

**Regional Interfaces between Inca and Local Communities in the
Colesuyo Region of Southern Peru**

BY

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THESIS

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.....a Manuel, Alcira y Manolo
y ahora a Vandor.

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SUMMARY

This dissertation investigates how do local economies of small-scale communities respond to imperial expansion of the Inca Empire circa A.D. 1400. Many studies have focused on elucidating the political and economic impacts of empires in far-flung provinces (D’Altroy et al. 2000; Morrison and Sinopoli 1992; Schreiber 2005; Sinopoli 2001a; Wernke 2013, Williams and Nash 2000; Williams 2001). Further, inter-regional exchange and social articulation in the Andes have been explained by using the “vertical control of ecological floors” model proposed by John Murra more than 30 years ago. These perspectives have perpetuated Andean social interactions that occurred across the Andes during the pre-Hispanic (until today). They ignore the complex articulation between regional and local economies and empires (see Schreiber 2005; Sinopoli and Morrison 1995).

Therefore, this research examines the local economies of two small scale, non-hierarchical communities of the Colesuyo territory in the south central Andes as it became incorporated into the Inca Empire. This investigation examines small- scale Inca installations to observe how the Inca economy proliferates within the local communities of Colesuyo. To address these inquiries, this dissertation conducts a compared archaeological data collected at two sites of the Colesuyo region of southern Peru: Tacahuay Tambo/Tacahuay Pueblo and Camata Tambo/ Camata Pueblo located within different ecological zones of Colesuyo and diverse socio-political organizations during the Late Intermediate Period [LIP] (A.D. 1100-1400) and Inca Period (circa A.D. 1400 – 1532). Tacahuay Tambo/Tacahuay Pueblo is a coastal community with a mixed economy that included marine resources,

SUMMARY (continued)

agriculture and herding, and Camata Tambo/Camata Pueblo is a highland community with an agricultural and pastoral focus. This investigation conducted excavations in domestic and imperial structures at both sites, as well as at economic spaces such as agricultural terraces, storage areas, and *tendales* or zones used for drying agricultural products. Detailed paleobotanical (macrobotanical and pollen analyses), ceramic (chemical elemental readings and typology of styles), and metal analyses of materials (XRF elemental readings) were conducted. Furthermore, historical information was also used. This dataset represents an important recourse to develop models of inter-and intra-regional interaction during the LIP and Inca period in the region.

This investigation identified two contrasting process of imperialism. Camata was incorporated directly into the Inca imperial system and administration, while Tacahuay appears to have been an enclave functioned to serve the interests of altiplano elites outside the control of Cuzco. Further, Camata and Tacahuay represent two sites that procured local resources by establishing diverse strategies and mechanisms of exchange and interaction. Camata was a *tambo* (waystation) built by the Incas that had an increased and sophisticated storage system as well as a highly increased agricultural system. In contrast, Tacahuay was an altiplano enclave that had a client – group type with altiplano elites and/or factions that also served as an enclave for the procurement of coastal (marine and coastal) resources.

This dissertation increases our understanding of the process of Inca imperialism. First, it focus on studying communities located at the margins of the empire, shows a more complex picture of the empire, such as the roles played by intermediate local leaders, and how the quotidian lives of people inhabiting Colesuyo were transformed. Furthermore, we have

SUMMARY (continued)

obtained early dates for the presence of the Inca occupation of Colesuyo, which contradicts the traditional accepted dates for the Inca incursion in the southern Andes. This data invites new investigators to rethink the processes of Inca imperialism.

1. INTRODUCTION

“As the captain conquered provinces, he had to establish post stations one after another on the road by which he just passed. Stations established in provinces he had conquered had to be maintained by local Indians. In addition, these stations should be supplied with the necessary food from the provinces. Also, he ordered that agricultural fields had to be cultivated in order to supply these stations. In addition, for each province there should be a designated supervisor in charge of organizing the stations, shifting the messengers, and doing an inspection every ten days” (Betanzos, 1996:107 [1551-1571] describing Thupac Yupanqui imperial interactions in the provinces).

When Amaro Topa Inca arrived at Cochuna lands (now known as the Moquegua Valley) in the Southern Andes in the early 15th century, he and his army had already defeated the rebellious Collas *señoríos* from the Lake Titicaca region. His officials had also previously established friendly relations with the traditional Colla rival, the Lupaca.¹ Therefore, when Amaro Topa arrived with his *sinchis* (Inca warriors) at the Cochuna region, they were already well informed about this fertile valley. The high ranking officials within his army must have also known that the Lupacas and the Collas had sent colonies decades earlier to settle the agricultural lands in this region. They also must have heard rumors that the Puquinas (locals) inhabited the upper lands (who were locals) and that dispersed “Uro”² populations occupied the lower coastal zone. Both the Puquinas and the *uro* had established complex relationships

¹However, see Betanzos (1996 [1551-1571]); Cieza de Leon (2000 [1553-1554]); Cobo (1964 [1653]) and Parssinen

² Historical records mention that during the Inca period, there were many natives saying that “Uro” people were “lazy and uncivilized” mainly because they did not practiced agriculture and lived on water (see Diez de San Miguel, 1964:140 [1567]).

with altiplano societies, so the Inca must have also wondered how they would incorporate this large and culturally complex region into their expanding empire?

Amaro Topa sent Inca officials who were experienced in organizing local provinces into the region to gather information on the different ethnic groups. For example, Inca *quipucamayocs* in Cochuna began making *quipus* and recording the number of tributaries, the types of goods that were produced in the region and the capacity of agricultural lands. As part of the information recorded on these *quipus*, the *quipucamayocs* also included the people and lands that belonged to altiplano lords living and working in this valley. The Inca officials quickly learned that locals were not as well organized as the large altiplano *señorios* of the Collas' and Lupacas. On the contrary, the various groups within Cochuna were balkanized and poorly organized. Furthermore there was an atmosphere of endemic warfare between them and they held few regional trading relationships with other groups on the coast or in the highlands.

When the Incas arrived in the Cochuna Valley, they came with luxurious offerings reserved for important regional *apus* (sacred mountain tops) within the new conquered territory. The Incas also reorganized the local hierarchy of *huacas* (shrines) imposing their imperial divinities (Sun and Moon) above the landscape deities. By doing this, the Incas not only staked a claim to legitimacy of rule within the local political landscape but they also began to shift the traditional power relations of the region, by placing themselves on top of the hierarchy and creating kin relations with local or provincial *apus*.³ After the Incas subjugated the primary local deity (i.e. Cerro Baul), Inca engineers and agricultural planners began large

³ The creation of an *ayllu* refers to a negotiation related to a commonly recognized feature on the landscape (Rostworowski, 1983; 1988; Salomon, 1991; Wernke, 2013). Therefore, if the Incas put themselves on top of the hierarchy and established kin relations with local *apus*, also established kin relations with the local populations (see Wernke, 2006).

public work projects in the Moquegua Valley, including secondary valleys such as Chujulay and Torata, which held great potential for growing maize, quinoa and potatoes.⁴

At first, locals must not have fully understood the transformations that were occurring around them. Rather than just working in their traditional land holding (around 3 to 5 members per household) to feed their children and household members, new labor arrangements were going to be organized by the imperial administration. For instance, while men were required to work for state labor, now women had to participate in communal labor.

While these changes were occurring, Puquina leaders from the Cochuna Valley noticed that the lords of Camata and San Antonio⁵ received special benefits and gifts from the Incas. These leaders started to wear colorful and fancy clothes, and had greater access to corn, potatoes and specific coastal products. Also, these leaders began to host large celebrations where people could drink *chicha*, have plenty of coca to chew, and eat delicious foods. In fact, these leaders were growing richer and more powerful than before. Local leaders had many different reactions to the new Inca regime. While some lords tried to establish bonds with Inca officials; others instead, did not trust the Incas. From that time on, the Cochuna Valley entered a time of great cultural and political change.

⁴ Each of the approximately fifteen Puquina villages of Cochuna only cultivated 10 to 30 ha (Williams, 1997). Therefore Inca agricultural organization of the region implied increasing local agricultural capacities by building agricultural terraces throughout the Torata and Chujulay drainages, as well as on the hillside in front of Chujulay's slopes, with an estimated of more than 500 ha (Dayton, 2006; Williams, 1997). Furthermore, in the past, Puquina leaders had limited power because they did not control many people; each village had around 1,000 inhabitants.

⁵ Regions of the Cochuna Valley, today archaeological sites.

1.1. Problem statement

The above narrative synthesized from archaeological and historical datasets has three main purposes.⁶ First, the narrative calls attention to the processes of colonization, the forms of power that the colonizer exerted on conquered groups, and the different actions that local populations can take. In practice, both conquerors and conquered had capacities for individual and communal action. Colonization is one of the strongest hegemonic powers imposed over all aspects of life for subjugated populations; yet, it also creates opportunities for people to manipulate their current conditions in an effort to construct better environments for themselves and/or for their group. Second, the narrative serves to connect and explicate two familiar concepts of imperial expansion: contact and incorporation. In this context, **contact** is understood as the initial period of encounter between a complex social organization and a subject population. It is the process through which imperial and local agents become immersed in a period of intense and divergent local transformations that are based on unequal power relations where both, powerful and non-powerful agents play an important role. In contrast, **incorporation** refers to the process by which local groups are integrated into the imperial system. However, incorporation is never experienced uniformly across empires, and has different meanings for the conqueror and for the subjugated. Consequently, taking into account that contact and incorporation are parts of a larger imperial process (imperialism), I intend to show that imperialism has multiple aspects, different local expressions, and a broad range of dynamics that need to be taken into account when studying pre-capitalist societies.

⁶ In this part I tried to do what Enrique Mayer masterly accomplished in chapter three of *The Articulated Peasant* (2004) that has made a profound impression on me and my understanding of local experiences of the sixteenth century peasants.

Although the Inca Empire was short-lived (lasting only a century and a half), it provoked different experiences in different regions of the Andes. This thesis focuses on the micro-histories within marginal territories of the Inca Empire - the Colesuyo sub-region. Therefore, this study is different from previous investigations that have envisioned Colesuyo's incorporation into the empire as a single and monolithic process⁷ (Llagostera, 1976; Stanish, 1998) by examining the variability of imperial strategies and local responses that occurred across the region.

I ask the following questions throughout this investigation: How do local economies and people respond to imperial expansion? What strategies do small-polities develop to interact with imperial powers? If empires intensify complex connections by transforming the economy and social environment, how differently do these dynamisms affect fragmentary and dispersed communities? This dissertation builds upon these questions to understand the ways in which the Inca Empire impacted the economic and social spheres of subject populations located in far-flung provinces of the Southern Andes. It takes a bottom-up approach to understand local and regional economic and social transformations. It focuses on several levels of analysis to understand Inca bureaucracies as well as local expressions of power (or practices of empire) (Acuto, 2008; Alconini, 2008; Covey, 2009; Dietler 2005; Kusimba and Kusimba, 2005; Stahl, 2004; Wernke, 2013; Wolf, 2005 [1982]). In other words, this dissertation develops a cohesive and integrative reading of how the largest empire of the pre- Hispanic America, affected the lives of Andean people (i.e. social interactions in both personal and communal

⁷ For discussions on these issues see Astuhuaman (2006b:97); Salomon (1986:110-115; [1988] 1998); Lynch and Nuñez (1994); Muñoz et al. (1987), Santoro and Muñoz (1981) and Wernke (2006:178).

spheres); especially of those living in marginal territories.⁸ Furthermore, this study incorporates historical datasets at all stages: to develop testable models, to contextualize cultural material, and to better understand local social identities that resulted from processes of colonialism.

1.2. Case study

This thesis presents the results and interpretation of three field seasons of researching the impact that the Inca Empire had on a multi-ethnic and fragmented sub-region of the Andes, known as Colesuyo. Colesuyo was a distant region from the imperial center and has been viewed traditionally in the literature as ‘marginal territory’⁹ in the empire (Figure 1). But it may well have been seen as an important political and economic region for the ethnic polities based in the altiplano (above 4,000 masl). Indeed, before and during the Inca occupation of the southern Andes, Colesuyo was the breadbasket of the powerful altiplano populations located in the Lake Titicaca drainage, especially of the Lupaca polity (located to the southwest of Lake Titicaca). This thesis also examines how Inca imperial expansion impacted two different Colesuyo groups that lived within the Moquegua region, the “Puquina”¹⁰ who had settled

⁸ This term will be defined later but mainly refers to societies that are “far away” or at the bottom of more powerful relations or interactions.

⁹ See Covey 2009.

¹⁰ Historical accounts refer to the groups living in the upper and middle valley as “Puquinas”; however, archaeologically, these groups have been identified as Estuquiña groups defined by specific architectural and material culture canons.

upper parts of the valley and the “*uro*”¹¹ who established coastal communities in the lower parts of Colesuyo. The investigation focuses on two different temporal phases: the initial Inca contact with altiplano and Colesuyo leaders (circa A.D. 1400) in the Moquegua region and a later Inca presence when infrastructure began to be built in the Moquegua region (circa A.D. 1450).

¹¹ Historical records used the term *uros* in many different ways. In many cases, they refer to an *uro* identity when referring to a group of people who were specialized fishermen living in both the altiplano and the coast. However, they were not the only group identified living in Coastal Colesuyo, colonial records also mention the Coles and the Camanchacas groups. Furthermore, colonial documents also make references to *uro* or *uroquilla* language, supposed to be spoken by coastal fishermen (Julien, 1979). This thesis is not focused on determining whether or not coastal fishing communities shared similar identity with altiplano fishing communities (or if they were from the same kin groups). Instead, this investigation looks at coast and altiplano interactions, exchanges and local economic transformation from the LIP to Inca influence on the region.

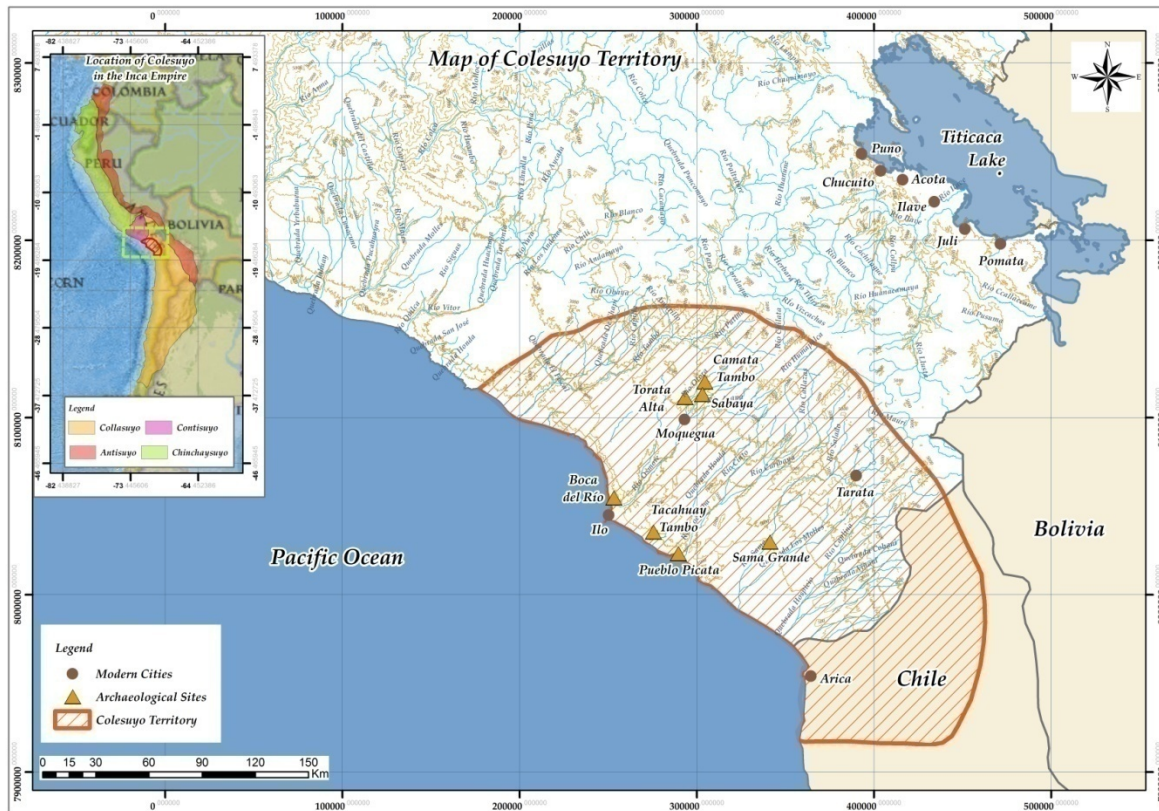


Figure 1: Map of Colesuyo in the Inca Empire.

To explore these interests, I focus on two subject populations located within the Moquegua region during the Late Intermediate Period [LIP] (A.D. 1100 – 1400) and during the Inca imperial occupation of the Late Horizon (circa A.D. 1400 – 1532). I chose to investigate these locations because they were multi-component sites with a LIP and Inca component. Also because both sites are situated in different ecological zones, and previous investigations considered the Inca architecture to be a *tambo* (or Inca waystation) (see Covey 2000; Bürgi 1993; Gentile 1992; Stanish 1998). More specifically, I focused on: Camata Tambo and Camata Pueblo (Inca and LIP component) and Tacahuay Tambo and Tacahuay Pueblo

(Inca and LIP component); where inhabitants had different ecological and ethnic contexts, allowing a comparative study.

