

Session: Lacustrine Subsistence in Mesoamerica

**Lacustrine Resource Exploitation in South Tlaxcala Valley
(Xochitécatl-Tlaxcala)**

**Dra. Mari Carmen Serra Puche
Arqlogo. J. Carlos Lazcano Arce**

**The 14th International Congress of
Anthropological and Ethnological Sciences
Williamsburg, Virginia, USA.
July 26-August 1, 1998**

Please do not cite without permission of author

**Dra. Mari Carmen Serra Puche, Instituto de Investigaciones Antropológicas,
Universidad Nacional Autónoma de México. E-Mail. mcserra servidor.unam.mx**

Lacustrine Resource Exploitation in the South Tlaxcala Valley

Introduction

The use and exploitation of natural resources by prehispanic societies is a subject that has barely been touched upon by archaeological research; priority has been given to studies on ceramic and lithic materials. That is why this study starts from the need to know not only the physical surroundings in which human settlements were established but also to understand and find out which resources were exploited and which were of substantial importance to the maintenance of the society which tapped them.

To this end, we have used the data from research we have done on the sites of Xochitécatl, Cacaxtla and Nativitas. All three sites share the same physical surroundings and are considered to be one social unit, mostly for the Middle and Late Formative Periods (800 B.C. to 200 A.D.).

There are various means by which we can achieve our objective :

- 1) Of special interest is the data given in chronicles and other historical sources, information which allows us to have a good idea of the geographic conditions and the possibilities of exploitation in the existing environment.
- 2) Geological studies, specifically of the so-called Puebla-Tlaxcala Valley, as well as studies of soils, flora and fauna and ecological conditions.
- 3) Another aspect which has barely been looked at and to which we will make specific reference in this study, is that of the ethnoarchaeological studies focussed on finding out some of the characteristics which the use and manufacture of lacustrine products imply.

There were substantial differences in the use of natural resources within the society established in Xochitécatl, Cacaxtla and Nativitas; that is to say that not everyone within the society could have access and consume the same resources. In this respect, we consider that lacustrine use and exploitation was very important, for those who manufactured products could get hold of more and diversify their diet. This implies identifying cultural remains which indicate a knowledge of the lacustrine environment, not only in the areas considered to be exclusive to those who control and rule the whole of the society, but also locate this evidence in the areas considered to be domestic residential units.

We believe this exploitation can have different characteristics and be recognized in different ways. The first of these ways has to do with the actual production, in which the lacustrine resources of this area are exploited for use in the manufacture of artifacts and utensils. The second has to do with the appropriation of lacustrine resources, through gathering and fishing, which includes the production of tools (traps, hooks, nets, etc.) necessary in carrying out these activities.

Historical sources and chronicles (Antecedents)

The information found in historical sources and chronicles gives us our first idea of the geographical conditions and possible resources exploited in the region of the Valley of Tlaxcala. The chronicler Muñoz Camargo in his text "Description of the city and province of Tlaxcala", describes the town of Nopalucan which surrounds what used to be the lake of El Rosario. He says:

" This town of Nopalucan has very good forests towards the area of the venta del Pinar, which are supply enough for the population. It is a frigid land for six months of the year, because it faces north and has no protection from mountains."

He also describes part of the area through which the Zahuapan river flows, the river which borders the East side of the Atlachino-Nopalucan-Xochitécatl Block. He says of this area:

" In all of this land (the Zahuapan river area) there are very good watering places and pasture for cattle, and many special lakes and marshes both close and far away; there is game such as hare, both mottled and brown, and rabbits and quails, and other creatures like badgers and *adives*, which are like foxes and wolves, and other animals which carry their children on their belly in a pouch, which they call *tlaquatzin* (opossum), and with a tail like that of a pig, which has many and great properties used for human health. In the marshes, depending on the season, there are a great quantity of waterfowl, of fine ducks and of different species, white egrets and splendid ones. There are also many kinds of birds of prey, goshawks, falcons, sparrow hawks, and other birds of different species, which so as not to be caught up here I shall leave for another place when I shall talk about some of the properties of birds, animals and of some roots which are of profit and advantage."(Muñoz Camargo: 1978)

There is information in which it is noted that, given the siege which the people of Tlaxcala were under from the Aztecs, the former "were obliged to do the best they could with the resources with which their small territory provided them. They were deprived of even the most basic necessities like cotton cloth and salt. In the case of salt, this was substituted with *tequexquite* which is the saltpetre left in the soil when the lake dries up. Even nowadays in Santa Ana Nopalucan, after the rains, the women pick up the salty sand from the plains with cans, and sell it in the market." INEA;1997:35).

