style constructions at Tzacauil (e.g., Structures 4A and 4B at the P'aak Group) still had fairly flat interiors. Perhaps a better explanation is that this structure was never used as a residence, but rather as an ancillary structure for storing maize or other items. In this scenario, being elevated off the ground would have been important for storage, but having a stable floor would not have been as essential – it would not have had to withstand regular trampling.

At points around the structure, the builders of the Jaltun Group reinforced their construction through the addition of fill. This was almost always done in areas where there were gaps in bedrock; to “tie together” those gaps, they built rough retaining walls of medium-sized stones, and then added rubble and fill behind the wall. This was observed on the southwest, north, and east sides of the structure. In areas where the natural contours in the bedrock provided stability, no fill and/or retaining walls were needed.

This interpretation of the Jaltun Group as an ancillary structure is similarly supported by its small size and relatively low artifact density (see material culture section, below). During excavations here, the Yaxuneros on the excavation team would often challenge me whenever I called this structure *una casa* (a house), saying it was far too small for people to live in. For them, this was clearly either an ancillary structure

(typically a corncrib) or a pen for animals – but not a house for people. After reviewing all of the evidence, I tend to agree with them.

7.8.3 Jaltun Group location and intra-settlement features

The Jaltun Group occupies a large, flat expanse of exposed bedrock north of the Tzacauil Sacbe and towards the western limit of the site's boundary. Looking at the Jaltun Group, we get a sense of the advantages bedrock offers. This bedrock expanse is riddled with *sartenejas*, the natural bedrock cavities where soil and moisture accumulate. This area of Tzacauil really stood out to the Yaxunah *ejidatarios* for the quality of its *sartenejas*. Many were quite large – about a meter in diameter – and had, over time, collected deep deposits of soil. Even in the dry months before the rainy season, these soils retained more moisture than soils in *kancabales*. Furthermore, as we have seen, *sartenejas* without soil can be used as seasonal reservoirs during the rainy season. The rainy season advantage of bedrock also includes its ability to provide a stable, sturdy living surface; it does not turn to mud the way *kancabales* do.

The Jaltun Group's bedrock expanse is surrounded by *kancabales* to the east and north. Trench 8, which was discussed in the last chapter, investigated the *kancabal* east of the Jaltun Group and leading up to the edge of the Chamal Group. Trench 8 shows that soils closest to the Jaltun Group were fairly shallow, averaging about 10-30 cm. Soil depth increases to about 40 cm, and in some cases is deeper than 50 cm, the closer you move to the Chamal Group's ancillary structure, Structure 8C. Artifact density was very light in this trench; only a single small groundstone polishing pebble was found, and no ceramics. Soils in Trench 8 had a very low average pH, and did not stand out as having particularly elevated phosphates on average. None of the sampled soils from Trench 8 had measurable carbonates (Figures 5.22-5.33; Appendix D).

We also excavated another trench, Trench 9, radiating out from the north side of the Jaltun Group's bedrock expanse (Figures 7.30-7.32). Trench 9 measured 26 m and found that soils closest to the Jaltun Group were fairly shallow, ranging from 0-20 cm, but that they became fairly deep the further north you go. Units at the north end of the trench hit bedrock beneath 5-55 cm of soil, but on average the soil measured about 30

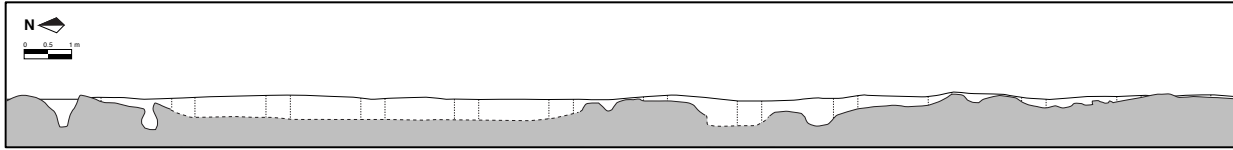


Figure 7.30 Profile of Trench 9



Figure 7.31 Trench 9



Figure 7.32 Trench 9

cm deep. Trench 9 did not stand out as especially high or low for pH, but soil pH was slightly elevated in units closest to the Jaltun Group (Figures 5.22-5.33; Appendix D). Similarly, while Trench 9's average phosphate reading does not stand out, it should be noted that phosphates were elevated right off the north side of the Jaltun Group. Save for slightly elevated levels in the unit closest to the Jaltun Group, carbonates generally absent from the soils in this trench. No artifacts were found in Trench 9.

Taken together, these lines of evidence support the idea that the Jaltun Group was an ancillary structure. Soil carbonates are elevated by nixtamalization and the residues of washing. Soil pH levels are elevated by the repeated deposition of ash. The low levels of carbonates and pH around the Jaltun Group, combined with the noted absence of material refuse (i.e. sherds), suggests that a full range of household activities simply were not taking place here. The slightly elevated phosphate levels just north of the Jaltun Group could be related to repeated food consumption, an interpretation that fits with this structure serving as a temporary fieldhouse or field camp. The data do not suggest that a full household was living here year-round; rather, this

seems to have been a seasonal field-house or camp. This is consistent with ethnographically and historically documented patterns where farmers maintained a camp close to their fields, where they would store maize and live temporarily during the busiest times of the agricultural cycle (Farriss 1984:209; Redfield and Villa Rojas 1934; Restall 1997). Their families and most possessions, however, remained at home. I will return to this idea at the end of the chapter.

7.8.4 Jaltun Group material culture

Compared to other Classic contexts at Tzacauil, relatively few artifacts were found associated with the Jaltun Group. The inventory of all artifacts recovered from excavations in the Jaltun Group can be found in Appendices A, B, and C.

Across the 44.5 square meters excavated, 43 sherds weighing 219.9 g were found. This makes for an average density of 0.97 sherds or 4.94 g of ceramic per square meter. Ceramics show that this structure was probably built in the Late Classic or early Terminal Classic (Yaxuná IVa), but there are also several examples of later Terminal Classic (Yaxuná IVb) ceramics in the assemblage. No Middle Formative sherds were found here. When we look at the available vessel form data, we see that there are 8 jar fragments compared to 13 bowl fragments in the Classic period ceramic assemblage (there is also a single Formative jar fragment). The only stone tools found in excavations of the Jaltun Group were a small groundstone pebble, probably used for polishing, and a couple (n=2) pieces of chipped stone debris. It should be noted that most of the artifacts found came almost exclusively from units on the north side of the Jaltun Group, in the same general area where soil chemistry analyses suggested human activity. Again, the paucity of artifacts found with the Jaltun Group are consistent with the interpretation that this was an ancillary structure, perhaps only used occasionally by a couple of individuals. These artifact assemblages do not suggest the full range of household activities seen in most of the other Tzacauil house groups.

7.9 The T'uup Group

7.9.1 Overview of the T'uup Group

The T'uup Group consists of a single apsidal structure (designated Structure 9) located just to the north of the kancabal between the Jach and Chamal Groups (Figures 7.33-7.38). It occupies a flat area of superficial bedrock, otherwise surrounded by the kancabal that initially drew settlers to this part of Tzacauil in the Formative period. During excavations of this group, only about ten sherds were found. The sherds date the construction of the structure to the Late to Terminal Classic period. The lack of artifacts found here suggests that this structure may have served an ancillary function.

7.9.2 T'uup Group construction history

The T'uup Group's single structure was built by arranging boulders in an apsidal shape. These boulders were placed directly on top of bedrock. We were not able to identify the kinds of construction techniques used to stabilize wall construction recorded elsewhere at Tzacauil; there were no signs of mortar-like construction material nor were *cuñas* (small wedge-shaped stones used to stabilize wall stones) identified here.

Once the apsidal ring of boulders was set up, the builders prepared the interior floor surface by depositing a thin (5-10 cm) layer of soil mixed with a few stones right on top of the bedrock. They then built up the walls by positioning successively smaller rocks on top of the base stones, similar to the drylaid walls of modern *albarradas* in Yucatán. The walls were heavily disturbed (only the base stones were in place) but from the size and quantity of fallen wall stones, we estimate that the walls would have reached no higher than 1 to 1.5 meters. Presumably these walls would have supported a perishable superstructure.

7.9.3 T'uup Group location and intra-settlement features

This lone Classic structure occupies the expansive kancabal that had been so favored by Late and Terminal Formative householders at Tzacauil. The structure "floats" on a patch of exposed bedrock in the middle of this kancabal. Survey in the intra-settlement area around here found very little else besides kancabal. No trenches were excavated in direct association with the T'uup Group, but from excavating in the general

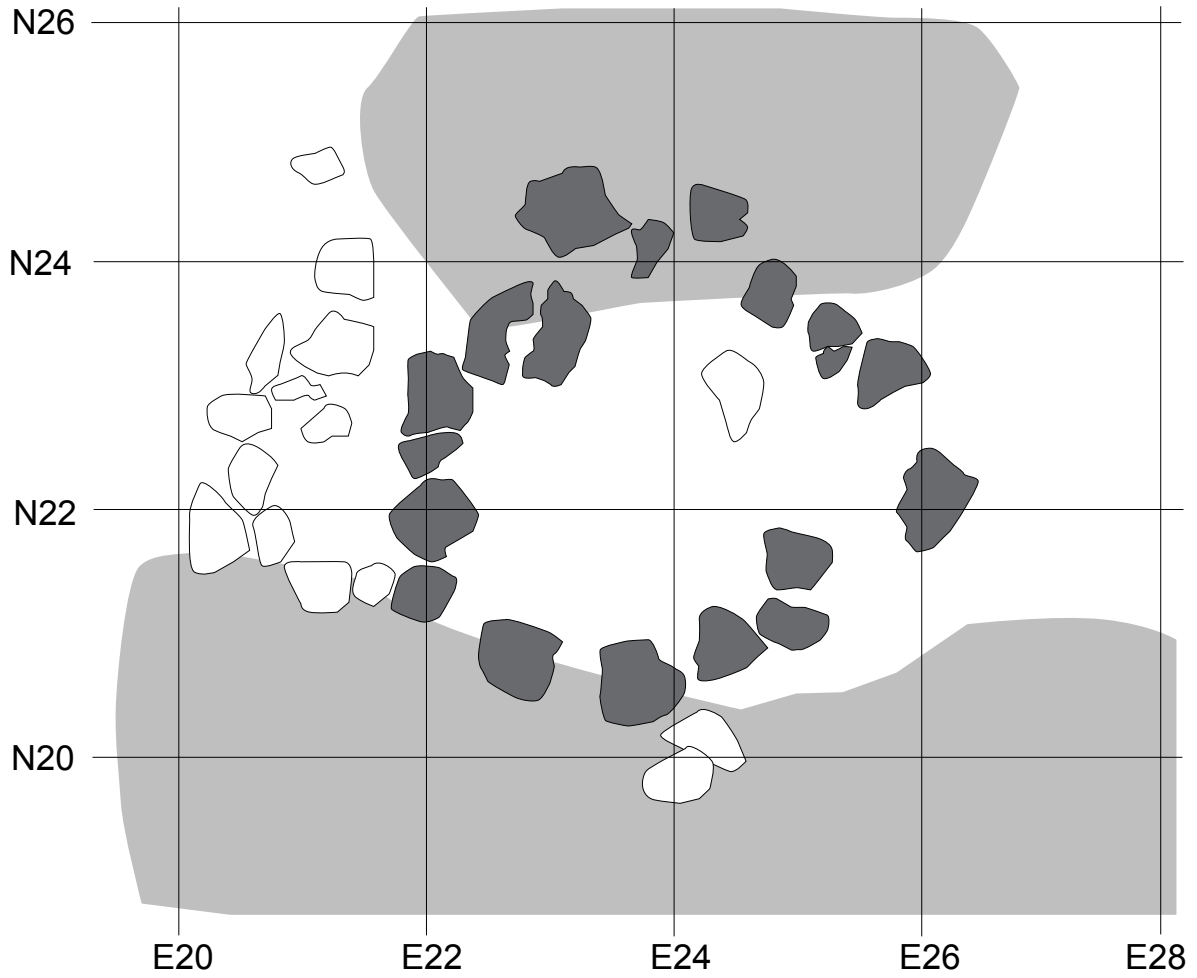


Figure 7.33 Plan of the T'uup Group excavation

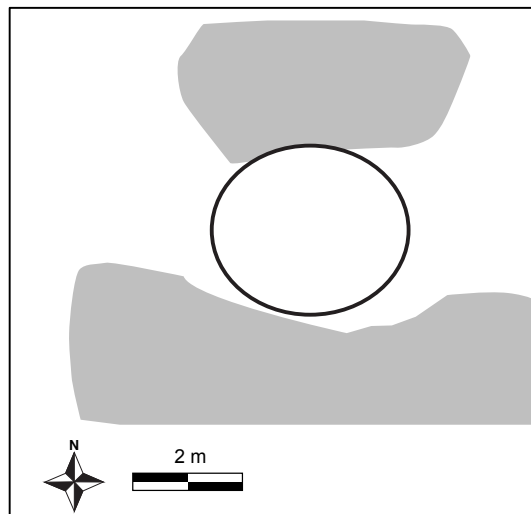


Figure 7.34 Stylized plan of the T'uup Group

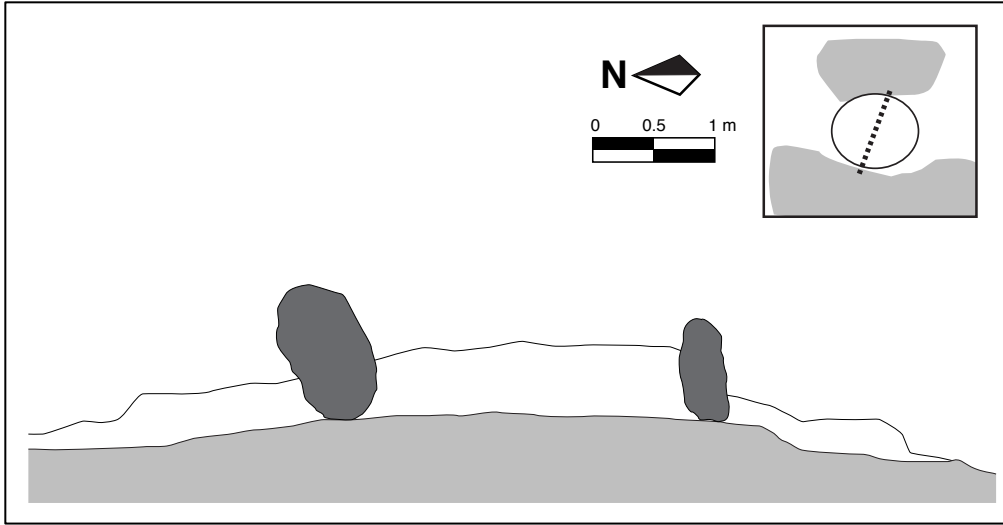


Figure 7.35 North-south *corte* of the T'uup Group

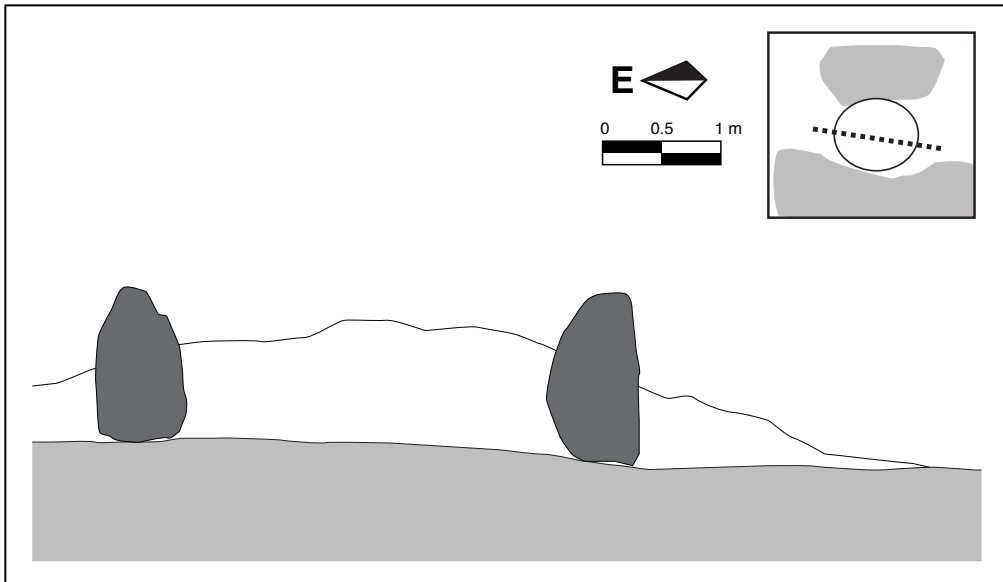


Figure 7.36 East-west *corte* of the T'uup Group



Figure 7.37 T'uup Group



Figure 7.38 Excavations in the T'uup Group, Unit N22W22

area (e.g., Trenches 2 and 3) we know that the soils here are among the deepest at Tzacauil.

7.9.4 T'uup Group material culture

The inventory of all artifacts recovered from excavations in the T'uup Group is included in Appendices A, B, and C. Only a handful ($n=8$, or 49.1 g) of ceramic sherds were found during excavations of the T'uup Group. Of these, half are diagnostic of the Late and Terminal Classic (Muna slatewares) and thus date the group to the Classic reoccupation of Tzacauil. All sherds for which vessel shape could be identified ($n=7$) were fragments of jars. With 51 square meters excavated at the T'uup Group, this puts sherd density at 0.16 sherds or 0.96 g of ceramics per square meter. This is the lowest sherd density documented across all of the Tzacauil house groups. No lithic artifacts were found. As with the Jaltun Group, the paucity of artifacts here suggests that the structure was not being used for the full-range of domestic activities; rather, it likely served an ancillary function as a fieldhouse or corncrib.

7.10 Chapter summary

The Classic period settlement at Tzacauil shows us how farming communities were engaging differently with their local environment than they had during the Formative period. While I will reserve most of my discussion of these historical changes until the synthesis in Chapter 9, the summary here will distill from the above data the most salient points about this Classic farming community.

When Tzacauil was resettled in the Classic period, people were drawn mostly to the southwestern part of the site, an area dominated by a large, exposed bedrock promontory. They utilized pre-existing Formative architecture in this part of the site, and even considerably remodeled that architecture to fit their needs. We see evidence for this at both the Kaan and the Pool Groups. We see that in the case of one of these groups (Kaan Group), the builders reoriented the earlier platform to face towards the rest of the Classic period settlement, instead of north towards the Tzacauil Sacbe as it

had earlier.. They were not cognitively tethered to the central artery of the Tzacauil Sacbe, as their Formative antecedents had been.

It is critical to note that the other Formative boulder-lined platforms elsewhere in Tzacauil show little sign of the Classic occupation. They appear to have been largely left alone. This stands out when we consider that, to date, there are no known Formative house groups at Yaxuná that were not occupied during the Classic period, particularly during the site's population peak in the Terminal Classic.

The kinds of terrain preferred by the founders of the Formative Tzacauil community – isolated bedrock outcrops “floating” in kancabales – were not where the Classic householders chose to live. Instead, by positioning themselves on top of the southwestern bedrock outcrop (Pool and Mukul Groups), they favored the natural drainage and stable living surface provided by the bedrock. The nearby Kaan Group made use of pre-existing Formative architecture that had cleverly incorporated bedrock terrain into its construction. The householders living here embedded their homes within a network of natural and already-constructed walkways. This network of raised pathways provided stable walking surfaces above the surrounding soil flats. Considering that these soil flats turn to mud several months out of the year, this presented an advantage particularly valued among the modern Yaxuneros I talked to. Aside from keeping their feet clean, these pathways also served to connect Classic house groups back to wide expanses of exposed bedrock replete with natural cavities. These cavities can be used for a kind of container gardening (see Fedick et al. 2008), but more often are used as natural reservoirs during the rainy season.

Away from this area, the evidence of Classic activity thins out. There were a few random Classic sherds found scattered on the surface of these platforms, and we sometimes found the occasional Classic sherd or obsidian flake (also likely Classic) during our intra-settlement investigations.

But these isolated finds are nothing compared to the massive remodeling and subsequent occupation that took place at the Kaan and Pool Groups. Instead, these isolated finds suggest to me that people were moving freely in this environment. The

archaeological signature they left behind is ephemeral precisely because human activity was spread out across a wider area.

And then we also have the two small ancillary structures, the Jaltun and T'uup Groups, on the north side of the Tzacauil Sacbe. These two structures have remarkably low artifact densities, and especially in the case of the Jaltun Group, are so small that they barely seem large enough to sleep in. I strongly suspect that neither was used as a house – there simply is not enough refuse to suggest a full range of domestic activities took place here, not on the level of the other groups. Instead, I believe that these structures were fieldhouses or corncribs, structures associated with temporary and/or special function use related to agricultural work.

Such temporary field camps are known ethnographically and ethnohistorically for the Yucatec Maya (Farriss 1986). Given the shifting nature of milpa agriculture, farmers might have to travel quite far from their homes to get to their fields. Making this trip daily becomes less practical after a certain threshold of distance is reached (though ethnographers vary in the threshold they report; see Redfield and Villa Rojas 1934; Benedict and Steggerda 1936). It becomes even less practical during the busiest times of the agricultural cycle (e.g., planting, harvesting). Farriss discusses how in the Colonial period, men would stay at temporary huts at their fields during the busiest times in the agricultural cycle, returning home only on Sundays to attend mandatory Catholic mass. As Farriss envisions it, farmers might put up with this arrangement indefinitely. But often they might grow tired of keeping house on their own and eventually relocate the rest of their household – and their possessions – out to the fieldhouse. “For some the move was permanent,” Farriss writes, “and the new house site became the nucleus of a new satellite settlement” (1986:210).

This raises a question. The Jaltun Group and the T'uup Group are both only a couple minutes' walk, if that, from the Classic period houses in the southwestern part of the site. So why are they necessary? I think there are two ways of answering this, and I tend to favor the second. One explanation is that they served not as temporary fieldhouses but as some other kind of ancillary structure, perhaps corncribs, for the people living in the southwestern Classic settlement. A second explanation, and one I

think is more likely, is that the Jaltun Group and the T'uup Group have little to do with the southwestern Classic settlement – rather, they are temporary fieldhouses belonging to people whose permanent homes were much farther away. The fact that both the Jaltun and T'uup Groups have some of the latest sherds found at Tzacauil (particularly the Jaltun Group) suggest to me that they may have been in use after the people who had resettled the southwestern part of the site had already moved on from Tzacauil.