1.2.1. The site of Camata

The multi-component site of Camata is located in the Moquegua Valley at 2800 m.a.s.l. and is composed of two different sectors. Camata Tambo corresponds to the Inca waystation built along the major Inca road of the region. In the region surrounding this *tambo*, the Incas built an impressive agricultural system including terraces, channels and reservoirs that greatly transformed the local landscape and the local economy. Instead, Camata Pueblo refers to the LIP town, located 100 meters to the west that continued being occupied during the Inca presences in the region.

Prior to the Inca expansion, a fragmented Estuquiña group of the middle Valley inhabited Camata Pueblo (Stanish and Pritzer, 1983). It has been proposed that before the Inca incorporation, Estuquiña groups lived in a state of endemic war and were settled in fortified hilltops (Stanish, 1998). These populations had a small-scale agricultural and herding economy and were immersed in an intensive exchange of goods with more powerful altiplano populations. Based on historical data investigators have suggested that the exchange of goods was conducted by altiplano colonies that were settled in Colesuyo and who were directly controlled by altiplano leaders (Stanish and Pritzer, 1983). However, archaeological data suggest that, despite the presence of some altiplano cultural traits (i.e. cultural material, funerary architectural styles), in Colesuyo sites, there is no evidence of altiplano colonies in the valley during the LIP and Inca periods (Bürgi, 1993; Stanish, 1998). Furthermore, Estuquiña sites provide evidence of a domestic economy with no indication of large communal storage facilities. On the contrary, Estuquiña domestic architecture contains small storage bins

(generally measuring 1x1 meters) where small quantities of local products were stored for short periods of time (Bürigi, 1993; Chacaltana et al., 2010; Chacaltana 2014). For this reason, economic exchange in Colesuyo during Inca incorporation remains a poorly-understood process.

1.2.2. The site of Tacahuay

The other site examined in this thesis is Tacahuay Tambo/Pueblo, which is located on the coast, some 30 km south of the modern city of Ilo. Tacahuay is a multi-component site with a local pueblo (Tacahuay Pueblo) and a nearby architectural complex that resembles a way station (Tacahuay Tambo). Archaeological and historical data suggest that the LIP and Inca period coastal populations of Colesuyo were small-scale and non-stratified. Historical accounts identify two different coastal groups, the Coles and Camanchacas (Bittmann, 1984a; 1983b; Chacaltana et al., 2010; Julien, 1985). The Coles practiced a mixed economy, mainly composed of herding and the cultivation of cotton, chili pepper and corn. They were also involved in exploiting *guano* (sea bird fertilizer) for trade with inland groups (Julien, 1985). On the other hand, the Camanchacas are identified as being specialized fishing communities that apparently had special ties with altiplano *uro*¹² populations (see Julien, 1987). It has been suggested that these two populations were exchanging products with altiplano groups (Julien, 1985; 1987), the Coles traded *guano* and agricultural products, while the Camanchacas exchanged maritime products. However, similar to the Estuquiña of the middle and upper Moquegua Valley, the

¹² *Uro* identity was portrayed by Incas and Spaniards as a category of people identified as poor, with no access to camelids and agriculture, therefore, marginalized. This marginalized category continued during the colonial period because they were considered of lower class and even paid less tributes than other indigenous groups (see Diez de San Miguel, 1964 [1576]). However, we do not know if during the colonial period, the “*uro*” identity was enforced into coastal fishing communities, or if it is an identity that comes from the pre-Hispanic past.

nature of these interactions, and how they were maintained and transformed under Inca influence, is still understudied or, even worse, has not even been considered as a topic of archaeological and systematic investigations.

Therefore, my excavations at Tacahuay were targeted at answering: How did the local economy change under imperial influence?; How were local, regional and imperial interactions transformed during the Inca presence in the Colesuyo region?; What was the role of the local Colesuyo elites during this period of transformations? To answer these questions requires a far more detailed understanding of the imperial, regional and local interactions than has been developed by earlier researchers. Throughout this thesis, I argue that despite Tacahuay Tambo having an architecture that resembles an Inca way station, this enclave was not incorporated into the Inca imperial system, as was the case with Camata Tambo in the upper valley. Instead, based on architectural evidence and the distribution of material across the site, I suggest that Tacahuay Tambo was established as an enclave (not a colony) by altiplano elites to intensify local economic production for the benefit of their own political action. To support this hypothesis, I show that there are no roads closely associated with the Tacahuay enclave, nor does it have a formal storage system and or even formal floors.¹³ Conversely, it has a high percentage of Inca- altiplano ceramics on its surface and a series of altiplano-style funerary structures known as *chullpas*, built as part of its architectural plan. I further argue that because the Lupaca held an advantageous position within the Inca Empire (see Van Buren, 1993; 1996),¹⁴ their elites mimicked institutions of power (building a *tambo*) to

¹³ It is important to note that Colesuyo had various roads such as it is observed in the Vazquez de Espinosa trip across Colesuyo region around 1618 (Vazquez de Espinosa, 1969 [1629]). However, there is not a formal Inca road that crosses Tacahuay.

¹⁴ The position of the Lupaca ethnic group within the Inca Empire will be discussed in detail in chapter three.

obtain economic advantages on the coast. Furthermore, I propose that coastal officials (who were either from the altiplano or serving altiplano goals) living at enclaves established by altiplano elites developed new identities with far-reaching socio-political implications. Finally, I propose that altiplano leaders used many strategies in order to place an installation in the Tacahuay ravine with the purpose of facilitating the access to coastal products, especially maritime goods.

In short, I assert that although Camata was an Inca institution (Camata Tambo) and Tacahuay was an altiplano enclave, in both cases elites (regional and local)¹⁵ were actively using, ignoring and/or mimicking Inca strategies of political power. During Inca influence in the region, Colesuyo elites (either from the altiplano or associated with altiplano groups) manipulated imperial strategies to achieve their own socio-political goals and control access to local (highland and/or coastal) resources.

Furthermore, I suggest that one goal held by coastal and/or highland elites aspired was the support and/or control of vertical and horizontal movement of goods institutionalized during the Inca influence of the region. In Colesuyo, an institutionalized exchange of goods was established by the Incas and altiplano political organizations by using many different mechanisms such as: networks of Lupaca colonies, a direct (the use of imperial infrastructure) and indirect (use of alliances) type of incorporation, as well as a combination of local interests that suggest a complex political landscape. Through these complex sets of interactions, the various groups that inhabited the upper, middle and coastal parts of Colesuyo were immersed within broad webs of political, social and economic interactions. These two sites located in

¹⁵ Here I suggest that regional elites refer to elites with regional political influence, such as altiplano elites. In contrast, local elites are elites that have intra-regional political influence, such as elites of Colesuyo.

Colesuyo represent exceptional case studies because they reflect the changes and impact that the Inca had on local and regional interactions across the Andes and the agency played by local (Colesuyo elites) and regional elites (altiplano elites).

1.3. Significance of study

Traditional perspectives for studying archaic imperialism often assume that subjugated populations were passive receptors of imperial powers, especially when incorporated societies were both small and are located in marginal regions of the empire. Few investigators have been drawn to work in marginal regions mainly because it was assumed that no social processes of interest occurred within them. However, recent studies of ancient imperialism have taken a more bottom-up approach in examining the ways in which regional and local economies, ideologies, and social actors interacted within an imperial or global sphere (Acuto, 2008; Alconini, 2008; Bauer 2010; Coleman, 2010; Covey, 2000; 2009; Dietler, 2005; Kusimba and Kusimba, 2005; Schreiber, 2005; Stahl, 2004; Wernke, 2013; Wolf, 2005 [1982]). Nonetheless, even these investigations have also acknowledged that this is a difficult task, mainly because determining local, small scale economic patterns, internal dynamics and imperial influences is challenging. Also, these studies have acknowledged that local histories tend to be multiple and highly fragmented (Brumfiel, 2006). Subjected populations were integrated by the empire in diverse forms and intensities, but local elites and commoners also actively manipulated imposed strategies of power in order to obtain communal or individual benefits (Acuto, 2008; Wernke, 2003; 2006). Consequently, observing the social relations developed between small-communities, provincial regions and empires require multiple lines of evidence and scales of analysis.

As a result, few archaeological investigations in Colesuyo have focused on the late pre-Hispanic period (LIP and Inca). Nonetheless, the studies that have focused on the Inca incorporation of Colesuyo have suggested the following:

- Inca control of this region was achieved through the relocation of highland populations (i.e. colonists) in the upper valley (Covey, 2000; Diez de San Miguel, 1964 [1567]; Muñoz, 1996; Stehberg, 1995; Trimborn, 1975).
- Inca control was carried on by an indirect type of integration on the coast that implied building alliances between local elites and imperial bureaucrats
- Inca control was conducted by the imposition of enclaves that formed special ties with local communities (Llagostera, 1976; Nuñez and Dillehay, 1995; Muñoz et al., 1987; Santoro et al. 1987).

However, new analyzes of the historical and archaeological data offer new perspectives on the way in which Inca political economy proliferated in the Colesuyo region and on inter- and- intra regional exchange of goods and people that occurred in this area.

In the southern Andes, cultural contact and exchange of goods between the altiplano, the mid-valley and coastal societies have existed since the Archaic Period (Llagostera, 1976; Mujica, 1985; Nielsen, 2011; 2013). The nature of these contacts has been fashioned by the political and economic interests of the societies that carried out these interactions; however, elites probably controlled much of the interaction (see Nielsen, 2013). Yet, the historical

trajectory of the region was dramatically altered between A.D. 500 and 600 when two Andean states: the Tiwanaku from the altiplano, and the Wari from the southern Andes both expanded into the region. These two expansive states arose during the same temporal frame and they both established far flung colonies in the middle and upper parts of the Moquegua Valley, respectively (see Goldstein, 2005; Nash and Williams, 2005; Williams and Nash, 2002). Furthermore, investigators have suggested that these colonies had different types of contacts with their homeland. For instance, the Wari settlements that were located in the upper Moquegua Valley functioned as embassies or secondary settlements for Wari administration in this southern frontier (Nash and Williams 2005). In contrast, the colonial outposts of Tiwanaku located in the middle Moquegua Valley were more independent due to the nature of the Tiwanaku state that was composed of more independent groups (Goldstein, 2005; Williams and Nash, 2002).

Sometime between A.D. 800 to 1000 Tiwanaku and Wari states collapsed (Goldstein, 2005; Nash and Williams, 2005; Sharratt, 2011). Consequently, their colonies located in far-flung regions of their separate empires also went through a process of social and political fragmentation. It appears that the Wari colonies abandoned their settlements in Moquegua and returned to their highland homeland in the Ayacucho region (Williams, 1997). However, Tiwanaku colonies exhibit a drawn out process of political disintegration (Sharratt, 2011). Many formally Tiwanaku-related groups abandoned their villages and established smaller dispersed settlements at a distance from the agricultural lands. This immediately post-Tiwanaku period (A.D. 1000 to 1250) known locally as the Tumilaca tradition is characterized by dispersed settlements; less standardized material culture, no public spaces and rapid transformation of domestic and funerary traditions (see Sharratt, 2011). Although groups of

the Tumilaca tradition had their origins in the altiplano, during this period close interactions with the altiplano ended (see Sharratt, 2011).

During the late LIP (from around A.D. 1100 - 1400), the Moquegua Valley was inhabited by local Estuquiña groups who mainly settled in the upper and middle valley (Stanish, 1989). Estuquiña society consisted of small, fragmented groups with a low level of social stratification and it has been suggested that these groups are descendants of the Tumilaca tradition (Conrad, 1993; Goldstein, 2005). Investigators have also proposed, based largely on the fact that Estuquiña populations of the upper Moquegua Valley had altiplanic traits such as semi-boot funerary boot structures and an agro-pastoral economy, that during the LIP Estuquiña groups had complex types of interactions with each other and with the altiplano (Covey, 2000; Llagostera, 1976; Muñoz, 1996; Stanish, 1992:42-47; Stehberg, 1995; Trimborn, 1975).¹⁶

Nonetheless, there is no-evidence of an altiplanic enclave in the upper parts of the valley (Bürgi, 1993; Stanish, 1985). In consequence, it has been proposed that the Incas ‘manipulated and extrapolated local colonization practices that existed before (Covey, 2000:122; Van Buren, 1996). However, pre-Inca and therefore, Inca interactions between Colesuyo and altiplano groups remain until today, not-well understood.

Using a top-down perspective, Inca control of Camata and Tacahuay has been classified by some researchers (Bürgi, 1993; Stanish, 1985) as “indirect” following the belief that the Inca administration of Colesuyo used traditional lines of authority previously imposed by altiplano elites (specifically the Lupacas) (Bürgi, 1993; Llagostera, 1976; Van Buren, 1996).

¹⁶ Nonetheless, it should be noted that there is no-evidence of an altiplano enclave in the upper parts of the valley (Bürgi, 1993; Stanish, 1985).

In contrast, other researchers working with historical evidence have suggested a more “direct” control model because of the presence of Lupaca colonies in Colesuyo (Uribe et al., 2002; Uribe et al. 2004). Others still (Covey, 2000; 2009) propose that even though Tacahuay was not a colony, it was an enclave that allowed direct access to coastal products by altiplano elites. Although these studies have contributed to our current understanding of Colesuyo, the altiplano-Colesuyo relationships have not been fully explained, analyzed or described archaeologically. By examining the political and economic transformation that occurred at local, regional, and imperial levels this thesis provides a more complex understanding of the social conditions that existed across the Colesuyo region at the time of Inca contact.

By looking at the micro-histories of different loci in Colesuyo, I was able to identify two contrasting processes of imperialism. Camata was incorporated directly into the Inca imperial system and administration, while Tacahuay appears to have functioned to serve the interests of altiplano elites outside the purview of Cuzco control. Camata tambo was on the Inca road and surrounded by a vast agricultural system. The site has a massive complex of store rooms, which was supervised by the Inca administrative center at Sabaya. Furthermore, local elites at the nearby site of Camata Pueblo accomplished their own political interests by copying Inca storage technologies. In contrast, there are no imperial roads that connect the site of Tacahuay with Inca facilities, there are no massive and formal storehouses, and there is limited agricultural potential. In short, it appears that the site of Tacahuay was not under the direct control of the Inca; nonetheless, the site displays remarkable Inca-altiplano ceramic assemblages. On the other hand, at the site of Tacahuay altiplano elites emulated imperial infrastructure by building a tambo like structure (Tacahuay Tambo) that was used as an enclave for the procurement of coastal resources. In addition, my investigation was also able to identify that during the era of Inca control local coastal Colesuyo elites (i.e. elites from Tacahuay) had

more access to sumptuous Inca goods, and to other coastal resources. This suggests there was an intensified horizontal exchange that allowed them to expand their local and regional power.

Furthermore, local histories of Camata and Tacahuay enhance our current understanding of John Murra's model of vertical control of ecological floors (or vertical archipelago) (Bürge, 1993; Murra, 1972; Van Buren, 1993). Camata and Tacahuay represent enclaves that procured local resources by establishing diverse strategies and mechanisms of exchange and interaction. Camata was an enclave built by the Incas that had an increased and sophisticated storage system as well as an agricultural system that transformed the local economy into one of imperial scale. In contrast, Tacahuay was an altiplanic enclave that during the Inca influence of the region had client-group ties with altiplano elites and/or factions, and that served as an enclave for the procurement of coastal (marine and coastal) resources. In short, these two sites, Camata and Tacahuay established markedly different political and economic relations with: groups within the region, altiplano groups, regional elites and the Inca political system. An investigation of these two sites provides new information regarding socio-political interactions that occurred in marginal areas both before and after the Inca expansion.

1.4. Overview of the archaeological research

The research for this thesis was conducted over three field seasons (2006, 2008, and 2010) and included a wide range of research methodologies. In addition to a in depth examination of historical accounts I also directed an extensive excavation program at both Camata and Tacahuay. Furthermore, I was able to complete detailed paleobotanical, ceramic (chemical elemental readings and typology of styles), and metal analyses of materials (XRF elemental readings) recovered from both sites.

In 2006, I conducted excavations in two *golgas* at Camata Tambo and one *golga* at the neighboring *pueblo* (located in an elite's house) as part of the Contisuyo Program (Barrionuevo et al., 2006; Dayton, 2008). Following this fieldwork I conducted macro-and micro botanical analyses (pollen counts and flotation) of samples collected from the *golga* floors and from nearby agricultural terraces. These samples documented changing storage, consumption, and agricultural practices that occurred as the local economies shifted to meet imperial demands.¹⁷

In 2008 I mapped the Inca component and *pueblo* at Tacahuay and conducted a surface reconnaissance of the entire Tacahuay ravine. In addition, during the 2008 investigations in the coastal region, I located and collected clay sources from the lower parts of the valley (0-500 m.a.s.l), completing the clay chemical characterization data for the entire Moquegua Valley. Ceramic samples from various areas of Tacahuay and their chemical signatures were correlated with those already selected from previously excavated Inca sites in the region: including the Camata Tambo/Pueblo Inca sites from the upper valley (Torata Alta [Van Buren, 1996], Sabaya and Capanto [Bürigi, 1993]), and sites from the neighboring Otor Valley excavated by Charles Stanish (1991; 1992). I also compare these data with clay sourcing information already analyzed by Nicola Sharratt and Patrick Ryan Williams (Sharratt et al., 2009). Similarly, ceramic analyses (elemental readings and styles) from Tacahuay and Camata, as well as from other Inca sites of the region were compared to observe local, intra and inter-regional interaction. This dataset represents an important recourse to identify local versus non-locally manufactured ceramics in Colesuyo. Such data helps to develop models of inter- and intra-regional interactions during the LIP and Inca period in the region.

