

CHAPTER 5

SETTLEMENT IN THE CAPINOTA-PAROTANI SURVEY AREA

This chapter describes the land use and settlement sequence in the Capinota-Parotani survey area. This area is less attractive for agriculture than the Mizque survey area. The Capinota-Parotani survey area has less water available year-round, less of the most productive group 1 soils, and a smaller and less productive piedmont topographic zone. Therefore, according to the initial hypothesis, we would expect less occupation in the Capinota-Parotani survey area than in the Mizque survey area throughout the sequence and particularly less intercation with Tiwanaku during the Intermediate Period. In fact, we found less occupation than in the Mizque survey area for every period except the Formative. At the same time, within each survey area, we expected a correlation of the location of settlement with the best agricultural soil, again especially for the Intermediate Period. However, this expected relationship did not occur in any period of the sequence.

An important feature relating to settlement distribution in the Capinota-Parotani survey area is its physiographic character: it is a linear valley with narrow banks, a wide piedmont zone limited to the western bank, and a large mountain area. Most sites were established along the riverine zone, and very few were placed in inland areas.

Overall, prehispanic settlement concentrated near the riverbed, providing easy access to alluvial soils and the river.

The following description of each period include the number of sites and the occupation area recorded in the random sample, and the total occupation area estimated based on the random sample for the total survey area. Then, I compare the percentage of occupation of each topographic and soil zone by period to discern significant changes in the locational preferences in the survey areas. Finally, this chapter concludes with a diachronic comparison of the total occupation area and the total occupation figures by topographic and soil zone for each chronological period.

The raw data of the Capinota-Parotani area survey quadrats are presented in Appendix A. The location, site size, and architectural features of the recorded sites are found in Appendix C, as are tabulations of the ceramic styles recorded for each lot collection and site. The detailed soil features found in each survey quadrat of the sample are tabulated in Appendix E. Finally, each site recorded in the Mizque survey area is described in Appendix G.

The sample of sites

The sampling survey produced a site fraction total of 35.05 recorded at 49 sites in the three topographic zones (Table 1) and three soil zones (Table 2). The site fraction total is the sum of the

fractions of each site found within the survey quadrat boundaries. The 35.05 site fraction figure will not be used in the analysis of the data. Instead, the total occupation area for this number of sites --77.60 ha-- will be used for analysis (Appendix C: part 2). More specifically, occupation area figures will be calculated for each period and by topographic and soil zones. Added up, these figures should exceed the total occupation area of 77.60 ha. The occupation area figures are the basis for the analysis of preferential occupation of topographic and soil zones.

THE FORMATIVE PERIOD

The number of Formative Period sites recorded in the survey sample produced a total site fraction of 9.33 at 17 sites, with a settlement occupation area of 26.2 ha (Table 8). The estimated total occupation area for the period is 239.2 ± 122.1 ha (Table 7). This total, and the following total occupation area estimates, are based on the stratified occupation area by soil group zones.

Four sites were occupied only in Formative times: CP 12, 13, 29, and 47. An additional site, CP 28, has a largely Formative occupation. The Formative Period pottery in the former four sites represent a Late Formative assemblage, except for CP 13 which has a Middle Formative assemblage (Appendix C: part 7). A second set of Formative Period occupation occurs at six multicomponent sites where the Formative assemblage dominates the pottery assemblage: CP 1, 2, 9, 16, 18, and 48.

The off-site Lot 2 (N54000 E84250) is also on this group. The proportion of Formative style sherds in the total lot collection ranges from 32% to 91%. Finally, nine sites have lot collections with lower proportions of Formative pottery than any other later period assemblages.

The most important Formative settlements in the Capinota area are CP 13, 28 and 29. These sites form a dense Formative occupation on the eastern bank of the Rio Rocha (Figure 31). Three additional Formative sites, CP 12, 16, and CP 47, are more isolated: the first is on the southern bank of the Arque river facing the Parotani flood plain; the second one is on the northern portion of the survey area on a hill surrounded by the alluvial plain; and the third is on the western bank of the Rocha river about 4.5 km upstream from CP 28 and 29. Only site CP 43 has Formative occupation on the southern half of the survey area.

Other Formative occupations occur at sites CP 5, CP 42 and CP 48, each of these clustered around the main Formative occupation at CP 47. Similarly, the Formative occupation at CP 11 --a site densely occupied during Tiwanaku times-- may be an extension of the settlement in CP 12, which lies a few hundred meters to the northeast.

