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Cholti-Lacandon (Chiapas) and Petén-Ytzá Agriculture, Settlement Pattern and Population

N. Hellmuth

INTRODUCTION

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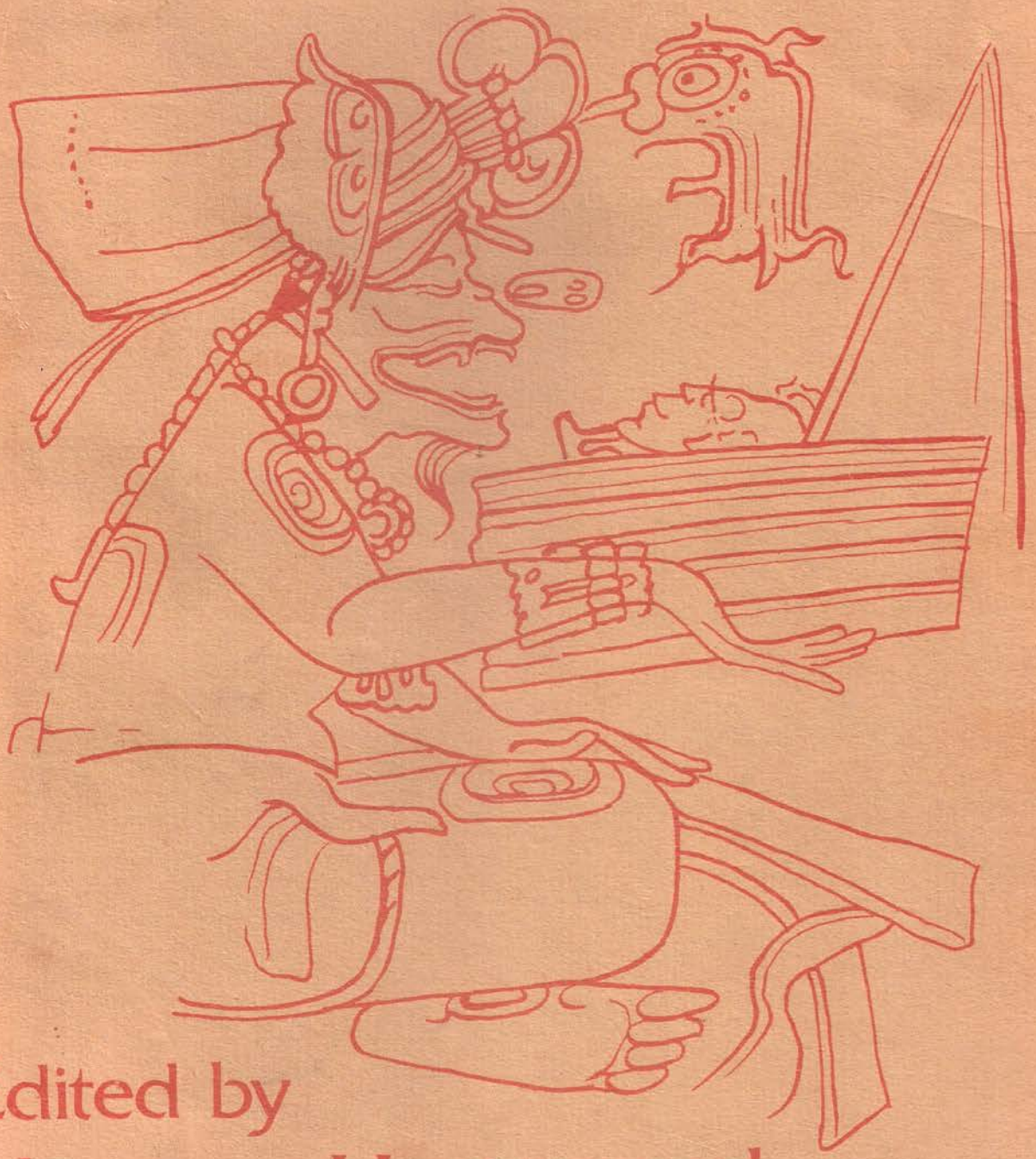
SOCIAL PROCESS IN MAYA PREHISTORY

Studies in Honour of Sir Eric Thompson



Edited by

Norman Hammond

Academic Press London New York San Francisco

A Subsidiary of Harcourt Brace Jovanovich, Publishers

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1977

ACADEMIC PRESS

London · New York ·San Francisco

A Subsidiary of Harcourt Brace Jovanovich, Publishers

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France Scholes discovered several thousand pages of these documents in Spain; Agustin Estrada, Lawrence Feldman, and the author have found still more unpublished ethnohistorical information in Guatemalan archives. These manuscripts show that the Cholti-Lacandon, Chiapas Chol[1], Yucateco-Lacandon, Petén Ytzá, Quejache, Mopán, Topuequa, Verapaz Chol, and other thriving sixteenth-seventeenth century native lowland Maya peoples had complex social, political and religious systems which will provide a variety of new and different models to replace the overused and misused traditional models which simplistically transfer Landa's or

modern highland ethnographers' descriptions back on the hapless eighth century Classic Maya in forced ethnographic analogies.

J. Eric S. Thompson recognized long ago the utility of working with ethnohistorical material: "At present, Maya studies suffer from imbalance. On the one hand many archaeologists seldom lift their eyes from their excavations to see how colonial sources can supplement their findings, or are content to satisfy their curiosity with Landa's account of the Maya" (1970: xvi). One of Thompson's contributions to knowledge of the ancient Maya was his ethnohistorical description of the numerous Maya populations of the lowlands prior to the arrival of the Spaniards (1938, 1970).

THE CHOLTI-LACANDON OF LOWLAND CHIAPAS

The native inhabitants of sixteenth-seventeenth century lowland Chiapas, Mexico were Lacandon Maya who spoke a Cholti Mayan dialect (Thompson; Moran, 1929; Hellmuth, 1970a, b, 1972). Mostly unpublished, ethnographic information on these Cholti-Lacandon includes: lists of deities, sacred places, eyewitness descriptions of religious sacrifices, dances, ceremonies, and architectural accounts of cult buildings (including details of the number of incense burners, their size, shape, color, and their placement in the ceremonial building). The Spaniards provide remarkably detailed demographic data and census records (including a house by house census of an entire village listing the Maya name of the head of each household, and the kin relationship of every member of the household to the head of the house). The Spaniards list the personal Maya name of every adult in the entire region; Nahua, Chol, Cholti, possibly Chontal and Yucatec names appear (Feldman, personal communication, 1973; Hellmuth, 1970b, 1972). Spanish chroniclers list all animals and birds raised or hunted, plants raised or gathered wild, fish and shellfish gathered, and some idea of relative abundance location, seasonability, and preference for these food items. A vocabulary provides the native Mayan terms for most known subsistence items.

Spanish descriptions of civic and residential structures are so detailed that we learn of how curtains were made, where bed platforms are hung and two ways in which infants were cradled within the house. The Spanish friars, soldiers and administrators give all kinds of ethnographic references, lists of household artifacts, and manners of food storage, even recipes. One observer wrote down the hour at which each day the semi-domesticated macaws flew up to perch on the house ridge poles; someone else wrote down complete descriptions of the clothing and jewelry of both sexes. There are enough comments on political and social organization in the manuscripts to enable anthropologists to propose new models of Maya political and

social organization based on actual southern lowland situations.

For archaeologists and anthropologists, the most fascinating information is on lowland Chiapas agriculture, hunting and gathering. Coupled with records of native Maya *milpa* agriculture is accounts of population distribution and relations between the main settlements and agricultural lands. These facts for lowland Chiapas subsistence can suggest how the Classic Maya of the same region would have sustained themselves.

