

*Pre Columbian
Population
History in the
Maya Lowlands*

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*Maya Settlement
in the Belize*

River Area:

Variations in

Residence

Patterns of the

Central Maya

Lowlands

ANABEL FORD

Research in the central Maya lowlands (Map 8.1) has revealed variations in settlement distribution and chronology which correspond to broad hydrographic areas within the lowlands: the interior core area around the center of Tikal, the southern lakes area running from Lake Peten Itza east to Lake Yaxha, and the rivers fringing the area on the east and west. It is increasingly apparent that these local variations need to be understood before the regional Maya development can be explained. The Belize River Archaeological Settlement Survey (BRASS) was specifically designed to gather local settlement and resource data within the valley area along the Belize River and north into the interior. These data will be used to re-

construct the local Belize River area developments and for comparison with the growing body of data from the lakes and core areas. Taken together, these interregional comparisons will provide a basis for understanding variability in the central Maya lowlands.

The archaeology of the Belize River area promises to cast light on Maya development in several important ways. Evidence suggests that the upper Belize Valley was one of the first areas to be occupied within the central lowlands and, as a geographical link from the Caribbean to the interior, served as an avenue of entrance into the core area (O. Puleston and D.

Puleston 1971, 1972). The valley is situated in a logistically advantageous locale at the terminus of the navigable portion of the river and within 60 km of the core area around Tikal. From the excavations at Barton Ramie in the upper Belize River area, occupation appears to have been relatively continuous throughout the course of prehistory, bracketing the rise and decline of the Classic Period Maya (Willey et al. 1965; Gifford 1976). It is on this base that the BRASS project was initiated.

BELIZE RIVER ARCHAEOLOGICAL SETTLEMENT SURVEY

Settlement and Environment

The upper Belize River area can be characterized geographically as (1) the open undulating valley and savanna east of the confluence of the eastern and western branch of the Belize River and (2) the constricted valley foothills and uplands to the west (Map 8). The soils of these zones have been classified for the area (Wright et al. 1959; Jenkins et al. 1976) and are locally described for the project (Fedick 1989). Broadly speaking, there are several soil zones important to ancient Maya settlement: the fertile alluvial soils of the valley and well-drained soils of the uplands, the moderately fertile foothills, poorly drained swamps soils interspersed in the uplands and foothills, and the poor soils of the savannas.

The open valley on the east is composed of a floodplain and low rolling hills north of the plain and scattered Pleistocene savannas inland from the river. The valley includes modern flood zones, recent alluvial terraces, and older alluvial deposits (Fedick 1985, 1989). Much of the northern interior of this area is savanna, currently supporting oak, palmetto, and grasses. The savanna is composed of poorly drained, infertile Pleistocene subsoils. Relief is minimal in this eastern zone. Elevation at the river averages about 60 m above sea level and rises only another 50 m within 5 km of the river.

The western mountains, ascending more than 300 m above the river valley, are a sharp contrast to the rolling terrain of the east. There is much variability within this zone. The limestone foothills rise steeply to the crests (ca. 5 km from the river), but beyond they spread into a hilly upland plateau with alternating gentle and steep areas. This upland region is dominated by fertile, well-drained soils, which are associated with upland forests, interspersed with moderately drained areas associated with transitional upland swamps and some poorly drained swamp soils.

The BRASS project was designed to investigate settlement patterns within these environments and with respect to the river and the administrative centers. To accomplish these objectives, survey transects were located so as to pass through each of the identified environments. They were

oriented to crosscut the valley and bisect an identified administrative center (see Map 8.2).

Three survey transects were selected, two 5 km long, designated Bacab Na and Yaxox, and one 10 km long, designated El Pilar. The eastern Bacab Na Transect covers the open valley and interior savanna zone and bisects the 1-courtyard center of Bacab Na, 0.75 km north of the river at an elevation of 80 m. The middle Yaxox Transect traverses the flanks of the uplands and bisects the relatively large center of Yaxox, in the foothills, which has 5 courtyards. Yaxox is situated 1.3 km north of the river at an elevation of 100 m. The western El Pilar Transect covers the constricted valley, foothills, and upland zones. It includes two centers: Alta Vista and El Pilar. Alta Vista is a 2-courtyard center in the foothills overlooking the valley, 2.1 km from the river at an elevation of 167 m. El Pilar, an extensive, 15-courtyard center well within the upland zone, is located at the northern end of the transect, 10 km from the river at 250 m elevation.