Formative Period sites in the Capinota-Parotani survey area are characterized by dense and extensive surface ceramic scatters. At site CP 12, located on a steep slope, narrow platforms and a high proportion of grinding tools, such as **batanes** and **manos**, were noted. The high density of surface pottery has been accentuated by heavy looting of the site. In contrast, Sites CP 13, 28 and 29, located on a shallow slope

show little disturbance despite being traversed by the main east bank road. The surface density of Formative sherds is still considerable (ca. 20-25 sherds per m²) and foundation walls can be seen in some areas. Of the last three sites, CP 13 has the highest proportion of stone material. Finally, site CP 47, which spreads from a steep hill slope to the flat area of the piedmont on the edge of the alluvial plain, is heavily disturbed by erosion and looting, also has a high density of surface material.

The five sites with exclusively Formative Period occupations (CP 12, 13, 28, 29, and 47), make up 35.5%, or 9.27 ha, of the total occupation area. Other sites with large Formative Period occupation, but with later occupations as well (CP 1, 2, 5, 16, 18, 43, 45), make 48.6% of the occupation area (12.73 ha).

Site size may also be partially a function of duration of occupation. For the Formative Period unfortunately, no data are available to distinguish the relative contributions made to site by length of occupation and population size.

Topography and site location

Formative Period settlement was largely split between piedmont and mountain topographic zones with 57% and 32% of the 26.2 ha occupied. The alluvial zone had 10.7% of the total occupation (Table 8). The total occupation area for each of the topographic zones can be estimated, with a 95% confidence level, based on the occupation area figures:

24.21±25.03 ha for the alluvial zone, 126.55±69.27 ha for the piedmont zone, and 83.10±79.06 ha for the mountain zone (Table 9). The graphic comparison of the percentage of occupation of each topographic zone with the error range at a 95% confidence level shows a significantly larger proportion of occupation in the piedmont zone (Figure 40). Therefore, we can suggest that a preference for settlement in the piedmont zone existed in the Formative Period.

The occupation of the piedmont zone included four of the five exclusively Formative settlements. The additional exclusively Formative settlement (CP 12) is in the mountain zone, but nevertheless is close to the Tapacari River alluvial zone. In this respect, CP 12 exhibits the same pattern of settling close to water sources shown by the four former sites (Figure 31). An exception to this pattern is CP 13, located in a gorge that connects the Capinota valley to the Santivañez basin with only temporal water run-off nearby. This site is located 1.7 km from the Rocha River. Finally, three sites are located in topographic zone 3 (CP 15, 43, and 45), in addition to CP 12. These sites are located on high hilltops overlooking the alluvial plain. However, the Formative occupation is relatively small in these sites, each of which was settled more densely during the Late Period.

Soil class and site location

Formative settlement is located on all three soil groups, but most of the occupational size is on the poor group 3 soils with 74.3% of the

26.2 ha settled. The occupation of group 2 soils follows with 19.7% of the total occupied area (Table 8). The occupation area figures produce an estimated occupation area of 13.3±15.9 ha for group 1 soils, 31.9±25.1 ha for group 2 soils, and, 194.6±111.7 ha for group 3 soils (Table 10). A comparison of the percentage of occupation of each soil group zone based on the above estimates indicates no significant differences, at a 95% confidence level, in the relative occupation each soil group (Figure 40). With no significant differences in the percentage of occupation of each of the three soil groups, we can conclude that the Formative Period population was not preferentially settling any particular soil group.

Three of the five exclusively Formative sites (CP 12, 13, and 47) are located on the least productive group 3 soils. In contrast, sites CP 28 and 29 are settled on group 2 soils. Despite a major proportion of Formative settlements on the poorer soils, good soils are within walking distance of all the major sites. For example, CP 13 and CP 47 are on group 3 soils, but are less than 500 m from group 1 soils. The location of CP 12 is more difficult to understand given that good soils occur only across the Tapacari River, not on the southern bank of the river. Finally, the limited occupation of the hilltops at CP 15, 43 and 45 are on very poor soils and with limited access to alluvial lands. Yet, the agricultural devices that allowed seasonal dry-farming of these soils date to the Late Period.

THE EARLY INTERMEDIATE PERIOD

A total site fraction of 6.98, with an occupation area of 17.7 ha, at 13 sites, was recorded for the Early Intermediate Period (Table 8). The occupation area sample yields an estimate of 157.7 ± 95.4 ha of total occupation for the period (Table 7).