We could make the argument that one way to view the Classic period settlement at Tzacauil as a whole is as a shifting assemblage of social units at different stages of household growth. Put differently, if we follow Farriss' observation about temporary fieldhouse occupation that “for some the move was permanent,” then one way to interpret the Classic period house groups of southwestern Tzacauil is as an extended or multigenerational family unit that relocated, perhaps for several years, to be closer to agricultural fields. Restall (1997:103), too, notes that Colonial-era Maya farmers whose fields were far from their primary residences might occupy a temporary hut, reoccupy an abandoned house, or even found a substantial secondary residence in the forest. It is quite possible that we are seeing different stages of these cycles in the archaeology of the Classic period settlement at Tzacauil.

In this scenario, the settlement may have begun with a kernel – we can imagine a temporary shelter set up on the Kaan Group's basal platform – and eventually grew as the farmers relocated their families and belongings and set up a more permanent arrangement. They moved on when it was time to let the lands around Tzacauil rest and seek a new place to farm. Perhaps this move began, once more, with a temporary camp some distance away, which eventually grew to be more permanent as it became less convenient to “commute” from Tzacauil.

Given this, we can view the two ancillary structures (Jaltun and T'uup Groups) as temporary field camps that never quite had the gravitational pull to motivate farmers to relocate their entire households. We cannot know why, nor can we know where the farmers who used these structures were living the rest of the year. But these structures provide us with enough to know that this land continued to be used well into the second half of the Terminal Classic period, even when no one may have been living



Figure 7.39 Metate at Yaxuná



Figure 7.40 Metate ground into a boulder of a boulder-lined platform at Yaxuná

permanently at Tzacauil at that time. This information also suggests that we need to excavate multiple sites in a region to understand how farming families were living from season to season, year to year, and generation to generation.

Material culture also contributes to this story. At Yaxuná, huge metates are ubiquitous throughout the settlement (Figure 7.39). These metates are basically troughs that have been worn down into huge limestone boulders. They are in no way portable. They are difficult to date, but given that Yaxuná was densely settled in the Terminal Classic, and given that many of these metates appear to have begun as “recycling” boulders from Formative boulder-lined platforms, I suspect they date to the Classic period (Figure 7.40). Despite how common they are only a short distance away at Yaxuná, not a single one of these metates was found at Tzacauil. This suggests both that Classic people may not have been living at Tzacauil for long enough to make these kinds of metates, and/or that people living at Tzacauil may have prioritized portability for their grinding tools.

Classic people living at Tzacauil – and I am talking here specifically about the house groups in the southwestern part of the site – seem to have had similar kinds of access to ceramics as their neighbors in Yaxuná. Ongoing household archaeology at Yaxuná will help clarify this. However, access to certain non-local goods and particularly goods to which archaeologists often ascribe a prestige value, like marine shell, obsidian, jadeite, hematite, and malachite, are notably scarce at Classic period Tzacauil. We only

have a few isolated finds of broken obsidian blade fragments, a single small greenstone celt, and a couple pieces of shell. Again, more work at Yaxuná is needed to clarify this differential access, but based on what has been excavated so far (Stanton et al. 2010; Stanton and Magnoni 2011; Fisher 2017) it seems as if people at Yaxuná had much greater access to these non-local goods.

Taken all together, these diverse lines of evidence suggest that Classic period farmers in the Yaxuná hinterland were much more mobile than their Formative predecessors had been. Their agricultural strategies were based not on autonomous households' claims and improvements to particular landholdings. Rather, it seems that multiple households collaborated in pooling their labor and resources to engage in shifting, extensive agricultural strategies. Access to particular plots of soil-rich land was not as contested as it had been earlier, and it was no longer necessary for farming houses to physically embed their homes in soil-rich areas in order to farm those lands. They were freer, as a result, to take advantage of seasonal advantages presented by living on bedrock promontories. In moving their settlements frequently (the exact tempo is unknown, but I expect it could have ranged from a couple years to a couple decades), Classic period farmers were able to let the forest recover from farming while still raising a crop every year. This marks a very different kind of lifestyle from that of people living at Classic Yaxuná, and, as I will discuss in Chapter 9, one way to interpret this disparity is through the emergence of meaningful differences between urban and rural life for the first time. The hinterland agricultural system of the Classic period may have driven the development of new kinds of political authority, in which farmers and community leaders struck a successful balance between land tenure recognition and political intervention. These ideas will be developed more in Chapter 9. Before that, though, there is one more stop to make on this walk through Tzacauil: the modern-day Anthropocene.

Chapter 8

Tzacauil in the Anthropocene

8.1 Introduction

The first two windows into the Tzacauil landscape come from the archaeological remains of the Formative and Classic period farming communities that formed there, at about 2000 years ago and then again at about 1000 years ago. After that, even though there is no evidence that Tzacauil was ever occupied again, its lands still continued to be part of an ongoing history of interactions between Maya farmers and their local environment. We just need to adopt a very different approach to this window, compared to how we approached the Formative and Classic communities. Understanding the more recent and ongoing history of Tzacauil is important for the historical-ecological framework I have adopted here, which is inherently an applied approach that connects with the modern sustainability discourse. We can think back to the story that this dissertation opened with, of don Jerónimo's corncrib and walking Tzacauil's lands with the Yaxunah *ejidatarios*. As I recounted, they gave several reasons why farming at Tzacauil – and elsewhere in the *ejido* – is in decline. Many of those reasons can be connected to larger-scale processes of the Anthropocene, a proposed term for this current geological age in which human activity is the dominant force affecting the environment (e.g., Crumley 2015; Kennett and Beach 2013). These processes, among them climate change and neoliberal agrarian reform, themselves cannot be understood in isolation. To think about the current unfolding narrative in Tzacauil's landscape, we have to place it in the context of the last 500 years. This chapter is not meant to provide a comprehensive overview of Colonial and post-Colonial Yucatán history; for that, the reader can investigate the works of historians like Clendinnen (1987), Farriss (1984), Patch (1993), Quezada (2014), Reed (1964) Restall (1997), Roys (1933, 1957, 1972),

Rugeley (1996), and others cited here. Instead, what this chapter sets out to do is to provide enough context so that we can understand the scraps of evidence available for understanding the pre-20th century story of this landscape, and to situate the more abundant information of the 20th and 21st century in the wake of significant events like the Caste War of Yucatán. Because the nature of these data is so different from the archaeology of the previous two chapters, it will not be analyzed in quite the same way as the data from the Formative and Classic period communities. Instead, the information in this chapter will be used to (1) lay the groundwork for the emergence of sustainability claims in the 21st century Yaxunah *ejido*, so that (2) those claims can be evaluated in light of the lessons gleaned from the archaeology of past farming communities at Tzacauil. All together, I propose that these interdisciplinary approaches can help us evaluate the long view of agricultural sustainability in rural Yucatán (Chapter 9). We will begin by picking up with the Conquest and early Colonial period.

8.2 Conquest and early Colonialism in Yucatán

Very little direct information is available about the lands now claimed as the Yaxunah *ejido* during the initial decades of European contact. We know that the Spaniards found in Yucatán a different kind of challenge than they faced, say, in conquering the Aztec or Inca Empires (Clendinnen 1987). Late in the pre-Contact period, the Yucatán Peninsula had been united first under the capital of Chichén Itzá and then again a final time under the capital of Mayapán (Roys 1957, 1972). We have detailed information about Mayapán's political history, thanks to records made in the early Colonial period (e.g., Roys 1962; Tozzer 1941), and from these accounts we know that delegates from 16 provinces co-ruled the united peninsula. In-fighting among these provincial factions in the early 15th century led to the abandonment of Mayapán – and the dissolution of a united peninsula under joint rule – in 1441.

These factions retired to their 16 respective provinces and established autonomous political systems. Historian Ralph Roys' work on these provinces – *cuchcabalob* – is enormously helpful in understanding what the Spaniards found when they arrived (Roys 1957, 1972). The political landscapes of these 16 provinces were

varied. They ranged from fairly centralized governments headed by a single authority, to loose confederacies of sometimes-allied groups, to multiple unassociated groups that rarely if ever cooperated. Joyce Marcus has pointed out that this diversity of political organization likely, in fact, represented different stages of centralization: that the politics of these provinces that seem so variable is a product of tempo (Marcus 1989). In this view, which follows Marcus' dynamic model of state formation, the 16 provinces of the Yucatán Peninsula were going through a normal "valley" of decentralization between two periods of centralization (Marcus 1992). Such oscillations would likely have been common over the previous centuries. The difference, now, was that the process was interrupted by the Spanish Conquest.

When the Spaniards began arriving in the early 16th century, they found the Yucatán Peninsula to be politically fragmented (Blom 1936; Chamberlain 1966; Clendinnen 1987; Means 1917). Fighting and rivalries persisted among the territories. The Spanish soldiers were unsure what to make of this part of their New World. After a few early and fitful forays, the business of conquest began in earnest with the deployment of Francisco de Montejo in 1527. His kin would follow, making the name Montejo – the trinity of father, son, and nephew – synonymous with the Spanish *entrada* in Yucatán. The Spaniards took advantage of inter-provincial rivalries to pit Maya against Maya.

Yet the decentralization of the peninsula, and the nature of its landscape and how the Maya moved in it, gave the Spaniards no satisfying end to their labors. The year 1547 is often cited as the year this process of conquest was complete. But even a cursory reading of the histories that have been written indicate that the reality was much more complex. Nancy Farriss (1984) has shown that Maya populations dispersed as a collective strategy for survival, from the beginning of the Conquest well into the Colonial period. (As I will talk about in the next chapter, this strategy of dispersal was a form of social and agricultural resilience in Yucatán long before the Conquest.) The way that Yucatec Maya moved in their landscape is referred to by Farriss (and others following her) as centripetal, but this presumes the existence of a center. I think we can argue

that, even in the decades before the Spaniards arrived, most Maya were fairly untethered to anything that European eyes would recognize as a center.

In fact, many elements of how most Maya were living and farming in the late Postclassic and early Colonial periods were directly at odds with the goals of the Spanish Colonial enterprise. We can sense the Spanish frustration with these practices in the repeated legal attempts to get rid of them once and for all, ordinances condemning the same behaviors year after year. With the ordinances of Tomás López Medel, issued in 1552, Maya communities were ordered to break up their multifamily households into nuclear families, each in its own separate house. Documents from subsequent years suggest that, on the ground, this ordinance was not widely adopted (Roys et al. 1940, 1959). Over years, the ordinances continued to insist that Maya live in nuclear family units on small orthogonal houselots in gridded towns. That the Colonial authorities had to belabor this order tells us that it was met with resistance on the ground. We can infer that the Maya continued to maintain sprawling, expansive plots of land, claimed and cultivated by extensive multigenerational family groups, to the frustration of Colonial authorities.

Even when Maya farming communities maintained ties to a well-defined residential core, they frequently moved around in a much larger area as *milpa* farming required. This was problematic for the Colonial enterprise. In his work with the Maya notarial record (e.g., wills, petitions) from AD 1550-1850, Matthew Restall (1997) develops an argument for thinking of the Maya term “cah” as a geographical and political identity, as well as an important term of Maya self-identity. As a geographical entity, the cah included both a well-defined residential core as well as a patchy, extensive collection of lands and parcels that could be many kilometers from the residential core. Restall calls these the “residential cah” and the “territorial cah” (1997:20). He goes on to note that farmers’ fields were typically within a day’s walk of the residential cah, but that in instances where soil quality was poor, farmers dispersed, with more than half living in the forest, close to their fields. At these distant settlements, farmers lived in temporary huts, abandoned houses, or even founded more substantial residences (Restall 1997:103). When the establishment of these hinterland plots are

described in the notarial record, they have “the ring of ritual and formula”, Restall notes (1997:171). It is possible, too, that such ritual and formula may have accompanied the founding of pre-Hispanic hinterland farming communities, like at Tzacauil. Though such movements may have been endorsed by political leaders in the Classic and Postclassic periods (Chapter 7), they were fundamentally at odds with how the Spaniards understood land tenure.

Similarly, we see in Colonial tax documents that the Spaniards did not fully understand the nature of agriculture in Yucatán. Before the Conquest, provincial leaders had collected maize tribute based on plantings: a certain – and variable – amount of seed was required to be planted by each farmer every year. The first Colonial tribute schedule was designed by Franciscan friars who surveyed the entire peninsula and asked different Maya communities how they had paid tribute in the past (Chamberlain 1951; Paso y Troncoso 1939). The resulting Tax List of 1549 reflects the flexibility and reliance on farmers’ decision-making that had existed before European contact. But in every subsequent tax schedule, the Spaniards set about setting fixed amounts of tribute per farmer *and* made maize tributes based not on plantings, but on harvests. This fundamentally changed farmers’ place in the political economy. It made them more vulnerable to vagaries of climate and subtle differences in land quality. To cope with these risks, the logical solution was to spread out even more, ensuring that each farmer would have access to the substantial land required to produce reliable harvests every year. Yet at the very same time, the Spaniards were cracking down on population dispersal, and forcing Maya communities to live in gridded towns where they would be readily accessible to priests and tax collectors (Farriss 1984; Restall 1997).

These veneers of authority obscure a complex reality: the Spaniards had very little control over the people they claimed as subjects in Yucatán, at least at first. One of the most powerful reasons why this was the case was that the nature of Maya agriculture required a sophisticated knowledge of the forest, which, to Spanish eyes, appeared at best as wandering aimlessly in the woods and at worst as delinquency and potential insurrection (Farriss 1984). Maya agriculture was a threat to Spanish control, and much of the history of the early Colonial period in Yucatán is shaped by this

ongoing struggle to condense settlements while simultaneously, paradoxically, asking them to produce more food.

The broader peninsular patterns of political and agricultural dynamics were likely felt in the lands around Tzacauil, the lands today claimed as the Yaxunah *ejido*, but we lack a clear picture of what that may have looked like. Census documents cannot be linked to the lands of the modern Yaxunah *ejido* until 1784, when the town of Yaxunah and the *hacienda* of Cetelac (see below) are both listed. Before that, as early as 1600, a settlement called Cetel-ak does appear, sporadically, in documents (Roys 1933). There is reason to think that this Cetel-ak may refer to a community living in the lands of today's Yaxunah *ejido*, and which later gave its name to the 18th century *hacienda*. The location of these lands would have been significant, since it is on the frontier between the two provinces of Sotuta and Cupul. This may mean that Cetel-ak was a contested area (see also Ardren 2015). Like so many other places in the peninsula at this time, the Spanish presence was less visible here in the inland scrub forests. Yet even while it was less direct, the impact of Spanish Colonialism was no less insidious, as disease likely decimated the communities of Maya who likely were living here before 1700. We simply do not know who was living and farming at Yaxunah, much less at Tzacauil in the early Colonial period (though there are indications of a possible early Colonial occupation elsewhere in the PIPCY study region, at the site of Cacalchen; see Fisher 2017). But it is worth noting that the very lack of archaeological and historical evidence is consistent with the idea that transience was a critical strategy of survival in these first generations after the Conquest.

As we will now move ahead to the late 18th century, we can summarize the first 150 years or so of Spanish Colonial rule in Yucatán as relatively stable. Though marked by the frustrated fits and starts of subjugation, the Yucatán Peninsula was fairly quiet compared to the drama of other Spanish holdings in the Americas. Here, conquerors and priests seem to have accepted their station in what was widely regarded as a backwater of the Spanish Empire. Faced with a lack of gold and soil, Spaniards set about exploiting the one resource they recognized in Yucatán: its people, their bodies

and souls. This exploitation accelerated as Colonial political and economic structures matured in the late 1700s.

8.3 *Haciendas* and the beginnings of privatization in Yucatán

Population in Yucatán had dramatically increased by the late 18th century, and with it, so too did demand for food (Bracamonte y Sosa 1993; Machuca Gallegos 2011). This demand fundamentally changed Yucatán's agricultural systems, and these changes were rooted in divisions between Colonial elites and Maya farming communities (Bracamonte y Sosa 2003). Enough time had passed since contact that the fixed categories of "Spaniard" and "Maya" were arguably meaningless by this time – nonetheless, sharp lines of status divided wealthy elites of predominantly European descent to one side and peasant farmers of predominantly Maya descent to another. This time period and its identity politics are complex, but in the interest of moving forward in my discussion here, I will simply refer to the groups of primarily European descent as Colonists or Yucatecos, and those of primarily indigenous descent as Maya.

Colonists were frustrated with Maya agricultural practices, whose tempos and strategies they failed to see as anything other than lazy. They began expanding agricultural production by establishing estates, the progenitors of later *haciendas*, and declaring that Maya-owned landholdings were now their own private property (Patch 1991, 1993). The Maya who had formerly claimed those lands as their own were now expected to work them for the benefit of Yucateco landholders, for free, one day a week. They were called *luneros*, after the Spanish word for Monday (*lunes*), since that was when they were required to labor on the estates.

Yet this system, too, changed rapidly. Under King Charles III (reigning 1788-1807), the so-called Bourbon Reforms liberalized the colonial economy by relaxing trade regulations and modernizing Colonial industries (Patch 1993). With the prospect of acquiring wealth through exports, the Colonists of Yucatán recognized an opportunity to rid themselves of their "backwater" status, and they seized it. Cities in Yucatán were growing, and as they grew, the dichotomy between urban and rural became increasingly

pronounced. With this shift came a new kind of existence of rural lands, as support systems for burgeoning urban populations.

Haciendas, operations like plantations or factories that concentrated production and its requisite labor force, sprang up across the Yucatán countryside. These *haciendas* were focused on the mass production of goods – meat, tallow, leather, lumber, and henequen – that could be used to provision growing urban markets while leaving enough left over to export to other Colonial bases in Mexico, the Caribbean, and the United States (Rugeley 1996). More and more land was privatized (Patch 1993). As this went on, rising taxes and church fees were crushing Maya communities, who all the while were struggling even to feed themselves in a liberalizing economy that alienated them from their fields and forests.

Hacienda owners offered slavery as a solution. They began, deceptively, by paying taxes and church fees on behalf of Maya peasants (Reed 1964; Rugeley 1996). The Maya were forced to accept these loans. They then spent their entire lives trying to repay these debts through labor on the *haciendas*, but the system often prevented them from ever being able to. Debt peonage inflicted structural violence on the Maya and was nothing short of slavery. However, other ethnohistorians have taken a “softer” stance on *haciendas* in Yucatán, saying the Maya moved freely to live and work at the *haciendas*, “and they were equally free to move away” (Farriss 1984:215; see also Gibson 1964:255-256). There may have been a great deal of variability among all the *haciendas* in how labor was recruited and maintained; we unfortunately lack any information about how this might have worked at the Cetelac *hacienda*. Suffice it to say for now that there was enough tension and disenfranchisement created by the *hacienda* system to lead to a large-scale revolt, as we will see in discussion of the Caste War.

By 1825, Yucatán’s state government had passed laws authorizing the seizure and sale of “empty” lands, called *terrenos baldíos*. The privatization of these allegedly inactive and unproductive lands, the thinking went, would promote cattle raising and boost the state’s coffers (Güémez Pineda 2005). These laws specifically addressed the large swaths of “empty” terrain which, prior to liberalization, had been of little interest or import to the Colonists. To the Maya, on the other hand, these forests and fields were

part of an intricately orchestrated, multigenerational agricultural system. Leaving parcels to “rest” (lie fallow) and return to forest was an integral part of how this system worked and was carefully coordinated at a communal level. This was how these lands had been managed for centuries. Yet once again, the Spaniards were incapable or unwilling to recognize the ingenuity of these strategies; to them, the resting land was simply unproductive.

To sell the *terrenos baldíos*, however, required that they be defined. In considering the lands around a Maya village, where did communal farmland end and “empty land” begin? Ortiz Yam’s (2011, 2014) analysis of agrarian reform in Yucatán effectively demonstrates how the government’s systematic attempts to answer this question laid the groundwork for subsequent privatization.

Yucateco political authorities soon found out that this seemingly simple task of delimiting communal farmland from “empty land” proved next to impossible. Maya communities had long-established rules governing land tenure in their surroundings, which were respected and recognized within communities. A family’s agricultural practices were contained within specific plots of land that were defined by the *rumbo familiar* – the family path – and these familial claims were respected within the larger community and landholding (Ortiz Yam 2011). These boundaries were constantly in flux as the cycles and rhythms of agriculture shifted, but were, again, carefully orchestrated by the Maya. To the Yucatecos, these movements appeared wasteful and itinerant. The Maya farmers’ fluid and relational concepts of land tenure did not map cleanly, if at all, onto Euro-centric conceptions of space and property.

Another example of this tension between European and indigenous conceptions of the landscape can be seen in the Yucatecos’ desire to standardize the amount of communal farmland endowed to each community (Güémez Pineda 2005; Ortiz Yam 2014). Yucatán governor José Tiburcio López Constante introduced legislation that would rely on a simple equation to determine the range of a Maya village’s communal farmlands: each family would get 500 mecatres of land (Güémez Pineda 2005). This proposal was not included in the final law, but shows Yucatecan political authorities grasping desperately for a simple solution to the boundary issue. Another proposed

solution was to assign a fixed radius for communal lands, with two leagues being the boundary past which land could be privatized. Others suggested that forcing the Maya to build fences around their communal lands would solve the issue. All of these solutions further illustrate the disparity between Yucateco and Maya conceptions of the landscape – and of how agriculture actually worked on the ground in Yucatán.

After these initial, largely-failed attempts to privatize lands, the state government finally managed to pass a flurry of laws in the 1840s that began alienating Yucatec Maya people from their lands in earnest. With the passage of laws in the 1840s, these “empty” lands, called *terrenos baldíos*, were now seized as private property. The first of these laws, passed by Yucatán’s state government in 1841, attempted once again to restrict the size of the communal lands claimed by Maya villages (Patch 1991). As they had tried earlier, Yucateco authorities came up with a fixed equation for calculating the boundary between communal farmland and *terrenos baldíos*: a square league in each cardinal direction, radiating out from each town’s central church, would define the limit of the *ejido*’s communal farmland (Ortiz Yam 2014). Everything beyond that was fair game for privatization. The *terrenos baldíos* that were freed up, the law reasoned, could be parceled and awarded to soldiers as payment for military service.

But as had happened in previous centuries, when brought to the ground, Colonial law was ill-equipped to do battle with Maya agricultural practices. The laws stalled again against the practical prospect of a simple question: how to mark where communal lands ended and empty lands, the *terrenos baldíos*, began? In 1844, the state tried to solve this riddle by levying taxes on *milpa* land and demanding that Maya villagers foot the bill for official surveying teams to delineate boundaries between those farmed communal lands and the *terrenos baldíos* (Patch 1991). The prospect of drawing a line around any given year’s *milpas* as a fixed and finite entity must have seen ridiculous to Maya farmers. Those cultivated fields were inextricably tied to the allegedly “non-productive” lands in which they were embedded. Lands recently fallow and forested lands were just as much a part of this agricultural system as were parcels currently under cultivation. We can read a quiet story of resistance in the absence of *any* evidence that *any* Maya village actually complied with these laws and paid for the required official survey

(Güémez Pineda 2005; Ortiz Yam 2004, 2014). The Maya were able to resist the sale of their lands under the pretext that they had not yet measured their *ejidos*.