The settlement survey was undertaken in two five-month seasons (1983, 1984) and encompassed five major activities: (1) transit mapping of the four centers, (2) establishment of the two 5-km baselines and the one 10-km baseline to serve as the axes of the transects, (3) settlement survey of 125 m on each side of the baseline, (4) mapping of all cultural remains within the 250-m-wide transect, and (5) test excavation of a 12.5% stratified random sample of residential units (48 total) based on distance from the transect origin point. The 1986 season focused on acquiring data on the chronology of the four centers.

The settlement survey involved the systematic surface coverage of the entire area of the transects. Individuals were positioned 10 to 20 m apart, depending on the vegetation (burned fields, pasture lands, and various stages of forest), and all areas were traversed to record topography, vegetation, and cultural remains. In addition, all soil zones were defined by soil test pits and samples collected from residential unit excavations (Fedick 1985, 1989). Following the surface survey, a mapping crew returned to highlighted areas of potential cultural significance. All superficial remains, including stone foundations with associated cultural debris and midden scatters, were recorded and positioned relative to the baseline.

A total of 500 ha was covered in the transect settlement survey. The cultural remains mapped within the three transects included 535 structures grouped into 342 residential units, several midden scatters, cultunes (storage pits in the limestone bedrock), limestone quarries, and chert quarries. Residential units were defined by rubble and mounded debris representing ancient structural remains. Units were designated as solitary structures when no other structures were within 10 m and/or no formal arrangement of structures was discerned. Such single-structure residential units include the numerous small foundations recorded in the uplands as well as the large "tell-like" platform units of the valley (e.g., those of Barton Ramie and Bacab Na). When structures were formally arranged around

an interior space, or courtyard, or they were loosely arranged in close proximity to each other, they were grouped into a residential unit composed of two or more structures. The proportions of the different environmental zones and the corresponding settlement densities are presented in Table 8.1.

Excavations focused on residential units (total = 342). Mapped units were numbered and grouped by eights, based on distance from the river, and one residential unit in a group of eight was selected (12.5%) for the testing phase. The subsurface testing phase included examination of 48 residential unit middens, or ancient trash deposits, located adjacent to the randomly selected residential units. Five residential units were tested in the Bacab Na Transect, 15 from the Yaxox Transect, and 29 from the El Pilar Transect. These tested units composed the sample of residential settlement in the Belize River area.

Test excavations concentrated on midden deposits around the selected residential unit. The deposits were located by probing with a posthole digger immediately around structural remains (cf. Fry 1972). Posthole tests revealing the greatest amount of midden debris were selected for the expanded one-by-one-m test-unit excavations. The number of test units selected varied from one to three, based on the extent of the identified middens. The main purpose of this effort was to obtain temporally diagnostic ceramics for dating the occupation areas. Diagnostic sherd densities are relatively high, averaging 54 pieces/excavation site and from 10 to 15/period represented at a site. Other midden debris (chert tools and manufacturing by-products, obsidian, other ceramic artifacts, grinding implements, etc.) was also recovered to help in reconstructing the various domestic activities at each site (see Ford and Olson 1989). In addition to the random sample, tests were made at an identified chert quarry and tool-production site, 2.5 km north of the river, adjacent to the Yaxox Transect and a biface production site adjacent to the center of El Pilar (see Map 8.2).

Preliminary investigations at the four centers of Bacab Na, Yaxox, Alta Vista, and El Pilar were initiated in 1986 to acquire data on the chronological sequence using looter's trench exposures and plaza test pits. Investigations included excavations of four test pits at Bacab Na, two test pits and three looter's trench column samples at Yaxox, three test pits and three looter's trench column samples at Alta Vista, and ten test pits and eight looter's trench column samples at El Pilar.