The Early Intermediate Period in the Capinota-Parotani survey area consists of those occupations with Tupuraya and Mojocoya pottery styles. The Tupuraya style materials dominate, found in 97% of the settlement area recorded for this period. The largest and most important Tupuraya style distributions occur at sites CP 16, 43, 44 and 48 (Figure 32), with an occupation area of 2.38, 3.4, 2.08 and 1.41 ha, respectively, totalling 9.27 ha. Few architectural remains were recorded on the surface of these sites.

Tupuraya style materials were always found at multi-component sites. Site CP 16 stands out as the site that yielded pottery styles from both earlier and later periods. Sites CP 5, 15, 16, 18, 42 and 48 had Formative occupation, whereas sites CP 16, 42, 44 had an Intermediate Period occupation with Tiwanaku style fragments. Sites CP 16 (with Tupuraya material ranging from 6% to 48% in the collections) and 44 (with percentages from 9% to 38%), and the mainly Tiwanaku burial site CP 42 (with percentages from 4% to 14%), are sites where Tupuraya and Tiwanaku style material co-occur. In other words, two of the largest Tupuraya-bearing sites have Tiwanaku style materials in the following

period. Tiwanaku style materials, however, were not limited to these sites and occurred exclusively at other sites.

The Mojocoya assemblage was recorded at only two sites (CP 16 and 42) in very low proportions (Appendix C: part 7). These are both burial sites, reflecting a very limited use of Mojocoya pottery in this area.

The densities and distribution of Tupuraya style materials suggest a domination of the occupation of the survey area by populations using this pottery style (Figure 32). However, little additional evidence, such as architectural remains or burial contexts, is available to further our picture of Early Intermediate Period life, with the exception of site CP 44. The small Tupuraya style presence at CP 42, in what is principally a Tiwanaku burial site, is probably the result of erosion of hill side deposits. The same association of Tupuraya and Tiwanaku materials occurs at CP 16, a highly disturbed site where, despite a suspicion that most sherds are from tomb provenience, no solid interpretations can be made as to the origin of the associations (e.g., Tupuraya style material from dwelling contexts, and Tiwanaku style material from burials).

Topography and site location

Most Early Intermediate Period settlement, 54% of the total occupation area, is in the piedmont area. The occupation area of the alluvial zone is very close to the mountain zone occupation, with 22% and 24% respectively (Tables 5).

The total occupation area for each topographic zone has been estimated at 34.0 ± 27.7 ha for the alluvial zone, 81.0 ± 57.1 ha for the piedmont zone, and 41.6 ± 61.5 ha for the mountain zone (Table 9). Comparison between the percentage occupied in each topographic zone (Figure 40) indicates that there is no difference, at the 95% confidence level, between the occupation percentages of the three zones. In effect, the error range of the occupation percentage of the alluvial zone overlaps the percentage of soil zones 2 and 3. There was, therefore, no preferences in the settlement of Early Intermediate Period for any particular topographic zone.

Soil class and site location

Most of the Early Intermediate Period occupation, 61% of the occupation area, is on the least productive group 3 soils. Occupation of group 2 soils is 21.5% of the total occupation area (Table 8). The estimated total occupation area by soil group zone, based on the sample, is 25.76 ± 25.46 ha for group 1 soils, 23.72 ± 21.49 ha for group 2 soils, and 108.62 ± 83.80 ha for group 3 soils (Table 10). Comparison of the percentages of occupation by soil group reveals no significant difference, at the 95% confidence level, in the occupation of the soil groups (Figure 40). Note that the error range for group 2 soils overlaps the percentage figure for the two additional soil groups. Therefore, no significant preferences can be suggested for the occupation of any of the three soil groups in the Early Intermediate Period.

In the Capinota-Parotani survey area, unlike the Mizque survey area, the piedmont zone is dominated by the least productive soils, group 3 soils. Therefore, settlement in the piedmont in this survey area entailed occupation of the least productive soils. Yet, neither the bulk of the settlement occupation area in the piedmont zone or on the group 3 soils reflects a significant settlement preference in the Early Intermediate Period.

THE INTERMEDIATE PERIOD

The Intermediate Period total site fraction is 7.9, at 12 sites, with an occupation area of 17.3 ha (Table 8). The total occupation area for the period is estimated to be 159.9±99.7 ha (Table 7).

