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## **Household Intensification in the Mixtec Cacicazgo: Excavation of a House and Terraced Fields**



**Research Year:** 2002

**Culture:** Mixtec

**Chronology:** Post Classic

**Location:** San Juan Teposcolula, Oaxaca, México

**Site:** Nicayuhu

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## Abstract

"Household Intensification in the Mixtec Cacicazgo: Excavation of a House and Terraced Fields" is a FAMSI sponsored research project that combines archaeology, ethnohistory, and ethnography to learn about the Postclassic Mixtec commoner class—the terrace farmers. The project followed a program of mapping, surface collecting, extensive excavation of two Postclassic Mixtec commoner houses and test excavations at a *lama-bordo* terrace and twenty agricultural contour terraces at the terraced hill-town of Nicayuhu in San Juan Teposcolula, Oaxaca. The project is currently in the analysis phase. The preliminary results of this study suggest that food-producing commoner households may have independently built and managed agricultural terraces supporting the thesis that Netting's (1993) agrarian smallholder pattern characterizes the socio-economic organization of Mixtec agricultural intensification and the commoner household's role in society. This study has generated important and until recently unavailable data on agricultural terrace construction and on the lifeways of Prehispanic terrace farmers.

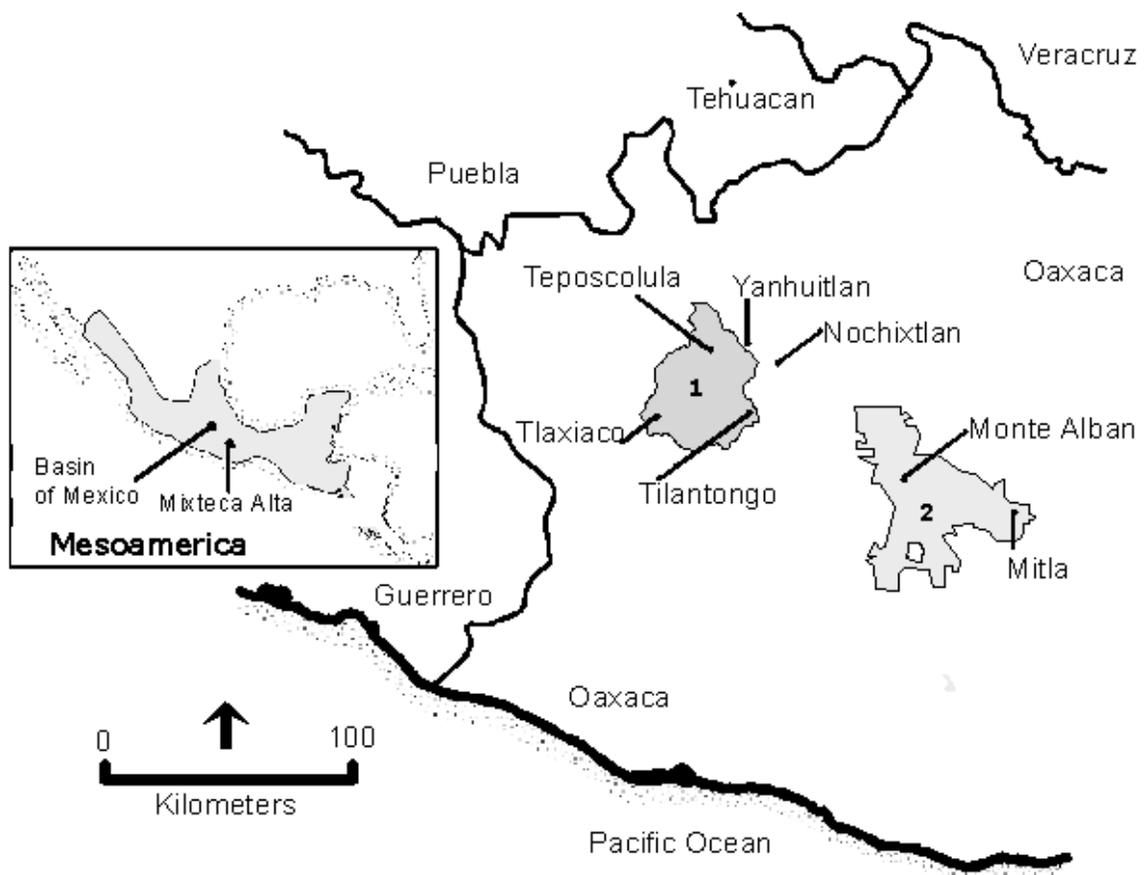
## Resumen

"Intensificación agrícola en el nivel de las unidades domésticas en un cacicazgo mixteco: excavación de una casa y una terraza agrícola", es un proyecto de investigación auspiciado por FAMSI, el cual combina arqueología, etnohistoria y etnografía para estudiar a la clase comunera mixteca durante la época posclásica—los campesinos de las terrazas agrícolas. La metodología del proyecto consistió en hacer un mapa, recolecciones de