These Cholti-Lacandon should not be confused with the twentieth century “Lacandon” who are Yucatec Maya speakers who moved into lowland Chiapas from adjacent Yucatan and Campeche between about 1630 and 1730 onto land originally occupied by the native Cholti-Lacandon. Thompson deserves the credit for reminding us that the modern “Lacandon” are not the original inhabitants of the Palenque-Yaxchilan-Bonampak region (1938). Earlier Sapper had expressed the same caution, that two quite distinct, unrelated groups of Indians had received the lay person's term "Lacandon". Unpublished sixteenth and seventeenth century Spanish documents substantiate Sapper's and Thompson's findings that the sixteenth century inhabitants of lowland Chiapas, Mexico, were Cholti speakers colloquially termed “Lacandones” (Sapper, 1907; Thompson, 1938; Hellmuth, 1970a,b, 1972). These Cholti-Lacandon were to one degree or another the genetic and cultural descendants of the survivors of the collapse of Classic Maya centers such as Palenque, Yaxchilan, and Bonampak.[2]

These Cholti-Lacandon were exterminated by Spanish warfare, disease and forced labor; the few survivors were rounded up during the years 1695-1712 and moved to the Guatemalan highlands where they died. The extermination of the native lowland Chiapas Maya is amply documented in Spanish records and has been abstracted in several recent publications (Hellmuth, 1970a, b, 1972). The Yucatec-speaking lndians moved into lowland Chiapas from adjacent southern Yucatan and Campeche to escape Spanish oppression during the seventeenth and early eighteenth century.

SIXTEENTH-SEVENTEENTH CENTURY CHOLTI-LACANDON MAYA SUBSISTENCE

Cortes learned about the Cholti-Lacandon during his march through the lowlands in 1525, and a variety of early Spanish reports exist in the archives, but somewhat more complete ethnographic descriptions of lowland agriculture come from the year 1586. The Spaniards were fanatical writers and field commanders sent back to their headquarters long eyewitness reports

"… we went ahead and below some large hills where these Lacandones have their milpas. . . . We went through all those hills where we cut down and burned more than 40 milpas, large and small, of the Lacandones, of which the maize was ready to harvest (14th of April) in the same sugar cane and others were in f1ower. 'We burned 6 or 7 storage bins of maize with lots of other kinds of vegetables and we uprooted and burned the camotes and other root crops which grew there, and we also chopped down cacao trees and some fruit trees which they had in those milpas (AGCA, 1937: 141, author's translation)

"… on the 21st of April . . .we silently entered the milpas in which we did not find anybody at all, although there were signs in them that the Lacandones were around in them, because we found the cleared areas burned ready to plant, and we found some very fresh signs of the Lacandones. In these milpas Your Lordship found a great quantity of maize closed in storage bins with nice houses, perhaps . . . and a great quantity of root crops for eating such as camotes and other similar things, and beans and peppers and pineapples and platanos and other fruits. Your Lordship had us chop down and destroy all of these (1937: 144)

"… we found 47 little huts and we chopped down 13 green milpas and plantations of cacao (1947: 146)

"… we found that the Lacandones had seeded the cleared areas of a few milpas outside of those throughout the whole hill area, and that many of the plantings were of the height of one and a half vara, some higher, others less. We could see that the Lacandon Indians maintained the milpas cleared… Many of the fields were not seeded, it seemed because of lack of seed… (1937)

"His Lordship had us for his part cut down and destroy 19 milpas and from every one we yanked up the camotes and other root crops that they had planted for eating and we chopped down many cacao trees… In the little huts we did not find any remains nor sign that these Lacandones were eating maize bread and we found in (the huts) the dishes and where they seem to eat, We found only signs of palmitos and colored zapotes and some monkey bones and also it seemed that they had eaten the mountains of snailshells that they had gathered together to eat (1937)

"… and said rocky island is presently totally destroyed and burned under orders of the Lord Captain in such a manner that not a wooden pole remained …and all the foundations of the houses were ruined and everything e1se that could be destroyed was so. We cut down all the fruit trees and other trees which the Lacandones seem to raise for shade and to… the canoes in such a manner that the island is presently nothing but barren rock" (1937:156)

Over the next 100 years the Spanish armies systematically destroyed the aborigina1 low1and Maya subsistence economy. Especially during the intensive campaigns of 1694-97 and round-ups of 1697-1712, the Spanish eventually obliterated the original Maya form of agriculture. Fortunately

abundant records of these years remain in the archives, and we can reconstruct the traditional lowland Maya agriculture –a form of intensive agriculture nowhere practised today by current inhabitants of Chiapas or adjacent El Petén.

Villagutierre's 1701 history has previously been the standard source of information on the Conquest of the Lacandon and Petén Ytzá, with Ximenez providing similar bits of ethnohistorical information. Recently, though, Estrada located in the church archives a series of interesting documents on the principal Lacandon settlement of Nuestra Señora de los Dolores de Lacandon. Estrada discovered manuscripts, which show the town's original Mayan name was Sac Balam (1970a,b). In 1971, the author found the lost 500-page *relación* of Nicolás de Valenzuela –the original, handwritten, eyewitness account of the Spanish Conquest of the Cholti-Lacandon. This *relación* turns out to have been the major source for Villagutierre's history, except that Villagutierre eliminated most of the ethnographic facts, which would have been of interest to anthropologists. A typed transcript of this important unpublished history is now in the research library of the Foundation for Latin American Anthropological Research.

> "…from nine o'clock of that day Your Lordship received notices of finding many milpas that there were in that region… (we found) bowls, cantaros, frying dishes, chile, maize, beans, and little barrels fabricated of tree bark wrapped up with leaves of "vijao" secured with vine. In the little barrels we found very black powder which later we discovered the Indians like for blackening themselves, and other things and household utensils of their use that they had kept in the little houses or huts of said milpas (Valenzuela, 1965: f.158r)
>
> "… the town is situated in exposed country stirred by all winds with pleasing plains with abundant good pasture land, and closed in by a ridge of hills…
>
> "… and there are one hundred and three houses, including the three of community use
>
> "… In the center of this town of Sac Balam you find three community houses, one from east to west, another from north to south, and the other from east to west, each one looking out on the other, leaving in the center a spacious atrium (Estrada)
>
> "And all (the houses) are spacious and of good fabrication, with strong and thick wood which prop up and support the roofs. The roofs are of much straw recently tied down and rising regularly in height, to let the water run off the abundance of straw. The height of the roofs is for resisting the strength of the rains in the winter.
>
> And all the houses have their fronts open, and the sides and rear built up of stakes covered with clay. And inside those houses of private people there are rooms in which the Indian women cook and have the implements of eating and drinking. And with these excellent and curious stones, more polished and clean

… And in each room there is a bed platform of wood secured in posts strongly driven into the ground, spacious enough for a minimum of 4 persons.

And in some rooms can be seen fabricated at the sides little shelves of thin, worked, and flush little cradles in which their infants are accommodated so that they will not defecate on the main bed platform, nor put themselves in danger of being smothered. And in some halls there were 4 stakes about 3 quarters of a vara high driven into the ground and on them wrapped around tree bark so soft, like cotton, and so interwoven like cloth, and something like chamois. And one comes to understand that inside said stakes they put the children, securing them with the cords of said bark, which they have everywhere.

Cradles for babies were little crates of reed, very clean and well put together, and tied with such carefulness, hung on the hanging (bed) platforms at such a height so as to allow the mother, seated in her bed, to nurse the infant.