The Intermediate Period in the Capinota-Parotani survey area is marked by three pottery styles: the Tiwanaku style, Omereque, and Gray Ware style assemblages. In this survey area, the Gray Ware is assigned to the Intermediate Period occupation since it only co-occurs with the Tiwanaku and Omereque style materials (unlike the continuity of this style in the Mizque survey area). In fact, Omereque and Gray Ware material occur in the same sites as the Tiwanaku style and Gray Ware materials; only Tiwanaku style materials were found to occur independently in the survey. Gray Ware and large Sauces-type urns are used for Tiwanaku style burials.

The Tiwanaku style was observed in 37 lot collections at 12 sites of the survey area (Figure 33); Omereque style material was recorded in

six lot collections at three sites, and Gray Ware material in 13 lot collections at four sites. The Tiwanaku style occupation dominates with more than 90% of the occupation proportion of this period.

Tiwanaku style materials are concentrated at seven major sites (CP 7, 10, 11, 16, 40, 42 and CP 44) representing 74% of the occupation. CP 7 and 10 have exclusively Tiwanaku style decorated pottery (Appendix C: part 7). Site CP 7 consists of a limited scatter of Tiwanaku style sherds from disturbed burials, whose slabs remain on the surface. CP 10 is a platform mound located on the alluvial plain with a very low density of material on the surface, representing a unique component of the Intermediate Period occupation of the valley. The mound (100x70 m) may have had a sunken central court resembling Tiwanaku temple centers in the highlands and elsewhere (Goldstein 1993), but we cannot determine its complete form.

Tiwanaku style remains are highly dominant at sites CP 11 and 42, with only minor occupation dating to the previous period (with the Tiwanaku style materials ranging from 69% to 100% in the lot collections at CP 11 and ranging from 27% to 75% at CP 42). In contrast, site CP 44 had an important Tupuraya style occupation (still, Tiwanaku style materials make up 33% to 85% in the collections). Site CP 11 is, together with CP 44, the largest domestic settlement with Tiwanaku style materials. Unfortunately, no architectural evidence is visible at CP 11 due to plowing of the site. Site CP 42 is a dense cemetery used almost exclusively during this period, in which most of the Saucos and Gray

Ware style burial urns were recorded. CP 44, is the only site with Intermediate Period materials on the southern portion of the survey area. Finally, at CP 16 the Tiwanaku style material occurs in equal proportions to Tupuraya style sherds, but represents a larger occupation area due to a broader distribution within the site.

An additional site, CP 40, has a low proportion of Tiwanaku style materials, but the large size of this site leads to a calculated occupation area of 3.35 ha or about 20% of the occupation area for the period.

Omereque materials occur at three sites: CP 7, CP 16, and CP 42, in proportions of less than 8%, and an average of 3.7% of their lot collections. These sites are cemeteries with a larger proportion of Tiwanaku style materials than Omereque pottery. The Grey Ware style had proportions between 10 and 30% at CP 5, 11, 42 and 44. Grey Ware material and Tiwanaku style materials are not associated at CP 7 or CP 16.

The composition of the Tiwanaku style assemblage in the Capinota-Parotani survey area consists mostly of body and rim fragments of **keru** and **puku** vessels, both in the random and grab lot collections made at sites with Tiwanaku style occupation. **Keru** shapes include the **chayador**, with a very narrow base, and fragments with bulging rings. No "classic" altiplano Tiwanaku fragments were recorded on the surface.

Topography and site location

Most Intermediate Period occupation is in the piedmont area (topographic zone 2) with 88% of the total 17.3 ha of occupation. The estimates for the total survey area occupation are 14.4±17.9 ha for the alluvial zone, 128.9±78.8 ha for the piedmont zone, and, 4.99±8.78 ha for the mountain zone (Table 9). Comparison of the occupation percentage estimates (with respect to the total area of each topographic zone) reveals a significant difference, at the 95% confidence level, in occupation of the piedmont zone. Thus, a significant preference for the piedmont is documented for the Intermediate Period.

The piedmont includes four of the five principal sites with Tiwanaku style materials in the Capinota-Parotani survey area. Only CP 10, the platform mound site, is located on the alluvial plain. This singular site is an important component of the Intermediate Period occupation of the area, and its particular topographic location reinforces the special nature of this site in the settlement pattern of the period. CP 11 is located on a natural, flat terrace on the southern bank of the Arque River, on the thin piedmont strip in this bank. CP 42 is located on a low slope hillside facing the alluvial plain. CP 16 is located on the top of an isolated large hill in the middle of the alluvial plain, and finally CP 44 is on a piedmont strip that reaches the river bed. All these piedmont locations are adjacent to alluvial plain zones, except for CP 11, where ample alluvial lands occur just across the river bed.