By 1846, there was still no sign that any Maya community had actually followed through on the government's orders to measure their *ejidos*, thus blocking the privatization of their lands (Ortiz Yam 2014). But soon this would matter very little. The mounting strains and injustices inflicted on Maya communities in the first half of the 19th century came to a head in 1847, the year the Caste War of Yucatán broke out. Though in many ways the Caste War and, later, the Mexican Revolution, disrupted the previous narrative of agrarian exploitation in Yucatán, in other ways they enabled it to continue. Before getting into a brief discussion of the Caste War and its aftermath, though, we are fortunate to have information from this period of liberalization and privatization that directly relates to the lands of the modern Yaxunah *ejido*.

8.4 Yaxunah and Cetelac in the Bourbon era, 18th-19th centuries

Much of what we know about these lands at this time we owe to Rani Alexander's historical and archaeological research centered on the municipality of Yaxcabá (Alexander 1998, 2004, 2006; Alexander and Hernández Álvarez 2018) (Figure 8.1). Then as today, Yaxcabá was the county seat for a large swath of central Yucatán, including the *ejido* of Yaxunah. At the end of the 18th century, we see that an *hacienda*, Cetelac, was established in these lands (though this remains debated; see Chapter 1, Footnote 3). A record of a land sale dating to 1773 deeded the lands of Cetelac to a man named Dámaso Santana, who went on to develop a cattle *hacienda* there (Alexander 2006:464).

Beginning in 1784, during the time of the Bourbon Reforms, clergy based at Yaxcabá started a series of official pastoral visits to outlying settlements in the municipality. Census data were collected as part of these visits. From these records, we see that in 1784, the town of Yaxunah and the *hacienda* of Cetelac were registered as two discrete entities, with populations of 205 and 8 respectively. Cetelac's settlement increased to 25 in 1804, and in the last year for which census records are available in 1828, it had reached 51 people. These were likely Maya families that labored at the

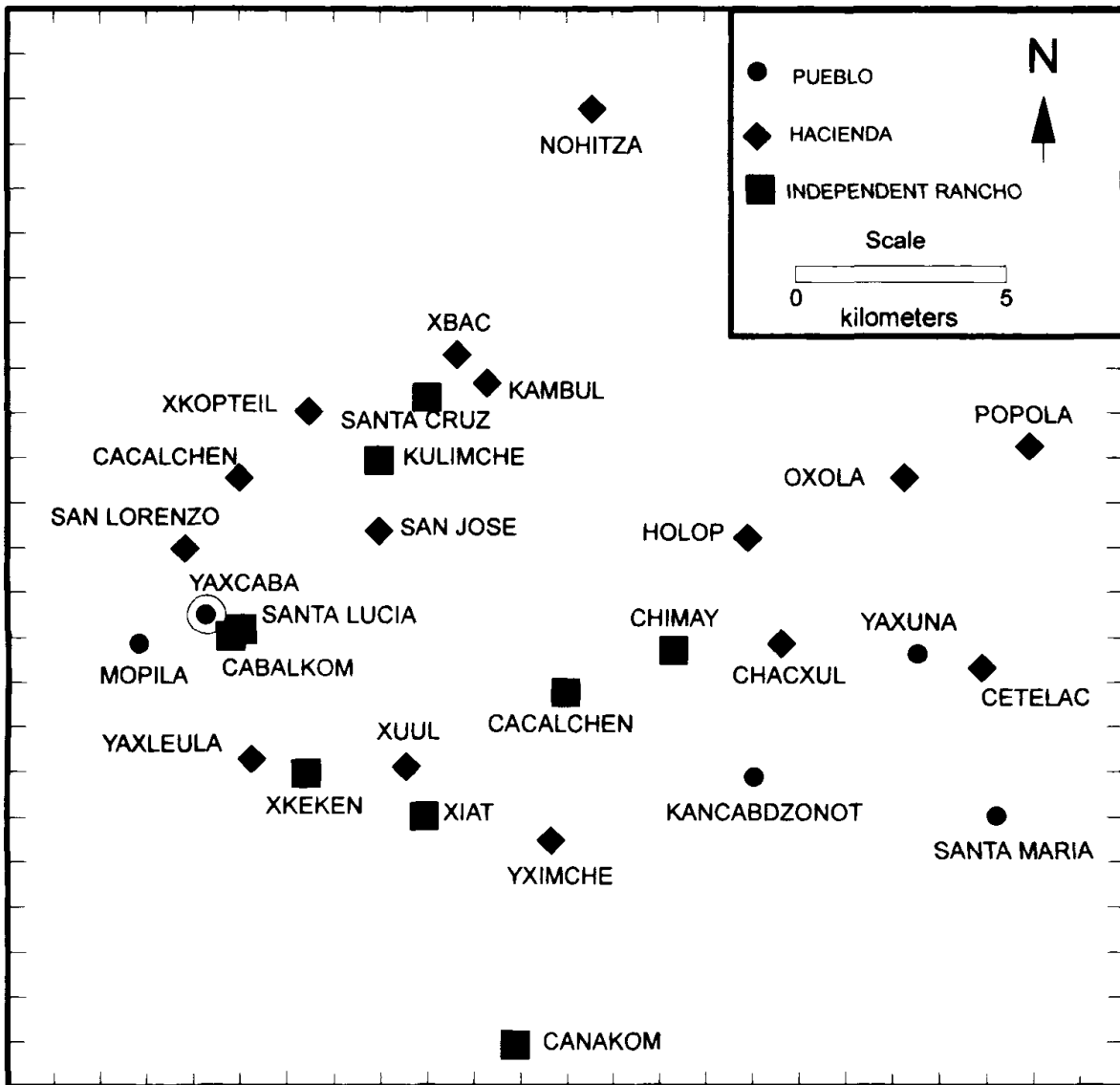


Figure 8.1 Map of the Yaxcabá area, showing locations of Yaxunah and Cetelac (from Alexander 1998)

hacienda, and as part of the arrangement, lived around the *hacienda*'s manor house. The manor house still stands in ruins today (Figures 8.2, 8.3). While decidedly less impressive than some of its contemporaries (particularly in the henequen zone of the northwestern peninsula), the manor house still would have stood stridently out from the simple houses of the small settlement surrounding it. The manor house is built of *mampostería* (stone masonry with mortar), has two floors, a *noria* (a mechanized water lift), and a network of associated small aqueducts, troughs, and corrals (Alexander 1999).



Figure 8.2 Hacienda Cetelac manor house in 2014



Figure 8.3 Yaxunah ejiditarios at Hacienda Cetelac in 2017

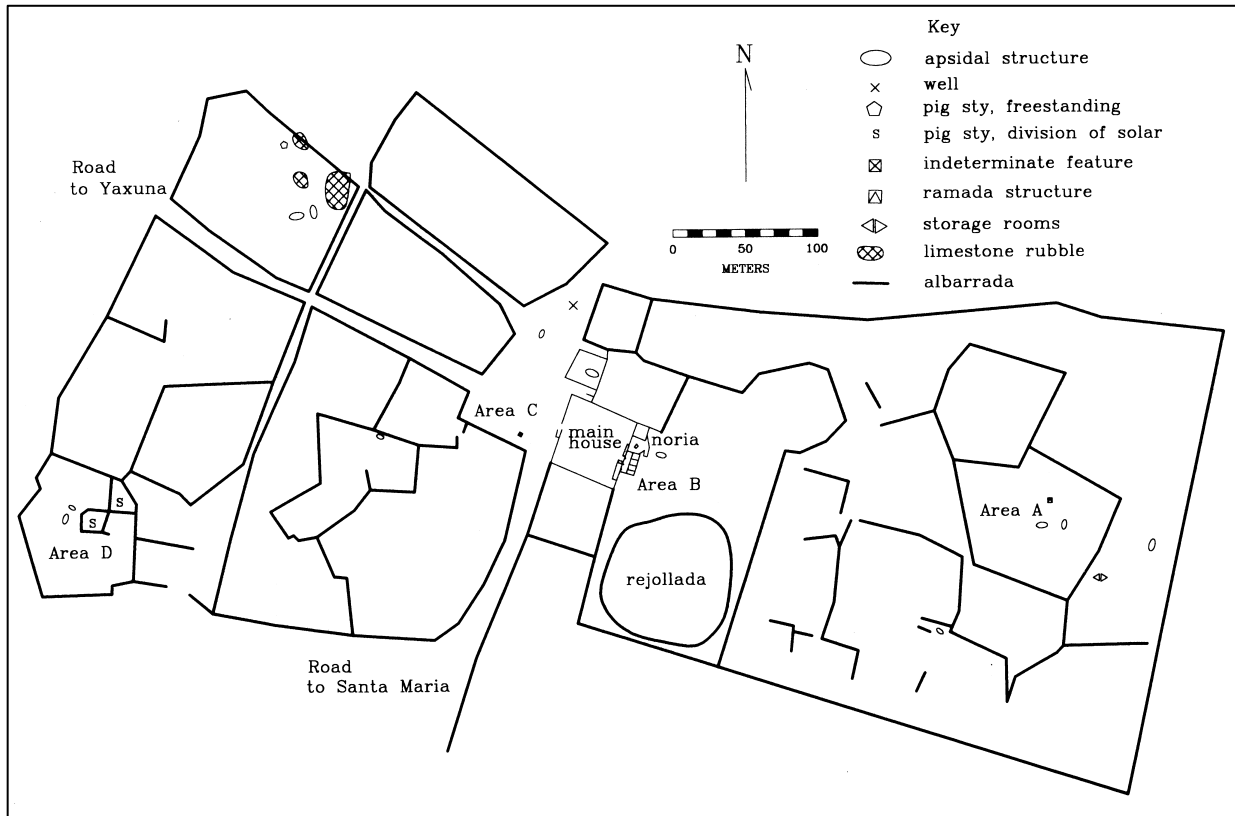


Figure 8.4 Map of Hacienda Cetelac (from Alexander 2004)

Alexander has done some mapping and surface collection of Cetelac's Maya settlement and found it to consist of irregularly shaped walledouselots enclosing simple structures (Alexander 1999, 2004, 2006) (Figures 8.4, 8.5). Located, as it is, in

the archaeological zone of Yaxuná, the occupants of the settlement undoubtedly utilized pre-Hispanic architecture. The *hacienda* and its settlement are also located in an area marked by a lot of large depressions, called *rejolladas*, that conserve soil and moisture and are ideal sites for arboriculture. Yaxunah *ejidatarios* have also shown me, around the *hacienda's* manor house, stone rings that were likely tree planters. There is some evidence of a street grid in the northwestern part of the settlement, but nowhere else. The whole outfit covers about 35 square kilometers. Cetelac was abandoned when the Caste War broke out in 1847, but unlike Yaxunah, it was not resettled. There is still a lot of potential to learn more about Bourbon-era Maya agricultural practices at Cetelac, but we must be content for now with these glimpses.

The exact relationship between Cetelac and Yaxunah is not well-understood, but we get some fascinating insights from a land dispute recorded in documents in the Archivo Notarial del Estado de Yucatán. There, it is mentioned that the *hacienda* proprietor authorized two individuals, José María de Sosa and don Julián de Quixano, to settle a land dispute between himself and the Maya living at nearby Yaxunah (Alexander 1993:454). Given the larger context of Bourbon-era privatization, such a dispute makes sense. We can imagine, perhaps, tensions mounting as Yaxunah *milperos* and Dámaso Santana's cows vied for sovereignty over field and forest, but the exact details are lost to us.

There is also the question of when and how the town of Yaxunah was established. As mentioned, the town first appears in the registry of a pastoral visit dating to 1784. We do not know how long the town of Yaxunah had been formally established at this point, but given a population of over 200, it is likely that it had been occupied for some time. Circumstantial evidence would suggest Yaxunah was founded during an era of forced resettlements in the 16th-17th centuries (Bascopé 2005; Magnoni et al. 2007). Censuses show that Yaxunah's population continued to grow. Population peaked at 1121 inhabitants in 1821 (Rodríguez Losa 1985), dipped down to 896 in 1828, then to 500 in 1841 before rising slightly back up again to 620 in 1846. This last figure marked the year before the Caste War. It is important to note that several of these censuses indicate that pre-Caste War Yaxunah was a much bigger settlement than it is today.

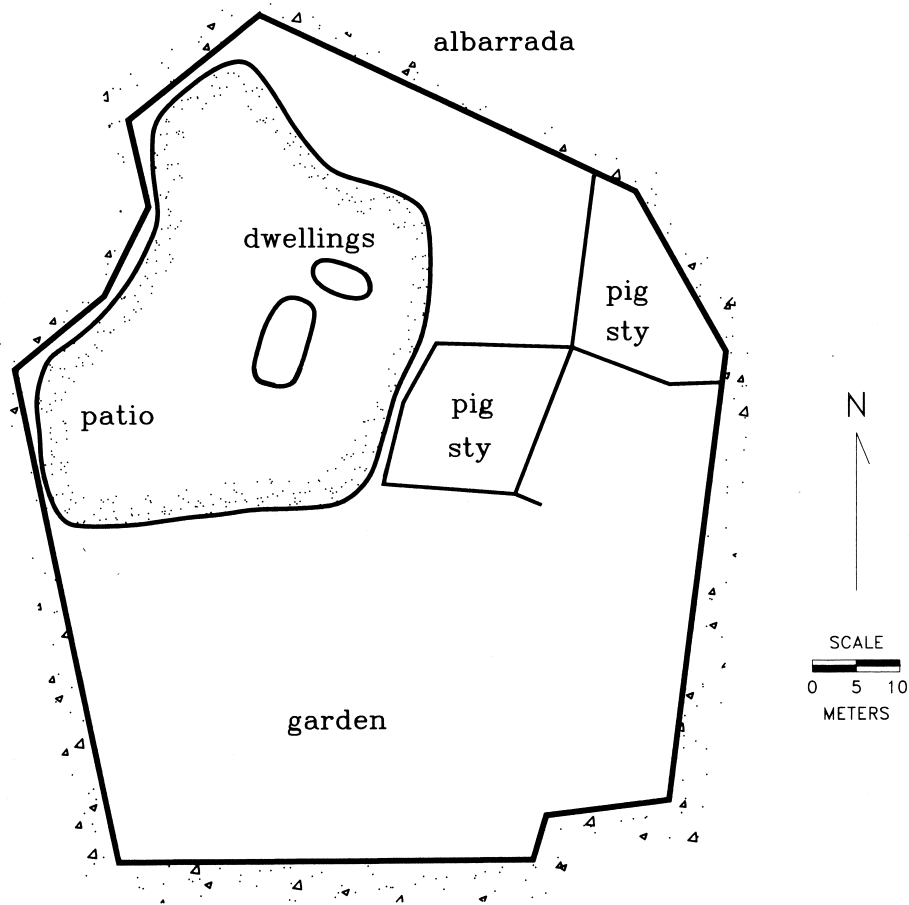


Figure 8.5 Plan of a houselot associated with *Hacienda Cetelac* (from Alexander 2004)

This is true both in terms of population (in the 21st century Yaxunah's population hovers around 600) and in area; archaeologists have noted a ring of vacant *solares* around the modern town that testify to its former size (Alexander 1993:457; Hernández Álvarez 2014).

Alexander (2004) classifies Yaxunah as a Rank 2 center during the Bourbon Reforms – meaning that it had *solares* (houselots) defined by *albarradas* (low, dry-laid stone masonry walls) and an orthogonal street grid. Its settlement probably measured about 30 hectares, like comparable neighboring centers of Mopilá, Kancabdzonot, and Santa María. Such Rank 2 centers of the time were centered on a Catholic church (and associated ossuary) and a principal plaza, which themselves were invariably situated near a permanent water source. The residues of Bourbon-era Yaxunah remain visible in



Figure 8.6 Catholic church at Yaxunah, finished in 1817 (from <http://www.yucatan.gob.mx/?p=yaxunah>)

the 21st century. Still standing today (though in ruins), the Catholic church at the edge of the principal plaza bears the date of 1817, likely the year it was finished (Figure 8.6). The church is T-shaped and, architecturally, very similar to the manor house of *hacienda* Cetelac (Hernández Álvarez 2014). A *cenote* is located just off the principal plaza. Old wells have been recorded in *solares* and elsewhere in the settlement; these would have supplemented water from the *cenote*.

What we know for sure about Bourbon-era Yaxunah and Cetelac is limited, and so it might seem that we can say next to nothing about a place like Tzacauil. Tzacauil is about an hour's walk from Yaxunah, deep in the unsettled forest. The thought that Yaxcabá priests would bother going out there is laughable. We might assume this place was unimportant, inconsequential. But there are clues that it would not have been.

With so many people living at Yaxunah, along with the *hacienda* laborers living at Cetelac, it is nearly certain that the lands around Tzacauil were part of a carefully scheduled, collectively organized *milpa* system. In the past twenty years, Yaxunah's population has hovered around 550-600 people. At its greatest population peak, around 1828, the area supported a population nearly twice that. Given the nature of *milpa* agriculture, Tzacauil would have been well within the radius of lands farmed to support a population this size. It bears mentioning that when the Yucatán government issued the order to delimit communal lands from *terrenos baldíos* in 1844, it stated that any land further than a square league, in the four cardinal directions, from a given town's church would be eligible for privatization. A league is equal to about 4.2 km, and Tzacauil is almost exactly 4.5 km due east from the Catholic church in Yaxunah. Tzacauil, this means, is precisely in the lands that were under threat of being privatized in the 19th century. So while we lack any specific information about how this unassuming patch of land fit into the larger seasonal, annual, and generational rounds of field and forest management, we can say with confidence that Tzacauil and lands like it were becoming increasingly contested as Colonists pushed for ever-greater privatization.

8.5 The Caste War of Yucatán

After decades of simmering tensions, the Yucatán Caste War erupted in 1847 (Patch 1991; Rugeley 1996). The caste system in Yucatán traced its origins back to the conquest, and had persisted well into the 19th century through a social hierarchy that placed landed elites of European descent – Colonists or Yucatecos – at the top, and indigenous Maya peasant farmers at the bottom. The Yucatecos were concentrated in the northwestern part of the peninsula, in the region where the cities of Campeche and Mérida were developing. During the era of early liberalization, Yucatecos had also dispersed out across the countryside to advance production through *haciendas* (as did don Dámaso Santana at Cetelac). The Yucatecos were greatly outnumbered by the Maya, but managed to maintain control through their military, the Church, and the economic structures that enabled debt slavery.

Starting in the 1820s, the attention of the Yucateco elites was absorbed by the future of their state's relationship with Mexico. Yucatán had been incorporated into the Mexican Empire in 1821. Yet almost immediately after joining Mexico, Yucateco elites began dabbling in experiments of their own independence, never quite satisfied or sure of how they fit into the emerging Mexican nation. Some Yucateco factions supported the move to join the rapidly centralizing Mexican Empire, while others resented the prospect of forever remaining a periphery frontier zone. Other peripheral zones in the Mexican Empire felt this same sting, and, in the case of far-north Texas, revolted in protest. As the Mexican federal government mustered its forces to subdue Texas, it levied taxes on its subjects elsewhere to foot the bill.

At the opposite side of the new nation, many Yucatecos were enraged by this arrangement and began seeking their own sovereignty. In 1839, a rebellion led by Santiago Imán set up a rebel government in the east of the peninsula and began moving west towards Mérida (Rugeley 1996). Imán was successful: by 1841 he had declared Yucatán to be an independent republic. Yet *how* Imán managed this sowed the seeds for future conflict. Realizing his cause was hopeless without a much larger army than he had started with, Imán reached out to the Maya populations in the eastern peninsula. There, the Maya could outnumber the Yucatecos by as much as five to one. Imán convinced the Maya to join his cause by promising them land and tax exemptions. The Maya at this time, we must remember, were struggling to make a living in this rapidly changing landscape of land privatization and crushing tribute demands. Imán's promises must have been difficult to ignore. Many agreed to fight, and as a result, Maya men suddenly found themselves armed for the first time since their ancestors had fought in Conquest-era uprisings. With the aid of the Maya, Imán was able to declare Yucatán its own republic in 1842.

Mexico disagreed with this declaration and promptly deployed forces to subdue the ambitious Yucatecos. Though the Mexican attempts to capture Campeche and Mérida were mostly unsuccessful, this issue completely captivated the attention of the Yucatecos. They were divided. Two factions of Yucatecos, one based in Campeche favoring independence and one based in Mérida favoring reintegration, vied for control

of the peninsula's fate. Both sides continued the recruitment efforts started by Imán, swelling their ranks with well-armed Maya soldiers. So distracted were the Yucatecos by external threats that they did not grasp the insurrection growing from within (Patch 1991).

The Maya had been pushed to their limits. They had watched their ancestral lands wrested from under their feet in the name of privatization. They had been hit with impossibly high taxes and forced into slavery with no hope of ever paying off their debts. They had fought for the Yucatecos in exchange for promises that, it was becoming apparently clear, were never going to be kept. And now, they were armed.

The rebellion began in the east in the summer of 1847 (Patch 1991; Reed 1964; Rugeley 1996). The leaders of the uprising – Jacinto Pat, Cecilio Chi, Manuel Antonio Ay – organized, armed, and provisioned a battalion of Maya soldiers to gather outside Valladolid, the largest Yucateco city in the eastern peninsula. Seeing this, the Yucateco political leaders back in the northwestern cities realized the precarity of their situation and set out to squash any hint of revolt. Ay was publicly executed, and then over the following weeks, the Yucateco forces burned Maya fields, sacked Maya towns, and killed Maya people – attacking, seemingly at random, Maya villages across the eastern peninsula. The Yucatecos scented rebellion and responded with terrorism.

Facing this indiscriminate terrorism against Maya communities, at the end of July 1847, Chi and Pat chose to match the Yucatecos. An order was issued that all non-Maya be killed. The eastern *haciendas* were abandoned and burned, their owners presumably killed, as the Maya forces systematically reclaimed territory and marched westward. By 1848, Maya forces had taken control over most of the peninsula and were preparing to lay siege to Mérida when, for reasons that are not fully understood, the army was dissolved. Some have argued that the Maya soldiers left the fight and dispersed because it was time to plant their crops, this cyclical necessity outweighing any tactical advantage of the siege. Regardless of why they failed to take Mérida, the Maya were never able to regain the advantage they had had in that moment (Reed 1964; Rugeley 1996).

The Yucatecos, under the leadership of Governor Miguel Barbachano, began to reassert their control and push the Maya back to the east. Barbachano, cornered, allowed Yucatán to be reabsorbed into Mexico in exchange for reinforcements in August 1848. Mexico revived the Yucatecos' military efforts, pushing the Maya into containment in the east. Now the threat was far from the cities of Mérida and Campeche.