¹⁷ In total in Camata I collected 66 pollen samples. Thirty eight samples were from the store rooms floors (of the Tambo and Pueblo), 17 samples belonged from the surrounding agricultural terraces, and 11 samples were obtained from the agricultural reservoirs.

In 2010, together with Dr. Susan deFrance, I directed excavations at the site of Tacahuay Tambo/Pueblo. We excavated a total of 14 units in structures located within the tambo as well as in domestic areas of the site. I also conducted around 30 test pits in the agricultural sectors of the Tacahuay ravine from which I collected 60 pollen samples that were compared to an additional 30 micro-botanical samples collected from different levels of the excavated units. The goal of these multiple paleobotanical samples was to identify the foodstuffs being consumed at Tacahuay's imperial structures and being produced in the adjacent *pueblo's* domestic terraces. Presence and absence, as well as intensity of local or non-local foodstuffs at the Inca component of Tacahuay were then compared with the paleobotanical data from the site of Camata Tambo.

1.4.1. Description of the archaeological research

Bottom-up perspectives permit us to gather detailed archaeological data to compare with the historical information for this region and, to observe how diverse social actors within local communities responded to the Incas. This study advances our current understanding of the Inca Empire in the peripheries and contributes to discussions on ancient imperialism. Below I briefly describe of the interdisciplinary analyses conducted in this thesis.

1.4.1.1. Ceramic Analyses

Ceramic studies in Colesuyo are challenging because this region had a wide variety of ceramic traditions before the Inca, many of which continued, but with style alterations into the Late Horizon. There were several distinctly different ceramic styles (based on decoration and form) in use during the LIP period (Gentilar, terminal Chiribaya [or Chiviquiña], Estuquiña, and San Miguel) with overlapping spatial distributions along the coast and the upper valleys of Colesuyo. This apparent contradiction was resolved, when Rostworowski (1986) identified the

presence of both fishermen and agriculturalists living along the coast. As supported by the works of various later researchers (Muñoz, 1996; Muñoz et al., 1987; Nuñez and Dillehay, 1995; Santoro et al., 1987; Stehberg, 1995) it is believed that the diverse LIP ceramic styles of Colesuyo represent different ethnic groups scattered across the coast, the middle valley and the upper valley areas. However, each style changed under Inca influence, introducing new styles and questions concerning the identities and political organization of different groups in Colesuyo during the period of Inca contact.

An analysis of ceramic distribution patterns in Colesuyo during late pre-Hispanic times provides an interesting case for observing the different ways in which imperial styles influenced local ones. This scenario becomes even more intricate during the Late Horizon because local (LIP) ceramic styles influenced each other, and many Colesuyo styles of the LIP were “incanized”.¹⁸ What are these transformations of local ceramic styles communicating?

Ceramics are an important type of material culture for understanding Inca politics across incorporated territories (Costin, 2011; Hayashida, 1998; Menzel, 1966; Spurling, 1992). For example, in Colesuyo, particularly in the Moquegua Valley, historical and archaeological investigations (Hyslop, 1976; 1979; Julien, 1983; Spurling, 1992; Van Buren, 1993) have proposed that the high presence of Inca-Altiplano and Cusco ceramic vessels found in archaeological sites in the upper and middle Moquegua Valley are a consequence of a controlled distribution of prestige goods conducted by imperial officials and/or Inca institutions located in the altiplano. According to these studies, Inca-style vessels recovered in

¹⁸ The term “incanized” does not only refer to the local imitation of Inca designs or forms, it also indicates the transformation of local styles under Inca influence (i.e. designs’ were drawn with more fine and tuning lines and brighter colors).

the upper Moquegua Valley were manufactured by ceramic specialists (*sañocamayocs*) placed by the empire in the altiplano (Bürgi, 1993; Julien, 1983; Van Buren, 1993). However, the previously – mentioned investigations did not analyze the ceramics with the intention of exploring the ways in which these goods were distributed by the empire (see Van Buren, 1993).

It is widely accepted that state produced ceramics embody messages of political affiliation as well as an “Inca identity” (see Costin, 2011, Cummins, 2007). According to Cathy Costin (2011) Inca ceramic vessels with special designs could represent the body of the Sapa Inca or embody the power of high imperial entities. Therefore, the state may have controlled different steps of ceramic production and distribution depending on local people political relationship with the empire. Therefore, identifying relevant attributes in Inca ceramics within provinces can provide clues for observing imperial – local interactions (Julien, 1983; Menzel, 1966, for a more detailed discussion see Hayashida, 1995; 1998). Furthermore, I also examine an issue raised by Frances Hayashida (1998:328-329) more than a decade ago in her studies of Inca ceramic production in northern Peru, by asking “to what extent was Inca pottery used to carry information about status and ethnicity (of both Inca and local groups)?¹⁹

¹⁹ Ceramics encode messages of prestige and political affiliation that elites use in order to obtain social capital and prestige.

1.4.1.2. Studies of archaeobotanical remains²⁰

The archaeobotanical studies conducted in the course of my research provide information about the types and quantities of products kept in different storerooms (the imperial and communal store houses of Camata Tambo and Camata Pueblo),²¹ and consumption patterns in imperial and domestic spaces of Camata and Tacahuay. I obtained macro-botanical remains from the pre-Hispanic layers of all excavated units at the two sites. One liter sample were collected from the center of each 1 x 1 m excavation unit, and each sample was processed in the lab. Samples were taken from layers beneath the Huaynaputina ash, a stratigraphic marker that clearly separates pre -1600 AD contexts from later historical periods in the Moquegua region.

The pollen samples were generally acquired from floors or occupational surfaces and from diverse stratigraphic layers of the surrounding agricultural terraces. Samples were taken from both LIP and Inca period contexts. The goal of these samples was to identify agricultural transformation across time and space. As a result, the pollen analyses provided a complementary and independent line of evidence to the macro botanical information (Bryant and Hall, 1993; Dimpleby, 1985; Pearsall, 1989: 257). In fact, pollen analyses have been proven optimal for distinguishing different agricultural products grown on agricultural terraces in

²⁰ The paleo-botanical studies of both sites were conducted by staff members of the botanical Laboratory from Cayetano Heredia University. Biologist Luis Huaman and David Goldstein, Ph.D. respectively conducted pollen analyses and the macro-botanical ones. The use of the same laboratory for analyzing samples from these two sites was beneficial, because it assured the use of similar methodologies for collecting and analyzing botanical information and thus provided consistency to this type of interdisciplinary approach.

²¹ Centralized storage practices indicate imperial control over local production, and the distribution and exchange of specific goods.

coastal regions of Moquegua (Chacaltana, 2010; Dayton, 2008; Zaro, 2005). In this study, pollen provided clear indications of the types and quantity of products stored in storehouses, imperial spaces and domestic areas of Camata and Tacahuay sites, as well as how agricultural practices were transformed over time.

1.4.1.3. Analysis of the historical information

This thesis also uses historical records to understand Colesuyo societies during the period of Inca influence. The documentary information is used to better envision a range of people, native social organizations, and the local and regional economic activities of the region. The historic information was used to better understand the way in which the everyday life of the Colesuyo people was transformed under Inca and Iberian colonialism. In addition, the colonial documents were used to build the models tested in this thesis, and to contextualize the archaeological data obtained from excavations. However, it should be mentioned that life experiences of subjugated populations (locals, slaves and women, among others) were generally not directly recorded within these documents. Nevertheless, I was able to identify some information concerning subjugated identities that have been largely overlooked by previous scholars.²² I have incorporated information presented in a wide range of archival documents, including:

²² Archaeology is a discipline where investigators tend to focus on top-down investigations, elites and on broader interactions (see Robin, 2001). Therefore, looking at historical documents for this thesis was not only a rewarding practice – it became a political act, given the ability to see local histories of subjugated individuals that otherwise were not seen in the historical nor archaeological data.

- “*Pleitos*” or legal disputes between local leaders of the late sixteenth century. *Pleitos* record disputes that occurred between local leaders who were recognized as leaders (*curacas*) of specific regions (in this case the Moquegua Valley). From these records I obtained information about the ways in which local individuals constructed their colonial identity, and manipulated their political memory of the pre-Hispanic past to obtain colonial benefits. These included the 1573 manuscripts published by Cañedo Arguelles and titled “La Visita de Juan Gutierrez Flores al Colesuyo y Pleitos por los Cacicazgos de Torata y Moquegua”.
- Local legal wills and economic contracts provided information about the lives of many men and women who lived in Colesuyo during the sixteenth century. In addition, these types of documents offer insights into the social activities associated with material culture and local land inheritance practices. These included the group of documents published by Franklin Pease (1984) titled “Indice del Primer Libro Notarial de Moquegua”.
- Manuscripts (including censuses), generated by the early *encomienda* system. These documents allowed the identification of items of tribute by social and political groups. It also permitted a better understanding of diverse forms of indigenous leadership that were occurring in Colesuyo during the early colonial period. This information was obtained from Efraín Trelles Arestegui’s (1991) “Lucas Martinez Vegazo. Funcionamiento de una encomienda peruana inicial (segunda edición corregida y aumentada)”.

Finally, in this dissertation, I tested different models of inter-and intra-regional interaction and exchange built on available information from previous archaeological investigations and published colonial documents. Not surprisingly, the findings ultimately proved more complex than the proposed models; however, the models served as a useful point of departure. This investigation also provided insights into the “vertical archipelago” models

proposed by John Murra (1972) more than 40 years ago. The “vertical archipelago” model has been intensively discussed by many investigators (Bürgi, 1993; Covey, 2000; Julien, 1985; Llagostera, 1976; Rostworowski, 1981; Van Buren, 1996), nonetheless, this thesis provides a new datasets to better understand the nature of the interactions between the Lupacas of the Titica Basin and their diverse types of relations established with Colesuyo territory.

Few scholars have conducted comparative investigations from a bottom-up perspective of the relations between ethnic groups of Colesuyo and altiplano societies during the Inca hegemony of the Southern Andes. This study examines the impact that the Inca political economy had on local communities in different eco-zones and with dissimilar cultural variations within a single region of the Andes. This perspective recognizes the complex relations between empires and local agency as forces that mutually shape broader and specific political economies (Dietler, 2005; Stein, 2005b). Therefore, by employing a bottom-up approach to understanding how economies of provincial subject polities react to empires (D’Altroy, 2005; D’Altroy et al., 2000; D’Altroy and Schreiber, 2004) I also recognize the ways in which local elites emulated Inca symbols of power to obtain more political influence. Consequently, results of this study will contribute to theoretical explanations of the strategies small communities use to interact with imperial economies (Storey, 2004).

2. POWER AND EMPIRE

Empires, ancient and modern, draw power from three principal sources: ideological, political-economic and military (Mann, 1986). However, the combined effect of these three sources of powers varies according to the imperial organization and style of authority. In recent years, investigators have been interested in investigating the multiple dimensions of power that exists between empires and less powerful populations (i.e. regional and/or local elites) (Foucault, 1984; Gardner, 2004; Joyce, 2001). More precisely investigations have focused on observing the power relations that occur at the intersection of social action (common ideas that structure the ways in which individuals act and perceived the world around them) and individual agency (Foucault, 1972). Therefore, current studies of ancient imperialism acknowledge that imperial policies in far-flung regions were articulated between imperial interests and political ambitions of local societies (D'Altroy, 2005; Dietler and Herbich, 1998; Dietler, 2005; Sinopoli, 1994b; Wernke, 2006). Nevertheless, observing power in such ways presents us (archaeologists) with the following questions:

- How can we identify different dimensions of power in the archaeological record?
- How are power relations expressed in marginal regions of the empire?

This thesis recognizes that during the 14th century, the Incas began a profound and varied process of transformation across the Andes. For example, in the Colesuyo region we can identify processes that were not intended, but were nonetheless, initiated by Inca power strategies (see Malpass and Alconini, 2010). The Incas promoted the creation of formal connections such as roads and exchange networks that permitted a more fluid transit of

materials, ideas and people across the Andes.²³ However, although negotiations of power occurred at different levels, this investigation is concerned with the political and economic outcomes promoted by local and regional agents. This thesis understands Inca imperialism as contested and complex, instead of a straightforward process of “Incanization”, recognizing that although empires had specific strategies for controlling groups of different sizes, this process also involved negotiations of power (or power struggles), which played out at different levels of society and that were not necessarily related to imperial objectives.

Therefore, although this investigation deals with imperial practices, it considers the forces generated by imperial powers (hegemonic and more direct types of power) at the local, regional, and imperial levels. It also examines the ways in which these dynamics affected local organizations (less powerful institutions and/or organizations). This thesis combines inter- and intra-regional models of interaction with agency and practice theory in order to acknowledge the crucial roles played by local groups (Moore, 2005; Nielsen, 2008; Van Dommelen, 2005). This investigation also understands that in any process of imperial incorporation, there are multiple webs and sources of power that contribute to the final outcome (DeMarrais, 2005). In addition, I strongly focus on the political economy and the ways in which institutions structure the economic behavior of individuals and societies (and vice-versa) determining its economic capacities, an aspect that is related to the vertical archipelago model proposed by John Murra more than four decades ago.

²³ Interaction across the Andes has been long studied; however, here I suggest that the Inca Empire instituted more formal ways for conducting interactions between Andean societies located in far-away regions, such as roads, tambos and *chasquis* (official messengers).

2.1. Models of Imperial control

During the last two decades, the archaeological literature has included several different approaches to the study of archaic imperialism (Alconini, 2008; D’Altroy 2005; Feinman, 2006; Malpass and Alconini, 2010; Morrison, 2001a, 2001b; Morrison et al., 2001; Sinopoli, 2001a, 2001b). Multiple models and their corresponding assumptions about the types of interactions that occur between expansive states and incorporated provinces have been discussed in great detail (Malpass and Alconini, 2010). However, many of these models present a unidirectional approach to interaction that presumes that great changes (ideas, objects and people) begin in the core and then expand to the peripheries. In return, the peripheries provide raw materials to the core.

2.1.1. Direct/Territorial versus Indirect/Hegemonic control²⁴

In the past two decades, direct-indirect theories of imperial control have been criticized (see D’Altroy, 2005; Sinopoli and Morrison, 1995; Stein, 2002). Nonetheless, they remain popular in archaeological discourses as regarding the extensive or limited presence of imperial style material culture (architecture and/or objects) in the provinces (see Alconini, 2008; Malpass and Alconini, 2010). Any direct-indirect theories of imperial control are influenced by World-Systems Theory (Wallerstein, 1974), which builds on the assumption that the core’s relation with its peripheries is based on extracting labor and raw materials from the provinces for the economic benefit of the center (Berdan and Smith, 2004; Sinopoli, 1994a, 1994b; Wallerstein, 1974). However, recent revision of World-Systems Theory recognizes different types of interactions between core and periphery (Chase-Dunn and Man, 1998) and identifies

²⁴ Luttwak 1976; Mann 1986

diverse inter-societal relations (i.e. between peripheries with more than one core). This perspective tends to focus on the economic and hierarchical reactions that the center generates from the peripheries. Investigators favor this perspective because it provides two simple options for consideration; however, this approach overlooks the much greater variety of options polities utilized to incorporate diverse groups across imperial territories (see Stein, 2002).

Territorial/Direct and Hegemonic/Indirect models of control observe the degree to which a core's investment in its peripheries extract products and accumulate capital (Luttwak, 1976). This model implies a correlation between higher input and greater investment or economic gains versus lower input and less economic extraction or benefits for the core. Archaeologically, territorial/direct control is visible in a high presence of institutions of power in the provinces, which were constructed in order to manage labor, production, and extraction of resources. This model assumes that under direct rule, the central power has the tendency to control all economic processes such as production and exchange. Under this model, imperial institutions that are locally situated represent a formal and permanent vigilance of imperial interests. Direct rule not only assumes a high investment in administrative and economic institutions, but also the spread of imperial ideologies. The direct model presumes that locals are acculturated by imperial ideologies or that local ideologies are annexed to an imperial one. It also assumes that if locals are acculturated by an imperial ideology, it is easy to control local labor and obtain economic benefits. Furthermore, it assumes that in the provinces the center of power makes claims over raw materials and/or all productive lands permitting them to have more direct access to economic resources.

In contrast, the hegemonic or indirect type of interaction suggests a low imperial investment and low revenues. Contrary to direct rule, indirect impact can be seen as a two-way

interaction between imperial and regional traditions and as a broader cultural process that goes beyond political boundaries (Sinopoli, 2001a:445; Wolf, 2005 [1982]). In this model, the center exercises power over the peripheries or provinces by using local organization and administration. Therefore influence is not overtly political but instead is largely ideological. In addition, this model assumes that the center does not have a high investment in the provinces (archaeologically visible by the limited presence of imperial institutions). Under the indirect rule model, groups on the peripheries are usually in constant conflict and confrontation with each other because political leadership is unstable. Furthermore, this model implies that indirect rule takes place in distant parts of the empire because they more recently are incorporated into the state (Covey, 2000).