superficie, excavaciones intensivas de dos casas comuneras posclásicas y sondeos en una terraza *lama-bordo* y veinte terrazas agrícolas de contorno en el cerro de Nicayuhu en San Juan Teposcolula, Oaxaca. Estoy ahora en la fase de análisis, pero los resultados preliminares indican que las unidades domésticas de productores agrícolas comuneros pudieron haber construido y manejado independientemente las terrazas agrícolas, lo cual sugiere que el modelo del pequeño agricultor de Netting (1993) caracteriza la organización socioeconómica de la intensificación agrícola mixteca y el papel que los comuneros tuvieron en la sociedad. Este estudio ha generado información importante y hasta la fecha inexistente sobre la construcción de las terrazas agrícolas y el modo de vida de los campesinos prehispánicos que trabajaron estas terrazas.

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## Introduction

Mixtec *cacicazgos* during the Postclassic period (A.D. 800-1521) were agricultural powerhouses whose inhabitants modified their environment through terracing (Spores 1969; Balkansky *et al.* 2001; Pérez 2001). Scholars attribute agricultural intensification to demography, socio-political demands, or environmental uncertainty (e.g. Boserup 1965; Denevan 1987; Kirch 1994; Morrison 1996). Some scholars, furthermore, argue that state-level initiatives are necessary catalysts to intensification (e.g. Kolata 1986, 1991; Sanders, Parsons, and Santley 1979). In the Mixteca Alta ([Figure 1](#)), the correlation between the agricultural terracing system known as *lama-bordo* and high regional population densities might suggest that population pressure caused intensification, and that powerful rulers administered the system. Other anthropological studies, however, suggest that the agrarian smallholder—or the food-producing peasant household—might independently create and operate intensive agricultural systems (Evans 1990; Netting 1993; Smith 1994).