Even still, the southeastern part of the peninsula remained a stronghold of the Maya rebellion far longer than the Yucatecos would have liked. Sovereign states, ruled by Maya leaders, developed in the areas today known as the Mexican state of Quintana Roo and the nation of Belize (formerly British Honduras). The largest of these, Chan Santa Cruz, maintained autonomy well into the late 19th century (Reed 1964). The Yucatecos were mostly powerless to intervene in the affairs of the eastern resistance, and doubled down on their economic and political efforts in the northwestern part of the peninsula.

This divide left a large buffer region between the two halves of the peninsula, a swath of mostly unpopulated jungle separating the Maya eastern strongholds and the Yucateco western strongholds. Even as the Caste War was officially declared over (at least by the government of Yucatán) in 1855, this buffer zone continued as a site of regular skirmishes. These skirmishes continued to flare up into the first decade of the 20th century.

8.6 Yaxunah and Cetelac during the Caste War

Cetelac and Yaxunah may not have been major players in the Yucatán Caste War, but they were certainly swept up in its events (Alexander 2004). The *hacienda*, and likely the town too, were abandoned in 1847 (Alexander 1993, 1998, 2004). This was that same summer when the arbitrary terrorism of the Yucatecos prompted Maya military leaders to issue orders to kill all non-Maya. There had been 620 people living in the town of Yaxunah the year before – no census data are available for Cetelac – and it is certain that the Maya in the area would have greatly outnumbered the Yucatecos. We cannot know how word reached the Maya of Yaxunah and Cetelac that it was time to rise up, nor can we know how the events of their localized revolt played out. The

uprising was likely over quickly, and we can expect that the newly liberated Maya of these two settlements wasted no time in leaving. It would have been deadly dangerous to remain, knowing the tactics of the Yucateco soldiers.

This area, the modern Yaxunah *ejido*, remained sparsely populated for the next several decades. It was squarely in the dangerous buffer zone between the Yucatecos and the Maya. Yaxcabá census data show us that 11 people were living in the town of Yaxunah in 1862, but there is no evidence of anyone living there after that until about 1920, when the ancestors of the town's modern inhabitants resettled there (Alexander 2004). Cetelac, meanwhile, was never reoccupied. The *hacienda's* manor house still stands in ruins today, bearing the marks of the burning and destruction that accompanied its abandonment in 1847.

Yet another question with no answer: where did the Maya of pre-Caste War Yaxunah and Cetelac go? Perhaps some went east, to join the rebel leaders and build up the independent Maya nation of Chan Santa Cruz. Many families, we can imagine, simply scattered into the forest to continue farming, away from the demands and debt slavery of the Yucatecos. This scattering, as Nancy Farriss has argued, had always been an enterprise of collective survival for the Maya of Yucatán. And now once again it was time to disperse.

The landscape of the Yaxunah *ejido* is quiet in these years. If there were people farming and living at Tzacauil, they left no trace that we can recognize. But these lands at the eastern edge of the *ejido* would go on to play an important role in the resettling of Yaxunah in the early decades of the 20th century. We will resume this story, but not without first addressing what was going on in the rest of the country in these intervening years. On the landscape of greater Mexico, the turn of the century was anything but quiet.

8.7 Notions of industry and progress in pre-Revolution Yucatán

The next period of Mexican history, known as the Porfirato, again transformed the lives and farming practices of Maya in Yucatán. The Porfirato refers to the presidency of Porfirio Díaz, who took seven turns as president of Mexico from 1876-

1880 and then again from 1884-1911. Much can be written about Díaz – his controversial tactics earned him, some would say, a reputation as a dictator – but here we will focus on his agrarian reforms (e.g., Gil 1977). These reforms and their aftermath were chief among the grievances that spurred the Mexican Revolution, which then brought with it new waves of agrarian reforms. While agrarian policy may seem like a dry subject, these reforms are the key to understanding the relationship between Maya farmers and Tzacauil in the Anthropocene. They are the key to continuing the narrative of twenty centuries of human-environment interactions playing out on the Tzacauil landscape.

Díaz used agrarian reform as a way to stabilize Yucatán after the Caste War had (mostly) ended. Increased privatization, the federal government contended, would bring peace and progress. They saw the communal *milpa* systems of the Maya as wasteful and backward, and wanted instead to seed the landscape with “industrious, individualistic farmers working in a free enterprise system” (Chacón 1991:80). And so communally owned land was divided. By the early 20th century, 134,000 hectares of communal land had been balkanized into 12,000 private plots, with 1% of the population owning 97% of the land and 96% of the population owning no land at all (Chacón 1991; Diggles 2008).

Making matters worse, tenure over the so-called empty lands, *terrenos baldíos*, that had been in question before the Caste War became even more tenuous. While these lands appeared unutilized to government officials, they were critically important to the long-term productivity and stability of *milpa* agriculture. These lands were deeded to private companies before Maya farmers could have any hope of filing their own claims, and even when they did, their claims were usually rejected by the courts (Chacón 1991). Lands were flying out from under the feet of Maya farmers.

Why was there suddenly so much entrepreneurial interest in purchasing land in an area that had once been considered a backwater? The answer is henequen, a species of agave that grows exceptionally well in the thin, arid soils of northwestern Yucatán. Henequen can be processed into fibers, which can then be turned into rope –

and rope, it turns out, was an unassuming but absolutely essential component of the Industrial Revolution.

The henequen boom transformed Yucatán. Henequen planters – *henequeneros* – bought (or simply confiscated) communal farmlands and established *haciendas* throughout the northwestern peninsula (Evans 2007; Ortiz Yam 2011; Wells 1985). Now landless, Maya farmers were forced to gravitate to those *haciendas* to make a living. Many Maya became, again, virtually enslaved on these henequen *haciendas* through the insidious machinations of debt peonage. The nature of agriculture changed, swerving sharply towards the monocropped field, itself an emblem of imagined progress and efficiency. To the south and east, outside the dry henequen zone, agricultural and livestock *haciendas* dominated the landscape and pumped food back into the urbanizing northwest. Like their henequen counterparts, these agricultural *haciendas* also absorbed the desperate labor of landless Maya. Railroads stretched across the state. Mérida became home to the most millionaires per capita of any city in the world. But the subsequent bust came quickly. The henequen monocrops were sensitive to the fluctuating markets and vulnerable to competitors, especially those who were figuring out the secrets to making synthetic rope. Though the henequen boom lasted only about forty years (1880-1920), it amplified many of the structural inequalities between landed elites and landless peasants that had long existed in Yucatán. The insufferable conditions caused by these deeply structural divides were felt throughout Mexico. As the reign of Díaz came to an end, the anger of Mexico's landless peasants was rapidly coming to a head. To understand the next chapters in this story, we need to shift attention to the nation as a whole.

8.8 Post-Revolution agrarian reform

In the early 20th century, much of Mexico was in crisis. A political calamity followed the end of Díaz's tenure as president, and in that climate of volatile uncertainty, the agrarian uprisings known collectively as the Mexican Revolution began. The Mexican Revolution lasted from about 1910-1920, and was a direct response to the deep inequalities between landed gentry and landless peasants that had become

rampant throughout Mexico. These same kinds of deep structural inequalities had long been prevalent in Yucatán, but it is important to note that Yucatán's participation in the revolution was relatively minimal. Yucatecan society did not mobilize on the same scale as many of their counterparts in other states, and as a result, many of the reforms of the Mexican Revolution initially bypassed Yucatán (Chacón 1991:182). Because of this lack of engagement, Yucatán experienced a substantial lag between the declaration of post-Revolution agrarian reforms and their actual implementation on the ground.

For understanding Tzacauil's role in the Anthropocene, we have to think in terms of the most important of the agrarian legacies to emerge from the Mexican Revolution: the *ejido* (Gálvez 2018; Ortiz Yam 2011; Torres-Mazuera 2018). The *ejido* system owes its existence to Article 27 of the Mexican Constitution. This article addressed the grievances of millions of landless Mexican peasants by fundamentally reshaping systems of land tenure. *Ejidors* were tracts of land, officially granted to peasant communities by the federal government and collectively owned and worked by the members of those communities, the *ejidatarios*. Pushing back against the decades of privatization, *ejidos* could be neither bought nor sold, nor even rented. *Ejidatarios* themselves had to be the ones working the land; they could not pay others to do so on their behalf. All *ejidatarios* had the right to be involved with decision-making pertaining to the *ejido*. *Ejidatarios* formed official committees to govern their *ejidos*, and every *ejidatario* had the right to elect committee members and vote on the committee's internal rules. *Ejidatarios* could transfer their rights to *ejido* membership through wills, thus ensuring generational continuity in communal land ownership. This is how the *ejido* system was originally laid out by Mexican government officials in the years following the revolution, and the system remained stable and relatively faithful to the original vision for several decades.

In Yucatán, the *ejido* system took its foothold in fits and starts. The post-Revolution federal government installed a series of governors in Yucatán. These governors often had their own visions as to how reform should occur in the state, and these outsiders typically found themselves at odds with the Yucatecos.

The first of these, General Salvador Alvarado (1915-1918), was ambitious in his attempts to cure what he perceived to be Yucatán's agrarian ailments: debt peonage, unproductive and inefficient *haciendas*, and foreign-controlled henequen production (Chacón 1991; Joseph 1982). He used the state's ample resources – he had caught the tail end of the *henequen* boom – to fund a program of reform. He attacked debt peonage first. Finally, this oppressive system was outlawed, liberating some 100,000 Maya who had been essentially enslaved as *hacienda* laborers (Joseph 1982). Though the reality is that many of them had to return to the *haciendas* to find work – the *haciendas* still controlled the overwhelming majority of the land – they at least did so somewhat more freely than before. Recognizing that many of these structures were still in place holding peasant farmers captive, Alvarado welcomed the passage of Article 27 in 1917 by trying to implement modest agrarian reforms. His government distributed several thousand hectares of land to a dozen communities with the idea that peasant farmers would be able to increase food production to support the state's growing population (Chacón 1991; Joseph 1982). Lest we mistakenly think that the governor passed these reforms out of some deeper understanding or appreciation of Maya agriculture, let us include his opinion of Yucatán farmers: "Those men (Maya) want only to sow their miserably small *milpas*, will eat nothing but corn, and cannot be persuaded to produce anything of worth for society as a whole" (Alvarado, quoted in Joseph 1982:128). Alvarado was summoned for military duty and reassigned in 1918. Though his efforts were modest and, like many of his contemporaries, marked by a misunderstanding of Maya agricultural practices, Alvarado was up against legions of wealthy Yucatecos who had a vested interest in maintaining the status quo. It would take several more attempts before meaningful land reform took hold in the state.

The next attempts to reform agrarian policy in Yucatán came under Governor Felipe Carrillo Puerto (1921-24) (Joseph 1982). Carrillo Puerto was a native of Yucatán, born in the town of Motul and of Maya and European ancestry. He understood his state in a way that many of his predecessors had not. By the time he became governor, the henequen boom had come to its sharp decline, but the majority of lands were still tied up in *haciendas*. Carrillo Puerto set out to bust up *hacienda* landholdings and

redistribute those lands to peasants. He was successful in deeding land rights for 438,866 hectares to some 22,525 peasants, most of which went on to be used for *milpa* cultivation (Spenser 1991). These reforms, along with his other programs of ambitious social and agricultural reform, earned Carrillo Puerto many enemies among the landed Mérida elites who had made their fortunes in the henequen zone. Carrillo Puerto was assassinated in 1924. Though his murder was committed for reasons unrelated to his agrarian policy, the Yucateco hostility to land reform was palpable.

It was finally with President Lázaro Cárdenas (1934-1940) that substantial inroads were made in Yucatán's agrarian reforms. Cárdenas realized the necessity of breaking, once and for all, the power structures that enabled Yucateco elites to control such vast amounts of land. He began, in earnest, the process of breaking up private landholdings and converting them into communally owned *ejidos*. This plan was met with substantial resistance from landowners in the northwestern henequen zone (Joseph 1982), but in the agricultural zones south and east of Mérida, the transition to *ejidos* was a relatively smooth process. Cárdenas created hundreds of *ejidos*, distributing some 17 million hectares of land among them (Beaucage 1998). The Yaxunah *ejido* was one of these.

8.9 Establishing the Yaxunah *ejido*, ca. 1910-1960

The lands today ascribed to the Yaxunah *ejido* show little trace of human activity during the decades following the outbreak of the Caste War. As has been said, Maya populations had abandoned towns en masse as a matter of survival in the mid 19th century. It took a long while for the buffer zone here in the central peninsula to become safe enough for permanent resettlement, but when it finally did, the modern town of Yaxunah was founded. The story of the town's founding is one of the stories I heard the most during my work with the Yaxunah community. The protagonists, the town founders, are the not-so-distant ancestors of most Yaxunah families. They and their arrival in this place occupy a powerful place in collective memory (see also Hernández Álvarez 2007, 2014; Suhler and Bascopé 2008).

As the story goes, in the early years of the 20th century, two brothers independently and clandestinely entered the area, without knowing the other was there. The brothers, Rafael Poot and Ignacio Poot, were former inhabitants of, some *ejidatarios* told me, the town of Muchucux, to the east. As the Poot brothers were coming from the east, they were part of a massive westward migration of mobile Maya families – refugees, really – hoping to settle as the Caste War calmed. It is said that as they moved, separately, through the forest east of the ruined town of Yaxunah, they each found Sacbe 1, the 100 km, 1500 year-old road connecting the ruins of Yaxuná to the ruins of Cobá in Quintana Roo. Finding the sacbe, both brothers independently chose to follow it west to see where it led. This narrative raises an important detail: seeing that Sacbe 1 passes just south of Tzacauil, the founders of Yaxunah, in this story, first pass through the forests that would become the eastern *ejido* before ever reaching the old Colonial town of Yaxunah. This place, while not in a starring role, is a part of Yaxunah’s story before even Yaxunah itself.

They also would have passed by the Joya Rejollada, halfway between Tzacauil and the Yaxuná archaeological site. As discussed in Chapter 7, this huge natural sinkhole served as a soil trap, producing a microclimate where trees and other cultigens could flourish. The rejollada bears the vestiges of ritual significance in the rockshelters nestled into its sides. Built under one of those overhangs, there is a dry-laid masonry wall, or *albarrada*, that roughly seals off a deeper rockshelter from the rest of the rejollada. During my visit to the Joya Rejollada with my team of six Yaxunah *ejidatarios*, I was told that this wall had been built during the years of the Caste War, when Maya people sequestered themselves here for protection (Figure 6.10) (though Travis Stanton reports hearing other *ejidatarios* say these kinds of features were used for trapping *jabalí* or *Sus scrofa*; Stanton personal communication 2019). While we cannot link the *albarrada* securely to any specific historical event related to pre- or post-Caste War Yaxunah, it stands as a silent testimony to the violence that had made this area so unsafe for so long. This *albarrada* and its tacit emphasis on secrecy and safety also helps explain why neither of the two Poot brothers, as they moved westward towards Yaxunah, knew the other was there.

Eventually, they arrived in the archaeological site of Yaxuná, and must have also gotten as far as the ruined colonial town of Yaxunah. The brothers each elected, still independently, to remain outside of Yaxunah proper. It was still too dangerous to do so. It is said that Ignacio Poot chose to live in the ruins of the Cetelac manor house, while Rafael Poot took up residence in Pokox Na – the name Yaxuneros call the North Acropolis of the Yaxuná archaeological site (Stanton et al. 2010). They were two refugees living in two abandoned palaces.

The Poots maintain a central role in the story of the town's founding (and today are among its most powerful families). Suhler and Bascopé (2008:72; also reported in Hernández Álvarez 2014) report on an interview they had previously conducted with an elder in Yaxunah, José Poot, who remembered as a child living with his family in a vaulted structure in the Yaxuná archaeological zone (likely the North Acropolis). José Poot recalled that later his family relocated to the 19th century Catholic church in Yaxunah proper, which had been destroyed during the Caste War. He remembered that the central plaza of the town was thick with tall trees and populated by forest animals – one could hunt right there in the middle of town. This memory, of early 20th century Yaxunah as a dense forest, is one that was shared by many of the town's elders (Hernández Álvarez 2007).

By 1915, when Yaxunah was officially reestablished as a town, the Poots had been joined by six other founding families. All seven families that founded Yaxunah were refugees of the Caste War, who had been displaced from the eastern towns they had called home: Tinúm, Tixcacalcupul, Chan Kom, Tekom, Muxupip, and Xcoptel (Rejón 1999; Hernández Álvarez 2007). They came seeking safety in the west, a place to settle and make milpa. The names of the founding families – Poot, Caamal, Canul, Mukul, Ku, Tec, Chan – are still some of the most common surnames in Yaxunah in the 21st century (Rosales González and Rejón Patrón 2006:1061). The founders of Yaxunah quickly began forging familial alliances, which they formalized through the establishment of political and ritual offices (Hernández Álvarez 2007, 2014).

As Yucateco landowners and federal officials grappled with agrarian policy reform in Mérida, Yaxunah's early families began farming the lands around their growing

town even while they had no official legal claim to do so. It seems not to have mattered much – this area of the peninsula, removed from the lucrative henequen lands of the northwest, appears not to have interested the state’s political elites. But with the presidency of Cárdenas, the *ejido* system finally came to Yucatán. The Yaxunah *ejido* appears on the books of the Registro Agrario Nacional in 1934. Yaxunah was formally endowed with 2979 hectares of *ejido* land, shared by 30 *ejidatarios* representing a larger population of 95 inhabitants (Rejón Patrón 1999). The Yaxunah *ejido* was relatively stable for the next few decades.

Amid that general stability, there were instances when rights to *ejido* lands were contested at a local level. On a few occasions during work out at Tzacauil, *ejidatarios* would tell me how these lands at the *ejido*’s eastern edge were won during a land dispute in the 1950s.

Back then, *ejidatarios* from Yaxunah and *ejidatarios* from the neighboring town to the west, Chimay, alleged claims to the lands around Tzacauil. The stakes were high; these were productive lands for *milpa*, and included the Joya Rejollada, permanent water sources, and rights not only to land but to all the trees, plants, and animals on that land. The dispute was taken to local county authorities in Yaxcabá (most people I talked to put the year at 1954 or 1955). The decision passed down by the authorities was elegant in its simplicity: whichever side could first cut a *brecha* – a clear path through the forest – around the land would have be declared its rightful owners. Telling me this story, the Yaxunah *ejidatarios* would light up at this point. “*Jálale!*” the storytellers would exclaim, remembering the readiness of their fathers and grandfathers, “Get a move on!” They recounted how the Yaxunah *ejidatarios* went out to the eastern forest, with their *coas* (the term Yaxuneros often use to describe hook-shaped blades, used along with machetes for clearing brush) and corn *masa* for their *pozole*. This *masa* was almost always emphasized in the versions of the story I heard because it showed how ready the *ejidatarios* were to stay out all day and night if necessary – they would not even return home to eat until they had secured the eastern lands. Telling the story, their descendants, the modern *ejidatarios*, relived how the Yaxuneros chopped all day long. The further east they got, the louder they could hear the sounds of Chimay machetes

and coas closing in. But the day belonged to Yaxunah – and so, ultimately, did the forested lands around Tzacauil. The eastern *ejido* had been won.

When Yaxunah *ejidatarios* would volunteer this story, it was inevitably delivered with a mixture of affection and reverence for the men who had secured these lands. Standing in a group, the *ejidatarios* would list the names of the men, almost all deceased, who had fought for this place – difunto don Canul, difunto don Chuc, difunto don Tek. Invoking the names of the previous generations that had won them the rights to this land was a pivotal part of the story's telling. And yet, it is also important to note that this story almost always came forth in the context of the modern Yaxuneros expressing frustration with this very place whose origin story they celebrated. That it was too far from the town, that its soil was no good, that it was too full of *tejones* (coatimundi; *Nasua narica*), that its spirit guardians made it too dangerous. To understand how Tzacauil, and the lands of the *ejido* more broadly, have shifted so much in the collective imagination of Yaxuneros, we need to situate this narrative in the neoliberal dynamics of the late 20th and early 21st centuries.

8.10 The neoliberalization of the agricultural sector in Yucatán

Once *ejidos* were established in Yucatán in 1934, the system remained relatively stable – and fairly faithful to its revolutionary vision – through the 1970s. While parts of the state saw a push to intensify agricultural production in the 1960s, central Yucatán's thin and rocky soils meant that this region was largely overlooked by attempts to modernize production. So while it is true that some areas shifted to industrial agriculture – like southern Yucatán's turn to specialized citrus production – places like Yaxunah continued the same kind of collective shifting *milpa* agriculture that they had been doing for years (Diggles 2008; Torres-Mazuera 2018). In 1971, a legal modification to the *ejido* system meant that now *ejido* owners could rent out their rights to land to non-*ejido* members, but generally speaking this did little to upset the order of things in Yucatán.

Nationwide, the late 1970s and first couple of years of the 1980s were a boom time for Mexican agriculture. The wonders of the Green Revolution – agro-chemicals, processing, grain price supports, subsidies, crop insurance – briefly empowered

agrarian communities (Gálvez 2018). While small-scale farmers may have suffered (and that these industrial wonders largely bypassed rocky Yucatán), these years were optimistic ones in Mexico, a time when the nation seemed capable of providing nearly all of its own grains and many other foods (Fox 1993).

All of that would change when the entire *ejido* system suddenly found itself on the chopping block during the Latin American debt crisis in 1982 (Baker 2013; Gálvez 2018). The Mexican federal government, like that of many Latin American countries in the 1970s to early 1980s, had gone deep into debt borrowing money from international creditors to support ambitious industrialization programs. The situation was precarious. Many of these Latin American countries were vulnerable to fluctuations in the rapidly globalizing economy, and when interest rates surged, it became clear that many would be unable to service their existing debts. Mexico's national treasury was bankrupt by 1982, leaving state support for the agrarian sector – and especially *ejidos* – in crisis.

To cover the costs of borrowing *more* money to service their existing debts, Mexico's federal government worked out deals with the United States and the International Monetary Fund. Part of those deals meant that Mexico had to completely restructure its economy, and major agrarian policy changes and reforms have had profound consequences for small-scale farmers.

Over the past decades, neoliberal agrarian reforms have sought to fundamentally dismantle the *ejido* system in Mexico (Diggles 2008; Gálvez 2018). By breaking up communal lands into marketable parcels, the federal government hoped to attract private investors to revive the agricultural sector. This has had profound systemic effects on Mexican agricultural sustainability, food sovereignty, and environmental justice, all of which have disproportionately affected small-scale and indigenous farming communities. Yaxunah has not been immune to these impacts.