Belize River Area Chronology

The chronological data from the BRASS project follow a variation of the expected occupation pattern for the lowland area (Table 8.2). Growth is

clear from the Middle Preclassic to the Late Preclassic, when occupation nearly doubles. Although residential settlement is well dispersed within the valley and upland zones for the entire Preclassic, there is a subtle difference between the occupations of the two zones. In the Middle Preclassic not only did the valley have a higher percentage of occupied sites, but the intensity of use, as reflected in sherd densities, differs by zone: the overall sherd density/m³ of excavated middens in the valley is four times that of the upland zone. This difference narrows in the Late Preclassic, when most of the sites are occupied. Still, the valley contains a slightly higher percentage of occupied sites and a sherd density two times greater than that of the upland zone. In the foothills, settlement increased and the sherd density is comparable to that of the valley.

The Early Classic shows an enigmatic decline in the number of sites occupied and a distribution pattern similar to that of the Middle Preclassic. Sherd densities of residential middens are equally low in all zones. This decline appears to be quite different from the situation at Barton Ramie, where most sites occupied in the Late Preclassic continued to be occupied in the Early Classic. Settlement in the BRASS area concentrates at El Pilar, 10 km from the river, in the uplands. The Early Classic distribution may indicate a reorientation of more permanent settlement away from the marginal agricultural zones in the uplands toward centers and into the valley proper, where Barton Ramie is located.

These interpretations must be considered tentatively. It may be that our understanding of the Early Classic materials, which is limited to ceramic forms dominant in the core area around Tikal and Uaxactun, does not extend into the Belize River area (cf. Lincoln 1985). Data on the formal composition of the BRASS Early Classic ceramic assemblage is illustrative. Few forms are represented in this collection, and basal-flange bowls make up 65% of the assemblage. The low proportion of any Early Classic diagnostic in the BRASS collection, the restricted distribution among the residential units of the area, and the emphasis on the special, and often decorated, serving forms of the basal-flange bowl suggests a problem with the local relative dating of this period.

It is not difficult to distinguish the Late Classic time markers in the Belize River area. Ceramic distribution shows marked growth in the Late Classic, with 98% of sites occupied. This growth appears to correlate with the major building activity at centers in the area. The increase in occupation during the Late Classic corresponds to the data from all surrounding areas of the central Maya lowlands.

Evidence suggests heavy occupation in the Late Classic in all zones of the Belize River area. Nevertheless, sherd densities in excavated middens, indicating frequency of site use, vary among the zones. There is relative homogeneity in the sherd densities of valley sites but considerable variability in the sherd densities of upland sites. In the uplands the largest sites

The Regional Setting

Major cultural development of the central Maya lowlands began in the interior core area around Tikal, the last area to be settled. Because areas such as the Belize Valley were peripheral to the developments of the core area, they would be expected to exhibit overall lower settlement densities and less concentration of wealth in comparison to the core area. Although the full analysis of the BRASS data is still underway, the preliminary results generally corroborate the peripheral status of the Belize River area. The picture of the area's developments, however, is complex in that there is evidence of considerable early development by the Late Preclassic Period. Moreover, in the Late Classic there is a differentiation among the upland, foothill, and valley zones, as was seen with the chronological data discussed above.

A general comparison of the Belize River area with the lake and core areas provides insights into the settlement variations in terms of both structure density (structures/km²) and the comparison and size of residential units. The Belize River area exhibits a relatively high settlement or structure density when compared with densities of the lakes and core areas (Table 8.3). Taken at face value, this could argue for a higher population density in the Belize River area, but residential unit composition, in terms of the number of structures per residential unit, and unit size and volume as calculated in labor investment (cf. Arnold and Ford 1980) need to be considered before such a conclusion can be drawn.

The Classic Period Maya residential unit has been typified as a compound of several structures, often facing a defined courtyard area (e.g., Ashmore 1981b:49). Although such may be the standard in the core area, where 70% of all residential units are made up of two or more structures and only 30% are solitary structures (Ford 1986:43-58), this is not the case in the Belize River area. On the average, 68% of all residential units in the Belize River area (including all zones) are solitary structures (Table 8.4).