Many of the assumptions of the Direct and Indirect model have been heavily criticized. For example, some archaeologists have criticized its evolutionary tendency that presents empires as **naturally** transforming from indirect to a more direct rule (Dietler, 2005; Gasco, 2005; Morris 2008). This assumes that immature empires do not have the capacity to build solid institutions across its provinces. Therefore, only with time, can young empires better control and incorporate provinces located far from the center. Another assumption that has been heavily critiqued is the idea that a territorial type of rule is only exerted on peripheries (Dietler, 2005) located closer to the center of power; and indirect or hegemonic ones are imposed on distant peripheries. This feature of the model is attributed to the fact that the cost of transporting imperial bureaucracy and institutions from the center increases with distance, and the cost of transporting raw materials from the location of extraction is higher. A third assumption heavily critiqued is the perception of the center as active and the point from which all changes are initiated, while in contrast, the peripheries are presented as passive and receptive (Gasco, 2005). Following this logic, it is difficult to recognize other changes or types

of interactions that were not initiated in and by the center, from this perspective (see also Vrba, 2007:161). A fourth assumption that has been considered problematic is the tendency to perceive the center and the periphery in a dichotomized way. This view is problematic because it homogenizes material culture across diverse peripheries (Vrba, 2007). Yet another criticized assumption that was initially made for World Systems Theory but that also applies to Direct/Indirect relations is the conception of economic systems as static and monolithic. Therefore, these perspectives fail to notice other possible dimensions of the economic system such as internal tensions and marginal economies (see Earle and Kristiansen, 2010; Schortman and Urban, 1994:401). Consequently, in the following section I examine empires as heterogeneous entities that generate multiple types and levels of interactions across provinces and/or far-flung territories.

2.2 Dynamics of empire and local responses

Empires are immense socio-political systems that integrate vast territories composed of multiple local groups and nations. Rigid definitions of what constitutes an empire are problematic. Empires, in the past as in the present, are multi-dimensional and have a variety of characteristics. Therefore, they can be portrayed in a descriptive or analytical way. Furthermore, definitions of empires are clearest when they are compared with other political organizations (Goldstone and Haldon, 2009:3 and also see the discussion of Marcus and Feinman, 1998:6-7). Descriptive definitions of empires emphasize similar and/or different characteristics between states and empires defining the former as big states or “imperial states.” This position mainly focuses on scalar differences, suggesting that empires have greater social differentiation between the ruler and the ruled, and that although states are composed of

at least two to three decision-making hierarchies (see Marcus and Feinman, 1998:6), there are fewer social differences between commoners and rulers than in empires. Another important difference is that while states are formed by a more centralized authority, empires integrate several nations to form a fragmented but more complex system of power (Sinopoli, 2001a:444). It has also been suggested that these aspects are constructed through a new imperial ideology that is based on a governmental complexity and the emergence of royal dynasties (Goldstone and Haldon, 2009). Finally, descriptive positions also point out that the main difference between an empire and a state, is that the first has the capacity to subordinate several nations by using fiscal policies, military and/or administrative ones and on the contrary, states are territorially and politically centralized or more cohesive entities (see Sinopoli, 2001a:444; Subrahmanyam, 2001).

On the other hand, analytical perspectives focus on differences in the political structure of empires and states. As suggested by Thomas Barfield, empires are “organized both to administer and exploit diversity” (2001:29). However, in order to administer diversity and impose political order, empires have to be composed of a complex bureaucratic system. For this to happen, a multifarious governmental system and an effective military hierarchy are required. Also important, is efficient management of economically advantageous provinces; and of the interactions that provide the economic surpluses necessarily for maintaining imperial elites. Therefore, to administer provinces ancient empires relied heavily on regional rulers and on local administrative centers (see Sinopoli, 2001a:444). In conclusion, an analytical perspective on imperial power requires observations of the tensions between different social forces such as multiple political economies, ideologies and governmental organizations operating simultaneously in different provinces (Goldstone and Haldon, 2009).

Furthermore, analytical perspectives recognize that in contrast to states, empires have a successful expansive ideology. Empires promote the universal conquests of all territories by natural right (see Subrahmanyam, 2001). In fact, it is understood that imperial ideology is “a state of mind”, where elites as well as royalty represent the embodiment of divine power “in charge of keeping cosmological and earthly order (Yoffee, 2005)”. However, a successful imperial ideology integrates local ideologies into imperial ones (see Sinopoli, 2001a:459). One way imperial-local ideologies have been investigated is by examining architectural and material evidence across empires and analyzing how intermediate elites and commoners incorporate imperial ideologies and re-contextualize them (Costin, 2011). A top-down perspective focuses on how archaic empires legitimize social order by using imperial ideologies as they are reflected in grand symbols of power displayed on monumental architecture, arts and on moveable material culture (see DeMarrais et al., 1996; Yoffee, 2005:39). However, a bottom-up perspective acknowledges that imperial ideologies and empires were experienced differently by the multiple social actors across vast territories (Acuto, 2010; Brumfiel, 2001a, 2001b; Moreland and Van de Noort, 1992). This thesis emphasizes the latter approach.

Another important aspect for understanding empires is defining imperialism in terms of the “action” of empires. Imperialism is the capacity of empires for imposing order and control on the new conquered populations (Sinopoli, 2001a). It refers to the political, economic and military strategies used by a complex society or by a state to conquer and integrate new states or groups of people distributed in extensive geographic areas. Furthermore, today scholars recognized that archaic empires used different types of imperialism and a combination of strategies for expansion and territorial integration (Schreiber, 1992). As a result, the suggestion that archaic empires integrated provinces along a continuum from direct territorial to indirect hegemonic control (see Schreiber for the Wari Andean

Empire) has been tempered and it is now acknowledged that in practice imperialism is tailored by the interaction between imperial interests and local political and economic capacities (D'Altroy et al., 2000). In other words, although strategies were designed by a central government, local elites and other socio-political and economic factors²⁵ played a crucial role in structuring the execution of imperial polities in peripheral zones (Elson and Covey, 2006; Schreiber, 1992). In sum, archaic empires were enormous political systems and imperialism was conducted in a heterogeneous way.

Traditional investigations have tried to differentiate diverse degrees of imperial incorporation. However, this is a problematic perspective because it is difficult to archaeologically determine whether imperial policies were direct or indirect, but also because this perspective does not allow for examining broader dimensions of the impact of imperial powers on local and regional networks, as well as on local leaders' agency. In this regard, Michael Malpass and Sonia Alconini (2010:4-5) have suggested that Inca imperial control outside of the Cuzco region was always indirect because the Incas relied heavily on regional and local elites that were incorporated into the administrative hierarchy. Therefore, if all imperial powers in the provinces are indirect, this leaves us with the question: How can we observe politics on the peripheries of the empire (or beyond the imperial fringes) when these polities "...acquire some of the trappings of the state but are never really incorporated"? (see Marcus, 1998:6).

²⁵ For example, Schreiber (1992) suggests that the degree of imperial rule was a response to three factors: the availability of administrative personnel, the cost-benefit ratio involving direct rule and existing levels of political complexity.

Recent investigations have recognized that incorporated societies are also active in shaping imperial strategies (Covey, 2000; Wernke, 2006) and that social groups are composed of multiple agents with different goals (Blanton et al., 1996; Brumfiel, 1992; 1994; 1996; Dietler, 2005; Gasco, 2005; Yoffee, 2005). These bottom-up studies highlight the multiple transformations that occurred in local indigenous populations when they were influenced by an imperial power (Dietler, 2002; Sinopoli, 2001b; 2005) allowing a more complete vision of these processes (Alcock et al., 2001; Barfiel, 2001; D'Altroy, 2001; Hayashida, 1995; Morrison, 2001a).

For example, during the Inca expansion and incorporation of the southern Andes, the social and political dynamics of Colesuyo were radically transformed. However, in order to observe how an imperial presence affected this region, it is important to understand that Colesuyo was a marginal region for the Incas while at the same time it was an important economic and social territory for altiplano societies and leaders, and that the Colesuyo region was long immersed in a tradition of interregional exchange of goods and people between the coast and the altiplano.

Analyzing Colesuyo incorporation and interaction with the Inca Empire as well as the shifting of power dynamics requires several different dimensions of analysis. First, the study must be “multiscalar” (see Lightfoot and Martinez, 1995) and consider interactions from a top-down perspective as well as from the bottom-up (Stein, 2002). Second, an analysis that incorporates a perspective that envisions complex societies or states as “...heterogeneous entities, composed of different groups whose interests, goals, and social strategies are often in conflict” (Stein, 2002:907, but also see Brumfiel, 2006). Thirdly, this analysis must acknowledge the importance of internal dynamics by examining “...the diversity of economic, political,

social, and ideological processes inside each polity is as important as external processes (such as long-distance trade or colonization) in shaping the overall organization of the network” (Stein, 2002:907).

Therefore, this dissertation seeks to understand the dynamic and uneven ways empires incorporate subject polities in provincial areas (D’Altroy, 2005; D’Altroy et al., 2000; D’Altroy and Schreiber, 2004). As a result, this investigation examines the regional and local processes that operated within the Colesuyo region, in order to explore how local populations interacted with the empire. In the following section, I briefly suggest new approaches for studying ancient imperialism (see Stein, 2002) that focus on the interactions between polities of different scale with diverse regional dynamics and different relations. I also review the model of vertical control proposed by John Murra in the 1970’s. In addition, I incorporate the main critiques and proposed variations offered to Murra’s model. Finally, I propose cross-cultural models to understand diverse types of interregional societal interactions between empires and less complex societies.

2.3. Perspectives of interaction

Models of interactions within hierarchical societies have been largely structured around concepts of center and periphery (see Blanton and Feinman, 1996) initially drawn from World Systems Theory. World Systems Theory focuses on the economic relationships of extraction between the core and the periphery, assuming that peripheries are underdeveloped and economically impoverished (see Schortman and Urban, 1994:402). Furthermore, World-Systems Theory perceives core –peripheries relations in terms of typical and atypical (Hall et al., 2011). A typical relationship understands peripheries as being in a lower position to the

core, and dependent on the center of power. This typical relationship considers the periphery as the place from where the core extracts surpluses for its maintenance (although for an alternative perspective, see Hall et al., 2011). On the contrary, an atypical core – periphery relationship is one generated by an early state which has not fully developed its mechanisms of power nor established institutionalized interactions with its peripheries (Chase-Dun and Hall, 1993). However, Worlds-Systems Theory focuses on the economic aspects of the exchange of luxury goods, and therefore, overlooks the political and ideological ones.

Investigators have identified important aspects that must be taken into account when studying pre-capitalists interactions (Blanton et al., 1996; Stein, 2002). For example, interactions are never unidirectional, but instead they are shaped by multiple socio-political features. Therefore, constructed models of interactions take on the idea that social actors, especially intermediate elites, are part of the construction and maintenance of interactions and economic relations. This investigation recognizes that the exchange of wealth and non-sumptuary objects has an important ideological aspect as noted by many investigators (Helms, 1998; Schortman and Urban, 1994). Therefore, societal interactions are not only structured by the economy, but also by ideologies, ethnicity, language and culture (Chase-Dunn and Hall, 1993; Kohl, 1987). Furthermore, this thesis is enriched by understanding societal interaction as the outcome of processes that occur at both, the intra-and inter-polity levels (Stein, 2005:8).²⁶

²⁶ “The possibility that core and periphery societies are embedded in networks of mutual interdependence and inter-influence is rarely considered (Schortman and Urban, 1994:402).

2.3.1. Proposed models of interactions

This study deals with interaction between societies of differing scales and social organizations from highly centralized such as the Inca Empire to decentralized societies such as competitive factions of the upper Moquegua Valley to small-scale and dispersed groups of coastal Colesuyo. I developed two models to frame political action and inter-societal interaction. Therefore, I propose two models of interactions. One considers the consequences or relations between a complex polity and a fragmented polity, while the other considers the dynamics of relations between a centralized polity and a smaller one with corporate organization. It should be mentioned that fragmented and corporate societies have been labeled as such for heuristic reasons; however, these models had many characteristics that were not necessarily limited to one or the other.²⁷

These models also include post-processualist positions allowing a comparative approach with other regions of the Andes and the world.²⁸ Additional, these models help us visualize different variables at multiple scales of analyses, such as the social, economic and political spheres. As Stein (2002) has suggested, that it takes a “top-down” perspective on “the network itself and the polities participating in them” as well as a “bottom-up” perspective that incorporates micro-histories that enrich the models. Consequently, in this study I use different

²⁷ Corporate societies are characterized by the presence of a cognitive code that gives importance to a corporate solidarity that maintains the whole integrated (Lamberg-Karlovsky, 1985).

²⁸ According to Stein (2002b), these studies should incorporate a fusion of processual and post-processual approaches and draw on the strengths of both: “From processual archaeology, key elements include a recognition of the importance of political economy, a comparative analytical framework, a concern with processual regularities, and, most important, explicit, replicable methodologies that use data to evaluate broader theoretical propositions” (Stein, 2002b:907).

models of inter-societal interaction that are based on the impact of a local, intra-inter-regional economy by an imperial one. Furthermore, I have also included the vertical control of ecological floors model to understand interactions of the southern Andes under a specifically Andean perspective.

2.3.1.1. Interactions between complex societies and fragmented societies

This model is an explanatory framework to describe interactions between complex societies (with formalized elites) and fragmented societies. The model is constructed based on the network strategy (Blanton et al., 1996) characterized by individuals (or single households) that strive to establish network ties (or manipulate distant social connections) allowing potential for competition between individuals (Blanton and Feinman, 1996:4). However, competing leaders of fragmented societies remain self-centered so there is no motivation for communal corporation. In other words, this type of interaction between fragmented societies with more complex societies is more or less conducted in an individualized manner.

Furthermore, this model is based on the assumption that local leaders have short-lived governance, often cycling every generation, because their leadership is based on individual military, trading and social skills (Spencer, 1994:31).²⁹ Also, under this type of interaction local leaders are “cultural brokers”, and pioneers of change among local societies. On the other hand, this type of interaction indicates that local leaders allow imperial activities to be conducted locally but these imperial events do not affect the economy and social dynamics.

²⁹ The status of chiefs in these types of societies, are based on an individual’s life-time, rather than on ascription at birth (Spencer, 1994:31).

For example, Mary Helms suggests that the participation of local leaders with external social groups is mainly maintained throughout prestational events and payments involving the exchange of marriage partners, exotic goods and knowledge (Helms, 1988). Furthermore, under this scenario it is important that the flow of objects have a symbolical recognition (as exotic), which at the same time translates into stronger leadership and prestige within the group. Also, in this model, local leaders make use of specific types of goods and promote marriage alliances with foreign and powerful societies in order to establish leadership inheritance. In contrast to complex societies, non-centralized ones do not invest in local economic production and technologies; basically because there is not the ecological capacity for great economical investment and productivity (see Blanton et al., 1996:7).³⁰ However, in this model, for intense social change to occur other variables must also come into play, such as allowing one leader to rise and stop the drive of multiple competitors and the inheritance of leadership (Blanton et al., 1996:4-5; Stanish, 1992). Under this type of society, one of the most important changes is the development of inherited leadership (Spencer, 1994:35).

2.3.1.2. Interactions between complex societies and corporate societies

This model is derived from the Corporate Strategy proposed by Blanton and colleagues (1996). It has been built to describe social actors with varying agendas and strategies that compete for political preeminence (Blanton et al., 1996:5). Furthermore, this model is aimed to better understand interactions between states or empires with corporate societies. A corporate type of society is characterized by the establishment and maintenance of a cognitive code that emphasizes the corporate solidarity of society as an integrated whole. Corporate societies are

³⁰ This model suggests that this type of society is located in marginal territories with low capacities for agricultural or other type of economic investment.

based on a natural, fixed, and immutable interdependence between subgroups and, in more complex societies, between rules and subjects (Blanton et al. 1996). In addition, corporate societies legitimize the control of society by small groups of individuals or kinship group (Blanton et al., 1996:6). Although, this strategy has been identified for interactions that occurred in pre-Hispanic Mesoamerica, it could also be appropriate for the pre-Hispanic Andes (see Stanish and Steadman, 1994) and especially for the Colesuyo region, which is composed of societies of varying dimensions and political organizations of low scale. This type of strategy is categorized by having group-oriented chiefdoms that focused on the construction of public works and large architectural spaces for communal ritual. In these societies, labor for large constructions was mainly organized along corporate lines (Blanton et al., 1996). An interesting aspect of this model is that this corporate orientation implies reduced consumption of prestige items and a focus on greater degree of wealth equality in society. Nonetheless, this assumption requires empirical testing for different regions. Therefore, when change occurs in balkanized societies under the influence of more powerful ones, complex societies insert institutions of power at the local level. In these contexts, social actors play a key role (Blanton et al., 1996; Elson and Covey, 2006) because they occupy positions of power and help create elite monopolies over the acquisition and distribution of foreign items, control over resources and over their distribution. Therefore, this model implies a stronger presence of foreign institutions at the local level, administered by a combination of local elites and bureaucratic representations. Nonetheless, this model does allow for foreign government playing out in differing degrees of intensity at the local level. This is significant and will be discussed in more depth later. However, similar to the previous model, under the presence of an outside power, local authority (which is not institutionalized) has the tendency to transform into a more

permanent one. This acts as a major motivation for local leaders to participate and be part of the manufacture of new power structures.