And in two of said houses two large nets were found… with their floats, and for weights clay (balls) well sewn on…

In the house of Ixquin there was a curtain of cane of reed grass linked together with such art that he gathered it all up, letting it fall until a very perfect lattice was formed, because all the cane pieces were sewn from within with some very thin little string of the century plant.

They found all the houses had been left full of provisions of maize, beans, many turkeys, enough chickens, some cotton, pots, fiat bowls, well made co-males, very curious weaving instruments of the women, many blow guns with the little net bags of pellets and their sockets for molding them made of turkey long bone, axes of stone, chisels and mallets of stone, and other things of rational people.

Their little dogs were found to be very skinny. And there were many tame macaws. At 5 o'clock in the afternoon, after having flown around, they came to roost on the ridge poles of all the houses, forming a delightfully beautiful landscape of various deep red colored clusters of flowers.

There are in the same town fruit trees, of platano, zapotes, jocotes, anonas of hot lands, guanabanas, trees of round gourds, some achiote trees, very sweet pineapples; and of all this they also have in their milpas and in them much camote, ayote, chayote, yuca, beans, and sweet sugar cane, and in some parts lemons.

The huts of the milpas, although smaller (than the houses of the town) are as well built. And in the milpas they have mud-daubed granaries of maize.

And having occupied their houses those Spaniards that resided in the town (of Sac Balam) considered (that the Lacandones in fact) lived rationally like human beings because they do not have more than one wife, who each assists and applies herself with care to the work of the milpas and sown places of maize, chile, and beans, in which they plant pineapples, platanos, potatoes, jicamas, jocotes, zapote trees, and other fruit trees. Being of the hot country they are more industrious than our pacified Indians because for the most part they have very large milpas, and because they are the more industrious because of all the large and small logs they must chop up with a hatchet of dark green colored stone,

> nicely worked, of which one finds some few… The land is humid and spacious and has two harvests. And they change sites for the seeding places with which fruits they maintain themselves… And all raise chickens, and those that are the most abundant are turkeys… of which we found in the village many troops… They kill them by twisting their heads and putting a foot over them pulled (the heads) off the turkey. And later they threw them into a fire to burn off the feathers. Deplumed, they washed them and put (them) to cook. … said trail serves for going to the milpa places of said (cacique) Cabnal and of the Indians of his calpul, who make milpa in that territory, especially in summer time, for being humid land, and because of this good for milpas of said summer, and around the whole circuit of the lake… there are… only milpa places of the Indians of this town of the calpul… (Valenzuela, 1695, Estrada, 1970a, AGI various, Tozzer, 1913, and Villagutierre, 1933)
>
> "And all the men and women are very liberal and agreeable and give and distribute with liberality what they have, leaving their houses to contribute as a gift, posol, and a drink which they made of raw cacao which they gather in abundance in the forests without seeding nor cultivating it…
>
> And also the Indian women are very industrious, and raise hens and turkeys which they call "chickens of the land" and work and have cotton and weave with embroidery their cloths with ability and application, giving them perfect colors. The red color is abundant, for they have the palo de Brasil, and the black color comes from powder that you find in all the houses in little barrels. We found such quantity of this black powder that we presume that they sell it in other towns." (Villagutierre, 1933: 244)

In addition to these records, the so-called Moran vocabulary[3] provides Cholti Maya terms for dozens of crops, game, fish, and other subsistence items. This vocabulary is the work of several hands, was based on an earlier version of the Verapaz Chol dialect region, but is listed as being of the Cholti dialect, signed, and dated at Nuestra Señora de los Dolores de Lacandon (Sac Balam), Chiapas. Most of the following plant names were taken from this1695 dictionary, with additions from Villagutierre, Ximenez (Vol. III), and occasionally Tozzer's transcript of an interesting Spanish description of the Cholti-Lacandon. To facilitate comparison with Cyrus Lundell's list of "plants probably utilized by the Maya of Petén and adjacent lowlands" (1938), Table 1 is arranged roughly in the same order as Lundell's. The botanical names are educated guesses provided for general reference only; it is often difficult to equate correct botanical identification with Spanish or native Maya terms without having the actual fruit for reference.

Rather than just maize, beans, and squash of the "model Maya", real Maya ate: *camote* (sweet potato*), jicama* (rootcrop), probably *macal* (yautia, Xanthosoma yucatense), and definitely *yuca* (manioc), hearts of palm,

Table 1

SPANISH TERM	CHOLTI-LACANDON	PROBABLE BOTANICAL TERM	PUBLISHED REFERENCES
maiz	IXIM	*Zea Mays* L.	(Moran; Villagutierre: 206; Ximenez: 32, 44, 46-47)
frisol	BUL	*Phaseolus vulgaris*	(Moran; Villagutierre: 206; Ximenez: 32, 44, 47)
Frijoles rojas			(Tozzer, 1913: 505)
ayote	CHUM	*Cucurbita*	(Moran)
Pepita de ayote	CACIL		(Moran)
chayote		*Cucurbita*	(Ximenez; 44)
Calabaza	CHUM	*Cucurbita*	(Moran; Villagutierre: 242; Ximenez: 44)
Batata	IZ IZ	*Ipomoea Batatas*	(Moran; Villagutierre: 242; Ximenez: 44). The complete entry in Moran is: "batata, camote IZ IZ; turma de tierra, papa ALION
camote	IZ IZ		
papa	ALION		
xicama		*Pachyrhizus erosus*	(Villagutierre: 242)
Yucca	TZIN	Manihot	(Moran)
Raices (non specific)			(Ximenez: 49) (Villagutierre: 242)
xacote	PIX	*Lycopersicum*	(Moran)
tomate	PAAC	*Lycopersicum* or (?) *Physalis pubescens* L.	(Moran; Lundell, 1939: 42)
Hongo, yerba de palos comestible, bueno	OCOX		
corozo	TUCH	*Orbignya cohune* (Mart.) Dahlgren	(Moran, in Thompson, 1954; 20)
palma	YU		(Moran)
Fruta del coyol	MAP	*Acrocomia Mexicana* Karw.	(Moran)
zapote	HAAZ	*Achars Zapota* L.	(Moran; Villagutierre: 242; Lundell, 1939: 42 lists "mamey apple" for HAAZ and "zapote" for YA)
Bebida de zapoyol	AMUCHIT		(Moran)
Pepitas de zapote	UAI		(Moran)
aguacate	HUN, UN	*Persea Americana* Mill.	(Moran) Moran says that HUN also means "papel"
circuela	LUM	*Spondias purpurea* L.	(Moran; Lundell gives ABIL, 1939:44)

Table 1 –contd.