This difference in settlement composition is equally evident in the construction-labor investment of residential units (Arnold and Ford 1980). Construction-labor investment was calculated based on an estimate of labor involved in the building of all components of a residential unit. The labor investment total for each residential unit provides a relative means for comparison among residential units within the central Maya lowlands. All mapped structures were considered individually and then combined in cases where they were grouped as a residential unit. The average Belize River area residential labor investment is less than one-half the average of

exhibit the highest sherd densities and the smallest sites the lowest. Considerable variation among sites also exists in the foothills, but unlike the case in the uplands, the highest sherd densities are found among the smallest sites.

The expected decline in settlement during the Terminal Classic and Postclassic periods is exhibited in the BRASS data. Only 48% of the tested sites exhibit occupation during the Terminal Classic, about half that of the Late Classic Period. The majority of the settlement concentrates in the uplands and around El Pilar. Postclassic occupation is even less than that of the Terminal Classic, dropping to 21% of the site total. Within the BRASS study area, occupation during the Postclassic is higher in the uplands than in the valley and the lowest in the foothills.

The data on the chronologies of the centers indicate that their construction spans the entire length of the development of the Belize River area. Some evidence suggests that initial constructions may have begun in the last phase of the Middle Preclassic at El Pilar and Alta Vista. There is considerable evidence of major building efforts in the Late Preclassic, and several major construction phases during that period are clear at El Pilar, Alta Vista, and Yaxox. Discrete Early Classic diagnostics are scarce, found only at El Pilar and Yaxox, and always occur with Late Preclassic materials. Early Classic markers are almost exclusively the basal-flange bowls. This limited evidence of Early Classic material corresponds with the settlement occupation data for this period (also based on the distribution of the diagnostic basal-flange bowls). It appears that the more general distribution of utilitarian forms associated with the Early Classic Period at Tikal is not present in the Belize River area. Further, the co-occurrence of traditional Preclassic material in all constructions with Early Classic materials suggests the continuance of Preclassic forms into the Early Classic in this area (cf. Lincoln 1985). For example, test excavation at the main temple of Barton Ramie in March 1988 corroborates the construction-fill data from the BRASS centers by demonstrating a long Late Preclassic building sequence on which is superimposed construction fill containing Late Preclassic utilitarian vessels and Early Classic basal-flange bowls.

Late Classic construction is evident at all the centers and is the only construction at Bacab Na. Evidence of building in the Late Classic Period is not as extensive as in the Late Preclassic, especially at El Pilar, where some areas appear to have no Late Classic construction at all. Terminal Classic construction has been found at El Pilar, Yaxox, and possibly Bacab Na. Although Postclassic construction has been tentatively identified at Yaxox, it is clear that no major constructions were undertaken after the Terminal Classic Period.

the core area, and the highest labor investment in the Belize River area is one-third that of the core area (Table 8.5). This difference is largely due to the higher average number of structures per residential unit and more complex residential unit composition characteristic of the core area as compared with the Belize River area.

Residential unit labor investments have been ranked based on their distribution at the center of Tikal (Ford and Arnold 1982) and in the Tikal-Yaxha intersite area (Ford 1986:83-87). If we accept that family size correlates with house size and wealth in agricultural societies (McGuire 1983; Netting 1982; M. Smith 1987; among others), these labor ranks provide a general indicator of residential status and aid in understanding relative differences among areas of the lowlands. The ranks for the core area from low to high are as follows:

- 1:0-500 construction labor-days
- 2:501-2000 labor-days
- 3:2001-6500 labor-days
- 4:6501-11,000 labor-days
- 5:11,001-20,000 labor-days

Comparison between the core and riverine areas reveals dramatic differences in residential composition and wealth at the residential level. The highest labor-investment ranks drop out as one moves from the core to the Belize River area. These disparities in overall wealth of residents point to important differences in basic residential organization between the core area and the Belize River area. Although the Belize River area has relatively high structure densities (see Tables 8.2 and 8.3), the structures are significantly smaller and residential units much simpler in composition than those found in the core area. The high percentage of solitary structures compared to residential structure compounds points to a fundamental difference in the organization of the domestic unit, and the low labor ranks in comparison to those of the core area support the position of the area's status as peripheral in the Late Classic Period. Clearly, settlement comparisons examining only settlement or structure densities mask the important variability that may exist within the Maya lowland area.