In conclusion, these models focus on local, regional and long-distance connections, all shaping the political economies of the “peripheries” (Stahl, 2004; Stein, 2002). Furthermore, it acknowledges that the lives and livelihoods of people located in marginal regions were affected by new economic pressures that changed, and at the same time, continued with some aspects of their lives. However, how are these models intersected by the vertical archipelago model presented below?

2.3.1.3. John Murra’s model of vertical archipelago

In the 1970’s John Murra proposed the vertical control of ecological floors model for Andean societies. This model proposed that Andean societies based their economies on the capacity to control as many different ecological floors as possible.³¹ This control was conducted by establishing colonies in distant regions in order to take advantage of resources limited to specific ecological zones (Van Buren, 1996:338).

Many investigators have identified some flaws to Murra’s model, and some others, have proposed variations. For example, Van Buren (1996:338-339) indicated that the “vertical archipelago” model incorrectly assumed the existence of stable adaptations to an Andean ecosystem based on persistent Andean cultural traditions. Furthermore, Van Buren (1996:338) also suggested that this model does not permit elucidating Andean society’s variability and the

³¹ Because the Andes is a region of great altitudinal differences, control of different ecological floors frequently requires control of different altitudinal niches co-habited by multiple ethnic groups.

sources of tension between them. Another point made by Van Buren was that this strategy of Andean societies for controlling ecological zones was supposed to benefit society as a whole; however, in reality it did only benefit specific leaders and their political interests. Lastly, this model did not envision additional types of interactions and is built on the assumed that little to no trade took place between groups (Van Buren, 1996). In conclusion, according to Van Buren the vertical archipelago model needs to incorporate observing interactions and exchange (scale of productions of the colonies and parent populations and trace the circulation of goods) of Andean societies instead of being seen as an ecological adaptation to the Andean landscape.

On the other hand, other investigators such as Durston and Hidalgo (1997) proposed a variation of the vertical archipelago model identified as “tiered verticality” (*verticalidad escalonada*). According to these authors, tiered verticality acknowledges diverse hierarchies in socio-political units that developed their own vertical relations. Furthermore, this variation was based on Durston and Hidalgo’s (1997) classification of diverse centers: primary, secondary and tertiary centers. A primary center corresponded to the locality of the main populations. In the southern Andes, these would be the altiplano, especially the Lupaca societies and their multiple factions. The secondary centers are represented by towns of around a hundred tributaries, such as the towns of Socaroma and Belen (pre-Hispanic towns) located in the middle valley of the Azapa Valley. Finally, tertiary centers are represented by villages of 10 to 30 Indians (tributaries) attached to the secondary centers. These last types of settlements were managed by *secondary curacas* under the leadership of a *principal curaca* (living at secondary centers).

Nevertheless, other investigators such as Enrique Mayer (1985) indicated that Murra’s model offers a holistic perspective because it emphasized understanding the organization of

Andean communities, their heterogeneity and multiple interests, and the ways in which members of distinct ethnic groups were integrated by common obligations and rights pertaining to the exploitation of productive zones from other communities.

Therefore, this thesis had the aim to understand the socio-political interactions of two enclaves from the LIP to the Inca in Colesuyo. Consequently, it is also interested in understanding diverse political and economic relations (mechanisms of production, procurement and exchange) with groups within the region, altiplano, regional elites and the Incas.

2.4. Practices of the empire: the bottom-up approach

This thesis draws on theories that come from both processual and post-processual archaeology. In so doing, it is enriched by the incorporation of several theoretical developments. First, it employs agency theory to observe elites agency (see Joyce et al., 2001; Bordieu, 1977; 1990; Pauketat, 2000; Sinopoli, 2001b) as important constituents in the formation of power structures. Second, it uses *habitus* (Bordieu, 1977)³² or practice theory to examine individuals as consciously and unconsciously affecting and altering structures through practices. Third, it considers “Structuration Theory” for understanding the dual system that shapes both the social patterns and practices that constitute social systems.³³ In other words, structures help shape human’s practices, while at the same time “people’s practices constituting and reproducing structures” (Giddens, 1979:69; Sewell, 1992). By focusing on how

³² Although see Dornan 2002. For an archaeological example see the work of Meskell (2002) in New Kingdom Egypt, where she has focused on understanding individual experiences of the self in their social world.

³³ What Giddens has called “the essential recursiveness of social life” (Giddens, 1979:69).

“knowledgeable” political actors develop innovative and creative ways to manipulate schemas within configurations of power; I intend to identify the complex ways in which power is composed. From this perspective, agency is understood as actively sustaining the production and reproduction of social structures leaving room for transformation (Sewell, 1992:27). In other words, knowledgeable social actors (most likely elites, but not solely) play an important part constituting the practices of empires and structuring local experiences of imperial powers.

2.4.1. Political actors and political economy

Political actors are people in positions of power who are able to reproduce, reject or modify society and culture as a way to achieve desired outcomes (Blanton et al., 1996:2; Elson and Covey, 2006:3). Usually these actors are represented by elites (of diverse hierarchy) that in archaic complex societies have differentiated access to power. The most salient difference is imperial vs. local elites. Imperial elites have sources of power based on imperial ideology that is also sustained by the political and economic spheres. However, under new imperial orders, local elites (or intermediate elites) are generally less powerful than imperial ones. Nevertheless, imperial expansion can still be a period where local elites either obtain or lose more power. Within archaic empires, imperial elites functioned as bureaucrats or imperial officials, and were often in charge of local administration. Therefore, elites (or intermediate elites) play an important role among imperial administration because they function as intermediaries between imperial authorities the empire and subject populations (see Elson and Covey, 2006). However, elites also occupied lower positions of power, when they were in charge of directly organizing local labor and the collection of taxes among populations (local elites). In other words, in order

to hold important positions during colonial contexts, power needs to be re-configured and concentrated (with more or less intensity) on imperial officials, intermediate and local elites.

2.4.2. Emulation

According to Feinman (1995) elites are liable to emulate symbols of power. However, emulation is a subtle perceptual dimension of politics and it has been studied as being immersed in the geopolitical landscape (Smith, 2003). In this respect, Adam Smith has suggested that there are three main ways to use landscape to construct perceptions in relation: memorialization, authorization, and emulation (Smith, 2003:136). Memorialization is the act of building structures to recall memories of specific events or great individuals (Smith, 2003). Usually these buildings also evoke power inequalities and the supremacy of one group over the others. Conversely, authorization is the use of architecture that links the social order and status of the powerful group with the cosmological one. Finally, emulation is far more subtle than memorialization or authorization, and involves the intentional use of architectural symbols of foreign elites to obtain “their” authority and power. For emulation, Adam Smith comments: “The catch is that by emulating “foreign power”, they [elites] also bolster the geopolitical authority of those they emulate” (2003:137). In fact, emulation was a strategy followed by many different empires such as China (Wheatley, 1971), the Incas (Niles, 1992) and Tiwanaku (Kolata and Ponce, 1992). However, although for the Inca Empire, memorialization and authorization have already been analyzed across the Andean landscape, especially in the Cuzco region or at sites with high ideological importance (see i.e. see Niles, 1992; Santillana, 2012; Van de Guchte, 1999), emulation has been not clearly addressed (but see Arkush, 2005).

As mentioned above, emulation is subtle, and there is no clear understanding of the functions and dynamics of Inca institutions across the peripheries. In 2010, I proposed that *tambos* or Inca waystations are both a functional (for local-imperial articulation) and a spatial form with specific characteristics (Chacaltana, 2010). On certain occasions, regional elites might have emulated the form of a *tambo* with the aim of obtaining access to local resources provoked by this imperial institution. In this thesis, I propose that the coastal site of Tacahuay was the architectural copy of a *tambo* and that it was probably built by altiplano elites in order to gain more direct access to coastal resources. In contrast, in the upper valley local elites living in the site of Camata Pueblo, adjacent to Camata *tambo*, copied Inca storage technologies in order to centralize the regional resources (local products) that they obtained based on their close relationship with this Inca institution, a relationship that transformed into more local and regional prestige.

The work conducted by Elizabeth Arkush (2005) in the Titicaca region is of great relevance for this topic. Arkush used archaeological data to test two models of religious Incanization in the Lupaca region of the Titicaca Lake.³⁴ One model tested if ceremonial sites were administered and manufactured by Inca officials and for Inca purposes. The other model tested if these ceremonial locations were expressions of local elites emulating Inca imperial styles for their own purposes. She used the following testable variables: 1. Degree of accessibility and visibility of ceremonial sites (accessible for big or small audiences). 2. Location of the site in relation to Inca roads or sites such as *tambos*. 3. Architectural styles of ceremonial sites (local, imperial or hybrid types of styles and architectural forms). All these attributes provided this investigator with evidence to suggest that in this region Inca ideology was

³⁴ The Titicaca region was heavily impacted by the Inca Empire; however, elites were actively participating in imperial administration and were strongly incanized by Inca ideology.

balanced between local and imperial needs. Locales were situated away from roads and forts, “free” of Inca political control and therefore, had more flexibility, in handling both local and imperial ideologies.

It is well established that “peripheral people” actively manipulate tradition and foreign innovations to define and meet their own needs (Stein 2002a, 2002b). Therefore, for Camata and Tacahuay cases there are some variables that can be used to test emulation of Inca tambos or some of their characteristics that occurred in different ways that I address in chapter 5 and 6.

2.4.3. Material culture and identity

In colonial situations, material culture and identities play an important role in political contestation, a process that has been studied from Hybridization Perspective (Costin, 2011). A Hybridization Perspective is concerned with looking at the consumption of material with imperial associations as spaces for negotiations of identity between the colonizer and the colonized. As such, hybridization is not a neutral concept because it assumes that material culture retains at least some of its old meanings in re-contextualization.³⁵ In other words, this perspective emphasizes the importance of identifying which signs are retained and how these objects are consumed by the colonized or colonizer in a new political context motivated by imperialism or colonization (Costin, 2011).

However, empires use materials with intense symbolic meanings of power as a way of imposing a political and ideological order. In order to achieve this, empires conduct theatrical

³⁵ Re-contextualization is the process in which things are provided with new meanings through the interplay of different sorts of uses.

demonstrations of imperial ideologies constructing and re-enacting political and social structures. These demonstrations are portrayed by the center of power and reenacted in the peripheries using material culture with imperial styles (Yoffee, 2005:39). Consequently, material culture incorporating imperial styles that is found in different provincial contexts might not be a direct indication of ethnic affiliation and assimilation of identity, but instead a sign of access to the exotic and prestigious (Helms, 1993; Dietler, 1995, 1999; Gosden, 2004). Material culture with imperial styles, whose distribution is frequently controlled, provides regional and local elites with greater prestige because it is a sign of wealth. Such material culture also becomes crucial in internal and external exchange (see Frankenstein and Rowlands 1978:76 and Owen, 2005:15). I suggest that this is evident in Inca ceramic of Colesuyo.

The incorporation of material culture with new and charged power into systems of exchange endow that material culture with new meanings which are inscribed in the forms of things, their uses, and trajectories (Appadurai, 1986:5). Therefore, consuming and exchanging material culture that incorporates newly constructed symbols of power presents an opportunity for negotiations of identity between the colonizers and the colonized (see Bhabha, 1994; Costin, 2011; Dietler, 2005; Owen, 2005). Furthermore, interregional interaction and exchange creates entirely new categories of identities (Deagan, 1998), in which objects play an important part. This way of understanding material culture goes hand in hand with acknowledging that imperial ideologies have differentiated uses among diverse groups. In fact, archaic empires sent diverse types of ideological messages that affected subjugated populations in different ways.

Moreover constructions of imperial identities are based on laying emphasis on certain aspects such as geography, ethnicity, religion, social status, accomplishments and/or gender (Sinopoli, 2001a:459). For example, investigations of hybrid Inca ceramics styles in the North Coast (Chimu) conducted by Costin (2011:212) reflected the diversity of imperial

incorporation and relations that occurred in this region (for a similar study see Menzel, 1976). Similarly, the investigation carried by Brumfiel (1998) on a community outside the Aztec imperial core, revealed that the empire had different sorts of mechanisms of articulation that were based on gender, ethnicity, rank and social status of subjugated populations.

Colonial studies indicate that aspects of class, race and gender are the most important characteristics that shape individual experiences (Deagan, 1973; Voss, 2008). The construction of new ethnic and/or racial identities under processes of colonialism is at the interface between imposed structures of power and local conditions. Structures of power are the political phenomena produced by the colonial process, and local conditions are based on individual's agency (Ogburn, 2008).

For the Inca Empire, the most salient identity promoted by the empire was an ethnic one that was combined with labor capacities and/or practices. Furthermore, perceptions of labor were constructed by the intersection between age, gender and social status.³⁶ For example, Ogburn (2008) suggest that in contrast to the Iberian colonialism that promoted horizontal integration between indigenous groups (the formation of the Indian category), Inca colonialism restricted identities and enforced boundaries promoting a fluid interaction between ethnic groups and the empire.

In conclusion, the study of imperial identities allows scholars to understand imperial ideologies as being fashioned by the conflicting encounter between imperial and local powers. This perspective then considers material culture in relation to identities of power, not only as indicators of an identity that spreads across territories (such as Incanization, Hellenization and Romanization), but also examines the social life of cultural material (Appardurai, 1986; Costin,

³⁶ Salient identities (In *Interregional Interaction* – Schortman, 1989:54), but also, group identities defined by categories such as ethnicity, class and gender (Lightfoot and Martinez, 1995).

2001; Dietler, 2005).³⁷ Material culture itself has the capacity to reflect and recreate stories that are at the center of social interactions. In fact, objects can symbolically materialize the “imposition” of a cultural order, and are essential for the negotiation of power between groups, as well as structuring the perception of the social world (Dietler, 2005). Therefore, in processes of colonization material culture plays a huge role³⁸ and it should be studied with a balanced consideration of agency and of structures. Material culture contributes to understanding of the historical complexities of colonization, first of consciousness, and then of power structures (Comaroff and Comaroff, 1992:235-263). Consequently, understanding the process of production, distribution, acquisition of raw material is equally important as considering the symbolic life of objects and their local re-contextualization.

³⁷ Also about selective spread (Chase-Dunn and Hall, 1991:26-32).

³⁸ Material culture has been repeatedly been an object for the construction of colonialism.

3. INCA EMPIRE AND POLITICAL ECONOMY

This chapter provides an overview of the Inca Empire that includes the Inca political economy and the facilities that permitted this society to transform into the most powerful civilization of the ancient Andes. The chapter focuses on describing the Andean landscape as well as the strategies used by the Incas to manage diverse eco-systems and political organizations. The chapter also concentrates on the Inca imperial administration, such as officials, bureaucrats, and the decimal system. It also includes a description of the spatial social-organization of Cuzco, in order to better understand the organization of space and social order in the peripheries. Finally, because one of the sites examined for this thesis is an Inca waystation (Camata Tambo), and the other one is an emulation of one; at the end of this chapter I include a discussion on the Inca system of *tambos* that crossed Tawantinsuyo.

3.1. Inca political economy

The Inca economy was not based on a formal market system, but instead on reciprocity and redistributive systems conducted at great scales.³⁹ Taxation of subjugated populations was not based on products (as was common for other archaic empires), but instead, based on labor

³⁹ Reciprocity refers to an economic relation between two groups or persons of similar status that exchange objects of equal value, creating relations of obligation between participants. In contrast, redistribution implies an economic exchange between two groups or persons of unequal social rank, where exchange occurs between products that have asymmetrical social value but are perceived as having a similar one. For this last type of exchange to occur, ideology plays an important part because it diminishes the value difference between objects (see Stanish, 1992) refocusing on creating personal relationships between participants.

service or *m'ita* (Mannheim, 1991:18; Murra, 1980). It has been suggested that the *m'ita* draft was conducted every four months or three times a year (Urton, 2005). The *m'ita* was not an Inca invention but instead an Andean tradition based on redistributive and reciprocal relationships appropriated on a large scale by the Inca Empire. For example, the Incas distributed wealth and/or staple products to *mitayos* (tax-labor people) in special occasions as reciprocity for services or when hosting a ceremony (see D'Altroy and Earle, 1992; Morris and Covey, 2003). Furthermore, this imperial exchange occurred in open spaces of great Inca cities or at other spaces sponsored and constructed by the empire, such as *tambos*. Through the development of specialized imperial storage, technology such as storing rooms (*qollqas*) located at *tambos*, the Inca political economy accumulated and redistributed large quantities of foodstuffs and other objects (Dillehay, 2003; Levine, 1992; Morris, 1967; 1986; 1992).

In order to build this immense economic infrastructure, the Incas seized the lands of conquered territories (Parssinen, 1992; Ramírez, 1982). Some of these lands were re-distributed among local groups, others sustained new imperial colonists or *mitimaes* (Espinoza Soriano, 1974; 1975), and others were dedicated to maintaining Inca imperial religion or became the holdings of individual emperors (D'Altroy, 2005; Espinoza Soriano, 1974; 1975).