Under President Carlos Salinas de Gortari (1988-1994) and beginning in the early 1990s, *ejido* structures were loosened to incentivize privatization (Harvey 1998). The state made drastic cuts to subsidies and credits that had formerly kept the agricultural sector afloat. Trade limits and tariffs were reduced as the economy leaned hard into liberalization. NAFTA, the North American Free Trade Agreement,

fundamentally altered Mexico's food and agricultural landscape by inundating its markets with cheap, American-grown corn and highly processed foods (Baker 2013; Gálvez 2018). And finally, Article 27 – that post-Revolutionary pillar of the Mexican Constitution and stalwart protector of the *ejido* system – was revised.

The revisions to Article 27 reinvented *ejido* lands as saleable property. Before, *ejidatarios* had abided by strict laws that ensured *ejido* lands remained collectively owned and worked. Now *ejidatarios* could elect to sell or rent their *ejido* lands to non-*ejidatarios*. Channels through which peasant farmers had been able to petition for land redistribution were eradicated; post-1992, the Mexican government absolved itself of its former obligation to grant *ejido* land when new requests arose. Adding to the incentives for industrialization, the revamped Article 27 also allowed companies to buy *ejido* lands – and to own 25x times more land than could be owned by individuals (Diggles 2008).

Under the new Article 27, the transfer of *ejidatario* rights was also reworked to stimulate privatization. Formerly, *comisarios ejidales* – the councils of elected local authorities, themselves *ejidatarios*, who made decisions about the *ejido* – had been able to manage the *ejidatarios* who owned rights to their lands. They could add and remove names from the list as they saw fit; they were the authorities of their own land and determined who could participate in its communal ownership. The new system eradicated this right and made it so that *ejidatario* rights could only be inherited. An *ejidatario* could will their right to only one person – a parent with multiple children could only will their *ejido* rights to one child. Community members excluded from *ejido* collective ownership, for whom before there would have been channels to become an *ejidatario*, now must farm lands to which they have no legal claim whatsoever. These changes have weakened intergenerational land security (Diggles 2008) and contributed to larger shifts in labor patterns and migration in Yucatán and elsewhere in Mexico.

In the wake of neoliberalization, a familiar problem arose: in most of Yucatán, *ejido* boundaries were still far too nebulous for the likes of land developers. *Ejidatarios* interested in privatizing their lands had to first go through a lengthy land titling process, one that required a majority vote to even begin (Diggles 2008). The state deployed surveyors to map out *ejido* limits. Boundary disputes that had existed before the 1992

reforms – like Yaxunah and Chimay’s struggle over the lands around Tzacauil – had to be settled once and for all, and legally. Once the perimeter of an *ejido* was mapped out, the land was then assigned into different categories depending on tenure and usage patterns. The two most important categories were (1) *uso común*, referring to lands held in common among all *ejidatarios*, and (2) *parcela*, meaning an individual parcel of land within the *ejido* that was titled to one or more persons (either *ejidatarios* or community members who were not themselves *ejidatarios*). Once this was done and the land officially titled to the *ejidatarios*, they could now vote to privatize lands. If the votes were there, privatization could begin – but only *parcela* lands could be privatized. To sell or rent *uso común* lands would first require a separate process to change their tenure designation.

Most *ejido* lands in Yucatán’s maize producing zone, in the central and eastern parts of the state (including the Yaxunah *ejido*), have remained *uso común*. In other words, those lands cannot be privatized unless their designation is changed. Privatization of *parcelas* has been uneven in the state, though industrialization of fruit and vegetable production in the south and rapid urbanization in the northwest have both relied on the purchasing of *parcelas*. But as of ten years ago from this writing, in 2008, 75% of Yucatán’s *ejido* land was *uso común*, compared to a national average of 66% (Diggles 2008). That so much land remains designated as *uso común* is a testament to the persistence of *milpa* agriculture in Yucatán, as well as to the difficulties of industrializing agricultural production in such stony lands (Baños Ramírez 1998). These “unproductive” areas are still valued in the larger choreography of the *milpa*, a system whose slow tempos defy neoliberalism’s frenetic beat.

The land titling process began in Yucatán in 1994, and by 2006, 702 of the state’s 786 *ejidos* had gone through with it (Diggles 2008). To be clear: land titling is *not* the same as privatization, but it is the first step in being able to privatize *ejido* lands. But these numbers reflect the general acceptance of neoliberal agrarian reforms in Yucatán, or at the very least an absence of the kind of organized resistance that was seen, for example, with the EZLN movement in Chiapas. There have been smaller, more localized moments of protest. For example, in Hunucmá, Yucatán, in the early 2000s,

Maya peasants mobilized against neoliberal agrarian reforms that threatened to absorb *ejido* lands into Mérida's fast-encroaching urban sprawl. Such protests have increased in recent years as *ejidatarios* face mounting threats from companies willing to take illegal measures to confiscate *ejido* lands (Diario de Yucatán 2015, 2017; Rodríguez Galaz 2015).

8.11 Tzacauil and the neoliberal Yaxunah *ejido*

For such an unassuming place, Tzacauil and the lands of the eastern Yaxunah *ejido* have been somewhat surprisingly implicated in these politics of neoliberalization. The rest of this chapter examines the neoliberal Yaxunah *ejido*, and specifically examines how multiple kinds of structural forces – globalization, privatization, and climate change, to name a few – are converging on this particular place.

Yaxunah in the 21st century is a town of about 600 people (Hernández Álvarez 2014). Most live in houses situated in the same gridded street system built during the Colonial era, in a settlement measuring a little less than a square kilometer. The *ejido*, which today counts for some 4066 hectares shared by at least 139 *ejidatarios*, surrounds the town (Figure 8.7). According to the Registro Agrario Nacional of 1998, all of that *ejido* land is currently designated as *uso común*. In town, families live together in houselot compounds. Many of these compounds include a combination of traditional wood-and-thatch houses and the occasional “block” house. The block houses, simple single room structures built of cinderblock, are usually too hot to sleep in but from my personal observation seem to be where a household keeps its most expensive possessions (e.g., television, stereo system). Some of these block houses were built through government aid programs. Yaxunah houselots almost always include outdoor activity areas for household activities (e.g., washing, nixtamalization, playing), gardens and fruit trees, and animals (e.g., turkeys, chickens, pigs, dogs) (see Chapter 3). Héctor Hernández Álvarez has done a thorough ethnoarchaeological investigation of these modern Yaxunah houselots and I would direct any reader wanting to know more about this topic to his dissertation (2014).



Figure 8.7 Yaxunah *ejidatarios* at Tzacauil

The town is connected by a paved road south towards the neighboring town of Kancabdzonot, and further down the road, to the county seat of Yaxcabá. This paved road was finished in the late 1990s (Travis Stanton, personal communication 2019). On the other side of town, going out towards the archaeological camp and the Yaxuná archaeological site, is a newer road (paved in 2005) that connects Yaxunah to Pisté, the tourist hub for the Chichén Itzá ruins. Yaxunah has a mechanized corn mill and about five small *tiendas* (stores) where snacks, soda, and juice are the main wares for sale. The town is dry, so those wanting to buy beer usually go to Kancabdzonot. Pisté has the closest Oxxo, the bright and ubiquitous Mexican convenience store, along with the standard trappings – hotels, bars, liquor stores, a gas station, a handful of small grocery stores – to keep the Chichén tourists happy. Cell phones are ubiquitous in Yaxunah, even though there is no consistent cellular signal in town (as of 2017). To use their phones, people frequent a well-known circuit of random spots where signal is available,

ranging from a speed bump in the middle of town to the top of one of the consolidated pyramids in the Yaxuná archaeological site.

Yaxunah maintains several local institutions that serve the community and, increasingly, tourists (Alcocer Puerto 2001, 2007; Alcocer Puerto et al. 2010; Hernández Álvarez 2014). There is the local government building, built in 1957, where the two main political institutions – the *comisario ejidal*, which handles *ejido* matters, and the *comisario municipal*, which handles town matters – are based. Public assemblies are held in front of this building, and more recently it has been used to showcase the town's artisan production; hammock weaving and horn jewelry production is often in progress here. In terms of religious organizations, the town's Colonial-era church still serves its Catholic population, but there is also a growing number of temples for evangelical Protestants. There is a community center with computers, a library, and a small museum. This center is located adjacent to the town's cenote, Cenote Lol-Ha, which is gated and maintained for swimming. Along with an open area where cooking demonstrations and other group events are held, these central institutions make up Yaxunah's *parador turístico*, its own small tourist hub. The Yaxuná ruins are often part of the experience tourists get when they come out here; but unlike sites officially open to the public, INAH does not have a formal office nor does it provide regular maintenance for the ruins. As a result, Yaxuná's ancient architecture – even the architecture that has been restored – is covered in vegetation and looks very little like the stately, well-manicured pyramids of nearby Chichén. *Ejidatarios* are left to figure out this tremendous task of maintaining the ruins for tourism on their own, and this was a frequent source of tension in the seasons I was there.

For many of the people I have interacted with in Yaxunah, the promise and potential of tourism motivates a great deal of involvement in artisan production, cooking demonstrations, and cleaning the Yaxuná ruins. But amid that optimism, the *ejido* and the surrounding region are also littered with the infrastructure of grand plans for tourism that failed or were simply abandoned. Just a few kilometers away from Yaxunah on the way to Pisté, the road passes a finished, sprawling parking lot, complete with neatly painted lines just waiting to be filled with hundreds of cars. This inexplicable, state-of-

the-art parking lot in the middle of the forest has been waiting for years, as its reason for existence, a museum which was never completed, is slowly absorbed into the jungle just beyond. This is just one of the state government's many failed or stalled attempts to lure even a fraction of Chichén Itzá's tourists further into Yucatán, rather than losing them immediately back to the beaches of Quintana Roo. It is quite possible that the designers of these projects never intended them to succeed in the first place.

Tzacauil was implicated in one of those grand plans back in the 1990s. In 1992, the *Fundación Cultural Yucatán* (FCY), a state-sponsored organization founded by powerful business and intellectual leaders, was chartered with the mission of improving the livelihoods of the state's rural communities. It is not a coincidence that NAFTA began that same year, or that the FCY advisory board had strong links with executives at corporations like Coca-Cola (Meyers 2012; Reyes 2015). FCY's stated objective was to promote education, cultural diversity, ecological stewardship, and economic development through collaborative partnerships between academic institutions, businesses, and NGOs. FCY began three main projects, and one was centered on Yaxunah.

Yaxunah's potential as a tourist center was recognized even then. It was close enough to Chichén Itzá to be convenient while also remote enough to offer tourists a sense of discovery, to give them what today is often marketed as "the Mayan experience". With the plan to build the paved road between Yaxunah and Pisté, FCY independently set out to promote sustainable development projects at Yaxunah starting in 1994. These projects included educational workshops, a poultry farm, and lodging and hospitality amenities (Alcocer Puerto 2001; Hernández Álvarez 2014). Cooperatives were set up to train and support Yaxunah artisans in woodcarving, embroidery, and other kinds of craft production. As part of the influx of state programs and NGO aid, a plan also came together to create a *sendero ecoturístico* – an ecotourism trail – that went from the Yaxuná ruins, to the Joya Rejollada, and onward to Tzacauil and the nearby Cenote Xauil (Alcocer Puerto 2001; Hernández Álvarez 2014; Lizama Quijano 2007) (Figure 8.8). From what I can tell from the old brochures and my conversations with *ejidatarios*, this ecotourism trail widened an existing footpath out to Tzacauil, which

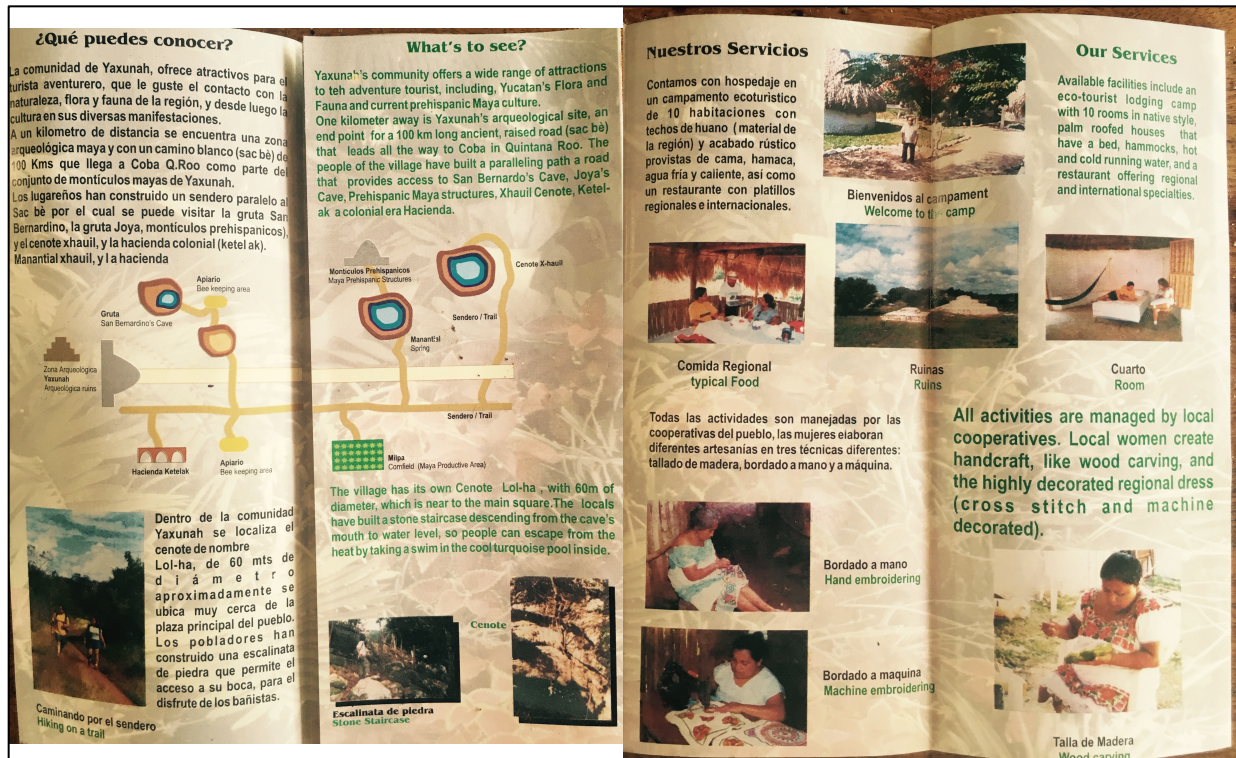


Figure 8.8 Yaxunah eco-tourism brochure

had been used by mid-20th century *ejidatarios* to collect water from El Manantial for their beehives.

This ecotourism trail project was closely linked to hospitality developments planned for the *campamento*, the archaeological camp built by the Selz Project at the western edge of town. (While the land on which the *campamento* sits is part of Yaxunah's *ejido*, the *campamento* itself was a separate, privately-owned entity.) The *campamento* was donated to the community in 1997 (Alcocer Puerto 2001). Ten Yaxunah families who had been closely involved with the Selz Project excavations formed a cooperative to convert the *campamento* into an eco-lodge for tourists, with funding from Mexican non-profit foundations (Magnoni et al. 2007). The idea seems to have been to give "non-traditional" tourists (e.g., birders, backpackers) a rustic, immersive, and "authentic" experience: they would spend the night in traditional Maya houses, would explore Tzacuail and the eastern *ejido* on bicycles, would eat traditional Maya foods made by Yaxunah cooks, and buy souvenirs made by Yaxunah artisans. Though the ecolodge ran for several years, in the end it was not sustainable. The lodge

returned to its role as an archaeological camp in 2009, a few years after PIPCY resumed research in the Yaxunah *ejido*. PIPCY has rented the *campamento* and used it as the project's field headquarters since then.

The ecolodge's failure was not an anomaly – the reality is that nearly all of these 1990s development projects failed to take off in the community. Anthropologist Elias Alcocer Puerto has undertaken long-term and ongoing investigations of sustainable tourism in Yaxunah (Alcocer Puerto 2001, 2007). In his study of the various projects that began in the 1990s, Alcocer Puerto (2001) noted the prevalence of organizational problems within the community, specifically factionalism and the lack of community leaders who were accepted as legitimate by most in the town. He further postulates that most Yaxuneros did not have a clear idea of what tourism is, even as most of the community (76% of heads of households as of 2001, likely more now) had participated in the tourist economy either directly or indirectly. Little of this involvement, he notes, involves interactions with tourists themselves and instead deals with the aspects of the industry normally hidden from tourists – cooking, cleaning, and construction.

However, there was one exception among these sustainable development initiatives that *did* manage to gain a foothold in the community, and that was woodcarving (Figure 8.9). FCY began programs to teach Yaxuneros how to create artisanal woodcarvings that could be sold as souvenirs to tourists at Chichén Itzá and other tourist hubs across the peninsula (e.g., Mérida, Playa del Carmen) (Patjane Floriuk 2009). The cottage industry took off quickly and continues to thrive in modern Yaxunah as one of the few steady means available of earning direct income. Woodcarving has fundamentally changed the nature of the household economy in Yaxunah. Some *ejidatarios* rely on woodcarving to supplement their agricultural production, while others have given up their *milpas* all together in favor of dedicating themselves full time to carving (Hernández Álvarez 2014; Patjane Floriuk 2009; personal observation). Most of the woodcarvers in Yaxunah craft the kind of items they know will sell well to tourists in the resort hubs, that is, mostly African-style masks, sundry Mesoamerican calendars, and jaguar heads. But because Chichén Itzá is technically in the *ejido* of Pisté, Yaxuneros themselves are excluded from selling in the



Figure 8.9 Artisanal woodcarving at Yaxunah, from CIMMYT publication *Familias milperas de la península de Yucatán* (<https://repository.cimmyt.org/handle/10883/19660>)

archaeological site. Instead they must rely on middlemen from Pisté, who buy Yaxunah carvings in bulk and then sell them at a considerable markup to Mexican and foreign tourists at Chichén Itzá. The Yaxunah artisans see very little of this profit, but even so, it is a dependable source of income.

The trees favored for artisanal woodcarving are cedar (*Cedrela odorata*) and especially a hardwood known locally as chaká (*Bursera simaruba*) (Patjane Floriuk 2009). Chaká is becoming harder to find in the Yaxunah *ejido* as souvenir orders continue to come in, but one place where the tree is still abundant is out at Tzacauil, at the far eastern edge of the *ejido*. I suspect that for some of the *ejidatarios* who worked with me, the opportunity to cut chaká and transport it back to town in my truck made up for the inconvenience of being so far from town all day. Even as the *ejidatarios* would express their concern to me that chaká (along with other trees, like palms) were becoming scarcer in the *ejido*, few seemed to have a problem with cutting small chaká trees during our work at Tzacauil. It is unclear how much longer the woodcarving

industry in Yaxunah can last before it begins to reach a real limit of *chaká*. And while this looming limit is on the minds of many *ejidatarios* I talked to, it does not seem to translate into conservation efforts (see also Patjane Floriuk 2009).

If anything, *chaká* seems to be regarded as one of the only “useful” resources out in the forests of the eastern *ejido* today. Another is water; the eastern *ejido*’s water sources (El Manantial and Cenote Xauil) are also valued by *ejidatarios* who practice apiculture in these lands. And men still pass through this area, and throughout the extents of the Yaxunah *ejido*, when they hunt wild game. But for the most part, few people come out to this part of the *ejido* anymore. Tzacauil is far from the town of Yaxuná, and the only way out there is via a rough road that cuts through rugged bedrock and (in the rainy season) swampy *kancabales*. This became a point of contention for *ejidatarios* working on PIPCY’s archaeological operations. Some of our projects were situated in the Yaxuná archaeological site, just minutes from town. *Ejidatarios* working on those operations could go home for lunch and have an easy commute to and from the excavations. For us out at Tzacauil, the day began and ended with a jarring half-hour ride in my truck, with no hope of going home for a midday break. Some *ejidatarios* simply refused to work if their names got put on the list for the Tzacauil excavations. It was too inconvenient.

The people who do come out this far in the *ejido* are usually either hunting, taking care of their bees, or looking for ready-to-carve *chaká*. These activities are all traditionally male-dominated, and this, too, caused some tension when I wanted to include women in the ecological survey of Tzacauil. Yaxunah women rarely come out here. Doña Catalina, one of the two female *ejidatarias* on our team, could recall “discovering” El Manantial as a small girl when she accompanied her father out to his *milpa* near Tzacauil decades ago, but had not been back to this part of the *ejido* since. As I described back in Chapter 1, no one has made *milpa* out here in the lands around Tzacauil since don Jerónimo did in 2002. Throughout my seasons working at Tzacauil, I would ask Yaxuneros why no one wants to farm out here anymore. They would tell me it was because there were too many *tejones* (*coatimundi*; *Nasua narica*), that it was too far from town, and that the soil was no good, or that it was haunted. I would protest

these reasons, jokingly trying to defend Tzacauil's honor, but the more I considered it and the more I learned about the history of the *ejido*, this issue only bothered me more.

So how *do* we reckon this lack of enthusiasm with the fact that sixty years ago Yaxunah *ejidatarios* were ready to go to battle for these eastern lands? Back during the land dispute with Chimay in the 1950s, Yaxunah *ejidatarios* had clearly prized these lands for their agricultural and economic potential. I think to understand modern *ejidatarios'* dissatisfaction with these same lands, we have to frame their complaints about inconvenience within a broader picture of 21st century structural and systemic change.

First, the reality is that fewer *ejidatarios* are farming altogether, not just out at Tzacauil (Alcocer Puerto 2001, 2007; Hernández Álvarez 2014). Climate change has had a role in these declines. Many *ejidatarios*, when I would ask them about changes in the weather, peg the beginning of the trouble on the agricultural crisis following Hurricane Gilbert in 1988. Up until then, Yaxunah had been fairly self-sufficient, with households provisioning most of their own corn, honey, and animal products (Rejón Patrón 1999). As the climate becomes more unpredictable, multiple generations' worth of ecological knowledge are being compromised. The usual rhythms of the agricultural cycle are no longer the guideposts they once were, and harvests can be lost in a single day. But while my personal communications with Yaxunah farmers do suggest that this climate unpredictability has had a devastating effect on maize yields, particularly in recent years, I want to emphasize that environmental factors are not exclusively to blame for this decline in farming.

Neoliberal politics and agrarian reform, I would argue, are the major catalysts of Yaxunah's declining agricultural system. In her recent analysis of NAFTA's effect on the Mexican food system, anthropologist Alicia Gálvez (2018) argues that neoliberalization has replaced food sovereignty with food security in rural Mexico. Put differently, there may be less overall want for calories in Mexican farming communities, but those communities are increasingly alienated from the process of producing their own food. The Mexican food system, like those of so many other countries in the Global South, is inundated with cheap, highly refined, and nutritionally poor foods. So many of the

calories flowing into Mexico are U.S.-grown industrial corn transformed into its various amalgams of syrups and starches. At the same time, traditional *milpa* diets – locally grown maize, beans, and squash – that had once been the foundation of the Mexican diet are becoming less accessible for many Mexicans. We live in a time, Gálvez says, of “foodies” willing to pay top dollar for handmade tortillas made of sustainably raised landrace corn, while many Mexican farmers are subsisting on instant noodles and Coke.