1. Central Mixteca Alta survey
2. Valley of Oaxaca survey

**Figure 1. The Mixteca Alta within Mesoamerica. Drawing by Charlotte Smith.**

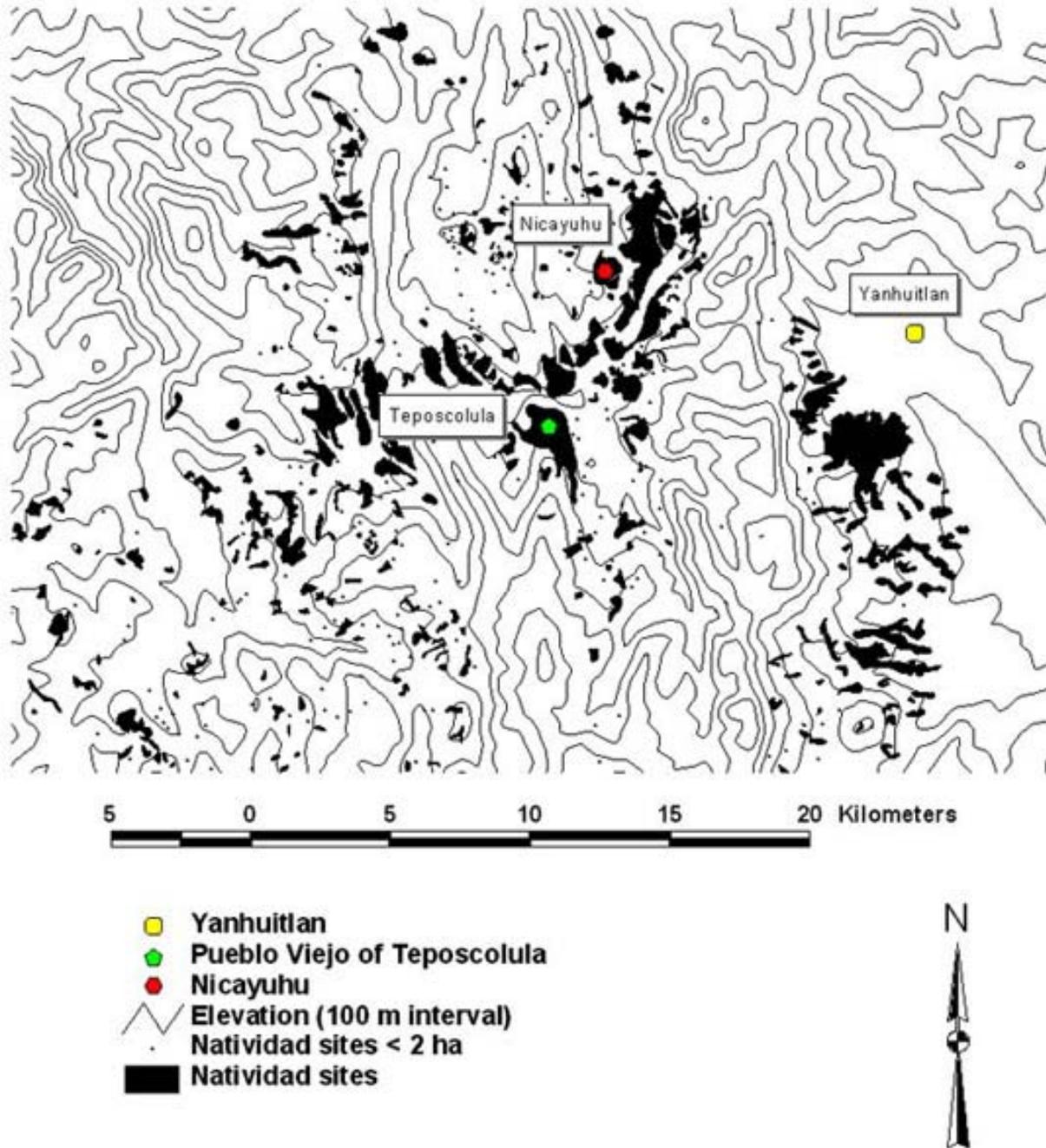


Figure 2. Postclassic settlement patterns in the Teposcolula valley.

FAMSI sponsored excavations at the Mixteca Alta hill-town of Nicayuhu (Figure 2), in San Juan Teposcolula Oaxaca, suggest that the agrarian smallholder household could have independently built and farmed *lama-bordo* terraces. State-level initiatives, in other words, were not required for the creation of intensive agricultural systems in the Mixteca Alta. Bottom-up initiatives towards intensification originated from farmers' intimate

knowledge of the local environment, and as such resulted in sustainable agricultural practices. The agrarian smallholder household was an economically effective and stable social form throughout Mesoamerican prehistory, persisting through numerous short-term political fluctuations.

## Project Goals

This study focuses on terrace farmers in the Mixteca Alta (Spores 1969:fig. 4). In the Mesoamerican highlands, terraced fields were key economic resources; having access to them engendered social power. According to ethnohistorical accounts of Mixtec society, apart from the cacique (*yya canu*, the land-owning ruler), the remaining population was either *tay toyo* (nobles) or commoners. The commoner class was divided into nanday *tay ñuu* (c.f. *macehual*), land owning farmers, and *tay situndayu* (c.f. *terrazguero*), land-less farmers, servants and slaves (Alvarado 1962; Spores 1967:9, 117, 175, 1983; Pastor 1987; Sepúlveda y Herrera 1999). Ethnohistorical models suggest that the commoners were responsible for most agricultural production—but this sector of society and its relationship to land and agricultural production had not been studied archaeologically until now.