The Local Setting

Much of the same variation seen in the comparison of the core area with the Belize River area can be found within the Belize River area itself. Variation in settlement densities can be seen from the western uplands to the eastern valley zone (Table 8.1). Settlement density decreases from west to east. The upland zones have higher structure densities than the valley—

for every two structures recorded in the uplands, one was recorded in the valley—and there was no settlement recorded in the eastern inland savanna zone.

The difference between the uplands and valley zones, including Barton Ramie, extends to residential unit composition, that is, the number of structures per unit. Though most of the residential units in the entire Belize River area are single solitary structures, they make up less than two-thirds of the residential units within the uplands but nearly all residential units within the Bacab Na Transect and Barton Ramie area (Table 8.1). These distinctions among the survey areas can also be seen in the average number of structures per unit (Table 8.6). This pattern is associated with the different environments.

Both the valley and the uplands were important agricultural zones for the ancient Maya, yet residential settlements of the two zones differed greatly. The average number of structures per unit suggests that the residential units of the valley are simpler than those of the uplands, but they are significantly larger than single-structure units of the uplands. The difference between the upland and valley settlement can be seen in the average construction-labor investments in residences of the area (Table 8.6). The upland zone has a lower overall labor-investment average than the valley.

As argued above, the average labor investments reflect the relative distribution of wealth among the zones. There is greater wealth differentiation in the uplands than in the valley. Wealth distribution in the upland zone, as determined by labor investments, includes many small residential units and few large residential units. This is the type of distribution noted for the core area around Tikal and in the Tikal-Yaxha area. The distribution of labor ranks is very different in the valley, where more than half the residential units fall in ranks 2 and 3. Even though settlement densities are lower in the eastern open valley in which the Bacab Na transect and Barton Ramie area are located, wealth ranks, as interpreted from labor investment, are more evenly distributed than in the uplands or foothills. Given the general size of valley residential units and their associated midden densities, it seems likely that residential settlement in the valley had greater continuity and homogeneity of use than residential settlement of other zones.

Settlement density in the upland area, based on structure counts, is greater than in the foothills or valley. Nevertheless, residential unit composition and sherd densities of the middens suggest an unequal intensity of use among residential units of this zone. The larger residential units, composed of two or more structures, often formally arranged around a courtyard, concentrate in specific zones in the uplands—for example, adjacent to the center of El Pilar. These large units have the highest sherd densities of the one. Most other zones have small residential units and low

sherd densities. This variety among residential units of the uplands implies different domestic uses, such as permanent home base and temporary field residence.

The foothill zone is typified by moderate agricultural potential as compared with the valley and uplands (see Fedick 1989). Despite the relatively poor agricultural production quality of the zone, there was significant occupation in the Late Classic. There is reason to believe that residents in this zone could not have been self-sufficient agriculturally (see Fedick 1989). The area, however, is characterized by very high sherd densities occurring at small sites. In addition, there is evidence of chert-tool production in the zone (Ford and Olson 1989). Collections from this zone differ from the collections of the other zones and could indicate a level of residential cottage industry in chert and pottery.

Hierarchical Ordering of the Belize River Area

Separation of the zones evident in the examination of residential settlement density, size, and composition can also be seen in differences in the administrative centers recorded and mapped by the BRASS project. There is little differentiation among the valley and foothill centers of Yaxox, Alta Vista, and Bacab Na. All fall within the expected range of the lowest hierarchical levels, based on R. E. W. Adams and Jones's (1981) courtyard count, and are consistent with the ranks of other Belize Valley centers (R. E. W. Adams and Jones 1981:Table 1). The upland center of El Pilar is a dramatic contrast to valley centers and ranks equal to most major centers of the core area around Tikal.

Residential settlement density and composition in the vicinity (1 km) of El Pilar have much in common with the core area (Table 8.7), with high residential unit labor investments (average 1705 construction labor-days) and few solitary structures (27%) in comparison to the overall area (see Tables 8.4 and 8.6). Further settlement density around El Pilar is 292 structures/km². This pattern of settlement aggregation around centers is noted in the core area and not in the Belize Valley proper, as discussed below.