SPANISH TERM	CHOLTI-LACANDON	PROBABLE BOTANICAL TERM	PUBLISHED REFERENCES
Guayaba "other fruit trees"	PATA	*Psidium Guajava* L.	(Moran) (Villagutierre: 242; Ximenez: 47, 139)
sonzapote	TZOCOTZ	*Licania platypus* (Hemsl.) Fritsch.	(Moran)
uvas	TTZUTZUB	*Cocolaba*	(Moran)
Cacao grande	UAALCAB	*Theobroma*	(Moran)
cacao			(Tozzer, 1913: 504, 507; Ximenez: 46)
Todo dulce	OCHAB, OCOX		(Moran) no actual listing for "ramon" but either one of the entries OCHAB OR OCOX may refer to the ramon; Lundell states that the outer covering of the fruit is sweet (1939: 41). Puleston (personal communication) believes that Moran's AHX is ramon. Whatever the term is, ramon was definitely not a staple of the Cholti.
frutilla que beben, redondita pequeña	AHX		
chile	ICH	*Capsicum*	(Moran; Villagutierre: 242)
chile	PACHICH	Capsicum	(Moran)
albajaca	BOLONCOU		(Moran)
Caña dulce	TO		(Moran; Ximenez: 44)
zarsaparilla	CHAHON TIZ		(Moran)
Frutilla para labar redondita, el árbol grande	ZIONTE		(Moran)
Fruta verde	YAX, CUXUL, MACAN		(Moran)
Jabon, hay una frutilla que sirve de lavar sabana,	BITZ	*Inga edulis* Mart.	(Moran)
yerba de la sabana, paja para cubrir case	AC	*Imperata contracta* HBK. Hitche.	(Moran)
algodón	TINAM	*Gossypium* spp.	(Moran; Villagutierre: 206; Ximenez: 32)

Table 1 –*contd.*

SPANISH TERM	CHOLTI-LACADON	PROBABLE BOTANICAL TERM	PUBLISHED REFERECES
Palo de Santa Maria	BOHBO	*Calophyllyum brasiliense* Camb.	(Moran: Tozzer, 1913: 508)
flor	NIXTE	*Plumeria rubra* L.	(Moran)
tabaco	CUCTZ	*Nicotina Tabacum* L.	(Moran; Tozzer, 1913)
ocote	TAH, TAHTE	Pitch pine	(Moran; Tozzer, 1913: 505)
tree for red dye		*Bixa Orellana* L.	(Tozzer, 1913: 508)
tree for black dye		Haemotoxylum Campechianum L.	(Tozzer, 1913: 508)
balsam			(Tozzer, 1913: 508)

Table 2

Animals, birds, fish, etc. used for food by the Cholti-Lacandon Maya

SPANISH TERM	CHOLTI-LACANDON	ENGLISH	PUBLISHED REFERENCES
gamo		Buck of fallow deer	(Moran: 33)
Cabra montes	YUC	Mule deer	(Moran: 14)
Cabra castilan			
Venado, ciervo	CHIJC	deer	(Moran; 11: Tozzer: 505)
Venado, es el proprio	QUEHEI		(Moran: 11)
ardilla	CHUCH	squirrel	(Moran: 6)
jabalí	CEHCEM	Peccary (wild pig)	(Moran: 39; Ximenez: 46)
cotusa	AH CINZU, CINZU		(Moran)
danta	TIIL	tapir	(Moran:24)
Rabbit conejo	TUUL	rabbit	(Moran: 17)
Mono barbudo	BATZ	Howler monkey	(Moran: 43, 44)
Mono de gueguecho			
mico	MAX	Spider monkey	(Moran: 45)
Animal como mico, amarillo en las palmas	ACAMAX	Unidentified tree dwelling animal, possibly “mico de noche”	(Moran: 10)

Table 2 –*contd*.

SPANISH TERM	CHOLTI-LACANDON	ENGLISH	PUBLISHED REFERENCES
perro	TZI	Domestic dog	(Moran; Villagutierre: 206; Ximenez: 32, 47). Dogs were kept around the village, but no evidence suggests that they were eaten.
faisan	CAMBUL		(Moran: 31)
paugil	CAMBUL		(Moran: 50)
paloma	PUPUM, CACPUPUM	dove	(Moran: 49)
codornis	TUT		(Moran: 17)
Pajaro que se come	COBAN		(Moran:50)
Pajaroc como perdiz	MACXUL PUPUM		(Moran: 50)
Ave nocturno	PUHUI		(Moran:)
guacamaya	AHLO		(Moran:)
guacamaya	MO		(Moran: Ximenez: 32)
Gallo de la tierra	ABCO	turkey	(Moran: Ximenez. 31, 32)
Pájaro como perdiz, se come mejor que gallinas	COLOL		(Moran : 50)
pava	AH COX	Turkey ben	(Moran: 49)
tórtola	UT		(Moran)
Papagayo perico	XCUCH		(Moran)
Papagayo grandes	XECOM		(Moran)
Gallina de castilla	YACIB	Spanish chicken	(Moran: 82; Ximenez: 32)
Gallo de castillo	AHTZO YAQUI	Spanish rooster	(Moran)
Gallo de castillo	UTEHLON YAQUIB	Spanish rooster	(Moran)
Zabalo, un pescado	TZATZPAT	fish	(Moran)
Pescado sábalo	TZATZPAT	fish	(Moran)
Un genero de pescado	TEVAI	fish	(Moran: 66)
bagre	LU, AHLU	fish	(Moran: 10)
mojarra	IXCHE	fish	(Moran: 46)
Pescado pargo	LOC	fish	(Moran)
pescado	CHAI	fish	(Moran: 49)
Pescaditos pequeños	PULUM	fish	(Moran: 50)
Pescado bobo	CHITAM CHAI	fish	(Moran: 49)
Pescaditos pequeños	CHILAM	small fish	(Moran: 50)
Un genero de pescado	TEUAI	fish	(Moran)

Table 2 –*contd.*

SPANISH TERM	CHOLTI-LACANDON	ENGLISH	PUBLISHED REFERENCES
camarones	XEX	shrimp, freshwater	(Moran: 17)
cangrejo	YUX	crayfish	(Moran: 14)
cacacol	TUTU	shellfish	(Moran: 14)
Caracol grande de río	TOT	Shellfish, river	(Moran: 19)
Caracol, unos grandes del mar	TULIX	Marine shellfish	(Moran: 14)
Peje morado	YAXCHUC	fish	(Moran: 50)
Peje mulier	CUM VAI, MANATI	Manatee (?)	(Moran: 50)
Peje espada	CHULUZ		(Moran: 50)
			(Moran: 57)
Raya, un pez,	TON		(Tozzer (1913:505) mentions fish, but no particular species.)

Sources are Moran's 1695 vocabulary of Cholti language, Tozzer's 1913 translation of a letter in the Archivo General de Indias, Villagutierre's 1701 history, and Vol. III of Ximenez's history.

various zapote fruits, plums, guayaba, grapes, cacao, and a variety of other fruits and nuts (*ramon* was not eaten though, except rarely), chiles of several varieties, tomatoes, and other vegetables. Bananas, and citrus fruits, as well as chickens, were introduced by the Spaniards into Yucatan and quickly spread inland.

In addition to maize, beans, squash, root crops, tree fruits and nuts, the Cholti-Lacandon ate: two species of deer, two species of monkey, at least one species of peccary, aguti, rabbit, tapir, iguana, faisan, turkey, and more than six kinds of smaller birds, lake fish, river fish of several species, crayfish, freshwater shrimp, several species of freshwater shellfishes, land snail, and most likely river turtles an eels (Villagutierre, 1933: 206, 242; Ximenez, 1929-31. III: 32, 44, 46-47, 139; Moran, 1695; Estrada, 1970; Valenzuela, 1695; Tozzer, 1913; and various AGI manuscripts).

It would be fair to conclude that the lowland Chiapas Maya had a well balanced diet and did not rely exclusively on maize as do their twentieth century counterparts. Maize was certainly a major crop, but so were root crops, other vegetables, tree fruits and nuts, hunting, fishing and gathering. Sixteenth-seventeenth century manuscripts document quite

clearly that the Chiapas Chol (both lowland and highland), Verapaz Chol Mopán, Petén Ytzá, and other lowland Maya had similar subsistence practices. For example, Ximenez notes that the Mopán Maya (southern El Petén and adjacent Belize) raised "manioc and very large sweet potatoes and other edible root crops, and we found some domesticated turkeys…" (III: 19). As more early Spanish manuscripts are transcribed archaeologists will at last have a complete record of the original, native diet of the lowland Maya. Knowing the actual diet, it will be easier to estimate the maximum population for these lands during the Late Classic Period. Previous estimates are based largely on a maize base; we now recognize that such estimates are not applicable.