The first aim of this study was to determine the social status of those who lived next to *lama-bordo* terraces, assuming that terrace farmers inhabited residential areas near their fields (Drennan 1988; e.g. Beach and Dunning 1997). The second aim was to obtain information on how *lama-bordos* were constructed, and whether household labor was sufficient to build and maintain them. My map of the site, intensive surface collections, and excavation of a *lama-bordo* terrace and nearby residential areas provide the information needed to meet the study's primary goals. At this writing, I have finished all fieldwork and begun preliminary analysis of artifact collections and contextual data. The results will complement the available archaeological and ethnohistorical record from the Mixteca Alta, making ancient Mixtec households and the *cacicazgo* a significant case study in cross-cultural studies of intensification. What were the causes of intensification in the Mixteca Alta? How did the Mixtec food-producing peasant household operate systems of intensive agricultural production and what was its role in ancient Mixtec society?

## Research Design and Methods

Regional settlement and historical data suggest that Nicayuhu pertained to the *cacicazgo* of Teposcolula, one of the largest polities in Postclassic Oaxaca (e.g. Spores 1967, 1983, 1984, 1997; Stiver 2001). Nicayuhu has dozens of well-preserved residential terraces and five large, continuous *lama-bordo* terrace systems that flank the surrounding hills ([Figure 3](#)). I chose Nicayuhu because of its rural setting away from Teposcolula's capital; its limited civic-ceremonial architecture; and its environmental setting, well suited for intensive agricultural terracing ([Figure 4](#)). Nicayuhu is ideal to

study lower-status, agriculturally productive sectors of the Postclassic Mixtec population. One could confidently say that the entire hill of Nicayuhu and all its residential areas are closely associated with rich agricultural *lama-bordo* terrace land.