Soil class and site location

Intermediate Period occupation is split between group 3 soils with 77.5%, and group 2 soils, with 17.75% of the total 17.3 ha of occupation. The additional .83 ha on group 1 soils represents CP 10 (Table 8). The estimates for the occupation by soil group for the total survey area are: 6.9 ± 11.9 ha for group 1 soils, 19.1 ± 18.7 ha for group 2 soils, and 133.5 ± 91.8 ha for group 3 soils (Table 10). The differences between the occupational percentage of these estimated totals of each soil group zone are not significant at the 95% confidence level. Figure 40 shows that the higher percentage of occupation on group 2 soils has a wide error range that encompasses the percentage of occupation on group 1 and 3 soils. Therefore, no preference for settling group 2 soils is indicated.

The five principal Tiwanaku occupations are distributed in three groups: CP 10 is located in the rich group 1 soil zone; CP 42 is located in the lower piedmont area in moderately productive soils; and finally, CP 7, 11, 44 and 16 are located on the poor group 3 soils. Site of this latter group are adjacent to the alluvial plain and residents would have had easy access to richer soils, except at CP 11 where access to good soils meant crossing the Arque River.

THE LATE PERIOD

The total site fraction for this period is 26.9. The occupation area of the 40 sites is 60.0 ha (Table 8). These figures include the

seven sites assigned to this period that lack sherds on surface. The estimates for the total occupation area based on the above sample is 551.2±198.7 ha of occupation for the Late Period (Table 7). This period displays the densest settlement and largest occupation area recorded in the survey area.

The Late Period occupation is marked by four pottery styles: Ciaco, Pacajes, Inca, and a distinctive Late Period utilitarian assemblage. It has been suggested that the two first assemblages are the principal, longer-lived and earlier pottery styles of the period. The two latter styles appear in the Capinota-Parotani survey area in the later portion of this period.

Late Period Utilitarian style sherds were found at 24 site locations with 48% of the total occupation area of 60.0 ha (Figures 34 and 35). The Ciaco style remains constitute approximately 44% of the occupation (Appendix C: part 7). Finally, the Pacajes and Inca styles make up 8% of the total area of occupation. The Ciaco assemblage occurs by itself in eight site locations, and the Late Utilitarian ware by itself at five site locations. The two assemblages co-occur at 19 site locations. Pacajes and Inca do not co-occur themselves at any site. Finally, seven sites recorded in the survey did not have pottery on surface. They have been assigned to this period on the basis of the site location and construction features. This period has the largest total site fraction and site locations recorded and the largest occupation area figure for the complete sequence.

Topography and site location

Most settlement during the Late Period was in the piedmont topographic zone, with 53.5% of the total occupation of 60.0 ha. The mountain zone and the alluvial zone account for 35% and 11% of the remaining occupation area, respectively (Table 8). The estimates for the total occupation of each topographic zone are 58.71±41.11 ha for the alluvial zone, 271.96±112.74 ha for the piedmont zone, and 209.41±131.77 ha for the mountain zone (Table 9).

Comparison of the percentage of occupation for each topographic zone shows a significant difference, at a 95% confidence level, in occupation of the piedmont against the other two zones. The Late Period population displayed a preference for settlement in the piedmont zone as a larger percentage of it is occupied, despite that most of the occupational area is actually in the mountain zone.

Soil class and site location

For the Late Period, 72.5% of the 60.0 ha recorded is on group 3 soils, the poorest soils available (Table 8). The occupation on group 2 soils is 16.6% of the total, whereas the occupation of the best soils in the survey area account for only 11% of the total occupation for the Late Period. Roughly 75% of the Ciaco style materials were concentrated on group 3 soils, as were the Utilitarian domestic ware (78%). The

Pacajes and Inca styles materials are mostly in this poorly productive zone.

The total occupation area estimated for the Late Period for each topographic zone based on the recorded sample is 55.66±37.40 ha for group 1 soils, 61.95±41.38 ha for group 2 soils, and 434.50±179.58 ha for group 3 soils (Table 10). Comparison of the percentage of occupation reveals no significant differences, at the 95% confidence level, in the occupation proportions by soil group zone. Therefore, no preference for settling any particular soil zone can be suggested for the Late Period, despite the larger proportion of occupation of group 2 soils.

During this period, many settlements lie on hilltops with steep slopes, taking advantage of cliffs and difficult access. In most cases, the immediately surrounding areas are not the most productive soils. It is possible to cultivate crops on group 3 soils, with high pedregosity, steep slopes and high permeability, but production in these plots is seasonal and relatively low in comparison to other soil groups. The agricultural devices documented surrounding hilltop sites on the poorest soils thus represent intensification of production.