SUBSISTENCE OF THE CENTRAL PETEN: SEVENTEENTH CENTURY

Spanish descriptions of Cholti-Lacandon agriculture provide data for new models for Classic Maya subsistence at such sites as Piedras Negras, Yaxchilan, and Bonampak. Palenque would have had an even more varied subsistence economy due to its proximity to rolling plain-like terrain and flooded regions suitable for more sustained agriculture. To get information on ancient Maya subsistence of the central Petén we can turn to Spanish records for this region. The Tikal-Uaxactun region was practically totally depopulated, although the Quejache lived in sections of the northern Petén. The Lake Petén Itzá region was quite heavily populated though, perhaps duplicating former Classic Period population intensity. The general settlement pattern of this lake region has been introduced in another publication (Hellmuth, 1971). Spaniards list more than 109 settlements. Some of the people living around the lakes were survivors of the collapse of the inland cities of the Classic Period, who had migrated down from Tikal and other cities as their dry season water storage reservoirs ceased to function due to lack of maintenance. These remnant populations were ruled by a small élite group of Petén Ytzá who had moved south from Chichén Itzá during the twelfth-thirteenth centuries. The original Spanish spelling with a "Y"tzá will distinguish these southern Ytzá from their Yucatec forefathers.

Several thousand pages of unpublished documents describe the central Petén land and its people. Villagutierre's 1701 history is the best-known published source, but he presents only a fraction of the ethnographic information available in the Archivo General de Indias. Notes of France Scholes and Edward Calnek introduced me to these marvelous documents

in Seville. The Spanish records for Lake Petén are the best data, which will ever be available from ethnohistorical sources, since this region offers the topography, soil, climate, and population density closest to that of the Classic period of further north at Tikal, Uaxactun, Yaxha, or Nakum. Spanish chronicles for the Lake Petén region are certainly more appropriate models for Tikal and Uaxactun than Landa's Yucatan, Steggerda's Yucatan, or twentieth century Petén agriculture of a population of recent arrivals from the adjacent highlands (Adams, 1965).

Cortes and early seventeenth century Spanish writers record useful facts about the central Petén: "Canec took out of the canoe birds, fish, tortas, honey, fruit, and gold, though little, and sartales of red colored shells which the Indians valued greatly" (Herrera, 1934-47, VII: 263). Canec told the Spaniards that his vassals took care of his plantations of cacao trees (Cortes, 1868: 57). Later Cortes speaks of crossing through fields well planted with chocolate trees and maize (1868: 59-60). When Cortes got near the coast approaching Nito, he found:

> "… much cotton ready for weaving cloth, and other clothes, lots of dry maize on the cob, much salt, a quantity of cacao, chile, beans, fruit, and other things to eat, turkeys, faisanes, birds in cages, and dogs penned up. And all the shore was full of orchards of cacao and other fruits." (Herrera, 1934-47, VII: 280-281)

Villagutierre adds that Cortez saw maize, eggs, lake fish, wax, cotton, achiote, vanilla, and many other vegetables. Cortes and later Spaniards noted the abundance of domestic turkey, wild faisan, lots of other birds, game of several species, even rabbits, (1933: 44, 82, 87, 97, 99, 274, 382).

Andres de Avendaño has left extensive chronicles on his trips throughout the Petén region:

> "I asked them what products they had for their food and clothing, and they told me that they had a great deal of maize, beans, seeds, peppers, and that they sowed all this two or three times in the year; also many plantains and chunes, which are like the chayotes, though without thorns; some cacao (though but little), vanilla, and in some orchards enclosed with stakes in their homes some wild cabbage; I did not see these nor the onions which however the singers who accompanied me told me that they had seen; there is a great deal of cotton, cochineal, indigo, which accounts for the abundance of clothing which they have and give to the Quehache Indians and those from Tipu in barter for hachets and machetes…" (1696b, f. 36v.)

Villagutierre makes special mention of a tree, which is certainly *ramon:*

> "one finds innumerable trees whose branches and leaves are much more sus-

tenance for the horses and other beasts, than if it was pasture…" (p. 384)

The current fad among writers who list *ramon* fruit as a major subsistence items shows how theoretical models can quickly create a "model Maya" which bears no relationship to the actual Maya who lived in the lowlands.

One of the non-Ytzá groups near Lake Petén, the Tulunqui, made extensive use of the maguey plant. The Tulunqui made "water, wine, oil, vinegar, honey, *'jarabes',* string or thread, needles, beams, and roofing for their houses and other things" from this useful plant. The Tulunqui also used maguey plants for protective, thorny fences (Villagutierre, 1933: 378-379). Although this plant is well known in Yucatan, it is not usually stressed in descriptions of the lowland Maya. A botanical survey of the natural geographical distribution of this plant and its relatives would tell archaeologists which Classic Maya populations could have utilized it.

During the conquest of Tayasal in Lake Petén Ytzá, and during the years of consolidating their military control (1697-1703) the Spaniards completed an economic survey of the central Petén from the Río de la Pasión – Río Usumacinta to east of Lake Petén. Enough descriptions of the land and its products are preserved in the AGI to provide a remarkably complete picture of the agriculture of the lowland Maya. Aside from a few abstracts in Villagutierre's history, virtually none of this information has previously been available to archaeologists. The citations below are taken from typed transcripts in the files of the Foundation for Latin American Research gathered in the Archivo General de Indias (AGI). The Spaniards noted:

> "maize, camotes, and calabazas… "maize, camotes, and calabazas…
> (f. 33v)
> "maize and all kinds of vegetables… (f. 53v)
> "hills are full of deer, wild pigs, turkeys, faisanes, pauxies and tejones…(the Indians raise) tobacco, cacao, grana (cochinilla) achiote, añil, and many other things, since the Indians have everything in their milpas (f. 80r,v) and the land is so fertile, that as can be seen, and as the Indians have told us, one milpa keeps on producing fruit until the grandchildren of that which (originally) cut it down, giving constantly two harvests a year…
> "lots of fish, icoteas or turtles…(f.82r)
> "from the Lacandon region (of Chiapas) up to this Ytzá region are many woods of wild cacao, vanilla, balsamo, palo de Maria that they call Baria, very medicinal for wounds, pita, palo de Brasil, allspice, an abundance of beehives, and something they call palo de Campeche. In the milpas through which we passed they get two harvests of maize and in them cotton, tobacco, sweet cane, yucas, platanos, camotes, pineapples, and many other fruits…we have seen lots of grana cochinilla…" (f.82v)

Fray Gabriel de Artiga testified that:

> "… when they clear a new field they make a little hut in it and the milpa produces fruit for more than 20 years giving, without rest, two harvests in each year, and I have seen them raise in them maize, calabazas, beans, chile, pine-apples, tobacco, sweet cane, platanos, batatas, chayotes, grana (cochinilla), cotton ... and in the savannas there are many deer and wild turkey... " (f. 85r).