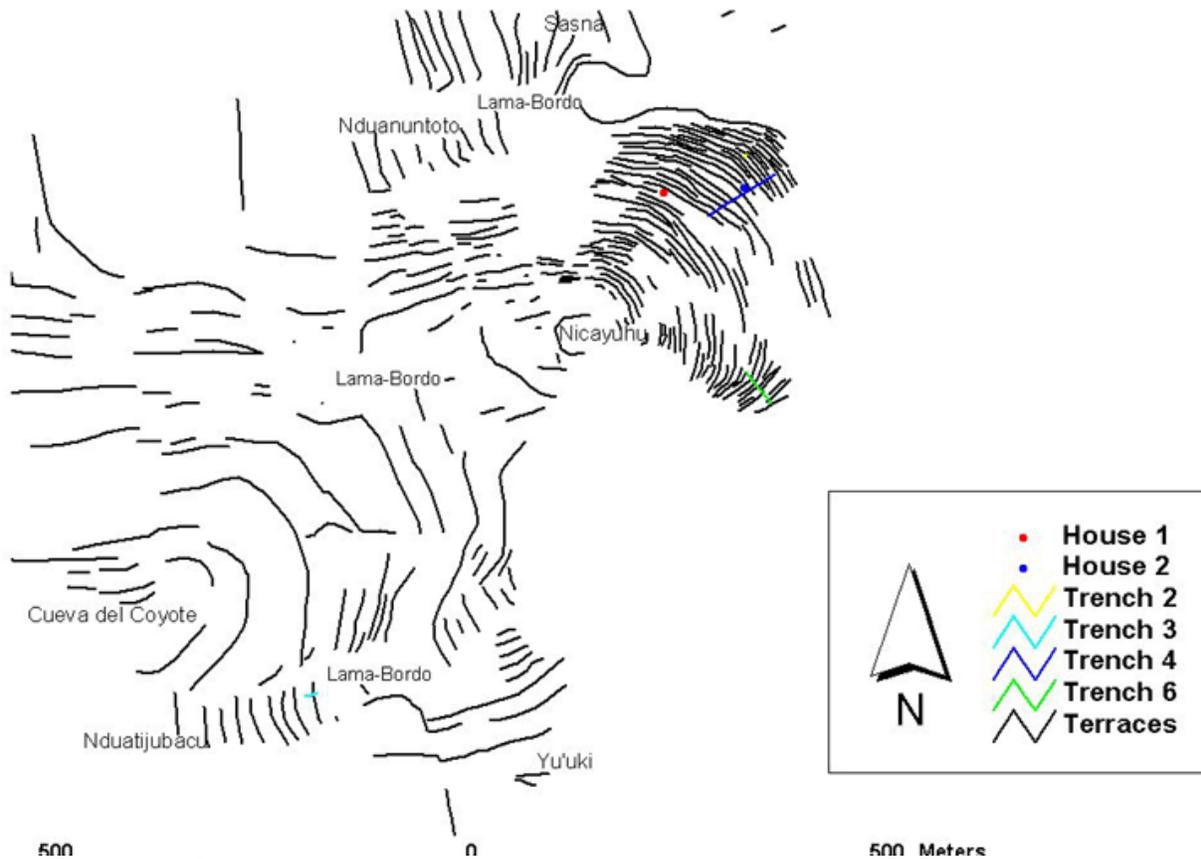


Figure 3. Architectural and topographic map of Nicayuhu and surrounding hills.



Figure 4. View of Nicayuhu and surrounding land. Photograph by Verónica Pérez Rodríguez.

My FAMSI-sponsored research was multi-stage, and involved students from Mexican universities as well as persons from San Juan Teposcolula. First, we mapped with total station and made intensive surface collections at Nicayuhu (Figure 4). Second, we excavated to completion two houses that dated to the Postclassic period. Third, we test-excavated a *lama-bordo* terrace and twenty contour terraces at Nicayuhu. These methods were designed to gather independent data sets on the household and site levels, asking questions about terrace farmers, agricultural intensification, and the Mixtec system of social stratification. What was the social status of, and what were the social differences among, Nicayuhu's terrace farmers? How long were terraces occupied, and how were they modified over time? How were households organized at this site? How were *lama-bordo* terraces constructed?

I assumed that terrace farmers lived near their agricultural terraces, and then identified and conducted extensive archaeological excavations at two Postclassic houses found on separate residential terraces at Nicayuhu. I established the residents' social status by rating the quality, richness, and variety of artifact inventories using established typologies (e.g. Caso *et al.* 1967; Spores 1972). I rated architecture according to the quality of construction and materials used (e.g. Caso 1977, 1992; Abrams 1994; Smith *et al.* 1999). The preliminary results from the artifact assemblages suggest a commoner occupation. The next step was to catalogue the excavated houses as either *tay situndayu* or *nanday tay ñuu* based on the continuity of occupation. I determined continuity of occupation by testing for archaeological deposits consistent with

architectural maintenance and material continuity in the household across the sequence of occupation. A continuous occupation would suggest heritable property or usufruct rights, and it would be interpreted as a *nanday tay ñuu* occupation because ethnohistorical sources report that some *nanday tay ñuu* owned top-rated agricultural land (Spores 1984:131). Short-lived and interrupted occupations would be evidence of *tay situndayu* occupations at the excavated houses; according to Spores (1967) and others (e.g. Burgoa [1671]), *tay situndayu* only temporarily worked assigned plots of the *cacique's* lands.

## **Preliminary results**

Ceramic and lithic assemblages from both excavated houses suggest a commoner class occupation given that utilitarian wares dominated, there was a much lower density of luxury wares, and burials were rather simple, with few or no offerings. Lithic artifacts, other than obsidian, were of local materials and manufacture. We found few obsidian artifacts, suggesting that Nicayuhu's terrace farmers obtained obsidian in blade form only. Obsidian blades were used until exhausted or were sometimes reshaped to extend their usefulness. The entire artifact assemblage shows a great variety of economic useful tools and ceramic wares consistent with domestic activity and there is no evidence of specialized lithic (other than expedient tools), ceramic or cloth production (no spindle whorls were found).