In Yaxunah, this shift from food sovereignty to food security is playing out with profound effects on the community. Health in Yaxunah has been compromised by the inundation of highly refined foods, especially soda (see Beltrán Kuhn 2011 for a discussion of neoliberal foodways and diabetes in Yaxunah) (Figure 8.10). Yaxunah farmers who still choose to make *milpa* are resorting to chemical fertilizers and genetically modified maize in an attempt to minimize labor and risk. Even with these buffers, unpredictable weather events linked to the changing climate can still destroy a season’s harvest without warning. Making *milpa* is getting riskier, and as it does, highly processed foods are becoming ever more easily accessible. Given these structural forces, it becomes easier to understand why many Yaxuneros consider the prospect of making *milpa* out at Tzacauil to be a fool’s errand.

Yet at the same time, the Yaxunah *milpa* has never been more celebrated – though perhaps more as a symbolic ideal than as an actual working agricultural system. The town and its food have become internationally renowned in the past few years thanks to the attentions of some of the world’s most prominent celebrity chefs. Rick Bayless and David Chang, two U.S. chefs with television shows and multiple restaurants apiece, have each filmed episodes of their cooking shows in Yaxunah (Bayless 2016; Zeldes 2018) (Figure 8.11). René Redzepi, a Danish chef who has been called the best in the world, ran a seven-week pop-up restaurant in Tulum that touted culinary connections with Yaxunah (Curiel 2017; Redzepi and Sanchez 2017) (Figures 8.12, 8.13). His restaurant, Noma Tulum, sourced from Yaxunah not only the maize for its tortillas but also the Maya women to make those tortillas on the floor of his restaurant (Figure 8.14).



Figure 8.10 Drinking soda during a break at Tzacauil



Figure 8.11 Promotional material for Rick Bayless' show, filmed at Yaxunah (from Bayless 2016)

How does this happen? Is it really that the *cochinita pibil* made in Yaxunah is “the one and only TRUE *cochinita pibil*”, as Bayless (2016) says? And, as Redzepi has alleged, do Yaxunah tortillas really taste “the best” out of all the tortillas his team tested across Mexico (Redzepi and Sanchez 2017)? Having eaten hundreds of meals cooked by Yaxunah women, I can personally attest that yes, the food is amazing. But these celebrity chef-driven narratives about “discovering” amazing indigenous foodways in Yaxunah, and then sharing them with the world, masks deeper realities about structural inequality and unsustainable agricultural practices. It is important to recognize that René Redzepi did not just stumble across Yaxunah serendipitously. The brokers in this arrangement were two non-profit organizations, the *Fundación Haciendas del Mundo Maya* (FHMM) and the *Centro Internacional de Mejoramiento de Maíz y Trigo* (CIMMYT), which have ties to private businesses, academics, and government sponsors (Curiel 2017). These organizations’ involvement at Yaxunah and their stated mission of improving rural livelihoods trace their origins back to the post-NAFTA development projects of the 1990s. While it is true that these organizations have brought economic opportunities to Yaxunah, and I have no doubt that their intentions



Figure 8.12 Chef René Redzepi (from Redzepi and Sanchez 2017)



Figure 8.13 Maize sourced from Yaxunah for Noma Tulum (from Redzepi and Sanchez 2017)



Figure 8.14 Yaxunah women making tortillas at Noma Tulum (from <https://andershusa.com/noma-mexico-tulum-popup-rene-redzepi-taco-tortilla-jungle-restaurant>)

are well meaning, these top-down interventions still raise concerns about the sustainability claims so rampant in their branding (e.g., FHMM 2018; Redzepi and Sanchez 2017).

Yaxunah is now regarded as an epicenter of Maya cuisine, and has become a destination for culinary tourists (“foodies”) in Yucatán (Figure 8.15). The rising interest in culinary tourism (Ardren 2018), combined with continued attention from celebrity chefs and organizations like FHMM and CIMMYT, have created a public discourse around modern Yaxunah agriculture that often invokes powerful words like “authentic” and “sustainable” (FHMM 2018). Non-profits and university service-learning groups come out to Yaxunah to teach the community members how to live and farm “sustainably” (López Pacheco et al. 2016). Such interventions have involved projects like engineers coming to Yaxunah and designing plans for “sustainable” bioclimatic housing and then, at the end of their stay, handing those plans over to Yaxunah householders, and leaving (Ramírez Ortegón et al. 2016). The demand for this particularly glossy version of “sustainability” does not seem to be coming from Yaxuneros, but rather from the same type of person who was willing and able to spend the \$600 USD required to eat a meal at Redzepi’s pop-up restaurant.

When I wrapped up my fieldwork in September 2017, I left Yaxunah in the middle of a heated debate that had begun earlier in the summer. The details were never made clear to me – I cannot even say if most *ejidatarios* were themselves clear on the details – but a mysterious developer had shown up in town and made an offer on the eastern lands of the *ejido*, lands including Tzacauil. Now, the ruins themselves, like all archaeological ruins in Mexico, would remain national patrimony regardless of the sale, but the land under and around them was *ejido* land. I did not know as much about the *ejido* titling process then as I have learned since, but when I think back to the conversations I had with *ejidatarios*, it is fairly clear to me that they were debating whether or not to vote to convert the land from *uso común* to *parcela* land – the first step in the privatization process. The *comisario ejidal*, the elected head of the committee controlling *ejido* matters, was in favor of selling the lands. He and his supporters were ultimately unsuccessful in rallying the votes needed, but not for lack of interest. Rather, from my conversations with *ejidatarios*, the deciding factor was not opposition to selling the *ejido* but instead the desire to wait for a better offer to come along. It is a moment of unfolding precarity for Maya farming in these lands.

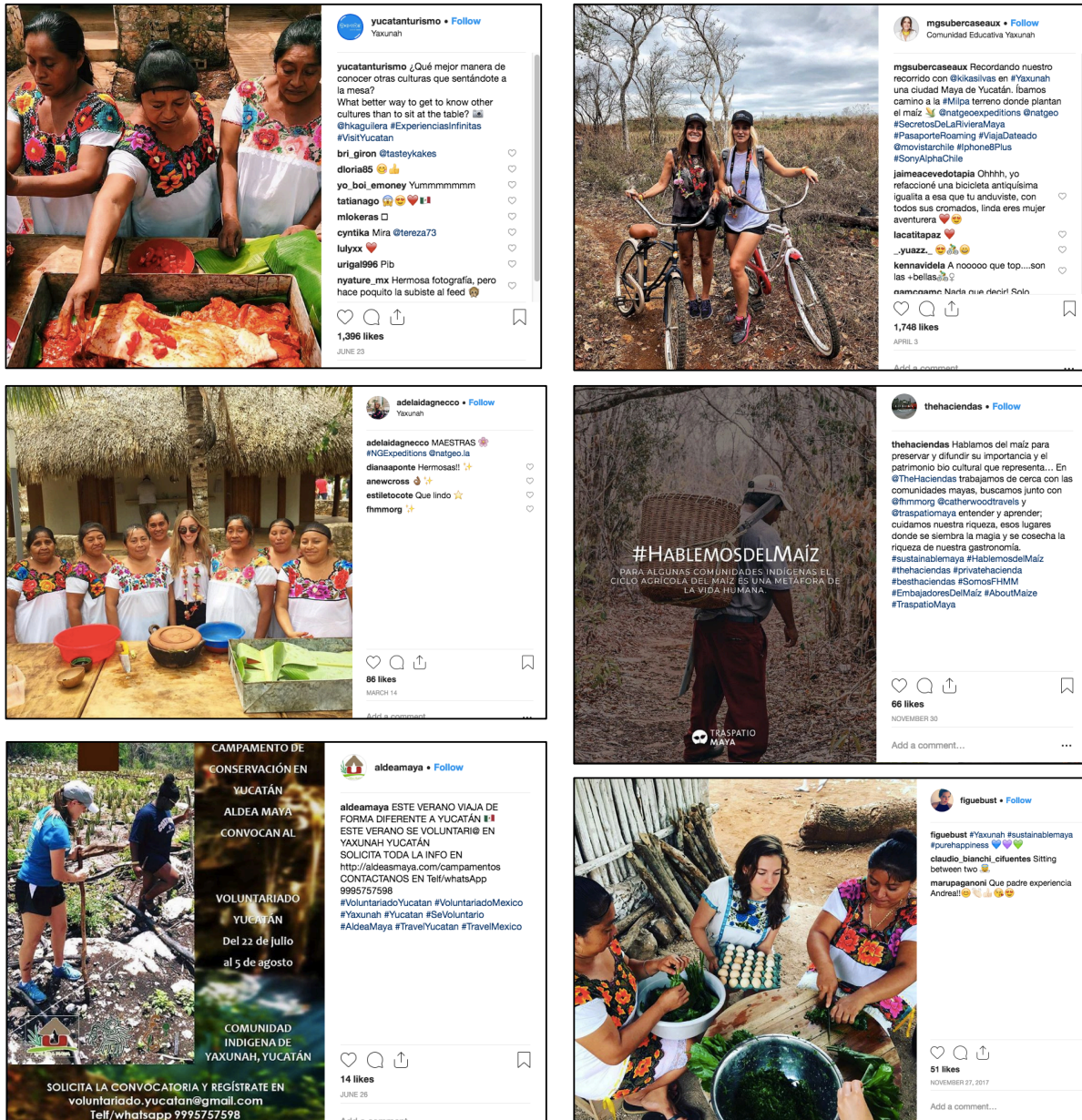


Figure 8.15 Social media posts related to culinary tourism, service projects, and sustainable agriculture initiatives at Yaxunah (sourced from Instagram)

8.12 Chapter summary

This story is continuing even as I write, but we will end it here for now to take a step back. The interactions between modern Yaxunah farmers and the local environment of this particular place today called Tzacauil mark the continuation of a story that began some 2000 years earlier. Even as Tzacauil is, today, a place that may soon be jettisoned from the community that has claimed it for the last century, it still is a

place that matters and from which we can understand a larger narrative of landscape and agricultural sustainability. In this chapter, I shifted from the archaeological work I conducted at Tzacuil towards different approaches for understanding the more recent past. I traced a trajectory of land privatization in Yucatán through the Colonial era, liberal economic reforms of the Bourbon era, the Caste War, the agrarian reforms following the Mexican Revolution, and into the neoliberalism of the late 20th and early 21st centuries. In doing this, we are able to see where the dialogue of agricultural sustainability currently sits in the Yaxunah *ejido*. Now, we will shift to the deep history of this dialogue, and evaluate the agricultural sustainability of the Formative and Classic farming communities at Tzacuil. This evaluation will then allow us to critically assess the current claims of Maya agricultural sustainability in the Tzacuil landscape and Yaxunah *ejido* at large.

Chapter 9

The Long View of Agricultural Sustainability at Tzacauil

9.1 Introduction

What story can we read in the landscape of Tzacauil? The material residues of the Late and Terminal Formative farming community that formed here, as well as of the Classic period settlers that lived here intermittently in the Late and Terminal Classic periods, suggest that hinterland farmers were not static in their practices, nor passive receptacles of larger political and environmental dynamics. Through the framework of historical ecology, we can interpret these material residues as evidence of long-term, dynamic interactions between Maya farmers and the local environment of this particular place. Tracking the changes in the ways hinterland farmers lived in the landscape is an important step in being able to evaluate the sustainability of Maya agricultural systems over time.

In this chapter, I return to the principles of sustainable agriculture outlined by the Food and Agriculture Organization (FAO) of the United Nations (UN) that were introduced in Chapter 2 (FAO 2014a). I revisit the broader picture of hinterland farming life as gleaned from the archaeology of Formative and Classic period Tzacauil, framing that history through the principles of efficiency and conservation, rural livelihoods, governance, and resilience. Throughout that discussion, I draw out a story of agricultural “trial and error” on the Tzacauil landscape, examining how Maya hinterland farmers and political leaders carved out their niches and learned to strike a balance between flexible land tenure and top-down intervention. I then connect these lessons to the modern case of Tzacauil in the Anthropocene to emphasize how current neoliberal agrarian reform is a direct rejection of centuries’ long learning and is fundamentally at odds with sustainable rural Maya agriculture.

9.2 Efficiency and conservation at Formative and Classic Tzacauil

Small-scale farmers' strategies were not static at Tzacauil. When we look at shifts in the Tzacauil landscape between the Formative and the Classic period communities, we begin to see differences in agricultural strategies, and land-use practices more generally. These differences in land-use practices give us a sense of how past farming communities were differently engaging in efficiency and conservation at Tzacauil. As the first two principles of sustainable agriculture outlined by the FAO, efficiency and conservation have to do with the ways that farmers utilize their resources. Efficiency is all about maximizing production while minimizing inputs, whether resources, labor, or time. Conservation is about restoring natural resources such that agriculture can continue without depleting the local environment.

Reading the landscape for signs of Formative agricultural practices, the picture that emerges is one of strongly place-based investments. These place-based investments are visible at the community and household levels. As a community, Tzacauil people likely cooperated to build the settlement's civic-ceremonial heart and central artery, the Tzacauil Acropolis and the Tzacauil Sacbe. These overt, monumental displays of the community's presence in this particular place sets the tone for the rest of the activities going on "on the ground" at Tzacauil. The monumental core of Tzacauil is a materialization of the community's relationship with this place and its lands, a relationship that by all indications the community intended to claim for many generations.

Tzacauil's Formative households echo this invocation of permanence and place on a smaller scale. The first two households that settled at Tzacauil built and occupied the Jach Group and the P'aak Group. In both instances, Late Formative householders selected building sites that (1) were adjacent to the acropolis and sacbe, and (2) provided access to outcrops of bedrock "floating" in expansive areas of arable soil, or kancabales. Both households interred offerings of heirlooms – Middle Formative ceramic vessels – into their residential architecture. These heirlooms, along with significant amounts of Middle Formative refuse found in construction fill (particularly at the Jach Group), suggest that these Late Formative householders were not only

invoking symbolic connections to pre-agricultural people, but that they also chose to occupy places that had been frequented by those same pre-agricultural precursors.

These first two groups were followed by at least three more, the Sáastun, Kaan, and Chamal Groups, during the Late to Terminal Formative transition. These three groups, too, reflect a strong preference for proximity to the acropolis and sacbe, as well as to kancabales. But as the settlement began to fill in, compromises had to be made, and from the Sáastun Group's location, it seems that access to kancabales was the non-negotiable part of the decision. Each of these five Late and Terminal Formative house groups is built on a bedrock outcrop, surrounded by expanses of soil.

The Late and Terminal Formative householders at Tzacauil rearranged the materials of their local environment to express relationships with particular kancabales through house group architecture. Massive boulder-lined platforms, which in some cases were renovated and expanded over time, leveraged bedrock, limestone, sascab, chich, cal, and soil to assert a household's multigenerational commitment and claim to particular places. By literally planting themselves in kancabales, I believe that Formative farming households were expressing autonomous claims to landholdings with high agricultural potential.

We can "read" house group architecture not only as a way for Formative farming households to communicate claims to landholdings, but also as a direct and physical result of land improvement. Central Yucatán's lands are stony. The act of gathering stones into a pile is known by a special term – *mul tuntah'* – that is used by Yucatec Maya speaking farmers today (Arellano-Rodríguez et al. 1992). If moving stones around (and making piles of stones) is important to farmers today, it was likely important to earlier farmers as well. In this scenario, we can actually view Late Formative architecture, monuments and houses alike, as the inverse of stony lands. As early farmers prepared kancabales for planting, they likely moved chunks of broken bedrock and smaller stones into piles. Whether intentionally or inadvertently, this action created ready sources of building material and marked the landscape with identifiable mounds. All of the Late and Terminal Formative house group platforms excavated show that their

construction histories began with the piling up of rubble on top of bedrock outcrops.⁷ Might these platforms, then, have begun not with the express purpose of building, but with the act of preparing *kancabales* for planting? We can imagine that these processes may have been one and the same. The very act of investing in the landholding produces a material expression of claims to that landholding.

Lingering in the soil expanses around Tzacauil's Formative house groups are the chemical residues of intertwined processes of household waste management and agricultural intensification. Chemical signatures of wood ash disposal (elevated pH), washing and *nixtamalization* (elevated carbonates), and organic refuse disposal (elevated phosphates) are concentrated near the Formative house groups occupied the earliest and longest. While these are all residues of household domestic activities, particularly waste management strategies, wood ash and the disposal of organic refuse also act as fertilizers to enhance soil quality. These elevated levels need not be thought of in black and white terms, as *either* waste management *or* agricultural intensification; they are both. The distinction is only meaningful at a short time scale, but when we consider these practices at a multigenerational time scale, they are one and the same. Long-term occupation produces more waste, which over generations will enhance soil quality, which will further incentivize continued occupation. It is a positive feedback loop of multigenerational, place-based agricultural strategies. We can thus interpret the soil chemistry data around Formative house groups as evidence for infield agricultural strategies, likely the cultivation of polycultural gardens similar to those of modern Yucatec houselots.

The potential for cultivating infield garden plots seems to have motivated Formative households to disperse out across Tzacauil, with each autonomous household claiming its own patch of *kancabal*. But even as Late and Terminal Formative farming households at Tzacauil went to such lengths to live surrounded by *kancab*, doing so was not without cost. During the months of the rainy season, *kancab* is difficult

⁷ This action could also explain regional preferences for dispersed platforms, as seen at Tzacauil and Yaxuná, versus *albarrada*-enclosed houselots, as seen occasionally elsewhere in Yucatán (Cobá, Chunchucmil, and Mayapán; see e.g., Fisher 2014b). Whether piling stones in one place, or pushing them outward to form boundaries, the building of platforms and *albarradas* effectively invert the stoniness of a landholding.

to walk on – a fact often reported to me by Yaxunah *ejidatarios* during the *xíimbal k'áax* survey (see Chapter 5). Households partly avoided this problem by building their homes on bedrock outcrops “floating” in *kancabales*. Yet moving around their house groups, or getting to other areas of the settlement, would have been difficult. We saw how at the Jach and P'aak Groups, stepping stones were placed in the *kancab* around the perimeter of the groups' basal platforms; Yaxunah *ejidatarios* who were old enough to remember a time before cheap concrete recalled similar arrangements of stones in the *houselots* of their grandparents. The household living at the Kaan Group went to creative lengths to incorporate a network of natural bedrock walkways and constructed surfaces to facilitate access to their intra-settlement surroundings, even during the rainy season. For Formative farming households, the price of living in mud for part of the year seems to have been no match for the incentives of living surrounded by arable soils.

All together, considering these material residues through the lens of efficiency and conservation, Late and Terminal Formative households at Tzacauil were likely practicing infield cultivation in the *kancabales* around their houses – most likely similar to the kinds of polycultural gardens seen in modern Maya *houselots*. By situating these holdings close to the residence, Formative Tzacauil households would have been able to tend them regularly, enhancing soils with fertilizer and likely even handwatering plants as necessary. As landholdings were improved through the clearing of stones, soil enhancement, watering, weeding, and the planting of trees and gardens, there became ever-greater incentives to maintain multigenerational claims to those landholdings. I doubt that such infield plots were the only strategy Tzacauil households were utilizing; rather, I would suggest that the cultivation of intra-settlement landholdings was but one in a suite of strategies that included silviculture, hunting, and shifting milpa cultivation beyond the settlement. Looking just at these strategies and ignoring, for the moment, the historical context (which will be discussed later), these place-based strategies seem to have been both efficient and conservation-minded; looking *just* at the agriculture itself, the system appears to fulfill the definitions of sustainability outlined in Chapter 2.

Sticking to the dimensions of efficiency and conservation, how was the Classic farming community at Tzacauil different from its Formative precursor? There are

markedly fewer archaeological signatures of intra-settlement land-use that can be linked to the Classic period settlement at Tzacauil. This is in itself evidence that agricultural strategies had moved from place-based practices (which, by their very nature leave strong archaeological signatures) towards more extensive and ephemeral strategies (which leave fewer detectable traces).

In the Late Classic, a cluster of households settled in the southwestern part of the site, on top of the largest exposed bedrock outcrop at Tzacauil. They built and lived in the Kaan, Pool, and Mukul Groups. The *kancabales* where Formative households had preferred to settle were no longer favored as places to live. Instead, by perching on top of this bedrock expanse, households were able to make use of bedrock's many seasonal advantages: drainage, stable walking surfaces, and close proximity to *sartenejas*, the natural cavities that can be used as reservoirs or for a kind of container-style gardening. Such advantages were surely known to the Formative settlers of Tzacauil, but appear to have been given up in order to live surrounded by arable land.

This is not to suggest that the *kancabales* were going ignored in the Classic period. In fact, the random finds we made of obsidian fragments and lone Classic sherds throughout Tzacauil suggest that people were moving and working fairly freely across the landscape. Rather, what I am suggesting is that household relationships to the land had shifted. It simply was no longer necessary for households to assert individualized claims to *kancabales* by living directly in them; rights to land were less contested at Classic Tzacauil. That the Classic house groups cluster together, and that there appears to have been the pooling of some economic tasks (an inference I base on the density of maize grinding stones in Structure 6B of the Pool Group), together hint that agricultural decisions may have been handled collectively and collaboratively across multiple households.

Similarly, the presence of two ancillary structures north of the Tzacauil Sacbe, the Jaltun and T'uup Groups, point to an emphasis on shifting agriculture. These structures have extremely low artifact densities; there is simply not enough to suggest that a full range of household activities were taking place at these structures. However, in the case of the Jaltun Group, elevated phosphates and pH levels noted in the soils

just north of the group suggest that fires were being built and food eaten here. To me this signature of repeated human activity, but without ceramic or stone tool artifacts, suggests that these structures were fieldhouses or storage buildings related to extensive milpa agriculture. While very low on ceramics, the sherds we did find date these two structures to the Terminal Classic; I believe they post-date the abandonment of the Pool, Kaan, and Mukul Groups in the southwest of Tzacauil. Such fieldhouses have been observed in more recent Maya populations, and are used as temporary basecamps for farmers during the busiest times of the agricultural cycle. They are used when the milpa is too distant from the primary residence to justify the cost of commuting back and forth every day, when there is so much work to be done in the fields.