The good friar had not been around this area long enough to see a *milpa* lasting 20 years without fallow, so we can accept this statement as a general statement attempting to stress the long productivity of a *milpa.* A conservative estimate would be between five and eight years. We must recognize that seventeenth century agriculture was demonstrably quite different than Petén agriculture today, and all recent ethnographic attempts to gauge decline in maize productivity with modern milpa plots are not necessarily applicable to seventeenth century nor eighth century Classic conditions. The native Maya seem to have mixed all kinds of crops together in the field, not planting any plot exhaustively in maize, a modern practice, which definitely does exhaust the soil.

The Spaniards were particularly eager to understand local Petén agricultural practices and potential because during the conquest, especially in the years 1697-99, the retreating natives had burnt down all the orchards and fields. Then the Spaniards went throughout the same hinterland and razed fields in order to force the natives to resettle around locations selected by Spanish administrators and clergy. Then the Spaniards found they were stuck with no new food coming in just at the time when natives were dragged back to the new Spanish settlements. In desperation the Spaniards had to force the Indians to start their *milpas* in selected locations. Spanish agricultural edicts fostered the raising of maize and beans, since these two seeds could be easily weighed, controlled, stored and transported. In the meantime, to feed their garrisons Spanish units went far afield to find hidden native milpas of unconquered Maya. Scouts noted when fields would next bear so that army units could come back to harvest the crop before the Maya. Such Spanish notes would allow any interested scholar to reconstruct an approximate yearly cycle of planting and harvesting of various food crops. This sequence could then be compared with that of today's farmers. The Spaniards comment that in certain situations, the natives can harvest maize every four months, which means three crops a year. At least two crops a year was normal. The overall productivity of the land certainly allowed for a sizeable population:

> "... we found abundant storage bins of maize, beans, ayotes, and various

other vegetables… (f. 89v)

> "there is much abundance of cacao, pataste, vanilla, turkeys, chachas, pauxies, perdices, and in this particular the land is so abundant that in all parts, and with more abundance around the shores of this lake and places in the nearby savannas there are many deer, rabbits, turkeys. The turkeys are in such abundance that I have seen in one day a (Spanish) hunter get 22 turkeys, each one weighing more than 12 pounds..." (AGI Guatemala 344, No. 7, folio 92r)

Unpublished documents in the AGI provide additional information on the southern Petén and adjacent Verapaz and Izabal. Lawrence Feldman has located numerous manuscripts describing highland Maya subsistence. Scattered information is available for southern Belize, especially around Golfo Dulce and the coast. This land was frequently visited by friars and chroniclers during the establishment of Spanish shipping ports.

For the central Petén we can conclude that the lowland Maya had a form of agriculture more intensive than simply slash and burn. *Milpa* location was certainly shifted when fertility fell off, but *milpa* location was not as frequently shifted as today – today there is more than enough land, and no population pressure to force intensive use of the land. Studies of modern Petén agriculture are just that – studies of a modern, twentieth century situation, mostly of recent Kekchi immigrants from the highlands, a quantity of Blacks from Belize, well mixed with people from Chiapas and southern Campeche. Since there are no "borders" in the rain forest, people have been moving into the Petén from adjacent lands since the eighteenth century (Adams, 1965).

The lowland central Petén Maya had intensive agriculture with maize, beans, several species of squash, manioc, sweet potatoes and other root crops, several species of chile, other vegetables, cacao, tree fruits and nuts (but definitely no *ramon).* The Indians also raised lots of cotton and tobacco. They raised turkeys and other birds, probably bees, and possibly rabbits. Maya dependence on hunting and gathering has not been stressed, as though somehow this form of subsistence is too primitive for a civilized people to have practiced. Villagutierre notes:

> "The lands around the edges of the lake, for some parts are hills, in which are raised many wild animals, deer, wild pigs with a ridge on their spine, rabbits with large ears (liebres), regular rabbits, in nurseries, turkey cocks and turkey hens, and many other other birds such as faisanes, paujies, and tejones, and many other birds from Spain and also those native to the land (1933: 382)
> "... a great quantity of fish, large ones, medium sized ones, and small ones, very flavorful and good to eat. They have icoteas, turtles, and other things of this kind". (1933: 381)

Honey was gathered, probably from the local Petén stingless bee. Alto-

gether the picture is one of fertile land, a considerable variety of crops, and potential for a sizeable population. There was no terracing on hills or ridged fields in the *bajos*. Avendaño indicates that the *bajo* land was completely unoccupied in 1695. This fact does not disprove earlier Classic period utilization of terraces on hills or ridged fields in the swamps.

PETEN YTZA DEMOGRAPHY AND SETTLEMENT PATTERN

The Ytzá were only one of several different peoples in the lake region. The diversity of peoples has been discussed in a recent mimeographed report on work completed in the Seville archives (Hellmuth, 1971). Avendaño estimated a population of between 22,000 and 24,000 Indians "of all ages" just in the five islands and among the mainland Chatan Ytzaes and Tulanquies (AGI Guatemala 151-bis, No. 1, f. 95v; Thompson, 1951: 390). The Spanish list about 109 settlements in the central region. This population probably approaches the maximum for this region in the Classic Period, so observations of this region are particularly appropriate for understanding the earlier situation in the eight-century.

Chroniclers consistently report that several families resided together in each house-not just the nuclear family as traditionally claimed in house counts of anthropological writers today. "Que en muchas de ellas" (casas) reconocimos a ver a tres y cuatro familias y entre esas muchas criaturas" (AGI Escrib. 339-A, Pza. 2, f. l43v) (that in many of the houses we found to contain three or four families and among them many young children). Another comment by the Spaniards worth reproducing is:

> "The (Verapaz) Chol Indians never have had a formal settlement and organization like those of the Ytzá; since the first time that we came in there were 18 formally organized towns on the lake shore… in some of the well made houses more than 100 people could be housed, a1though by no means were all of this size and quality." (Ibid: f.203r-203v)

Elsewhere the Spaniards again comment that the Ytzá region natives live in formal settlements "formed like villages" (AGI Guatemala 151, f. 89r).

Spaniards who were sent out to report on the land use returned to camp stating that "yesterday afternoon we left to reconnoiter all the houses that exist in this place, that number fifteen, and in them innumerable souls, even in just one house we counted 25 souls, children and grownups…" (AGI Guatemala 151, f. 66r). Later the Spanish chroniclers record: "in this town of Chinoha... we found 12 families, each composed of 10

souls…" (f. 98v).

Eyewitness descriptions of the central Petén lowland Maya show permanently settled villages, intensive agriculture specializing in root crops, tree fruits, as well as maize, beans, and squash, considerable consumption of wild game, fowl, and fish, and raising of domestic turkeys, other birds, and perhaps rabbits. Ethnographers and archaeologists who have produced all the traditionally accepted statements about Petén settlement pattern and subsistence agriculture have never sought out this archival material, but rather have based their theoretical models upon facile repetitions of Landa's comments, or on twentieth century ethnographic observation of people who are not really appropriate.

CHOLTI-LACANDON SETTLEMENT PATTERN

Sac Balam consisted of 103 houses, three central ones of community use, and 100 residences. The thatch-roofed houses were sufficiently close together so that if one caught fire virtually the entire town burnt down. This fact implies fairly dense occupation, with only nominal kitchen gardens surrounding each house with principally fruit trees and a few vegetables. The Spaniards noted quite clearly that the Cholti-Lacandon arranged their houses together like a town (Tozzer, 1913: 503). The residences were large and spacious with several rooms and evidently halls. The Spaniards provide details of the houses. The kitchen was definitely within the actual residence-not a separate hut as is traditional today in the Petén. Sleeping rooms were in the rest of the house. Wooden sleeping platforms were somewhat raised off the floor. Up to four people could sleep on each bed platform. Hammocks were not utilized.