Excavations at house 1 ([Figure 5](#) and [Figure 6](#)) showed clear evidence of residential stability. The house consisted of four large structures that flanked a square patio. Each structure was divided into two to three rooms. Each room showed evidence of different stages of construction. Each room had from two-to-four successive stucco floors. The structures showed marked differences in masonry and construction techniques, even in the same building. All structures had stone foundations and two-faced endeque (caliche or calcrete) block walls filled with stone and dirt. All but one room had at least one stone box-hearth. In the eastern structure, the southernmost room had a well preserved slanted stucco floor and a drain cut into the stone wall to the west. We found an oven-like feature to the east of the southern room; we called this the east annex. The annex consisted of a layer of burnt volcanic rock and a lower layer of ash and burnt clay. The south room and the east annex may have been a *temazcal*, idea that was supported when we found a similar feature in house 2.

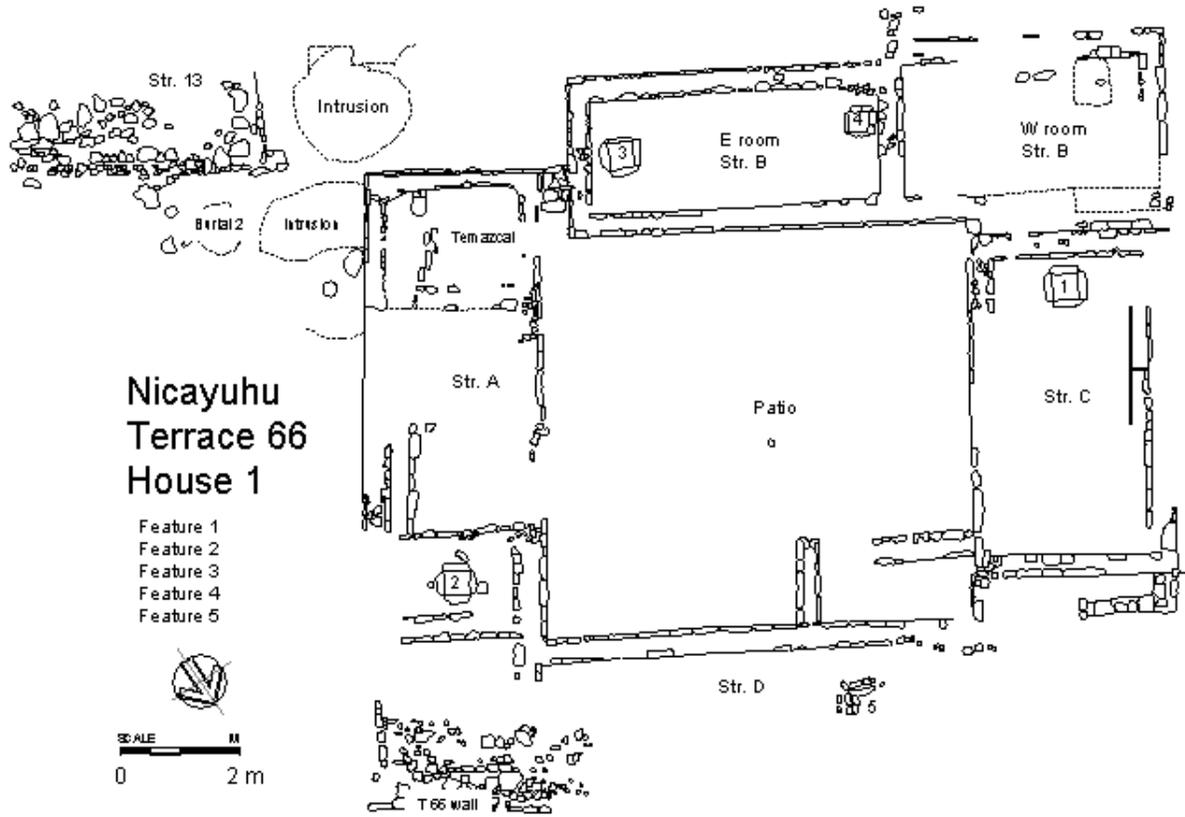


Figure 5. Architectural plan of House 1.