Valley and foothill centers do not appear to have the same relationship to the surrounding settlement as does the center of El Pilar. The average settlement density in the overall Yaxox, Bacab Na, and Barton Ramie areas corresponds to the density within 1 km of the center. The center of Alta Vista differs from other centers. Settlement density around Alta Vista is two times as great as the overall valley settlement density. Alta Vista is situated on a plateau of the limestone foothills. The terrain south toward the river is steep and would not be useful for settlement. This may account for the high settlement in the area.

IMPLICATIONS OF SETTLEMENT VARIABILITY IN THE CENTRAL MAYA LOWLANDS

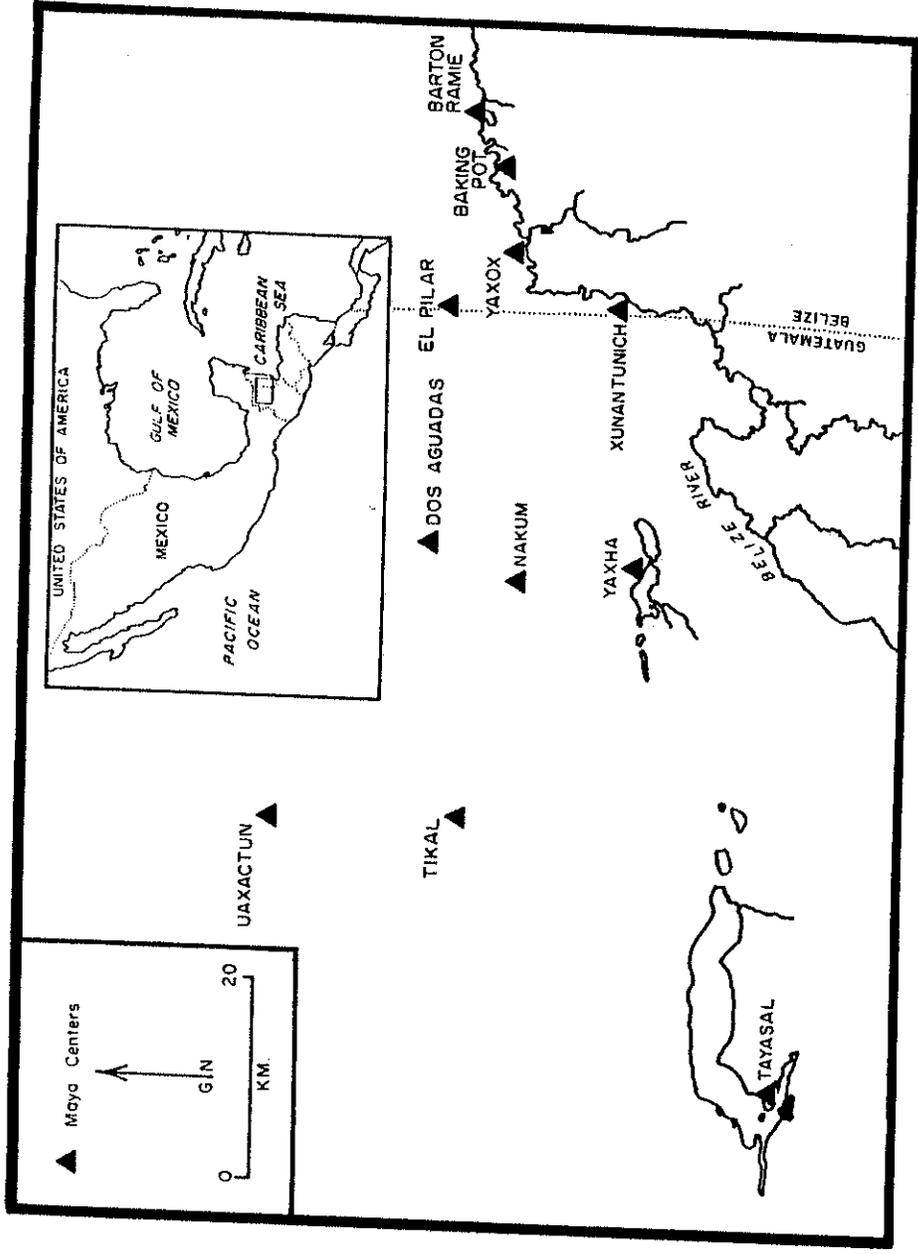
Residential structure densities are a means of making general comparisons within the Maya region. These data have been useful in understanding relative population distribution but mask variations that may exist in settlement form and composition. Settlement in the Belize River area is a good illustration of this point. The area has relatively high settlement densities, comparable to those of the core area, but overall size and composition of the Belize River area residences are not at all equivalent to those of the core area. This variability among residential units in the central Maya lowlands suggests significant organizational differences minimally at the domestic level and probably at the administrative level.