3.2. Managing the Andean ecological landscape

The Andean environment is exemplified by having extreme climates and a large diversity of ecological zones within a small territory (Hastorf, 2001). One of the highest zones is composed of a dry plateau (3,500 to 4,500 m asl) that is well suited for sustaining camelid herds. This zone, known as the *puna* or *jalca*, has marginal agriculture where few crops grow (bitter flavor potatoes [*Solanum juzepeskii*]). The next environmental zone is located between

2,000 to 3,500 m asl This area is known as the *suni*, and is characterized by a warm climate amenable for tuber (potato) and maize. The next environmental zone is the valley bottom that range from 1,500 to 2,000 masl, a zone known as the *quechua* region. This area is characterized by a warm climate suitable for corn, quinoa (*Chenopodium quinoa*), beans (*Phaseolus vulgaris*) and some tropical cultivars such as fruits, *aji* (*Capsicum sp.*) and coca (*Erythroxylon coca*). The last region is the coast, denominated as the *yunga* or *chala* zones, where populations focused on the extraction of marine resources and the cultivation agriculture of cotton, coca, chili pepper, and corn. Andean populations adapted to this geography by being highly mobile, by occupying multiple ecological floor and living together with other ethnic groups. In addition, they used diverse types of agricultural technologies within each region.

In order to have access to different resources that were produced in different region, the Inca developed an economy that was based controlling multiple ecological floors. As mentioned in the previous chapter, this strategy was first termed “vertical archipelago”, a model proposed by John Murra in the 1970’s (D’Altroy, 1992; D’Altroy and Earle, 1992; Earle, 2002; Murra, 1972; 1976; Shimada, 1985; Stanish, 1992).

The Inca, and more generally the late pre-Hispanic Andean economy was sustained by domestic units related by blood and/or fictive kin relations denominated *ayllus* (D’Atroy and Earle, 1992; Stanish, 1992). An *ayllu* was “...emically conceived as a multiscale concept that could reference any segment along a continuum of biologically or socially related collectivities, from the consanguine of a patrilineage to clan-like groupings of patrilineages, moieties, and even an entire ethnic group” (Wernke, 2006:180). An important territorial characteristic of *ayllus* was that they were frequently distributed across multiple eco-zones. Despite this

geographic dispersion, members of a single *ayllu* identify a place as their origin site or *pacarina*.⁴⁰ This permits *ayllu* members to continue with their communal rights and obligations despite the geographic distance of their communities. This characteristic of being spread across a geographic area and sharing a territory with members of other *ayllus* allowed Andean populations to be “self-sufficient”, having access to a variety of products and creating a complex geopolitical system (Abercrombie, 1986; Murra, 1972; Wernke, 2006).

Under the *ayllu* relationships,⁴¹ subjugated populations provided tax-labor (*m'ita*) to the “Inca” and their officers with the purpose of maintaining reciprocal relations with the empire. In addition, by creating fictive kin relations, the Incas also controlled and intensified the most productive zones within new conquered region. This agricultural intensification correlated with the development of a sophisticated storage technology (*qolqas*) that permitted Inca facilities

⁴⁰ *Pacarina* refers to a place of origin of a person or group of people. This place is usually an special feature distinguished on the landscape, such as a cave, a hill, or a lake.

⁴¹ The Incas took advantage of *ayllus*' fluidity and fragmentary nature to organize the labor of local populations (Covey, 2006). In addition, they promulgated the idea among subordinated groups of a greater “*ayllu*”, where the “Incas of pure blood” were considered the children of the Sun, the most important and powerful deity and ancestor of Inca ideology, and everyone else were related to them but from a lower status (Wernke, 2006). Two strategies were developed to create kin relations, one was marriage alliances with provincial women of higher rank with Inca elite or *Sapac Incas* (Covey, 2008). The other strategy employed was the sending of gifts imbued with Inca symbols of power (i.e. textiles, *queros*, *aquillas*) to provincial elites (Cummins, 2007), and the central deity (or the Sun) also established relations with the local and regional deities of conquered groups and territories as a way of incorporating these groups into the great imperial *ayllu* (Cummins, 2007).

across the empire to control the distribution and allocation of products for imperial political purposes (Earle, 1977; Mayer, 1985).⁴²

3.3. Administration: officials and bureaucrats

In his article “*From Stewards to Bureaucrats: Architecture and Information Flow at Chan Chan*”, John Topic defined bureaucracy as: “...[the] administrative interface between the rulers and the ruled that acts as the agency of control, in large part by controlling sources of information and communication” (Topic, 2004:244). Topic showed that while bureaucracy is an abstract concept; it can be distinguished when observing the complexity of pre-Hispanic facilities and their historical development. Furthermore, *sensu* Weber (1971), Topic suggested that Chimu complex society bureaucracy was related to the control of different types of information associated to storage systems and *audiencias* (administrative offices). The direct spatial relation between centralized storing systems located in Chan Chan (and in some Chimu provincial centers) and nearby *audiencias*, was the material evidence for the existence of bureaucracy in Chimu society. Although Topic’s conclusions go beyond the interests of this thesis, his methodology and theoretical framework provides a window to study and differentiate Andean bureaucrats and other types of administrators.

While various Andean societies developed a diverse range of bureaucratic facilities across time and space, in the following section will focus on describing the bureaucrats and officials of the Inca Empire. I suggest that the main distinction between bureaucrats and

⁴² In conclusion, Inca political economy across the Tawantinsuyo based on establishing “personal” relations with intermediate elites and/groups across the Andes (for a more detailed description on the state relation with local groups see Gose, 2000).

officials in archaic societies was a differential access to different types of political and administrative information. On the one hand, bureaucrats had privileged access to specific types of information for administrative purposes, and on the other hand, officials collected information directly from the sources (people) and were in charge of organizing labor tasks. Furthermore, bureaucrats belonged to the imperial elite, in contrast to officials were frequently from the provinces. In addition, within the Inca Empire there were clear differences between intermediate (bureaucrats) and local elites based on the nature of the tasks and on their position within the hierarchical administration of the empire (see Covey, 2008; Julien, 1982; 1988; Murra, 1986; Rowe, 1982; Salomon, 1982; Watchel, 1982; Wernke, 2006; Zuidema, 1990).

3.3.1. Inca bureaucrats

The Incas used a system of local bureaucrats to administer it many territories and populations. It has been suggested that through time, the Inca Empire transformed from a military and/or political empire to a more bureaucratic one (Wernke, 2006). For example,

Betanzos⁴³ mentions that when Inca Yupanqui returned to Cuzco after conquering the Collas, he gave some bureaucratic dispositions for provincial rule:⁴⁴

“...*llaqtacamayocs* [local leaders discussed in detail later] of small towns had to be under the supervision of provincial leaders, wherever he [provincial leader] was located, and that provincial leaders would provide information and reason of the things and tribute of this province to the Orejon [great lords or *Tucuyricoc*]” (Betanzos, 1557:155, my own translation).

In this description, we can distinguish three levels of administrators with different characteristics. One level is that of the *llaqtacamayoc*, or local leader. Another level is the provincial leader that was above of the *llaqtacamayoc*. Finally, there was the *tucuyricoc* who was the provincial administrator. During the latter period of the Inca Empire, this type of administrative organization expanded across much the empire. The highest positions of the Inca administrative system were generally held by ethnic Incas or by Incas of privilege (Covey, 2006a; 2006b), in contrast, local leaders occupied lower offices.

⁴³ *Suma and Narration of the Incas* (1557) written by Juan Diez de Betanzos. He was a fluent *quechua* speaker and married to an Inca elite women, Cuxirimay Ocllo (Doña Angelina), daughter of Huayna Capac who belonging to Tumipampa *panaca* (Rostworowski, 1988). Betanzos was an interpreter of “*Discurso sobre la descendencia y Gobierno de los Incas*”, an account of Inca genealogy based on several interviews with many *Qbipucamayocs* in Cuzco.

Consequently, his language skills makes Betanzo’s work especially interesting.

⁴⁴ “Y que los *llaqtacamayocs* de los pueblos pequeños diesen cuenta a los de los grandes de la tal provincia, a do era su junta y congregación, y que estos tales *mayordomos* diesen cuenta y razón desto al señor orejón que en las tales provincias estaba de las cosas ya dichas y tributos” (Betanzos, 2004, [1557]:155).

3.3.1.1. Tucuyricoc

Tocricos or “imperial overseer”⁴⁵ were high level officials in charge of administering Inca provinces (Matienzo, 1910 [1567]: 32-35).⁴⁶ Generally the *tucuyricoc* was an Inca noble (see Betanzos, 2004 [1556]; Parssinen, 1992:239) that held the authority over local *curacas* and other provincial level elites (Ortiz de Zuñiga, 1967: 45-46 [1562]). According to Betanzos this official was responsible for constructing storage facilities at Inca administrative centers and at other imperial facilities (i.e. *tambos*) as well as coordinating the production of local commodities (Julien, 2006). In addition, *tucuyricocs* were responsible of supervising the roads, creating territories, and placing boundaries between provinces. It is difficult to determine whether one *tucuyricoc* was responsible for a single province or if the role depended on the scale of the province (Astuhuaman, 2006; Parssinen, 1992).

It is not known how many *tucuyricocs* existed across the empire. It is likely, that the number of these officials increased while the empire was becoming more bureaucratic and mobilizing large numbers of people across the territory (Betanzos, 2004 [1556]; Parssinen, 1992: 241-242).⁴⁷ However, there are important aspects to consider. First, *tucuyricoc* is a quechuaized voice derived from the Aymara *tocticoc* (Cerrón Palomino, 2006). For this reason,

⁴⁵*Tucricoc* or *tucuyricoc* (*tocticoc*) has been defined as “*el que todo lo ve*” (he who sees it all) (see Cerrón Palomino, 2006).

⁴⁶ To see a further discussion about this official see Cerrón Palomino, 2006; Julien, 2006; Parssinen, 1992:239.

⁴⁷ This is related to the areas where the *tucuyricoc* lived, apparently in regions with strong administrative organization *tocticocs* did not resided, but visited in certain occasions; as Martii Parssineen has suggested occurred at the north coast region (Netherly, 1993) and the Chillón Valley (Dillehay, 1977).

Cerrón Palomino (2006) has suggested that this office was developed in the Collasuyo region.⁴⁸ This supposition is supported by past research that suggests that the Incas copied many of their facilities such as the decimal system of organization for tax-labor from the Lupacas and/or other atlipano groups (Julien, 1988). Furthermore, during the consolidation of the imperial heartland, imperial elites had already developed a close relation with Collasuyo leaders. This relation was used for the construction of an imperial ideology in the Cusco heartland and used as a political tool (Covey, 2009);⁴⁹ therefore, it is possible that they also integrated other political tools useful for their imperial government. In the same way, it is possible that the Lupaca's elites copied, emulated and used for their own purposes, Inca organizations of power.

3.4. Imperial infrastructure and administrative centers

In order to efficiently govern their high-diversified conquered territories, the Incas also employed multiple types of facilities (Morris, 1985). In general, the state had a well-organized administrative system expressed in imperial architecture such as roads, storing systems, *tambos*, forts, as well as administrative centers staff with complex social hierarchies including *quipucamayos*, *mitimaes*, *tucuyricoc*. In addition, archaeologists have identified diverse types of architectural variations across imperial regions, indicating diversity of imperial incorporation and local negotiations (see Alconini 2004; 2008; Covey, 2008).

⁴⁸ Rowe (1946:264) has suggested that the Spaniards confused two different offices with similar names of a governor (*tocticoc*) with (*tokoyrikog*) or inspector (also mentioned by Cerrón Palomino, 2006).

⁴⁹ It has also been suggested that the Incas copied Tiwanaku capital architectural cannons for imperial works within the empire. This is important to take into account for the Collasuyo (around 1400's see Covey 2008 and C-14 data).

The region of Collasuyo is dominated by economic enclaves and small-scale sites (imperial enclaves as well as secondary facilities); characteristics that have led investigators to suggest that Inca rule were incomplete or indirect (Covey, 2008). However, this perspective ignores evidence that demonstrates that the Collasuyo region was incorporated into the empire during an early period (see Acuto, 2004, Acuto et al., 2004a, 2004b; Chacaltana, 2010; Julien, 1982; Parsinen, 1992). Additionally, this perspective homogenizes the presence of different types of material culture (architecture and movable objects), and ignores many local and regional contexts. More problematic still by suggesting that the empire had a marginal or an indirect impact on a region, local experiences are overlooked (see Wolf, 2005). Here, I offer a brief description of some imperial infrastructure categories taking into account that imperial facilities have both, imperial and local significance.

3.4.1. Administrative centers

Most Inca administrative centers were established in the central highlands, along the *Qhapaq Ñan* (see Morris, 1992; Santillana, 2012). These centers were built by the empire, and are representatives of what Craig Morris (2008) called “compulsory or artificial urbanism”, indicating that these urban centers were not occupied on a permanent base, but instead, were built by the empire in previously “empty” places, dependent on the peripheries, and were used to congregate populations during imperial rituals or festivities. Interestingly, the Incas not only designed its urban spaces, the economies and religious activities, they also transformed the regional political and economic landscape that operated together with these centers (Chacaltana, 2012). Therefore, these provincial Inca cities arose and collapsed together with the empire, lasting relatively short period (max. 100 years). These cities had important religious functions that were combined with administrative ones. Finally, another important dimension

of Inca cities were the massive store systems that were built for keeping products produced in the surrounding agricultural lands (Morris, 1992).

Inca administrative centers hosted many public and religious ceremonies, which were held in the central plazas. At these events, multiple ethnic groups participated reinforcing their relation with the empire as well as their ethnic identity (Morris and Covey, 2003). These events involved food and drink, using specific vessels with imperial iconography and other signs of status. In sum, spaces inside these provincial administrative centers were built in order to create an urbanism of regional dimensions. The size of the plaza, the massive storage system that provided food for populous ceremonies, and the re-organization of the regional agricultural and settlement pattern around the site; are all indications of a regional spatial and social articulation (see Chacaltana, 2013). Therefore, an Inca city or administrative center is a materialization of an imperial negotiation of space and the imposition of rule.

3.4.2. Imperial enclaves of great scale

According to Covey, imperial enclaves are local indigenous sites used by the Incas to govern the region (see Covey, 2008: 817). These sites are characterized by having a strong local government with religious roles and an ample regional influence (see Morris, 2008). Therefore, in many regions, the Incas used a dual type of government and incorporation. When the Incas arrived at these regions, they took advantages of the well-organized, large polities, promoting political collaboration (Morris, 1998: 295). In these cases the Incas built their architectural infrastructure and palaces inside existing cities. Some examples of sites where the Incas built enclaves inside previous settlements of complex political structures include the sites of La Centinela and Tambo de Mora both of which are located in Chincha (Rostworowski, 1970).

3.4.3. Road systems

The formal Inca roads, together with logistical structures associated to them, were built not only because of the constant and systematic flow of people and products moving across the empire, but also as a powerful ideological imperial statement. It has been estimated that Inca roads extended more than 40,000 km across the Andes (Hyslop, 1984). Principal roads crossed the Andean highlands and coast, interconnected the Amazonian region with the highlands, and linked the Pacific Ocean with the highlands (Hyslop, 1984:224). In addition, Inca roads uniquely connected imperial installations to local populations, instead of interconnecting urban concentrations of previous periods (Covey, 2009; Jenkins, 2001). Furthermore, with the construction of formal roads across the Andes, the Incas accomplished a construction of a colossal scale, executing their imperial power to the Andean landscape. For example, Covey suggests: "...it is important to note that roads construction in more indirectly administered provincial regions was of an intensity similar to that seen in directly administered highland areas" (2008: 816).

To accomplish this magnificent construction across the multiple landscapes of the Andes, it has been suggested that Incas used *m'ita* labor (Hyslop, 1984). In addition, there are many ethnographic and historical suggestions that indicate that the roads were developed as parts of a system of reciprocity and interaction between local communities and the empire, despite being managed and administered by imperial officials (Hyslop, 1984).

3.5. From the center to the peripheries: Inca dynamics

As a way of understanding Inca imperial ideology and politics, I will focus on describing the central Inca political center, Cuzco. This is because understanding the spatial and social order in this sacred city helps to identify the interactions between, and within, Inca

imperial elites and non-Inca groups of the “outside” world. Focusing on this Inca city we can comprehend Inca imperial ideologies of power such as the dual concept and moiety division of *Hanan* and *Hurin* by which many provinces and groups across the Andes were conceptually and territorially divided. It also permits a better understanding of the *ceque* system that consisted of radiating abstract lines that initiated from the Coricancha in Cuzco, and projected across the Cuzco Valley (Bauer, 1998). All these concepts not only ordered space but also reinforced social distinctions at different levels and contexts of Inca society. Furthermore, as many other investigators have suggested (see Lechtman, 2007; Zuidema, 1998), these concepts structured the way of thinking and ordering the Andean world and material culture itself (i.e. see Lechtman, 2007). Therefore, all of these characteristics represent a structure of thought that cross cuts the social, political and ideological order (see Astuhuaman, 2006b; Parssinen, 1992; 2003: 269-323) to the material one (e. g. see Lechtman, 2007). However, in the provinces this hierarchical ordering of space and society was diverse because it greatly depended on regional and local factors as well as the duration of imperial and local relations (see Astuhuaman, 2008a:96; Wernke, 2006). Therefore, this section describes structures of thought as being initiated at the core and translated to the provinces with greater flexibility and variation.