**Figure 6. Overview of House 1. Photograph by Verónica Pérez Rodríguez.**

Excavations at house 2 ([Figure 7](#) and [Figure 8](#)) also revealed evidence of residential stability. House 2 occupied the full extent of a small terrace, and consisted of four rooms surrounding a square patio. Later, an additional room and possible *temazcal* were built in the patio area, reducing its size. Another interesting feature of house 2 is the small cave attached to the west of the south room. This cave was excavated and emptied. We found few broken or discarded pottery and lithic materials that suggest that the cave contents were taken when the house was abandoned. Although house 2 showed various construction stages, there were no super-imposed stucco floors. It appears that house 1 was the result of a longer occupation.

We also trenched a *lama-bordo* terrace ([Figure 9](#)) to obtain a long stratigraphic profile that would reveal whether or not *lama-bordos* were built through a gradual unplanned process of household-level labor investment, innovation and maintenance (e.g. Dunning and Beach 1994). Prolonged household labor and capital investment would suggest usufruct or heritable rights of particular households over *lama-bordo* terraces (e.g. Netting 1993). And, these households would have belonged to the social classes identified in the residential terrace excavations—commoner class, *nanday tay ñuu*. If the excavation revealed that the terrace was constructed in larger single episodes requiring

a greater amount of planned and concentrated labor, it would suggest institutional labor organization beyond the household level.