The comparisons among the core, lakes, and Belize River areas of the central lowlands have demonstrated variability in residential units which needs to be pursued in greater depth. This diversity is also evident in settlement patterns of the Belize River area. Far from homogeneous, settlement of the area appears to vary according to general environmental zone and corresponding agricultural potential.

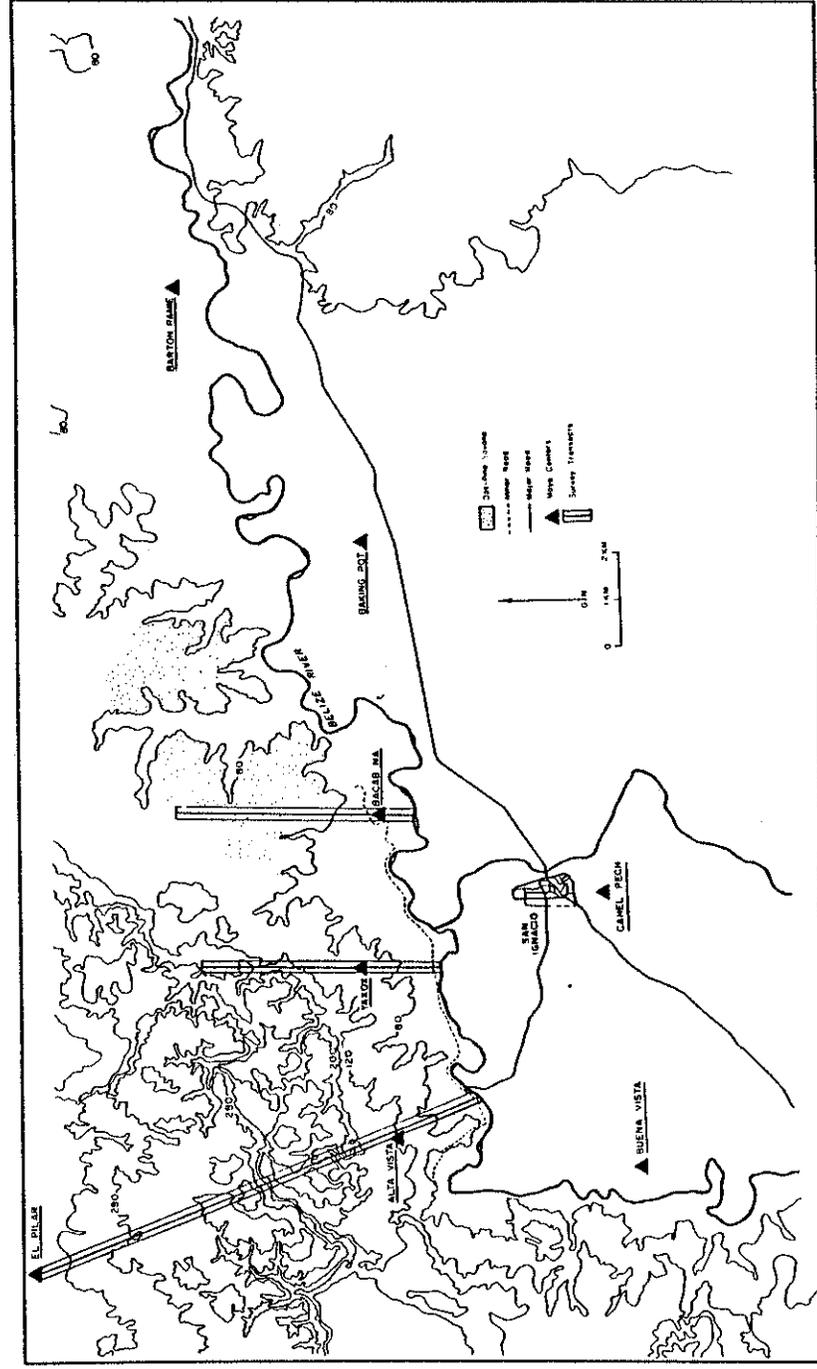
Fundamental settlement pattern differences among the upland, foothills, and valley zones suggest basic differences in economic and community organization which may be generalized to the entire central lowland region. It appears that the upland zone of the Belize River area has more in common with the core area both in hierarchical organization and in residential unit composition than does the valley zone. Clues to the possible distinctions in economic and community organization may reside in examination of the potential adaptive strategies of the different environmental zones and in the organizational ties they have with the core area in the Late Classic Period. These issues have implications for our interpretation of demographic patterns in the entire lowland area.