The urbanization of the city of Cuzco, as well as the formation of the empire was a process that lasted for several centuries (Bauer and Covey, 2002). Within the Inca capital, the empire structured the organization of space and social order by a complex ideological system based on a hierarchical organization that reflected power relations amongst royal families of current and former Inca kings. A creation that went in hand with the construction of their own mythical history or genealogies (see Covey, 2006c; Zuidema, 1998).⁵⁰ The city itself was divided

⁵⁰ To further information see Zuidema, 2011: 1983.

in two halves, *Hanan* and *Hurin*, and each moiety was composed of two of the four quarters by which the empire divided its provincial territory (*Chinchaysuyo*, *Antisuyo*, *Contisuyo* and *Collasuyo*). The northern part of the city, *Hanan* Cuzco had a higher status and was formed by *Chinchaysuyo* and *Antisuyo* quarters. In contrast, the southern part of the city and the *Hurin* Cuzco area had a lower status and was formed by the *Contisuyo* and *Collasuyo* quarters.⁵¹

Cuzco was a highly ritualized city that housed impressive temples dedicated to the principal deities (i.e. Coricancha), it was surrounded by hundreds of landmarks that connected the city and its inhabitants with cosmological forces (see Bauer, 1998; Zuidema, 1983; 1998). It was also the place where royal families and the mummies of former Inca Kings lived. In Cuzco, only lived Incas of pure blood who were the “direct descendants” of the Royal Kings (*panacas*) or mythical Incas. They were considered Inca by blood and this group was primarily represented by the *Sapac Inca* (current Inca King). A *panaca* was formed when a king began his own government. However, after death, the families or *panacas* of former Incas continued playing an important political and economic role across the empire. In the city, Inca elites carried on and sponsored magnificent ceremonies where provincial elites were invited. It was during these ceremonies that the unequal relations and the social hierarchies of Inca factions were accommodated, negotiated and reenacted.

In contrast, the “Incas of privilege” inhabited an area of a 10 km radius outside the city of Cuzco (Bauer, 1998). This was a category of people considered the first inhabitants of the valley and conquered by the ethnic Incas (see Covey, 2006). According to Zuidema (1983), in the provinces they fulfilled the categories of *mitimaes* that many times were situated surrounding the Inca provincial cities emulating the social landscape of the Cuzco basin.

⁵¹ Collasuyo was also an earlier incorporation for the empire and the territory identified as the place where the mythical couple Manco Capac and Mama Oello, founders of the Incas, arose from Titicaca Lake.

Although these concepts reflect social orders that were a part of the Incas' political construction of their history, they also used them to organize subjugated populations across the empire. As mentioned above, these concepts supported the social, political and economic creation of unequal types of relations with diverse imperial factions. Consequently, the territorial and social arrangements in the provinces was divided in a multi-scalar way, and it was contextual depending on the changing social and political conditions of Cuzco and the political associations of ethnic groups, as it will be explained later.

As a result, Inca ideology and imperialism is motivated by a common ideology that promotes expansion. However, Inca expansion was also motivated by different agendas of expansion (therefore multiple competing ideologies). Inca *panacas* (the ruling one, and *panacas* of the former Inca kings,) had also their own agendas that shaped expansion. Nonetheless, despite the difficulty of archaeological investigations of Inca history and genealogy, in recent years, this process has been successfully studied in the heartland (see Bauer and Covey, 2002; Covey, 2006). Provincial investigations have tried to establish relations between Inca architecture and Inca historiography, however, this has been difficult because of the complexity of Inca politics (however see Alconini, 2008:67; Wernke, 2006). Nevertheless, today Inca scholars understand that in the provinces Inca architecture was a process closely related to imperial economic interests together with the evolution of relations between the empire and subjugated populations, specifically with local elites (Alconini, 2008).

In conclusion, Inca imperialism was a mixture of enforced state obligations over large populations (labor organization, building agricultural works for economic intensification, and constructing technologies of transportation and connection) and the development of assorted types of social interactions with different groups based on their specific connection with local leaders, local deities, communities and their ideological perceptions of groups' economic

potential (see i.e. Julien, 2002; Parssinen, 2002). For example, some populations were organized as state holdings with agricultural lands and palaces dedicated to the service of a specific *Sapa Inca* (Julien, 1993; 2005; Ramos Gavilán, 1976 [1621], also see Alconini, 2008). Additionally, other sacred places were devoted to the veneration of imperial deities, such as the Island of the Sun and the Moon in Lake Titicaca (Bauer and Stanish, 2001; Ramos Gavilán, [1621] 1976). Therefore, Inca control over a large territory was conducted by installing facilities that sustained a political economy and promoted social interaction between the empire and local groups. In these installations, the empire fomented social relations between the empire, tax-laborers, and local elites as intermediaries between the empire and local groups. Furthermore, across time the empire installed classes of people who worked for the state in administrative centers or large *tambos* such as: *acllas*, *yanaconas*, *mitimaes*, and, *camayocs*; each of whom conducted specific types of labor for the empire. Nonetheless, the study of the evolution of the interaction between local groups and the empire needs an exhaustive analysis of architecture, material culture (see Costin, 2011; Lechtman, 2007) and the way local elites were integrated into the bureaucratic and administrative system of the empire.

3.5.1. Secondary facilities: *tambos*

Secondary facilities are small imperial sites with diverse characteristics across the empire. These sites are not administrative centers, as seen in the central coast and/or highlands, but instead, they are *tambos* or other types of installations with specific economic, religious or military functions. Along with roads, *tambos* are the most numerous Inca facilities across the Andes. However, despite their prominent presence in the Andean territory, they are not well understood. First, current investigators passively accept the view that *tambos* had the unambiguous role of providing food and room for imperial travelers (from numerous soldiers

to lonely *chasquis*) (Hyslop, 1984; 1990), and that indigenous communities located in surrounding regions supplied their storage houses with foodstuff and wealth objects (textiles, wood and others). While this view of *tambos* is not erroneous, it does not consider other important functions that they also once held. Second, the unified and uncontested notion about *tambos* was strengthened because early *quechua* and *aimara* dictionaries (Bertonio, 1984 [1614]; Gonzales Holguín, 1989 [1608]) do not define the word “*tambo*.” Its “meaning” was obtained from Spaniards’ descriptions of small structures that were next to Inca roads; nonetheless, the precise Quechua/Aimara meanings were not explored. Furthermore, the Spaniards compared these facilities to “*posadas*” facilities of the Iberian Peninsula (Chacaltana, 2009), and consequently, during the colonial period, the word *tambo* was used to gloss diverse types of edifices, situated next to roads.⁵²

Tambos are small imperial facilities located about every 15 to 20 km along the Inca highway or *Qhapaq Ñan*. The distance between *tambos* probably depended on local characteristics such as geography, landscape, and climate. It is generally believed that they were built about one day journey from each other. In 1984, John Hyslop noted that although no two *tambos* were the same across the Andes, these facilities were generally composed of specific structures with different combinations and sizes. The essentials of *tambos* include: *golqas*, *kallankas* and *kanchas*. The *golqas*, or storage houses were supplied by local populations; the *kallankas*, or large rectangular structures, were used for multiple functions; and the *kanchas*, open spaces or plazas, near the center of the sites represented gathering places (Chacaltana, 2010; Hyslop, 1984). Today, it is known these facilities also had ceremonial and economic

⁵² Similar to other pre-Hispanic structures or facilities (see Barraza Lescano, 2010 for the word *kallanka*).

spaces, political-administrative functions and spaces for craft specialization (see Bárcena, 1988; Flores and Revilla, 2006; Helsley, 1980).

While the identification of different parts of *tambos* contributed to a better understanding of the minimum functions that these facilities held (i.e. that of waystations), the full range of functions that they may have held is not well understood.

3.5.1.1. Historical documentations of *tambos*

When the Spaniards began their expansion, *tambos* were one of the first facilities to collapse. This occurred for two reasons. First, both Spaniards as well as indigenous armies destroyed and vandalized many of the *tambos* they encountered (Pizarro, 1969[1571]: 229-230 Xeres, 1872 [1534]) with the aim of slowing down their rivals. Second, the *tambos*' facilities were administered by the state officials (perhaps the *llactacamayos*) (Julien, 2006; Matienzo, 1910 [1567]:3), in charge of maintaining state interests in the provinces. These imperial officials and their accompanying staffs probably returned to their homeland immediately after the collapse of the empire (Chacaltana, 2010).

Confusion concerning Inca, and later colonial *tambos* is further augmented by the diverse types of criteria used by chroniclers, such as Juan Diez de Betanzos (2004 [1557]) and Guaman Poma de Ayala (1944 [1614]) to describe and listed *tambos* across Tawantinsuyo. Betanzos wrote around 1570 and he mentioned that *tambos* were “a flight of a falcon” away from each other (*xuco huamán*) (Betanzos, 2004:154 [1557]). Furthermore, Poma de Ayala (1944 [1614]:1072-1082), who wrote some decades later, suggested that there were four different categories of *tambos*. The first was “*ciudad o Mezón Real*” (city or Royal Inns) that refers to those large cities such as Cajamarca and Lima. The second category “*pueblos con tambos*” (towns with *tambos*) refers to smaller cities such as Nazca and Cañete and large administrative centers such

as Huanuco Viejo, Xauxa and Acora. The third category is “*tambos sin pueblos*” (*tambos* without towns) which refer to a waystation with personnel such as Taparaco Tampu and Tunsucancha Tambo in Huanuco.⁵³ Finally, the fourth category is “*Tambillos*” (small waystations) that refers to a way station with no personnel nor store facilities (*sin recaudo ni pulperia, ny gente*), but had an open area where animals could be placed (Guaman Poma de Ayala, 1944 [1614]:1072-1082).

In the above description, there are two important aspects to consider. One is the contemporary use of Guaman Poma’s (1614) description and classification of *tambos* by investigators. This is an incorrect view because when Guaman Poma’s wrote his description of *tambos*, approximately 70 years after the Spanish conquest, *tambos* were already a colonial construction. By the 1600’s *tambos* facilities had already gone through many architectural and ideological transformations (see Chacaltana, 2012). The other aspect is that *tambos* were an important facility needed by the emergent colonial economy based on the transport of goods across the Andes. Because of their popularity among colonial travelers, these facilities were transformation rapidly because they were immersed in the new colonial economy.

Furthermore, since the first years of Iberian immersion into the Andes, the Spaniards produced laws legislating *tambos* similar to Iberian *ventas*. *Ventas* or inns were famous Iberian facilities constructed along roads of sixteenth century in Spain that functioned as private business (see Glave, 1989). In the Andes, especially during the first decades of the colonial presence, *tambo* legislations was also influenced by colonial beliefs that these facilities needed to continue functioning as they had during “*Guaynacapa*” time, yet also needed to attend to the travelers and the flow of products that sustained colonial economy (see Chacaltana, 2009).

⁵³ This third classification has become the dominate template when most scholars think of *tambos*.

3.5.2. Beyond administrative centers and *tambos*: local elites and *mitimaes*

As mentioned above, the Incas ruled their territory by having designating imperial elites to administer the provinces. However, in order to rule in an effective manner, they also incorporated traditional local authorities into the imperial system of administration. Here I describe some of the most important local positions employed by the empire at the local level.

3.5.2.1. *Llaqtacamayocs*

According to Julien (2006) *llactacamayocs* were officials positioned in between the provincial authorities or *Tucuyricoc*, and the local elites. Similar to the problem in defining the roles of the *tucuyricoc*, it is difficult to completely understand the nature of the *llactacamayocs*. This is because it is unclear if this office was occupied by a local leader or by a representative of the state. Furthermore, great variations existed across the empire in regards to the articulation between local elites and Inca leaders.⁵⁴ Therefore, I consider *llactacamayocs*⁵⁴ and high level leaders (*curacas*) having the same office, but different from bureaucrats (of the empire) and imperial officials.

⁵⁴ While commenting on the policies Inca Yupanqui applied across the empire after conquering provinces and designating the construction of imperial infrastructure⁵⁴, Betanzos writes: “He ordered that each town was commanded by a man with the greatest capacity, experience and understanding. And if the town was big, there should be a local leader at each moiety of the town. These leaders had to take care and give accounts about the men and women that were born each year, also know about the deceased, and about the people of each town [...] and that *Llaqtacamayocs* of each small town had to give account to provincial leaders where they belonged, or the leaders of the provinces, and that these great leaders have to give account to the great señor *orejón* (*tucuyricoc*?) of the provinces that was in charge of things and tributes (Betanzos, 2004 : cap. XXII: 155 [1557]).

Apparently, higher ranked curacas were frequently succeeded by their sons (Covey, 2008b:186). Furthermore, in some regions many local leaders also had administrative functions and even used the Inca devices of administration and control such as *quipus*. An example of an archaeological correlate for this official could be the individual found in a funerary context in Puruchuco of the central Peruvian coast. This context had a mummy bundle with a *quipu* inside an *Ychma* vessel. This evidence suggested that it was an *Ychma* curaca with his personal *quipu* on which information about the local administration was kept. Additionally, there is the case of a mummy bundle from the Lake of the Condor in Chachapoyas that had a calendaric and an administrative *quipu* suggesting he was a *curaca* of the Chilchos *ayllu* from Chachapoyas, known as Guaman (Urton, 2001).

3.5.2.2. Local curacas

Among many other tasks, local *curacas* were in charge of collecting and administering tax-labor used for the benefit of the Inca state. In some occasions the entire local system was changed depending on the local reception of the Inca government (see Morris and Covey, 2006). For example, this occurred for the Chimu Empire in the Northern Peruvian Coast, where the Incas continued using local elites although the higher positions of power were removed. Whether local elites were able to negotiate their position or not, depended on the articulation they had with the Inca government and the political organization. In fact, several investigators have found differentiations of policies and integration even within single regions (Costin and Earle, 1989; Covey, 2008b; Doutriaux, 2004; Hastorf, 1993; Menzel, 1976; Wernke, 2003; 2006).

3.5.2.3. Mitimaes, yanas, camayocs and aallas

These types of identities were grounded on diverse types of relations and statuses with the state. For example, *mitimaes*, *yanas* and *camayocs* were mostly masculine roles (Rowe, 1982), which were not exclusive from each other (Espinoza Soriano, 1974; 1975; 1993; 2006).

Mitimaes were colonizers that had been resettled by the empire in distance regions from their homeland, for specific economic, social, political or religious reasons (Pease, 1992; Rowe, 1982; Watchel, 1982; Williams, 1992-1993). Another important aspect is that *mitimaes* continued to hold strong ties with their homeland, yet they were also integrated into the local administration or groups (see Lorandi, 2009: 315). Finally, while historical records suggest that there were variations and characteristics of *mitimaes* populations, archaeologically, these populations are hard to identify (although see Haun and Cook, 2010; Lorandi, 2009; Santillana, 2012:185-222; Williams and Cremonte, 1992-1993), and have consequently been overlooked. Therefore, their material cultures as well as the life histories of these individuals are not yet well understood (see Lorandi, 2009; Santillana, 2012).

The Argentinean archaeologist Ana Maria Lorandi has called attention to two important aspects to consider when analyzing *mitimaes* populations: time and distance. Distance between *mitimaes*' populations and their newly imposed locality might have affected *mitimaes*' relations with their homeland, economic rights and local curacas. In other words, distance shaped the nature of obligatory relations within local and regional leaders and populations, as well as the *mitimaes*' social and political status. *Mitimaes* located in distant regions, probably never returned to their homeland and certainly had different types of relations than *mitimaes* who were resettled closer to their homeland (Lorandi, 2003).

Time is also an important variable. What happened to *mitimaes* populations that were absent for long periods of time? What happened with their land? Did they return to their

homeland? In fact, when *mitimaes* travelled to distant lands, they did not lose their communities rights. However, their family had to work their lands during their absence. Nonetheless, there are colonial accounts that mention lands disputes between *mitimaes* and local populations that were claiming the return of their lands that *mitimaes* had received during Inca administration (see Lorandi, 2003). In addition, we also know that some *mitimaes* populations returned to their homeland after the Inca government collapsed.

In fact, there are various examples of *mitimaes* from across the Andes about (see Covey, 2008b; Espinoza Soriano, 2006; Santillana, 2012:27-28). One well-known case is that of from the Lupaca and Colla that were relocated in different regions of Colesuyo with the aim of securing resources from the valley. Van Buren (1993) suggests that some of these groups continued being under the control of their homeland curaca's while; others were incorporated into the local administration of Colesuyo groups. This last type of relation occurred in the upper valley because intensive archaeological investigations have noted, non-domestic spaces identified as *mitimaes* populations from the altiplano (see Bürgi, 1993).

Yanas: *Yanas* were generally men that cut their relations with their hometown, *curaca* and/or ethnic group, in order to provide service to the Inca state. Under this status, the Inca had the capacity to give *yanaconas* to Inca authorities or important *curacas* as personal gifts. *Yanacomas* provided a personal service to the Inca (Rostworoski, 1976) and were not immersed in a system of relations and interactions. Therefore, they were not requested to accomplish specific tasks, but instead they were ordered to do them (see Murra, 1978 [1956]; 1986; Rostworowski, 1976; Lorandi 2003; 2009).