Lacustrine environment

The sites of Xochitécatl, Cacaxtla and Nativitas are situated at the top of what is known geologically and geographically as the Atlachino-Nativitas-Xochitécatl Block. It is a high region in the valley of Tlaxcala and it corresponds to one of the eight natural

regions within the State. The valley of Tlaxcala is delimited by mountainous formations of various origins and height: to the West it is bordered by the Sierra Nevada, from which the Popocatepetl, the Iztacc'huatl, the Tlaloc and the Telap—n stand out; to the North is the Tlaxcala Block, which constitutes a now very eroded meseta; to the East of the valley is the volcano La Malinche whose vast slopes formed by volcanic tuff are eroding rapidly. (Luna Morales:1993)

The Valley landscape is not monotonous. The plain is broken by a few ridges ranging between 50 and 200m. above the average height of the plain, shaped by small monogenetic volcanoes, amongst which the cerro Totolqueme, the Atlachino-Nativitas-Nopalucan Block and the Zompitcatl stand out.

The valley is a relatively small and well delimited surface, with three ecological areas in which there are a series of environmental resources:

- 1) Lakes and ponds both permanent and seasonal in several areas nearby, especially to the North of the Block.
- 2) Alluvial plain, rich in sediments carried by currents and flooding of the Zahuapan and Atoyac rivers.
- 3) Medium and high mountain forests in the mountains which surround the valley. (Serra and Palavicini;1997:43-44)

The lakes and ponds are those which we are particularly interested in, not only because of their closeness to the archaeological sites, but also because of the diversity and great quantity of resources which must have been exploited there. New data suggests that the plains in the valley went through a period of great upheaval in which a series of lakes were covered by sediments of volcanic origin accumulated in the top parts of the Sierra Nevada during periods of intense volcanic activity from the Popocatepetl, reducing them to medium and small sized lakes.

The survey work done in December 1996 in this area, establishes a clearly defined settlement pattern, in which all the sites, both of the Formative and the Epiclassic, are found on the tops of, or high up on the mountains which are found in the area. From the location of these sites we now have some idea of the area which the Lake of El Rosario covered.

In the case of the settlements of Xochitécatl, Cacaxtla and Nativitas, lacustrine resources were obtained from what used to be the Lake of El Rosario, which was located to the Northwest of the sites and occupied an area of on average 252 hectares. This lake has changed enormously over the years, for in the 1960's it started to be drained in a failed attempt to give the surrounding villages land to cultivate. Nowadays, it is still possible to see in the region large areas prone to flooding, as well as areas of agricultural production based on the system of Chinampas, which is also believed to be of prehispanic origin, an area surrounded by the towns of Santa Ana Nopalucan and Santa Isabel Tetlatlauca.

In the flood plains and canals which still exist in the area that used to be the lake of El Rosario, exploitation of the lake's resources does take place. On the top part of the ridges maize is grown, as well as broad beans and alfalfa. In the canals that still have water in them, freshwater shrimp are collected, mosquito eggs(?) and in the larger canals it is still possible to catch carp and mojarra. The inhabitants say that a great number of peasants used to exploit the lake's resources, but that nowadays this is being lost and it is now an activity which is left to women and children.

Ethnoarchaeological Information.

The characteristics of lacustrine exploitation which still exist in the region near the sites of Xochitécatl and Cacaxtla, are, as we mentioned before, a good opportunity to undertake studies which will shed light on the processes of production and appropriation which may be identified in areas of domestic residence during the Formative and Epiclassic.

The study of ethnographic data for archaeological studies, is by no means innovative: however, as some authors have already pointed out in the past, the references to ethnographic data and information were basically used to establish a connection, or at the most a formal correlation, between the archaeological data and modern data, in an isolated form and out of context.

From the second half of the sixties on, ethnoarchaeological studies have tried to establish an analogous contextual link between the ethnographic data and the material culture of the past. The present, through ethnographic analogy, has acquired a particular significance, because it has expanded the interpretative horizons of the archaeological record. However, often the existing ethnographic data and descriptions do not satisfy the objectives of archaeologists or are inadequate to understand the archaeological reality, for to establish links between the behaviour of man and material culture it is necessary to delve into that part of the culture frequently registered or viewed as of little relevance by the ethnologist.

At any rate, to the archaeologist, material culture constitutes one of the essential variables. In it and its patterns of distribution are reflected the semantic codes of the use of space and time, for we start from the assumption that every human society conceives and uses its material culture in a distinct way.

These beliefs engender further studies. In this case, we have studied the exploitation of and work with *tule* (a species of rush) in the town of Santa Anita Nopalucan where the tradition of making mats and fans out of *tule* still exists, *tule* which used to be obtained from the Lake of El Rosario but is now brought from other places.

The exploitation of this lacustrine resource implies the following activities:

A) Places where tulle is gathered and obtained.

The inhabitants of Santa Ana Nopalucan go to the canals closest to their own ejidos (common land), in what used to be the Lake of El Rosario, to do their gathering. All those who were interviewed coincide in saying that before the lake dried up, the gathering of the tulle was done in the lake and there were no restrictions, that is to say that anyone who knew how to work tulle could collect it. They also say that this rush grew well in the shallow parts of the lake and that it grew without human intervention.