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Map 8.1 Major centers of the central Maya lowlands.



Map 8.2 Belize River area.

Table 8.1 Distribution of Environmental Zones and Settlement Density in the Belize River Archaeological Settlement Survey

| Environmental Soil Zone | Proportion of Terrain (%) | Structures/km ² |
|--|---------------------------|----------------------------|
| Valley Alluvial Soil Zone (67 ha) | 13 | 102 |
| Fertile Upland Soil Zone (118 ha) | 24 | 200 |
| Shallow Foothill Soil Zone (173 ha) | 35 | 114 |
| Poorly Drained Soil Zone (55 ha) | 11 | 0 |
| Pleistocene Savanna Subsoil Zone (87 ha) | 10 | 0 |

Table 8.2 Percentages of Residential Units with Occupation by Period in the Belize River Archaeological Settlement Survey

| Zone | Middle Preclassic | Late Preclassic | Early Classic | Late Classic | Terminal Classic | Postclassic |
|------------|-------------------|-----------------|---------------|--------------|------------------|-------------|
| Total area | 51 | 91 | 49 | 98 | 48 | 21 |
| Valley | 56 | 88 | 55 | 100 | 42 | 20 |
| Foothills | 52 | 100 | 47 | 100 | 42 | 16 |
| Uplands | 45 | 85 | 45 | 90 | 66 | 33 |

Table 8.3 Structure Density by Area

| | Tikal Center | Tikal-Yaxha | Yaxha Center | Yaxha Sacnab | Belize River |
|----------------------------|--------------|-------------|--------------|--------------|--------------|
| Structures/km ² | 200 | 110 | 105 | 59 | 118 |

Sources: The Tikal data are based on the Carr and Hazard (1961) map of Tikal, the Tikal-Yaxha data are based on the Tikal-Yaxha Intersite transect (Ford 1986), the data for Yaxha are based on Operation 2 of the Yaxha-Sacnab surveys (D. Rice 1976), the data for the lake area are based on the Yaxha-Sacnab survey (D. Rice 1976), and the Belize River area data are based on the Belize River Archaeological Settlement Survey and Barton Ramie (Willey et al. 1965).

Table 8.4 Percentages of Solitary Structures by Area

| Tikal Area | Belize Uplands | Belize Foothills | Belize Valley | Barton Ramie |
|------------|----------------|------------------|---------------|--------------|
| 30 | 64 | 69 | 85 | 98 |

Table 8.5 Residential Unit Labor Investment by Area

| | Belize River Area | Tikal-Yaxha Area | Tikal Center |
|--------------------------|-------------------|------------------|--------------|
| Average labor investment | 997 | 2,085 | 2,793 |
| Highest labor investment | 6,500 | 9,000 | 19,500 |

Table 8.6 Residential Unit Composition in the Belize River Area

| | Uplands | Foothills | Valley |
|--|---------|-----------|--------|
| Average no. of structures/unit | 1.6 | 1.4 | 1.2 |
| Mean Labor investment (labor-days) | 688 | 673 | 1,144 |
| Greatest Labor investment (labor-days) | 5,299 | 3,322 | 6,112 |

Table 8.7 Residential Unit Composition by Area

| | Barton Ramie | El Pilar Center | Tikal-Yaxha | Tikal Center |
|--------------------------------|--------------|-----------------|-------------|--------------|
| Average no. of structures/unit | 1.0 | 2.3 | 2.4 | 2.8 |