Summary: the Capinota-Parotani survey area sequence

Comparative analysis of the percentages of occupation of each topographic and soil group zone by period has provided three significant cases, at the 95% confidence level, of preferential settlement: for the piedmont topographic zone in the Formative, Intermediate and Late

Periods. No preferences for settlement on a particular soil group were noted, although in each of the four periods a higher percentage of the occupation was made on group 2 soils. The percentages of occupation on that soil zone were, however, not significantly different, at a 95% confidence level, from the occupational proportion of the other two soil groups.

Thus, the land use and settlement patterns in the Capinota-Parotani survey area do not meet our expectations of finding settlement on the best soils of the survey area, in particular during the Intermediate Period. The preference for settling the piedmont zone in the Formative, Intermediate and Late Periods is not tantamount to settlement on the best soils, in contrast to the Mizque survey area. In the Capinota-Parotani survey area, the best soils are limited to settlement of the alluvial zone.

The three periods also differ in terms of site location within the piedmont zone. The Formative and Intermediate Periods, settlements were located on the lower piedmont, adjacent to the alluvial plain -- following the previous Formative Period pattern-- but two of the principal sites were located in isolated and defensive locations. In contrast, Late Period sites were largely located in the upper piedmont, and on the hilltops of the mountain zone.

Changes in occupation area

Diachronic study of the total estimated occupation area uses the sequence of total occupation figures (Figure 41) and the percentages of occupation by topographic and soil group zones (Figure 42). Based on the total figures, the reduction in the occupation area in the Early Intermediate Period with respect to the Formative Period is not significant at the 95% confidence level; there is almost no change in the occupation area of the Intermediate Period from the previous period. Only the occupational area increase of the Late Period is significant, at the 95% confidence level, in the Capinota-Parotani survey area occupational sequence.

As mentioned above, the Intermediate Period did not reveal a pattern of settling the best soil zones. Another outcome of the Tiwanaku interaction in Cochabamba should have been a population growth in the survey area during the Intermediate Period. Although there are important Tiwanaku style sites in the Capinota-Parotani survey area, the occupation area does not reflect the growth expected if residents were maximizing maize exploitation. Limiting ecological factors would not have been a factor in the occupation area for the Intermediate Period since the occupation area of the Formative Period was larger. The significant growth in the Late Period occupation area indicates that the productive potential of the area was not approached in any of the three previous periods. The use of agricultural intensification devices may have permitted the expansion in settlement and population in the Late Period. That the potential capacities of the valley were increased in

the Late Period, suggests that the Early Intermediate and Intermediate Period inhabitants were uninterested in expanding productive capacity.

The more detailed analysis of the settlement sequence using the percentage of occupation by topographic and soil group zone (Figure 42) shows significant increase in the occupation area of the three topographic zones, and all three soil group zones, during the Late Period. In all other periods, the differences between occupation areas of topographic and soil zones are not significant.

The land use and settlement patterns in the Capinota-Parotani survey area do not support the hypotheses of the research: in no period, including the Intermediate Period with Tiwanaku style materials does occupation focus on the best agricultural soils. Moreover, in no period can a preference for settling any of the soil groups be suggested. Rather, there is continuity in the pattern of locating settlements in the piedmont zone, which produces a significant preference for settling it in the Formative, Intermediate and Late Periods. The preference for the occupation of the piedmont zone failed to be significant in the Early Intermediate Period, despite a higher percentage of occupation of the piedmont zone. Hence, the pattern of the Intermediate Period does not represent a drastic shift with respect to the Early Intermediate Period. This does not reflect, however, complete continuity in settlement: Intermediate Period populations choose new locations for settlement.

Most occupation of all periods occurs on group 3 soils, the poorest soils in the valley (Table 8). The higher percentage of occupation by soil zone occurs on group 1 soils in all but the Early Intermediate Period, but it fails to differ significantly from the occupation on the other two soil groups. Therefore no preferences for settling soil group zones can be suggested for the Capinota-Parotani survey area.

Settlement locations in the piedmont zone of the Capinota-Parotani survey area may reflect a desire to avoid flooding episodes. Topographic setting, in this case, may have been a more important factor in settlement location than the productivity of soils. This trend was documented for all periods except the Early Intermediate Period. In the Intermediate Period when we expected an emphasis on agricultural productivity, settlement location followed previous patterns in focusing on elevations above the alluvial plains.