Today people have to take it from the few canals in which tulle still grows, and when they are not the owners of the terraces and canals, the owners allow them to clear them of tulle charging them a small fee for the amount they take. Another option is to go to other places to collect it, such as the lake of Acuitlapilco and Atlanga in the State of Hidalgo. The arrival of tulle from other areas implies payment of the product and transportation which oscillates between 400 and 600 pesos.

B) Gathering

The gathering of tulle was mostly done by men, though it wasn't an activity exclusive to this gender. Those who have talked about this say that it was mostly done by men because of the dangers involved in working in flooded areas (poisonous animals, for instance) and because of the depth to which the body is immersed in water.

The gathering is done by entering the canal or the lake, advancing until the water reaches your waist and the stalks of the rushes are then cut at the bottom with a sickle. The tulle by this time has reached a height of about 1.80 m. It is then piled out of the water in stacks which are called locally "burritos".

Some of the informants, especially the older ones, state that the fibre must be cut in a certain way: the stalks must be completely green, and the cut must be made at one "hand" from the root, so that the tulle will grow again. The collection lasts 8 days and takes place between the months of October and May. For fiestas, the day of the dead or special orders, it is possible to collect on other dates.

C) The Drying Process

Once the tulle has been collected, it is then dried. This process lasts another 9 days and is done by laying the stalks down in the patios of the houses or near the granaries. The main idea is that they turn yellow. When they do, they are completely dry. Then they proceed with the *desvarillado*, which is the process of removing the husk or the imperfections from the tulle. Another important factor is that the laying out must be done correctly, that is to say that all the stalks must be exposed to the sun, for if this does not happen they become "barudos" or very weak.

D) Production

After the drying process, the fibre is ready to weave and it is stored by making bunches which are kept on the rooves or in the patios of the houses. The products made from tule are: petates (mats), fans, chicahistes (containers for tortillas) and other objects of prehispanic origin such as tepaaxtales (containers for bean or maize seeds). The areas used for working the tule can be the patio, or the exterior of the house near the front door.

In the case of the production of a petate (or mat), the process consists in dampening the tule so that it is easier to tie. In the past, this was done with ixtle (cactus fibre), which has now been substituted by 2ply plastic string. The string is put through both sides of the petate, inserting them one at a time. The approximate length at which the string is tied is at one "hand" from the outer edge of the petate. Once the weaving and putting together of the tule is finished, the ends are cut off by placing two wood frames as a base and then the cutting is done with a sickle. The cut is then finished off more carefully with a penknife or knife.

The size of a large petate (or mat) is of 1.50 x 2.5m. , although they can be made smaller. Both sexes know how to make mats, although now it has become something mostly done by women. The time invested in this product is not much, as several informants all state that they can finish a petate in 3 or 4 hours. However, almost no one actually does this as they mostly devote what they call their spare time, only one hour, to the making of mats, so they actually take 2 or 3 days to finish one.

In the town of Santa Ana Nopalucan it is still possible to find individuals who devote all their time exclusively to working with tule, all of them middle-aged or elderly men (40 or 60 years old). They are easily identifiable in the community because of this labour, although unfortunately there are few of them left and they do not have family or helpers who are interested in the trade.

E) Commercialization

This is carried out by the producers themselves. The products are sold by displaying them in the town itself or in markets and plazas in other communities like San Pablo del Monte, San Miguel Contla, Tlaxcala, Cholula or Puebla. The sale requires a large amount of products; the prices for a large petate are 50 pesos and for a fan, 5 or 6 pesos.

This work is only one example and the beginning of more extensive and detailed research into the lacustrine resources which we believe were exploited and were of substantial importance to the inhabitants of the sites of Xochitécatl, Cacaxtla and Nativitas.

Through the study about working with tule we will be able to establish which indicators of the process of production may be present in the residential units excavated in the sites near the lake area, and at the same time it will serve to save ancient traditions which are on the point of disappearing in Tlaxcala.

Bibliography:

Acuña, Rene.

1984

Relaciones Geográficas del Siglo XVI
Tlaxcala. Tomo I-II. UNAM, México.

INEA

1995

Ecología del Estado de Tlaxcala. Región Malinche.
SEP, INEA, Delegación del Estado de Tlaxcala.

Muñoz Camargo, Diego.

1972

Historia de Tlaxcala
E. Aviña Levy (de). México.

Luna Morales, Cesar del C.

1993

Cambios en el aprovechamiento de los recursos naturales
de la antigua ciénaga de Tlaxcala.
Universidad Autónoma de Chapingo.

Serra Puche, Mari Carmen y Beatriz Palavicini.

1996

Xochitécatl, Tlaxcala en el periodo Formativo.
Arqueología, Segunda Época, Julio-Diciembre
Revista de la Coordinación Nacional de Arqueología,
INAH, México.

Serra Puche, Mari Carmen y Carlos Lazcano.

1996

Informe Técnico de Recorrido. Proyecto Xochitécatl.
En poder del Consejo de Arqueología (Inédito).

1997

Xochitécatl-Cacaxtla en el periodo Epiclásico.
Arqueología, Segunda Época, Julio-Diciembre
Revista de la Coordinación Nacional de Arqueología,
INAH, México.