Taken all together, the Classic settlement at Tzacauil to me suggests different phases in the life cycle of a shifting farming household. As Farriss (1984) has noted, temporary fieldhouses could become more permanent if a farmer decided to move his family and possessions out to it. These new, semi-permanent residences are rarely founded in isolation; rather, a group of related households will often make the move together. In this view, we can think of the cluster of settlement on the southwestern bedrock outcrop – what I heuristically break down into the Kaan, Pool, and Mukul Groups – as a single social unit that was working together to practice milpa agriculture out in the hinterland east of Yaxuná. Based on the ceramics, this settlement was founded in the Late Classic, but by the first part of the Terminal Classic, the cluster of households appears to have moved on elsewhere. Such a move often began with farmers having to travel further and further to reach land that was ready for milpa farming. Temporary fieldhouses would be necessary, and eventually, a tipping point might have been reached where the farmers would relocate the people and possessions of the whole household. We can then think of the Jaltun and T'uup Groups as these foundational “seeds” or “kernels” of household formation: temporary fieldhouses belonging to farmers whose primary residences were elsewhere. Even though all the structures are from the same general time period, they belong to dynamic and distinct stages of household formation and relocation related to shifting maize agriculture.

This is a very different kind of agriculture than that practiced in the Formative period at Tzacauil. Households were no longer committing to staying in one place for an indefinite number of generations; instead they were moving and farming within a more extensive range. This changed the nature of agricultural efficiency and conservation. Formative Tzacauil farmers had intensified agriculture around their homes, and worked to conserve soil quality in those areas through soil enhancing strategies (i.e. regularly depositing wood ash and organic refuse). Classic Tzacauil farmers related to their local environment at a larger scale, moving through the forest and relocating their homes as needed to allow farmed areas to recover with long fallows. An area farmed by one generation might not be farmed again for the next couple of generations, but this system seems to have been orchestrated such that an area like Tzacauil could fall into and out of cultivation without much fanfare or struggle for land tenure. Classic farmers all over the rural hinterland of Yaxuná, it seems, practiced milpa agriculture requiring very low inputs of labor but requiring access to large and multiple parcels of land.

What strikes me as so interesting about these two very different approaches to agricultural efficiency and conservation is that both are inherently sustainable. By this I mean that, when we consider these agricultural strategies in an ahistorical and apolitical vacuum, each could go on working indefinitely. Both attend to ways to make agricultural production efficient, but whereas Formative farmers intensified their efforts in one place, Classic farmers minimized labor inputs by practicing extensive strategies over a large area. Similarly, both attended to conservation efforts, but for Formative farmers this meant amending soils around their homes whereas for Classic farmers it meant moving frequently enough that the soil had time to recover between plantings on its own. At their root, both approaches to agriculture operate on a multigenerational scale, but each embodies a very different kind of relationship between farmers and place. To understand these strategies, we have to end the thought experiment of treating them as ahistorical and consider them in light of the broader social, political, and environmental context.

9.3 Rural livelihoods at Formative and Classic Tzacauil

Evaluating the sustainability of Tzacauil's agriculture becomes a more complicated endeavor when we start to consider social and political dynamics. According to the FAO's guidelines, to be sustainable, agriculture must protect and improve rural livelihoods and social well-being (FAO 2014a:26). "Rural livelihood" is an intentionally nonspecific term that, for the FAO, captures a wide range of factors including community organization and access to social and natural capital, employment opportunities, protection, and risk management mechanisms (FAO 2014b). These are not terms that archaeologists generally use, but nevertheless this overarching topic of rural livelihoods is still one with which archaeologists have been working for a while using the language of "commoner" archaeology (e.g., Lohse and Valdez 2004). So while maintaining the inclusivity of FAO's definition, what might we be able to say about the rural livelihood and well-being in Formative versus Classic Tzacauil?

The Formative farming settlement at Tzacauil strikes an interesting balance between a shared sense of community identity with a competing sense of social difference and emerging inequality. To understand the tension of this balance, though, I think it is necessary to first consider Tzacauil in the context of Yaxuná. While true that we do not currently have enough "pure" Formative household contexts at Yaxuná to be able to conduct a rigorous comparative analysis, there is sufficient evidence to highlight a few important similarities between the two sites. At both sites, Late and Terminal Formative settlement reflects a common sense of spatial organization: boulder-lined platforms supporting foundations for perishable superstructures, loosely aggregated around focal points (typically monumental architecture) with open space maintained between platforms. While comparisons of Formative artifact assemblages are not presently possible between the two sites, this shared sense of spatial organization, combined with the strong architectural similarities between the Tzacauil Acropolis and monumental architecture at Yaxuná, suggests strong social ties between people living at the two sites. As I will discuss in the section below on governance, to me this suggests that the Formative period Tzacauil community was like a graft of Yaxuná, out in its eastern hinterland. I do not believe there were major differences between the two

in terms of “on the ground” lived experience – that is, no meaningful distinction between “urban” and “rural” – until the later Classic period.

At Late and Terminal Formative Tzacuil, there appear to have been major efforts to promote a sense of cohesive community among individual households. These overt markers of a shared social identity may have helped, for a time, to mask competition and incipient inequality among those same households. All of the investigated Formative house groups are oriented towards the settlement’s central artery, the Tzacuil Sacbe, even when (as in the case of the Sáastun Group) households had to settle fairly far away from it. Stylistically, all of the Tzacuil house groups are variations on the same theme: boulder-lined platforms built over bedrock, with superstructures arranged to draw attention towards the Tzacuil Sacbe. All house groups were surrounded by kancabales, which were likely cultivated as infield agricultural plots and/or gardens. Artifact assemblages from the house groups suggest that Formative households shared the same basic culinary practices. Patterns across the house groups point to a shared emphasis on bowls over jars, and the use of both one-hand and two-hand maize-grinding equipment. All households maintained a diverse inventory of stone tools, made mostly from locally available limestone. From what I can tell, households used these lithic tools to accomplish a fairly homogeneous set of domestic tasks involving the processing of various kinds of raw materials. These commonalities among the Formative Tzacuil house groups suggest that everyday practices were used to enact and perpetuate a cohesive sense of community identity.

Yet at the same time, individual household autonomy seems to have been such a powerful part of life at Tzacuil in the Formative. This autonomy manifested as pronounced differences between Formative house groups, which I interpret to be evidence of incipient social inequality. To begin exploring these social differences, we can start with the house group that was settled first, the Jach Group. The Jach Group has more Middle Formative ceramics than any other group, suggesting that this particular place had been favored long before the transition to permanent (i.e. multigenerational and place-based) farming settlements. In a similar vein, an offering of heirloom (i.e. Middle Formative) vessels had been deposited during the Late Formative

construction of the Jach Group. It is not just that the Jach household happened to have been the first to settle at Tzacauil – the household actively leveraged this primacy. And in selecting a place that had been so favored by pre-agricultural people, notably, the most expansive kancabal in the area, the Jach household used those intergenerational connections to assert a claim to the lands with the highest agricultural potential in the area.

Even as the Jach household used the same basic set of local materials available to everyone else at Tzacauil, they deployed those materials in ways markedly more sophisticated than their neighbors did. When the Jach Group basal platform was renovated, its builders incorporated an elaborate construction technique – dry-core fill construction cells – the likes of which was used in the construction of Yaxuná’s East Acropolis. This technique has not been documented elsewhere, but whether this scarcity is a product of the technique’s sophistication or simply of archaeological sampling bias remains unresolved. This technique did not demand any special access to particular materials; rather, it suggests a more specialized *knowledge* of how to work with locally available materials in novel and specialized ways. Complementing this capital, the Jach household may also have been able to muster a larger labor force than its neighbors, considering how substantial its construction is.

With the transition to the Terminal Formative came the settling of at least three new house groups at Tzacauil: Sáastun, Chamal, and Kaan. The households that founded these groups selected home sites that prioritized proximity to the Tzacauil Acropolis and Sacbe, but above all else, to kancabales. Because the Sáastun Group and the Chamal Group are both “pure” Formative, meaning that neither was substantially modified in the Classic period, they create an interesting opportunity for comparing two Terminal Formative house groups. Through this comparison we can appreciate the social inequality that was solidifying in the Tzacauil community.

In terms of spatial organization, the Chamal Group and the Sáastun Group are actually the most similar of any pair of house groups at Tzacauil. Both are boulder-lined platforms built over bedrock, both have multiple superstructures, and each has a small off-mound ancillary structure that likely served as a kitchen. Yet nearly everything the

Sáastun Group does, the Chamal Group does “fancier”. Much of this difference, I believe, can be attributed to a longer history of stone-working and limestone processing going on at the Chamal Group building site, likely before the group was formally built. Beneath the spot where the Chamal ancillary structure (Structure 8C) would be built, there is evidence of a burnt lime pit-kiln. In the Chamal Group’s northern intra-settlement area, we found soft, smooth bedrock – the kind, *ejidatarios* reported, preferred for quarrying – along with large broken lithics reportedly used for cutting limestone. To the south, there was a modified *charco*, a seasonal reservoir, that may have originally provided water needed during sacbe construction but later became a domestic water storage feature. In the fill of the Chamal Group’s basal platform, we found many semi-worked blocks that had been thrown into construction. The superstructures of the group had foundation braces made of cut-stone blocks.

While it is difficult to say for certain whether or not the household that settled the Chamal Group is the same group (or its descendants) that was processing stone here, the Chamal household clearly claimed the materials left behind by those earlier masons. Given that the stoneworking here was likely linked to the construction of the Tzacauil Sacbe (which is located just to the south), this household may have been leveraging a physical connection to the settlement’s central artery by incorporating these materials (perhaps “leftovers” from sacbe construction) into their residential architecture. Over time, the Chamal Group underwent first a major expansion, followed by another significant renovation later in the Terminal Formative. With each new incorporation of stone and soil, the Chamal household grew the material expressions of their multigenerational presence and permanence in this particular place.

Meanwhile, the Sáastun Group shares a similar mental template for how domestic space should be organized, but seems to have lacked the knowledge and/or resources to pull it off at the same level of sophistication as the Chamal Group. The Sáastun Group shows no signs of major renovations nor expansions. It has only a couple stones that could be described as dressed stone masonry. Even the Sáastun ancillary structure (Structure 3C), with its simple dirt floor and humble walls, pales in comparison to its analog in the Chamal Group. While still oriented towards the sacbe,

the Sáastun Group is isolated from the rest of the Tzacauil settlement and is the most distant from the site's monumental architecture. That the Sáastun Group is surrounded by *kancab* suggests that situating the home in land with agricultural potential was non-negotiable; proximity to the *sacbe* and acropolis would be sacrificed for the sake of landholdings.

The artifacts found with each house group lend further nuance to this story of inequality. The Chamal Group had a ceramic density of 2.33 sherds or 19.76 g of ceramic per square meter; the Sáastun Group had 0.84 sherds or 5.36 g of ceramic per square meter. Even while these sherds fit a similar breakdown of about three bowl fragments for every one jar fragment, suggesting similar foodways, people living at the Chamal Group simply had more ceramics. Whether we interpret this as the product of a longer occupation (i.e. the Chamal Group was occupied for longer and therefore created more household refuse) or as the product of unequal access to ceramic wares, these scenarios could potentially have conferred a social advantage for the Chamal household. While I am cautious to make the leap from greater ceramic densities to higher status, these associations are worth noting.

Pulling together these lines of evidence, the picture of the Late to Terminal Formative farming settlement at Tzacauil is at once marked by the promotion of a cohesive community identity and by emerging inequalities among autonomous households. The tense co-existence of these two dynamics gives us a sense of livelihood at Tzacauil. This community celebrated its ties to Yaxuná, and by extension, to the greater Maya region, through a shared orientation towards the Tzacauil Acropolis and *Sacbe*. Households used the same set of locally-available materials, appeared to have maintained similar foodways, and ordered the spaces of their residences and landholdings in common ways. Yet at the same time, there were significant disparities within this basic template. Access to arable land – the *kancabales* surrounding house groups – appears to have been contested. I base this inference on the fact that Formative households quite literally planted themselves in the middle of *kancabales*, even at the cost of rainy season walkability (i.e. necessitating the construction of walkways) and increased distance from advantageous terrains (i.e. bedrock with

seasonal water storage features) and focal points (i.e. the acropolis-sacbe complex). Households asserted multigenerational claims to landholdings through their architecture and improvements to those lands. Following a lexical analysis developed by Taube (2003:462), we might think of these improvements as the “work” (meyah in Yucatec Mayan) by which human efforts transform primordial wilderness into ordered space.

Even as households worked with the same suite of materials, they did so in ways that reflect differential access to the knowledge of how to work with those materials in sophisticated ways, as well as differential access to quantities of those same materials. These elements suggest that the quality of life and social well-being at Late and Terminal Formative Tzacauil was unevenly distributed across households. Furthermore, social inequalities among the individual households were actively masked by the promotion of a cohesive community identity.

The Classic period settlement at Tzacauil suggests an entirely different situation of rural livelihoods. To start, it is important to note that it is with this settlement that we see, for the first time, a meaningful difference between “on-the-ground” life at Yaxuná versus at Tzacauil. In the Late and Terminal Formative, the founding and development of Tzacauil seems to have been a deliberate move by people at Yaxuná to replicate a segment of their urbanizing settlement out in the hinterland. In terms of the lived experience for farmers, living at Tzacauil was not categorically different from living at Yaxuná – or at least, that seems to have been the intended idea. People had access to the same kinds of things, lived in the same kind of houses, and maintained a similar kind of settlement pattern in both places.

This all changed in the Classic period. By the time Tzacauil was resettled in the Late Classic, two dichotomous lifestyles had emerged – a contrast between life at Yaxuná and life at its hinterland; we could use the terms “urban” and “rural” to describe this binary. There were now meaningful differences between life “on-the-ground” at Yaxuná and Tzacauil. One of the most noticeable, based on excavations done in Late and Terminal Classic house groups at Yaxuná (e.g., Stanton et al. 2010; Fisher 2015), is that people living at Yaxuná had access to all sorts of materials procured through long-distance exchange. Obsidian litters the surface of Yaxuná and is abundant in

excavations of Classic period residential architecture. Marine shell, too, is fairly common, and it is not especially unusual to find jadeite, hematite, and malachite. Some of these non-local items (obsidian, shell, and jadeite) were found in our excavations at Tzacauil but in tiny amounts. A single test pit at Yaxuná could easily turn up more obsidian than what we found in all the excavations at Tzacauil, combined, for instance. Yaxuná households were hooked into trade and exchange networks and Tzacauil households were evidently not.

There are a few ways we can interpret this disparity in access to non-local goods between Yaxuná and Tzacauil. Perhaps people at Yaxuná really did just have greater access to imported goods, as part of their living in a center that was so regionally plugged into the greater Maya world. Yaxuná may have been home to elite members of society and specialized kinds of personnel who were not living in hinterland settlements like Tzacauil. Or perhaps raw materials were being brought into Yaxuná households to be crafted into finished products; specialized household crafting would create higher densities of these materials archaeologically, and would explain why these materials are so poorly represented at Tzacauil. A third explanation is that people living at Tzacauil had access to these materials, but took special care of them and were less likely to discard them if they broke; even if this third scenario were true, it still suggests differential access to the materials. Regardless of which of these scenarios, or which combination of these scenarios, explains the disparity between Yaxuná and Tzacauil, the reality remains that people living in these places had very different relationships to non-local material culture – or at least the non-perishable forms of material culture given preference by current archaeological methods.

We also see that Tzacauil people were more mobile than their counterparts in urban Yaxuná in the Late and Terminal Classic. As I argued in the previous section, Tzacauil's Classic settlement suggests that farming families moved fairly frequently (perhaps once a generation) as they practiced shifting milpa agriculture in the hinterlands of Yaxuná. I noted in Chapter 7 that in our excavations of the Kaan Group's Classic period expansion, we noted the presence of possible capstones similar to the kinds noted from burials at Yaxuná. If this is a burial, it is the only one built into either

the Kaan Group or the Pool Group (it is unknown if there were Classic burials in the Mukul Group). This marks another big difference from Yaxuná, where burials are a regular occurrence in Late and Terminal Classic residential architecture. That Yaxuná houses were accumulating the remains of deceased household members suggests that Yaxuná households were maintaining multigenerational claims to specific places. This marks a continuation of Late Formative practices, but through a different kind of media (i.e. human remains as opposed to massive construction). That Tzacauil houses lack human remains (except perhaps for one instance in the Kaan Group) suggests that household members had a different kind of relationship with land.

That relationship between households and land, I propose, was more collaborative than contested at Late and Terminal Classic Tzacauil. Householders clustered together in fairly humble homes with very few pronounced differences among them. There is some evidence that they were pooling labor and resources (e.g., high density of grinding stones found in Structure 6B of the Pool Group). They did not leverage architecture or human remains to manifest autonomous claims to particular *kancabales*, at least not in ways we can detect archaeologically. However farmers were working out access to land, it did not involve strong material expressions or clear boundary markers. Furthermore, the two fieldhouses (Jaltun and T'uup Groups) north of the Tzacauil Sacbe suggest that farmers continued to return here on a temporary basis after the Kaan, Pool, and Mukul households had moved on. Pulled together, these lines of evidence suggest that rural farmers living in the hinterland east of Yaxuná were so secure in their land tenure that they could come and go fairly freely, making decisions about when and where to farm collectively among themselves. This mobile lifestyle may have excluded them from some of the incentives offered to Yaxuná urbanites, but in exchange farmers seem to have been exempt from the obligation to stay in one place. There is little evidence that political authorities from Yaxuná (or elsewhere) were intervening. We will talk more about this in the section on governance, below.

9.4 Governance at Formative and Classic Tzacauil

Like any agricultural system, Tzacauil's – its farming families, soil, water, crops, everything – was never apolitical. The political dimensions of life at Tzacauil have critical implications for understanding agricultural sustainability over time. When the FAO insists that sustainable agriculture requires “good governance”, it means that political leaders have to advocate for social and environmental justice, recognize and defend people's rights to land and natural resources, and create avenues for people to participate in decision-making (FAO 2012, 2014a). When done right, good governance provides long-term care and protection for natural resources as well as for people (IFAD 1999). In a sustainable agricultural system, political leaders will work and learn alongside farming communities in order to get them to comply with agricultural goals – and in doing so, those political leaders are recognized as legitimate by all levels of society.

When we compare the Formative and Classic farming settlements at Tzacauil, it is clear that very different forms of political leadership were at work. In the Late and Terminal Formative, Tzacauil was host to the Tzacauil Acropolis and Tzacauil Sacbe. Now, while I have made clear that the exact function of this monumental complex remains somewhat unknown, such complexes have been convincingly linked to the development of early kingship elsewhere in the Maya area, including at Yaxuná (see Chapter 4). At Yaxuná the emergence of Triadic Groups (e.g., North Acropolis, East Acropolis, 5E-19 Group) is interpreted as evidence for incipient kingship. Importantly, these Triadic Groups, along with other monumental complexes, often served as the focal points for Late Formative settlement at Yaxuná.

Based on the striking similarities between Yaxuná and Tzacauil at this time, as well as chronological data revealed by excavations at Tzacauil, I believe that a Yaxuná political faction and/or a segment of population from Yaxuná settled at Tzacauil in a planned, intentional, and coordinated act of colonization. Yaxuná's population was growing rapidly in the Late Formative. Settlement pattern data suggest that households occupied large boulder-lined platforms, aggregated into loose clusters in certain parts of the site while areas close to the Yaxuná ceremonial core (i.e. south of the E-Group) remained unoccupied. The low-density settlement suggested by the distribution of these

platforms suggests that place-based agricultural strategies, like infield plots or houselot gardening, were occurring in open intra-settlement areas. As population grew, I expect that Yaxuná's political leaders realized that agricultural production would need to be enhanced to support the urbanizing center. Rather than continue to sprawl outward, instead the leaders of Yaxuná launched a new settlement out in its eastern hinterland. We do not know the precise circumstances of this decision, but we can imagine different scenarios. Perhaps Tzacauil was founded as a consensus among Yaxuná's leaders, or perhaps it was founded by a disgruntled faction seeking room to grow away from the urbanizing center. With the data available, this question remains unresolved. But what I do think we can say is that Tzacauil was not a microcosm of Yaxuná, but rather a graft of it, a branch transplanted into unclaimed lands.

Building the Tzacauil Acropolis created an anchor for a permanent farming community to form out here in Yaxuná's hinterland. I expect Yaxuná's political leadership provided the architects, masons, and labor to build the acropolis. The people who settled around this monumental graft might have been from Yaxuná, or they might have been people or descendants of people already farming in this area before Yaxuná leadership chose to intervene. This remains unresolved. But what we do know is that the Late and Terminal Formative community recognized, at least formally through the architecture of their homes, a shared orientation towards the acropolis and sacbe, and the political authority it embodied. More excavation would be required, but I suspect that a delegation of this authority was actually living out at Tzacauil, perhaps on the acropolis itself or at the Jach Group. The acropolis and sacbe materialized political leadership at Tzacauil – and in the same way that that leadership leveraged materials to express a multigenerational permanence in this place, so too did Tzacauil households.

So what do we make of the fact that the Tzacauil Sacbe fizzles out about halfway between Yaxuná and Tzacauil? In the scenario I have proposed, the sacbe served to materialize a cognitive and political connection that already existed between the two settlements. People in the Late and Terminal Formative northern lowlands were constantly rearranging the matter of the local environment to express relationships and connections. In this milieu it makes sense that Yaxuná's leadership, as well as the

faction out at Tzacauil, would want to formalize their connection through a road, especially when said road would also assert connections to resources along the way (e.g., the Joya Rejollada). But I suspect that the undertaking of the Tzacauil Sacbe was a little more costly (in labor, time, and materials) than Yaxuná's political leaders had assumed it would be when they started. At its time this was one of the most, if not the most, ambitious sacbe building projects ever attempted in the northern lowlands. As I will discuss in the section on resilience, I think that when place-based agricultural strategies ceased in the hinterland at the end of the Formative, so too did ostentatious, physical expressions of claims to particular landholdings.

All together, the picture of governance at Formative Tzacauil is one of direct political intervention in hinterland farmers' lives. Through the installation of the Tzacauil Acropolis and Sacbe, political leadership, likely early kings, at Yaxuná were seeking to replicate what had worked in their urbanizing center, but transplanted to their hinterland. The graft, Tzacauil, was set up to be like any other segment of urban Yaxuná, except that it was about an hour's walk away. Farming was still fairly new, and the kind of farming that had developed at Yaxuná – place-based, multigenerational relationships between individual households and their intra-settlement landholdings – was what Yaxuná leaders tried to replicate to increase agricultural production. Back in Chapter 4, I talked about a compelling comparison between Yaxuná-Tzacauil and Komchen-Tamanche, in northwestern Yucatán. The parallels between these two pairs of sites suggest to me that Yaxuná was not unique in its attempt to “graft” a part of itself into its hinterland – this was a strategy that political leaders were trying out across the northern lowlands.