Census records for the period 1694-1712 suggest an average minimum of 6·9 people per house. These counts are quite definitely per single structure, not for house groups, since such house groups or compounds are not mentioned. The Spanish are quite explicit about *"en cada casa"*. This figure though, is after more than 50-90% of the population has been wiped out by Spanish introduced disease. Thompson produces excellent documentation on the degree of native death due to disease and general disruptions of the Conquest (1966). Documents not known to him, in the archives of Seville, further substantiate his conclusions. The Spaniards usually arrived in a town to find most of the inhabitants already dying. Dozens of quotations could be produced. The native Maya had no resistence to European diseases such as smallpox or even the common cold. In a pre-Conquest situation, an average house count would be at least

eight persons per structure. Ten people per house would not be impossible, and would be on the conservative side.

The Verapaz Chol likewise lived crowded together in houses. Ximenez comments that "there are in each house 20 or 30 souls… the house that has fewer people will have 20, 30, or 40 souls…" (II; 394).

The Cholti-Lacandon settlements were semi-permanent; the villages certainly did not shift location every year or so. Furthermore, the Indians *lived* full time in their villages, except when away on salt gathering expeditions, away on trading expeditions, or during crop harvest in the *milpas.*

The natives had, in addition to their regular village residence, a hut in the *milpa.* The *milpa* huts were just for occasional use, especially during harvest to guard the crop. Diego de Ribas describes the *milpa* huts as being "although smaller than those of the town, were certainly as finely constructed as those in the village. In them they have their granaries for maize. They are day daubed" (Estrada). En route to Sac Balam in 1695 the Spaniards found several *milpas, which* they describe as follows:

> "... notices of the discovery of many milpas that are in these environs… (we found) cooking pots, large narrow mouthed pitchers, griddles, chile, maize, beans, and little barrels fabricated with tree bark wrapped up by leaves of the bijao plant, secured with vines, and in them very black powder and very cunningly made, that we figured out to be that which the Indians use to blacken themselves... in the little huts of said milpas…" (Valenzuela, 1695)

One day the Spaniards noticed that certain Lacandon males were taking their wives out to the *milpas,* under the pretense that their women were needed there to make their *tortillas.* The Spanish observer commented that this was a lie because the *milpas* had been seeded only recently. The Spaniards knew that traditionally the women were not needed for seeding nor cu1tivation because the custom was for the men to leave at dawn with provisions of *tortillas* or *tamales* and to return home to the village at night. Women were taken to the *milpas* only when they were needed to guard the plants or fruit. This is a detailed ethnographic observation of the type , which will enable us to understand the daily life and subsistence practices of the lowland Maya.

After the Spanish armies had ravaged the land, after Spanish soldiers raped the women, brutalized the men and forced them to act as human beasts of burden, after the Spanish friars took their children and forced them to mission schools to teach them the way of their parents was evil, the Indians gradually adapted a life style which focused around remote *milpa* huts away from the reach of daily contact with the Spaniards. The Indians very carefully and ostentatiously maintained their village houses, though,

to let the Spaniards know that they still "lived" in the village. Over one generation the settlement pattern changed quite noticeably from nucleated villages of permanent residents to a vacant town occupied by the Indians coming in from their farms only on certain special occasions.

The view of Thompson that Tikal was a vacant ceremonial center inhabited mostly by the priestly class is based on the twentieth century settlement pattern of Chichicastenango. What evidence exists to even suggest that highland settlement patterns are descended from aboriginal ones, let alone from the eighth century Central Petén? The recent fad of proposing social integration by having peasants fill ritual *cargos* as in modern Zinacantan is another false ethnographic analogy foisted on the ancient Maya by repeated public relations. The Cholti-Lacandon and Petén Ytzá certainly had full time political and religious leaders based on family succession, a faint remnant of ancient dynastic succession. Cholti-Lacandon Maya of the Chiapas lowlands share many cultural attributes with the Petén Ytzá and their neighbors. Especially the similarity in intensive *milpa* agriculture, root crops, orchard crops, hunting, fishing, and gathering suggests that this pattern is basic to the southern lowlands. The Quejache in northern Petén were sparsely populated but seem to have had similar subsistence economy.

SUMMARY OF ETHNOHISTORICAL RECORDS FOR THE MAYA LO WLANDS

1. The word "*milpa"* is translated in the Royal Academy of Spain dictionary as essentially a "maize field". When early researchers saw the Spanish referring to the Maya living exclusively from their *milpas* they assumed it meant the Maya lived exclusively from maize. Indeed driving through the Petén today it is the maize, which stands up and is most noticeable. Today the word *"milpa"* is taken to mean "cornfield".

The word "*milpa"* actually was used by both the Maya and the sixteenth-seventeenth century Spaniards to mean "sown fields where a variety of crops were grown". The word is actually often presented as *"milperia"* which means "sown field of a variety of crops with a little hut". No precise equivalent term exists in English, so I propose reintroducing the correct original Spanish word *"milperia",* since the simple term *milpa* now is regarded to be just a maize field.

2. Maize was indeed an important crop, as were beans (probably red and black varieties), and several species of squash. Beans were evidently not quite as important in the sixteenth-seventeenth century as they are today though.

3. The four root crops proposed by Bronson (1966) to be Maya staples certainly were their staples. His article was roundly criticized, but his conclusions can now be vindicated. In fact, he overlooked all kinds of published references to root crops, such as entries in Moran's Cholti-Lacandon dictionary, "OME, like little camotes and they eat them also" listed under "*turma de tierra"* (p. 65), either a truffle or more camote-like root crop. Wiskil *(güisquil)* has edible tuberous roots, as well as the fruit, tender shoots, and flowers (Lundell, 1938: 51). This root crop is widely eaten in the Petén still, although mainly the squash-like fruit. Since the Spaniards frequently say "sweet potatoes, manioc, *and other root crops...*" then possibly more than four kinds were raised. Root crops were even used in Yucatan:

> "The fruit that we find here is batatas, a1though around here they term these camotes, and they are not as tasty as those of the islands. There are a1so jicimas that are roots... these are very gentle fruits and very fresh for the road and they last many days and are juicy" (Ximenez, 1929, I: 300)

Ximenez also mentions *batatas* growing in lands near Cahabon, Verapaz (II: 461).

We can conclude that root crops were indeed important to the native Maya; Ursula Cowgill's statement that "it appears doubtful that manioc or any of the other root crops indigenous to the New World played an important part in the subsistence of the Ancient Maya in the Petén..." (1971: 61) is based on brief ethnographic glances at modern agriculture in the Petén largely by individuals not native to the land. Fresh information from the archives allows us to revise observations in the light of agricultural reality. Since the Spaniards "pulled out by the roots the camote fields and other roots which grow..." it is not altogether surprising that the Indians ceased to raise them.

4. Tree fruits, especially *zapote,* were a major subsistence item of lowland Maya diet, as once suggested by Sanders (1962-63). Fruit and nut trees grew around village houses and also in the *milpas.* It is perhaps time to recognize that the fad of populating Maya settlements with *ramon* groves is nowhere and at no time documented for any actual Maya group. The Spaniards found the *ramon* quite useful as feed for their mules.

5. Cacao was raised throughout lowland Chiapas and Petén and adjacent lands, even on the hill flanks of highland Chiapas. This means that the ancient

Classic Maya did not necessarily have to import this valuable product from better-known groves in riverine or coastal Belize or from Escuintla. Valenzuela states that the Cholti-Lacandon got their cacao principally from wild stands, although such stands were probably semi-domesticated. The earlier Spanish reports state that cacao was grown right in the *milpas* along with other crops. The Ytzá had cacao in regular plantations.