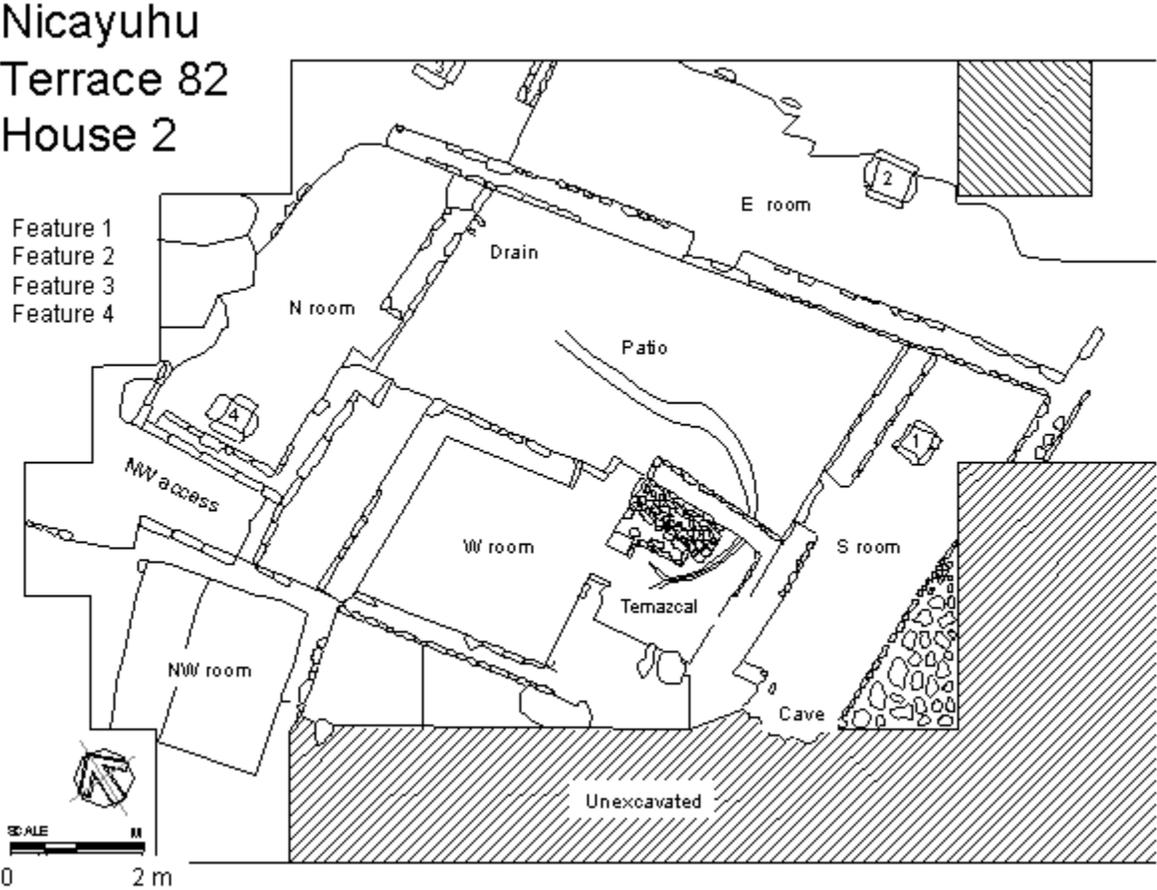


Figure 7. Architectural plan of House 2.



Figure 8. Overview of House 2. Photograph by Verónica Pérez Rodríguez.



Figure 9. View of lama-bordo terrace trench. Photograph by Verónica Pérez Rodríguez.

The 1-m wide trench ran perpendicular from the terrace wall and extended for 16 meters. The test trench excavations ([Figure 9](#)) revealed that *lama-bordos* were built through a gradual unplanned process of household-level labor investment that relied on the natural run-off that occurs during the rainy season. In addition, indigenous knowledge from modern San Juan Teposcolula farmers provides a model for *lama-bordo* construction. According to local farmers, *lama-bordo* terraces or *retenes*, are built by groups of 8 to 26 people—6 to 20 men and 2 to 6 women. The men cut brush and

carry stones and the women provide the food to get the job done. These people are usually part of the same extended family or are part of a *guesa* (an informal agreement between households to work with and for each other at times of need). The work group goes to a drainage, where the *retén* will be built during the rainy season and make a barrier 1-m high and wide of stone and cut brush. The farmers wait for the rain and the natural run-off to fill the *retén* with fresh soil. Over time, the *retén* is built up and *lama-bordo* terraces are built by groups of cooperating households that seek to create their own rich agricultural lands.

## Conclusion

The integration of all the research questions and data presented so far allows us to answer a more central question: How did the independent commoner household and its labor fit in Mixtec society and its system of agricultural intensification?

To answer this I will determine the degree to which Netting's (1993) agrarian smallholder pattern can be used to characterize the socio-economic organization of Postclassic Mixtec agricultural intensification. Netting (1993) argues that dense populations practicing intensive agriculture produce, organize and consume in household groups. In such populations access to productive resources is somewhat unequal at any one time, but over the long term the peasantry as a whole remains class undifferentiated. Ownership or other well-defined tenure rights in land exist, and these are long-term or heritable. This agrarian smallholder pattern may be found in societies of various degrees of political centralization. Netting (1993) contends that this pattern is sustainable and economically very effective.

In the Mixtec Alta, support for the smallholder pattern comes from a continuous commoner occupation at the excavated houses, and *lama-bordo* construction consistent with gradual accretion of household labor, whereby individual households secured their tenure rights through the acts of occupation, use, and maintenance of *lama-bordos* and associated residential areas. The preliminary findings of this study support the thesis that Netting's (1993) agrarian smallholder pattern characterizes the socio-economic organization of Mixtec agricultural intensification and the commoner household's role in society.

Finally, the focus of this study on food-producers and their role in intensive agricultural production provides a more balanced view of Postclassic Mixtec society beyond the elite bias in historical documentation. This study is the first systematic excavation of a *lama-bordo* terrace and an associated non-elite residential area in Oaxaca. This study has generated important and until recently unavailable data on *lama-bordo* construction and on the lifeways of Postclassic Mixtec terrace farmers. The results of this study will advance our understanding of the social organization of intensive agricultural production in Ancient Mesoamerica.

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