Yet this particular arrangement of political leadership and hinterland farmers did not last long, and, as I will discuss in the section on resilience, it appears to have remained discarded in the collective “trial-and-error” pile for the rest of the pre-Hispanic period. The archaeological record left behind by Classic period Tzacauil farmers suggests that they had very little direct contact with political leaders. Rather, political leadership appears to have left hinterland farmers to their own devices. Rural farmers in the hinterlands of Yaxuná moved as they needed to pursue shifting cultivation

strategies, maintaining temporary and seasonal residences as the agricultural cycle dictated. Their urban counterparts appear to have been “locked in” to permanent residence at Yaxuná, and in exchange were rewarded with access to high-status items and happenings.

I would put forth that the apparent freedoms given to rural farmers in the Classic are tied to larger political changes in the northern Maya area, in which political authority was based on personal relationships and vested in specific individuals (see also Restall 1997; Quezada 2014). This scenario helps explain why, at Yaxuná, royal and non-royal burials seem to become such an important ritual focus in the Late and Terminal Classic. Political affiliation was becoming increasingly situated and expressed through personal ties, rather than through monumental materializations of claims to place and permanence (see also Golden and Scherer 2013). Farmers mobilized freely throughout the landscape while still remaining politically aligned with specific leaders. I expect that the farming families living at Tzacauil and elsewhere in the Yaxuná hinterland were not exempt from paying tribute, attending public events, military service, and other kinds of service. Yet at the same time, a system had clearly emerged in which political leaders were no longer trying to lock rural farmers into any one place. There must have been incentives to keep hinterland farmers in the general realm of Yaxuná, but determining what those incentives were is a question that requires more evidence to answer. What we can say at this time is that rural farmers at Tzacauil and elsewhere in the Yaxuná hinterland seem to have been fairly “free-range” in the Classic period. There is little archaeological evidence of direct political intervention. I see this not as a case of political leadership permitting or tolerating farmers’ mobility; rather, I see it as political leadership having little capacity to do much else but cooperate with mobile farmers. If there was a causal relationship here, I suspect that it was the farmers’ mobility that drove new and more personal forms of political authority, not vice versa (see also Quezada 2014).

9.5 Resilience at Formative and Classic Tzacauil

Resilience is an agricultural system's ability to mitigate stress and bounce back from crisis – put simply, its capacity to deal with change. Having established some of the fundamental differences between Tzacauil's Formative and Classic farming communities, what can be said about the resilience of each? As I mentioned earlier, though the two communities practiced very different kinds of agricultural strategies, both can be considered inherently sustainable when considered through an ahistorical and apolitical lens. But once social, political, and environmental dynamics are factored in, these two communities and their agricultural systems were not equally equipped to deal with change.

The Late and Terminal Formative farming community at Tzacauil invested heavily in place-based agricultural strategies. At the foundation of this agricultural system were individual households' autonomous long-term claims to particular landholdings. Those landholdings had varying agricultural potential, and households' differential access to land was one of several ways that social inequality manifested within the community. At the same time, these inequalities were masked by a cohesive community identity marked by strong social and political ties to Yaxuná. These ties were reified through the Tzacauil Acropolis and Tzacauil Sacbe, which themselves materialized permanent social and political relationships to the agricultural potential of this particular place east of Yaxuná.

And yet the archaeological evidence suggests that Tzacauil was abandoned in the Terminal Formative. All construction activity at Tzacauil seems to stop around the same time, and I would expect that excavations of the Tzacauil Sacbe's western end would reveal that its construction, too, was halted in the Terminal Formative. The community that had been living at Tzacauil left it. Whether they dispersed out into the forest to farm, relocated to a satellite settlement (e.g., Joya), or relocated to urban Yaxuná itself, we cannot say with the available data. But this community's ties to its landholdings, ties that seem to have been made with every intention of lasting forever, were dissolved.

As I discussed earlier (Chapter 4), paleoclimate and demographic data from the broader Maya area suggest that there was some sort of climate-related collapse event

at the end of the Formative period, potentially linked to severe drought. Tzacauil's farming community appears to have been vulnerable to the risks posed by this kind of unexpected climate variability, and I attribute this vulnerability to its heavy investment in place-based agriculture. With the strains of burgeoning social inequalities both within Tzacauil and, perhaps, between Tzacauil and Yaxuná, political leaders would have had to work harder to incentivize Tzacauil farming households to commit to their landholdings. We can imagine the troubles this might have caused at Tzacauil. Households at the lower end of the emerging social hierarchy, like that of the Sáastun Group, might have felt pressure to leave and resume a more mobile farming lifestyle in the forest away from the scrutiny of political leaders; why stick around if you have to be stuck at the bottom? Meanwhile, households at the higher end of the social hierarchy, like that of the Jach Group, might have felt embittered about being alienated from life in Yaxuná; what is the point of being at the top if it means you have to miss out on the excitement, clout, and capital of the center?

Low-density intra-settlement agriculture was sustainable for so long in Maya cities because it offered farming households the social, political, and economic incentives to stay in one place and to commit to the multigenerational stewardship of particular landholdings. But when political leaders tried to replicate this urban agriculture out in the hinterlands to promote agricultural production, those incentives were more difficult to offer. Tzacauil's Late and Terminal Formative community grafted a segment of the low-density urbanism and intra-settlement agriculture that had developed in urban Yaxuná, but did so in Yaxuná's hinterland. It was urban agriculture, minus the urban. These place-based focuses were tenable at Yaxuná because Yaxuná could offer other incentives to its population. Yaxuná was the longest and most continuously occupied settlement in the region, precisely because of these social and economic incentives. Place-based intra-settlement agricultural strategies may have remained a critical part of Yaxuná's occupation, but the abandonment of Tzacauil at the end of the Formative shows that this approach simply was not suited for small hinterland settlements. If the political leaders based at urban centers were going to enhance agricultural production through their hinterlands, they were going to have to adopt a different strategy.

This redefinition of rural farming is precisely what we see happening in the Late and Terminal Classic settlement at Tzacauil. By embracing flexibility and collective agricultural strategies, rural farming households were able to withstand major political and environmental changes. They did so, it seems, with the blessing of the political leaders of Yaxuná, who had perhaps learned it was best to leave rural farmers to their own devices. It is fascinating that the archaeological record of Tzacauil registers little of the interpolity drama that characterizes our narrative of Classic period Yaxuná. While we do not know the exact nature of Cobá's or Chichén Itzá's involvement at Yaxuná (i.e. the degree to which these centers militaristically conquered Yaxuná, or if their affiliation was more symbolic), it does seem that political leadership was changing, perhaps frequently, at Classic Yaxuná. Yet during those changes, it seems that shifting farming (i.e. *milpa*) continued in the hinterland. True, the construction of the Yaxuná-Cobá Sacbe (Sacbe 1) probably caused a stir, and we see perhaps that people living at Tzacauil were plugged in at least somewhat to interregional trade networks that afforded them items like obsidian. But these various power shifts did not bring with them the imposition of direct political intervention in the lives of rural farmers. Rather, it seems that amid these changes, political leadership allowed – potentially even actively encouraged – hinterland farmers to continue cultivation as normal. There may just have been an ultimately different (or different kind of) recipient at the end of their tribute.

Hinterland farmers were active agents in the political structures that developed in the Classic period northern lowlands. Political leaders had little choice but to work with the hinterland farmers, because they knew that at any point, the farmers could leave. The days of trying to lock them into place were over. And so, the systems of political organization that developed had to account for rural farmers in this way. Amid Yaxuná's volatile political history and the environmental crises associated with the Classic Maya "collapse" event, hinterland farmers like those who lived at Tzacauil just kept moving, just kept farming.

9.6 The long-view of agricultural sustainability: Implications for now

The frameworks of historical ecology and the FAO criteria of sustainable agriculture allow us to “read” the Tzacauil landscape as an ongoing interaction between Maya farmers and their local environment. The differences between the Formative and Classic settlements at Tzacauil speak to an ongoing process of learning among Maya farming communities and political leaders. They landed at a balance between: (1) flexible land tenure systems for hinterland farmers and (2) governing mechanisms that kept hinterland farmers politically connected to community leaders without tethering them permanently to any one place. This hinterland balance and the kind of social dynamics and agricultural practices linked to it appear to have been very different from what was going on in urban centers at the same time. Over time, this kind of agricultural system persisted even amid major political and environmental changes in the Maya lowlands. It was, during the time it was supported, a sustainable agricultural system.

As I discussed in Chapter 8, the Colonial enterprise can be viewed as a series of moves to undo this system, continuing and culminating into the neoliberalization of today’s *ejidos*. Whereas the earliest Colonial power structures in Yucatán sought to emulate pre-Conquest political and tribute systems (Chamberlain 1951), these efforts were swiftly rejected in the interest of increasing agricultural production, industrialization, and the general religious and economic subjugation of indigenous communities. Maya farmers had to be held in place to accomplish these tasks. As Farriss (1984:214) writes, “What was so disturbing to the Spanish ecclesiastical mind was precisely the freedom dispersed residence afforded, regardless of what the Indians in fact chose to do with it”. Recent decades have seen the shift towards not the exploitation of agricultural production, but towards the seizure of lands for private development. Even so, through early Colonialism to the Bourbon Reforms to NAFTA there weaves a common thread: privatizing agricultural lands and locking Maya farmers into confined spaces.

Now in the 21st century this goal five centuries in the making may be coming to fruition. Neoliberalization contradicts the very nature of *milpa* agriculture, as a multigenerational subsistence system that inherently depends on the ample availability of ostensibly “unproductive” lands. As the likelihood of privatizing collective *ejido* lands

increases, as farming becomes a less dependable source of food, and as processed corn from the United States becomes ever cheaper, the agricultural sustainability of the Maya *milpa* as it first evolved here is becoming untenable. On each of the fronts of agricultural sustainability – efficiency, conservation, rural livelihoods, governance, and resilience – the *milpa* of the Anthropocene rejects the balance struck and lessons learned over the centuries of agricultural learning still legible in this landscape.

9.7 Chapter summary

This chapter synthesized archaeological, ethnographic, ecological, and historical data to evaluate the agricultural sustainability of twenty centuries of farming at Tzacauil. Through the lens of historical ecology, which allows us to consider landscapes as recordings of long-term interactions between humans and their local environments, I was able to document significant changes in community agriculture between the Formative and Classic occupations of Tzacauil. I then used the framework of sustainable agriculture outlined by the Food and Agriculture Organization of the United Nations to assess these changes according to the dimensions of efficiency, conservation, rural livelihoods, governance, and resilience. Then, having considered the more recent history of agrarian reform in Yucatán and specifically in the Yaxunah *ejido*, I discussed how the current situation in Yaxunah is directly at odds with the long view of agricultural sustainability intrinsic to this landscape. We will now turn to some closing thoughts and final takeaways from this study in the next and final chapter.

Chapter 10

Conclusion: Xíimbal k'áax

When the six Yaxunah *ejidatarios* and I spent a week surveying Tzacauil in late spring 2017, I struggled to find a word to call the work we were doing. They did not; they called it *xíimbal k'áax*, a Yucatec term that translates to “walking the woods” (Figure 10.1). It fit what we were doing, and I quickly adopted it, too. I learned, later, that *xíimbal k'áax* has another, specialized meaning for Yucatec Maya farmers. It is the first step in making *milpa*, when the farmer walks the woods searching for the next place to plant. When I revisit the memory of us walking the woods together, appraising and evaluating the abandoned land and the residues of farming communities past, I keep coming back to the idea of *xíimbal k'áax* and the meaning it holds for the futures of this landscape.

Xíimbal k'áax carries a promise. As the farmer moves through the forest, searching for the next place to plant, the decision is not about which parcel is best, it is about which parcel is ready for this moment. *Milpa* farming – sustainable *milpa* farming – requires that the forest be allowed to reclaim the land between plantings. This takes time, at least eight years. As an orchestrated, intergenerational rhythm, *milpa* relies on a reality where farmers can leave a place for years and be assured that they can come back to it at some as-yet undetermined point. Land that to outsiders appears “unused” is actually fulfilling this promise of plantings to come. The yearly act of *xíimbal k'áax* places the farmer in conversation with past and future generations in the landscape.

Walking the woods of Tzacauil with the *ejidatarios* in 2017, we were – consciously or not – moving through an unfolding moment of precarity for rural Maya farming. But as the archaeological dimensions of this project have shown, this was not the first such moment, and it assuredly will not be the last. The agricultural successes and failures of past farming communities at Tzacauil enhance our ability to understand

this current unfolding moment. What do we learn from Tzacauil? And looking ahead to the future, how can this knowledge be leveraged towards a more sustainable and sovereign food system for modern Maya farming communities?

The contribution of the work presented here is that, first and foremost, hinterland Maya farming communities were active agents in larger dynamics of social and environmental sustainability. Far from being passive or static, Maya farmers' practices were dynamic – and on-the-ground changes in these practices had greater implications for societal and political change. Here I employed the framework of historical ecology to “read” Tzacauil’s landscape as a recording of long-term interactions between Maya farming communities and their local environment. I pulled together archaeological, ethnographic, ecological, and historical approaches to interpret these past and ongoing interactions. My work at Tzacauil took a “bite-sized” settlement and fully investigated it, allowing for a community-level study of hinterland Maya social dynamics. This level of detail was further enhanced by Tzacauil’s “pure” Formative household contexts, which are exceptional for the Maya area and allow us to assess changing social, agricultural, and political dynamics over time. By situating these findings within the context of Tzacauil’s relationship to the larger urban center of Yaxuná, this work has the potential to transform our understanding of the role that hinterland settlements played in Maya civilization. Furthermore, by evaluating these communities through the framework of sustainable agriculture used by the FAO, this study enhances our understanding of the role of small-scale farming communities in changing dynamics of agricultural sustainability.

During the transition to full-time agriculture (Middle to Late Formative periods), farming households and incipient political leaders invested heavily in place-based community-building strategies at the urbanizing center of Yaxuná. These strategies materialized as monumental gathering places that served to integrate sedentary and mobile Maya people. As more families committed to farming, they staked out clear and autonomous relationships connecting their households to specific landholdings in the Yaxuná settlement. These relationships were expressed through the materials of physical houses – boulder-lined platforms – that were aggregated into loose clusters

around focal points – typically public architectural complexes. Open space was maintained around and between households' boulder-lined platforms, consistent with the “low-density” urbanism documented elsewhere in the Maya lowlands. This suggests that these areas were likely used for intra-settlement agricultural strategies. These place-based strategies were likely part of a larger suite of diverse subsistence strategies, which would have included more distant fields (i.e. *milpas*), silviculture, hunting, and the collection of wild resources. Yet even as one of many strategies, intra-settlement agriculture likely served to express a household's permanence in Yaxuná and its rapidly urbanizing landscape. By focusing efforts around autonomous household landholdings, Yaxuná households simultaneously improved these lands while also deepening their commitment – and the expressions of that commitment – to remaining embedded in them for several generations.

In the scenario I have developed in the last several chapters, Yaxuná's leaders likely realized that their growing population was soon going to require an equally growing food supply. Their response was to replicate a segment of their urban landscape, about an hour's walk into the eastern hinterlands; this was Tzacauil. Tzacauil was a graft of the settlement that had developed at Yaxuná. Centered around its own acropolis and sacbe complex, the households that settled at Tzacauil in the Late Formative rearranged the materials of their local environment to express autonomous claims to landholdings. They literally planted themselves in the lands with the highest agricultural potential – *kancabales* – and asserted permanence of presence in those lands through connections to pre-agricultural peoples and boulder-lined platforms. Their continued occupation in these lands transformed the refuse of everyday life – organic waste and wood ash – into matter that enhanced the quality of the soils around their houses. These intra-settlement lands were the focus of place-based agricultural strategies.

The Late and Terminal Formative farming households at Tzacauil participated in a shared community identity that masked emerging social inequalities. While all households oriented themselves to the acropolis-sacbe complex, and all shared a common spatial organization and basic set of domestic activities, there were differences

in terms of land access, construction techniques, and available labor pool. These social inequalities coalesced with other vulnerabilities: the place-based agricultural strategies that had developed at Yaxuná simply did not operate the same way socially and politically as they did at Tzacauil's hinterland graft. Tzacauil lacked the social and political gravity of urban Yaxuná, and this undermined households' motivation to continue to replicate the place-based agricultural strategies that had flourished in the urban center. Even with the political intervention materialized by the Tzacauil Acropolis and Sacbe, there was not enough clout to hold hinterland farming households in place. When environmental strains – prolonged droughts – came at the end of the Terminal Formative period, the Tzacauil community and its intensive, place-based agricultural system was abandoned.

Yaxuná continued to be occupied, and as the Classic period began, so too began a period of political turbulence. Yaxuná was incorporated into the kingdom of Cobá in the Late Classic, then later eventually into Chichén Itzá's territories. New forms of political leadership based on royal personalities and personal relationships developed. Yaxuná's settlement reached its population peak as houses crowded into the urban landscape, reoccupying Formative boulder-lined platforms and building new homes wherever they could find the space.

At Tzacauil and elsewhere in Yaxuná's hinterlands, farmers were markedly more mobile than their Formative antecedents had been. Households came together to form small, somewhat ephemeral communities, clusters of multiple family units that pooled labor and resources. No longer were households autonomously staking out multigenerational claims to specific landholdings. Evidence from Tzacauil indicates that households made agricultural decisions collectively and moved more freely in the landscape, relying more on extensive and shifting *milpa* agriculture and less on intensive, place-based strategies. Settlements were shorter-lived, and temporary and seasonal residences were part of the orchestrated, multigenerational management of the *milpa* system. These hinterland farmers were still likely bound to political obligations at Yaxuná (and its changing overlords) but there was little direct political intervention in the hinterlands. Even as new leadership was installed, the hinterlands were left alone –

further suggesting the importance of personal relationships in political organization (see Quezada 2014). Tzacauil farmers had less access to the non-local goods that were so abundant at Yaxuná, but they seem to have been free to move about as they wanted and as the *milpa* required. Formative Tzacauil was a hinterland settlement attempting to replicate what had worked at urban Yaxuná, while Classic Tzacauil was categorically different: it was rural in a way Formative Tzacauil had never been.

The struggle to balance land tenure and political intervention is recorded in the landscape of Tzacauil – and its implications for agricultural sustainability continue into the Anthropocene. The Late Formative “experiment” at Tzacauil was to expand agricultural production by grafting segments of urban settlement and agriculture in the hinterlands. This ultimately did not work. During all subsequent periods before European contact, it seems that Classic Maya political leaders and farmers alike worked out an agricultural system that allowed cities to be fed and entrusted hinterland farmers to do what they knew how to do, without conscripting them to stay in one place. There were mechanisms in place such that, even when leadership changed hands, hinterland farmers had the security to know that they could move as the shifting *milpa* required. They could leave a place and know they could come back to it at some imagined point in the future, when *xíimbal k’áax* determined that it was time to plant again. While there may have been some ultimate boundary to the range within which farmers moved, that boundary – like those of Colonial-era communal lands – may not have resembled the kinds of boundaries recognized today.

This conception of land tenure was grounded in personal ties. It could not be translated into spatial boundaries – to do so would be to “freeze” the forest in one single moment, and fail to capture the temporal trajectories of past and future plantings. From the viewpoint of Maya agriculture, the Colonial enterprise of the last five centuries has been a continuous onslaught of attempts to hold the *milpa* in place, and in so doing, five centuries of fundamentally misunderstanding the Yucatán landscape. In my discussion of Tzacauil in the Anthropocene, I showed how liberal and neoliberal agrarian reform reject the balance between land tenure and political intervention that had developed before European contact. From the Bourbon Reforms to NAFTA, the move to privatize



Figure 10.1 Xíimbal k'áax

land is, at its core, a stripping away of Maya farmers' ability to engage in the dialogue between past, present, and future plantings that sustainable *milpa* agriculture requires.

This is particularly troubling given that neoliberal politics have ushered in an age of self-proclaimed sustainable agriculture in the modern community of Yaxunah. As foreign demand for “authentic” Maya agricultural products grows, Maya farmers' access to those same products is increasingly threatened. Branding this all as “sustainable” rejects the larger narrative still legible in the landscape of the Yaxunah *ejido*: Yucatán farmers have to have secure access to land – and especially the “unproductive” land of the forests – for any sort of sustainable agriculture to truly exist.

Moving forward, how can this knowledge advance a larger discussion of agricultural sustainability, food sovereignty, and environmental justice in Yucatán? First, let us be realistic: I am not harboring any delusions that the archaeology of Tzacuil is somehow going to course-correct NAFTA, or its newest incarnation, the United States-Mexico-Canada Agreement (USMCA). But I do think that there is hope of archaeologists being able to make meaningful contributions to ongoing efforts at a local scale, in Yaxunah as elsewhere. This study shows that archaeologists are perhaps uniquely

equipped to document farmers' "on-the-ground" roles in and responses to broader political and environmental changes. Understanding this bottom-up perspective and tracking it over extended periods of time is critical for our understanding of what practices are and are not sustainable. We can also leverage our research to draw attention to the fact that agricultural sustainability cannot be treated as apolitical or ahistorical – and this awareness is sorely lacking in the modern marketing of Yaxunah's food and farming under the brands of "authenticity" and "sustainability".

On Christmas Eve 2018, as I was finishing this dissertation, I got a phone call from a friend from Yaxunah, an *ejidatario* named Valerio. We talked for about half an hour, and he told me how his wife – who had been one of the tortilla-makers hired by Noma in 2017 – was traveling all over for promotional events related to Yaxunah's culinary tourism. He told me that everyone who had planted this year, himself included, had lost their crop. When I asked what had happened, he said that it had been the *tejones* (coatimundi, *Nasua narica*) again – they had eaten everything and there had been no harvest. We wondered what had happened to the *tejones* that had left them so hungry, and we lamented that he and the rest of the *ejidatarios* would have to buy all their corn for the next year.

It had been a while since I talked to anyone from Yaxunah, and I decided to ask Valerio a question that had been bothering me as I had been writing: did the *ejidatarios* decide to sell Tzacauil and the eastern lands of the *ejido*? I asked him, and he laughed. "No, no, no," he said. "Everyone has to vote to sell. For my part, I'm never going to... it's not going to happen." He was confident, and perhaps for now the *ejido* is safely secured in the hands of its stewards. But this certainty feels precarious: it comes on the heels of the failed harvests, the deepening reliance on store-bought maize, and the growing influence of foreigners and their "foodie" tourism.

I come back to where we began: don Jerónimo's pile of rocks, his corncrib from circa AD 2002, and the *ejidatarios*' insistence that Tzacauil is no good for farming. This belief, combined with the mounting pressures of a changing climate, land privatization, and the neoliberal food system, offer an invitation to contemplate the future of this particular place, an otherwise unremarkable piece of land at the far eastern edge of the

Yaxunah *ejido*. This land and its relationship to Maya farmers is at a precarious moment in its 2000 year history, one where the future of the relationship is far from certain. When I think of this precarity, I remember the *ejidatarios* walking the forests of Tzacuil. There was the ever-unfolding question of *xímbal k'áax* – is it time to plant, or is it time to move on?