The Cholti had spirits in their cacao groves (Tozzer, 1913: 503) and put cacao drink in the mouths of their idols (1913: 505). On practically every festive occasion cacao drink was consumed: "during the men's meetings "they are seated all day on their small stools and drink only cacao" (1913: 506).

Cacao was consumed in liquid form, sometimes uncooked (Valenzuela, 1695: f. 198v). The Moran Cholti vocabulary gives the word as *"bebida cacao-COYEM"* and "*bebida buena, chocolate de cacao, maiz, y achiote – ZACA"* (p. 12). The term *ZACA* was also listed elsewhere as the term for "froth of chocolate" (p. 10). When fed to the idols the cacao was sometimes in the form of moist dough (Estrada-Ribas). One has the impression that Mayanists have not considered cacao as a product of the central lowlands and the discovery of the prominence of native cacao in the lowlands is an instance of how archival research can contribute to our archaeological understanding of the Maya heartland.

6. Cotton, tobacco, and cochineal coloring were produced, especially around Lake Petén Ytzá. *Achiote,* a red coloring, was used for seasoning and was exported from the lowlands to the highlands. Knowledge of the economic base of lowland cities can be aided by scrutiny of archival sources.

7. Domestic fowl, especially turkey, provided meat protein. Immense flocks filled the lowland Maya villages.

8. Rabbits may have been domesticated. This is an animal we usually do not associate with the tropical rain forest, yet the rabbit is frequently shown in Classic Maya art. Since rabbits multiply prolifically, this would be an excellent meat protein source for the peasants.

9. Wild game, especially deer, wild turkey, faisan, and other animals and birds were hunted. Turtles, iguana, fish, and shellfish, including probably the land snail, were eaten.

10. Honey was a good source of sugar. Bees require little maintenance and could be raised easily by the peasants.

11. The Cholti-Lacandon, Petén Ytzá, and immediate neighbors had nucleated villages in at least semi-permanent locations. The natives lived full time in these villages.

12. Between 8 and 20 people per house was common among these people, perhaps a minimum average of 7 for the Choti and 10 for the Ytzá.

These counts are per individual structure; traditional writers consistently attempt to invalidate Spanish observations by claiming the Spaniards are counting population per house compound of several different structures grouped around a courtyard. Such opinions reflect unfamiliarity with the primary sources of Maya ethnohistory.

13. Lowland Maya natives had huts in the *milperias* as well as in the towns. The farm huts were lived in perhaps one or two months of the year, during the harvest times. The villages were certainly not vacant ceremonial centers.

The Spanish Conquest completely obliterated the native lowland Maya way of life. Orchards were chopped down, root crops were pulled up, and other crops in the *milpas* were burned. Traditional agriculture was thoroughly disrupted during the Conquest and pacification years 1694-1710. Then the Spaniards forced certain agricultural changes, most notably a dependence on maize and beans since these crops were dependable, required no investment of time as did orchard crops, and more important maize and beans could be easily weighed, stored and shipped. Especially where tax payments were demanded in maize, the Indians gradually raised what their new masters demanded. Spanish food preferences may have played some part too. Consequently, agricultural practices of today, especially where imported rice is now a basic staple, cannot be considered as a cultural survival of earlier times.

Furthermore, the inhabitants of the Petén today are mostly admixtures of Blacks escaped from Belize during the eighteenth-nineteenth centuries, highland Kekchi and other highland peoples moving away from their overpopulated highlands to sparsely populated lowlands, and a variety of peoples from adjacent Chiapas and Campeche who have simply drifted in to escape oppression in Mexico, or simply to work chicle in the Petén. These newcomers have thoroughly integrated with those few Ytzá and native Petén people who survived Spanish introduced disease, warfare, and general disruption of the type so well documented by Thompson (1970: 48-79). Ethnographic accounts of this modern population have but dubious relation to the ancient Maya of the same region.

Likewise, reliance on Landa's sixteenth century description of Yucatec subsistence, or worse, on Carnegie studies of *milpa* agriculture and fertility is misleading at best. If our goal is to understand eighth century Classic Maya subsistence we should seek the closest related sources, which are sixteenth-seventeenth century ethnohistorical documents in the archives of Guatemala City and Seville. This work should be backed up by studies by other specialists of flotation of actual Classic kitchen middens. Peter Harrison readily identified many varieties of useful plants from a Tikal

Central Acropolis midden.

Archaeological knowledge of the basics of ancient Maya subsistence economy, as well as other aspects of their life, can be improved by a lessening of reliance on faddish models, hypotheses, and theories. Armchair theorizing might profitably be replaced by fieldwork, especially botanical, geological (soil studies), and zoological (carrying capacity of the land for various edible species of animals, birds, reptiles and fish) in conjunction with large-scale sifting and flotation of the kitchen middens which are so abundant in the Classic ruins. Results of such studies could then be compared with ethnohistorical documents. If funding for archival research would reach realistic levels, then this generation of Mayanists can look forward to sufficient information on the native Cholti-Lacandon, Petén Ytzá, and their Chiapas Chol, Verapaz Chol, Mopán, and Toquegua neighbors to provide useful, factual descriptions of the native lowland Maya way of life.

Acknowledgements

Research in the Archivo General de Indias was supported in part by a grant from the American Philosophica1 Society of Phi1adelphia in 1971 and by the Foundation for Latin American Anthropological Research. I am indebted to help from Lic. Agustin Estrada M. and Dr. Lawrence Feldman.

Notes

1. The term “Chiapas Chol” covers the Chol who now live in Palenque and Ocosingo. These people may need to be differentiated in the future as we learn more about their sixteenth-seventeenth century origins. Some of these Chol lived in a highland environment, such as around Tula and Timbula, others lived in the lowland lakes and were relatives of the Cholti-Lacandon if not actually a part of the Cholti-Lacandon. The term

"Verapaz Chol" is intended to replace Thompson's term "Manche Chol" since Manche is the name of a specific town. The Verapaz Chol may also have lived in the Dept. of Izabal. These people may need to be differentiated in the future as we learn more about the regional distinctions.

2. Gertrude Duby Blom has created the impression that the modern Yucatec-speaking Lacandon are the direct descendants of the ancient Maya builders of Palenque, Bonampak, and Yaxchilan. She, and many other writers, quotes Lacandon myths about their origins there. Actually, in some cases the anthropologists and tourists have told the Lacandones so often that they have come from these ruins that now the current generation of Lacandones actually believe this and have created myths accordingly. Even the earlier nineteenth century presence of Lacandon worship in the temples of this region is no evidence whatsoever that they are descendants of the eighth century builders of these sites. It is natural that the Lacandones would worship in these temples, which are so conveniently placed in their homeland. More than 4000 pages of Spanish manuscripts document quite clearly that Cholti-speaking Maya were the original inhabitants of the Bonampak region and they were killed off and the survivors rounded up and moved away. The Yucatec speaking Lacandones of today moved in beginning in the seventeenth century evidently from adjacent Campeche or southern Yucatan.
3. Although traditionally called the "Moran" dictionary, Agustin Estrada has pointed out that Moran was dead by the purported 1695 date. Secondly, although signed at Sacbalam (given as the Spanish name, Nuestra Señora de los Dolores de Lacandon) this vocabulary is based on Verapaz Chol evidently of San Lucas, Verapaz? The complete history of this ethnographically useful vocabulary of native words has not yet been published.

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