Camayocs: This category is represented by groups of men that were craft specialists and were organized by the state (metalworking, stoneworking, ceramics, among others). Similar to *yanacomas*, they were for the most part but not always, full-time specialists exempt from

providing *mit'a* service. Some *camayocs* lived in their hometown, while others were moved to other regions (see Murra, 1978 [1956]; 1986). *Camayocs* were under the direction of the Inca state, and supervised by a *tocticoc* or another Inca authority, and sometimes by the local *curaca*. Although it is supposed that the state controlled all the steps of their labor, this depended on many factors: including the location of raw material, work-place, the regional political and economic environment among others (see Costin, 2002; 2004; Earle, 1985; Hayashida, 1995). For example, it has been suggested that among metal - working *camayoc* in Northwestern Argentina, the Inca only had control over the final product and distribution, but not of the acquisition of raw materials.

Acllas: were women removed from their home communities and placed in special facilities (see Astuhuaman, 2006) called *acllawasi* to weave fine clothes and prepared food and drinks for the Inca state (Gose, 2000:84). It has been suggested that the Inca Empire created this category by increasing previous gender ideologies, exploiting female productive and reproductive capacities in order to accomplish their own interests (see Silverblatt, 1987). These women were also given as wives to *curacas* or important lords and they were also occasionally used sacrificial victims; therefore, they represented the Inca state and were used to create imperial-local relations. Recently, studies concerning the category of *acllas* have pushed the idea that *acllas* were directly related to specific gender roles (Barraza 2013); yet these studies need further investigation.

4. REGIONAL PERSPECTIVE: THE MOQUEGUA VALLEY

4.1. The agricultural and maritime landscapes of Moquegua

The Moquegua Valley is formed by three tributaries: the Torata, Tumilaca and Huaracane Rivers. These tributaries capture water from snow-capped peaks and highland rainfall at around 5,100 m asl (Dayton, 2008; Watanabe, 1990) and converge together before arriving at the modern city of Moquegua.⁵⁵ In addition, a remarkable characteristic of this valley is that the lower part, known as the Ilo River, is isolated from the mid-valley, since the river runs underground for around 30 km only to appearing 20 km from the coastline. As a result, on the coast the Osmore River, as it is called there, cuts through the Clemesí desert forming a narrow canyon and creating a unique desert environment.

The Moquegua Valley can be divided in three sections: a lower valley (0 to 1,000 m asl) a mid-valley (1000 to 2000 m asl)⁵⁶ and an upper valley (2,000 to 4,000 m asl). The upper valley is characterized by rugged terrain, the mid-valley is dominated by flat lands, and the lower valley is characterized by a series of ravines (see Goldstein, 2005:115). Each of these distinct environments produced different crops and required different agricultural techniques. For example, the upper valley has short irrigation canals and agricultural terraces located along the

⁵⁵ Nonetheless, of the three tributaries of the Osmore Basin, the Torata River is the only one that uses most of its water discharge to irrigate the agricultural lands of the upper valley. The other two tributaries, Huaracane and Tumilaca, irrigate agricultural lands of the mid-valley (Williams, 2006). Consequently, the agriculture in the mid-valley depended on water consumption in the upper valley. Therefore, Williams (2006) indicates that societies that lived in the same valley, had to cooperate.

⁵⁶ Although some suggest it goes until 3,000 m asl (Williams, 1997).

mountain sides (Williams, 1997). In contrast, the middle parts of the valley require long canals and a more complex water administration because the agricultural lands were more extensive (around 2,800 ha; ONERN 1976). The lower valley has a single canal that distributes water for all the small agricultural parcels located along 30 km.

4.1.1. Agricultural production in the upper and middle parts of the Moquegua Valley

Irrigation of the entire Moquegua Valley depends on the amount of precipitation arrives in the highlands each year. In the highlands, the wet rainy season from January to March, and the dry season is from April to September. As consequence, there is less irrigation water during the dry season, a conduction that is made worse by the sun light which grows stronger and which acerbates water evaporation of canals and agricultural lands (Rice and Ruhl, 1989).

Beginning around 600 A.C., the start of a period that archaeologists refer to as the Middle Horizon, the agricultural system of the Torata basin was organized by the Wari. The highly centralized and hierarchical Wari administration focused on the upper parts of the valley, building many canals and agricultural terraces that greatly expand the agricultural capacities of the area (see Williams, 1997). In fact, during the Wari presence in the valley, Williams has suggested that the Wari society deeply modified the ecological landscape of the Andes and especially that of the Moquegua region (Williams et al., 2005). However, the Wari agricultural system was abandoned after Wari collapsed (around 1000 A.C.), transforming the upper valley areas into a fragmented agricultural system.

During the LIP period (1100 – 1450 A.C.), agricultural terraces were generally located directly next to hilltop sites (Dayton 2008; Stanish 1998; Williams 1997; 2006). They were

independent agricultural systems with a capacity of 10 ha to a maximum of 30 ha. Interestingly, despite the fragmentation of the Estuquiña agricultural system, irrigation depended on the communal management of a single central canal. Consequently, cooperation between the fragmented Estuquiña communities had to occur during specific times of the year.

When the Incas arrived in the southern Andes, the Estuquiña agricultural terraces were abandoned, and agricultural practices shifted largely to the valley bottoms (Stanish, 1985) as well as along newly constructed Inca highland canals at settlements such as Sabaya and Camata Tambo (Williams, 1997). As a result, agricultural lands increased to around 500 ha (Williams, 2006).

The Torata Basin (where the site of Camata Tambo/Pueblo is located) experienced a great landscape transformation during Inca presence. The Inca administration built several irrigation canals within each tributary valley. These were composed of a principal canal and several secondary canals that reached agricultural lands under an elaborate distribution system (Dayton, 2008). This complex irrigation system also included at least three to four reservoirs (see Dayton, 2008; Stanish, 1989). These sweeping changes in the change agricultural technologies from the Estuquiña to the Inca, not only increased crop production, but introduced a sophisticated storage system, a shift towards mono-cropping (mainly maize production) and centralized water distribution system of the entire Moquegua Valley.

4.1.2. Agricultural production in the lower Moquegua Valley and spring-fed systems

The lower part of the Osmore Valley also known as “Ilo River”, had around 400 ha of agricultural capacity, seven times less agricultural land than the mid-valley. This part of the valley is narrow and cuts through the hyper-arid flat lands of the Cledesí Desert (Rice, 1989).

However, this coastal area also includes additional environmental niches. For example, the areas north and south of the valley mouth are characterized by sea-cliffs, narrow coastal plains, and the coastal cordillera that runs along the coast line cut by alluvial fans or small ravines.

In this environmental system where water was already a scarce resource, the major agricultural lands were irrigated by canals that depended on water that flowed from the mid-valley. Coastal ravines also had scattered spring-fed agriculture that supported small populations with a mixed economy based on farming and small scale exploitation of *lomas* and marine resources. Along the coast, spring fed agriculture became more predominant after a strong El Niño event (circa A.D. 1350) that caused the collapse of the lower valley canal that pushed populations out of the valley and into the coastal ravines (Zaro, 2005).

Along the coastal desert of Peru, wet and dry seasons are associated with El Niño – Southern Oscillation (ENSO) events that produces profound changes in the environment. Whether this natural phenomenon is intense or moderate, the consequence of coastal flooding and highland droughts communities can be devastating (Keefer et al., 2003). Ironically, El Niño – Southern Oscillation (ENSO) event also opens opportunities for innovation (Williams, 1997).

Keefer and colleagues (2003) identified different types of floods caused by ENSO events in Quebrada Tacahuay (30 km south of the Ilo River). Flood classifications were based mainly on the quantity of water flow and the sizes of carried material. These investigators recorded two different types of flooding events, floods that were made of “liquid deposits” and those that were made of “debris-flow deposit”⁵⁷. These floods occur depending on the quantity of rain falling and on the gradient of the slope (Keefer et al., 2003). Floods that are

⁵⁷ In other words, floods that contained a high concentration of debris with relatively low levels of water (Keefer et al., 2003).

observed in many cuts of Quebrada Tacahuay (see deFrance and Umire, 2004) document diverse ENSO events. It will be suggested later in this thesis that the “liquid deposits” floods covered the *chullpas* in archaeological site of Tacahuay.

The Peruvian coast is also characterized by the *loma* environment that flourishes from May to October between 200 and 1,000 m asl.⁵⁸ This type of ecosystem is produced by a dense fog that originates in the ocean. During the Early Colonial Period, local people identified this fog, and the people living along the coast, as “*camanchaca*.”⁵⁹

For a few brief weeks, the *lomas* environments make the terrain humid (Dillon, 2006), allowing shrubs and grasses grow (Arakaki Makishi, 1999) and making this area suitable for camelids (see Frezier, 1902 [1713]:154-155; Rowstorowski, 1981), deer, foxes, as well as cattle. For example, during the first decades of the colonial occupation, Tacahuay, which is located in the *Lomas* was the “*caballeriza*” of the *encomendero* Juan Martinez Lucas de Vegazo (Trelles, 1991). In this ravine, Martinez Vegazo grazed /raised mules and horses. Hence, due to local environmental and the topographic characteristics, in the past as in the present, Tacahuay is a small ravine appropriate for small-scale agriculture and herding (Figure 2).

⁵⁸ This fog also gets trapped in steep ravines, such as in quebrada Tacahuay.

⁵⁹ Denomination also used for altiplano’s fishermen that migrated to the coast in order to exploit marine resources (Cañedo-Argüelles, 1993:28).



Figure 2. View of Quebrada Tacahuay landscape during dry season (July 2010) (photo provided by Susan deFrance 2010).

Similar to other *quebradas* of coastal Moquegua, the small agricultural plots of Quebrada Tacahuay are fed by a spring system (Covey, 2000; Zaro, 2007). However, spring systems are affected by different processes than valley waters. According to Greg Zaro, who investigated Chiribaya agricultural systems in the northern parts of the Ilo River, local farmers correlate spring discharge with mountain rainfall which occurs 40 to 60 km inland (Zaro, 2007; also see Clement and Moseley, 1991:430). In addition, Zaro also noticed that spring water capacities are subject to seismic activities. In fact, after the 2001 earthquake of 8.4 on the Richter scale that occurred in the southern Andes, some springs increased while others decreased in discharge;

nonetheless, some of them remained the same (Zaro, 2005:30). Therefore, spring fed-irrigation is irregular across time and space.⁶⁰ However, they do represent a separate system from the river and from water consumption in the middle and lower valley.

Thus, springs represent a delicate type of environment. Humans and animals can easily contaminate these systems, for example, *Ordenanzas* (legal dispositions) given by viceroy Toledo in 1580 (Lohmann Villena and Sarabia, 1989:451 [1575-1580]) indicated that the springs of the Rímac Valley were in constant risk of contamination. Water authorities of the early colonial period monopolized knowledge and expertise for handling water that were transformed into economic and political advantages. Did the Moquegua *quebradas*, such as Tacahuay, also offer positions of power? Could variations spring flows create alternate power structures for political manipulation in the Colesuyo?

Today, Tacahuay has at least two springs. One spring is private and irrigates one half hectare of olives. A second spring is public and is situated 300 meters from the other. This spring is supervised by a forestry ranger and is used to irrigate the few *tara* (*Caesalpinia spinosa*) trees that are disappearing as a result of illegal deforestation. Humans and local herders that pass-by consume water from this public spring. Furthermore, Tacahuay's springs are an important point of social interaction where herders meet, where farmers maintain the agricultural production of this *quebrada*, and where others obtain drinking water. Thus, we see in modern terms, power is exerted by both private farmers and the state over distinct spring system. The dynamics of how power structures change in this environment warrants further study, but the actual distribution of power over water sources in the region today illustrate a complex dichotomy of authority.

⁶⁰ Contemporary water discharges of Tacahuay's springs are about 1/3 less than during the pre-Hispanic period (Zaro, 2005).

4.1.3. The maritime environment of Colesuyo

In the southern parts of the Pacific coast of Peru, waters tend to be very cold producing a perfect environment for fishing (Alamo and Valdivieso, 1987; Reitz et al., 2008). Furthermore, cool waters and abundant nutrients located near the Pacific shore bring phytoplankton to the surface attracting fishing schools. In addition, combinations of rocky and sandy beaches as well as cliffs are intermittently present along the Southern Peruvian coast that together with nutrients from the sea have created diverse types of environments (Figure 3). Adapting to multiple types of marine environments required diverse maritime technologies. In fact, archaeological and historical data found in this region indicate an ample co-existence of human interaction with the ocean (Hidalgo, 2009). Also, archaeological investigations conducted in this region have found diverse fishing tools, such as nets, leisters, traps, boats and hooks (Hidalgo, 2009; Llagostera, 1989) indicating diverse specializations.



Figure 3. Rocky beach near Tacahuay (at the site of Punta Picata) (photo provided by Susan deFrance 2010).

Based on historical data we can identify some fishing technologies that might have pre-Hispanic antecedents. For example, boats were made of long logs and sea lion skin, the first used for deep-sea fishing and the second to navigate along the shore (Bittmann, 1984a:104).⁶¹ Catching shellfish, octopus and rocky outcrop fish requires special tools and skills, all of which had been found in the archaeological record (Moseley, 1975). Finally, sand shore fishing involves other types of techniques such as nets and hooks. Some of these techniques required diverse labor pools, as well as special types of social organizations; these aspects are important to take into consideration when analyzing fisherfolk populations.

El Niño events also affect maritime production, mainly because coastal warming produces a great decrease in marine productivity (Reitz et al., 2008:127). In fact, climate change

⁶¹ This was observed by the expedition of Francis Drake in 1579 in Arica (Bittmann, 1984a:104).

together with human interaction represents a great human impact on marine ecology (Reitz et al., 2008:126). Therefore, in order to study fishery communities and maritime consumption, investigators have to understand several site conditions including latitude, local topography and geomorphology, coastline orientation, the width of the continental shelf and the tectonic history of a specific locality (Reitz et al., 2008: 126). These aspects are difficult to address for archaeologists not specialized in marine ecology, but are important to recognize.

Finally, living in coastal Colesuyo (and also in the upper parts of the valley) implied coping with water adversities and other types of vulnerabilities such as poor quality of soils.⁶² In order to handle these difficulties, local populations during the pre-Hispanic period developed different types of agricultural strategies and technologies. Historical documents mention the use of natural fertilizers to improve agricultural productivity. This pre-Hispanic practice was based on procuring *guano* from maritime islands (coastal bird dung) for spreading on inland agricultural fields (Julien, 1985; Vasquez de Espinoza, 1969:345) to obtain higher production of crops. Pedro de Bilbao, resident of the Moquegua Valley around 1570's, mentioned that corn only grew when bird fertilizer was added to soil (Diez de San Miguel, 1964[1567]:126-127).⁶³

However, the use of guano as fertilizer is a constructed knowledge. It is fundamental to know the amount of guano and the timing of application for each plant; as well as soil characteristics. For example, in 1776, when the French traveler Amadeo Francisco Frezier

⁶² According to Williams (1997), most of the irrigated land from the upper valley has a slope of between 13 to 30 percent. In addition, in this valley the soil tend to be thin, coarse and compact. Therefore agricultural production has always needed fertilizer.

⁶³ “*Maiç no se da sin guano*”, Spaniard Pedro de Bilbao (Diez de San Miguel, 1964 [1567]:126-79).

(1902 [1716]) passed through the Azapa Valley, he observed indigenous people placing *guano* on a chili pepper (*Capsicum sp.*) cultivated area, as well as to other crops. He writes:

“It would be difficult to believe it, knowing the small sizes of lands that produce such great amounts (talking about ají and other cultigens) [...] But this is because they get help from guano, which is brought from Iquique, and fertilize the land. They obtain four to five hundreds crops (per hectare) in all species such as wheat, corn, etc. but only if used as required. [...]...at the bottom of each cultigen a handful of guano. When the plant is flowering, an additional amount of guano is added, and then, at the end, when the fruit is already out, another small handful of guano has to be placed, always having to water the plants because it never rains in this country and salts from this guano can burn plants”⁶⁴ (translation mine, Frezier 1902 [1712-1716]:153-154).

In this account, we observe a careful use of bird fertilizer as well as the high production of cultigens from small plots of land. In fact, the cost of handling guano badly has negative consequences. For example, in 2010 during fieldwork at Tacahuay, local workers of the nearby olive plantation stated that the previous year, they had one third of the normal olive

⁶⁴ *“Costaría creerlo al ver la pequeñez de os lugares que producen tan grandes sumas, pues, fuera de los valles, ei país está **por** todas partes tan quemado que no se **v<j:** verdura alguna. Pero este prodijio se debe al ausilia del g-anim cpe se trae, como lo he dicho, de Iquique, que fertiliza la tierra de tal manera que rinde de cuatrocientos **i** quinientos **por** uno en toda especie de granos, trigo, maiz, etc., i paaticuilarniente saccando se sabe usarlo como es preciso. Habiendo crecido el grano **i** en estado de trasplantarlo se colocan las plantas serpenteando a **fin** de que la misma disposicion de los surcos que llevaban el agua para regarlos, la conduzca suavemente al **pié** de las plantas; entónces se echa alpié de **cada** - 1.:t - ají un puñado de guano, lo que cabe en el hueco de la mano. Cuando la flor está formada, se le echa otra poco i en fin, cuando ha salido **el** fruto se echa **UPI** buen puñado, teniendo siempre el cuidado de regar porque **no** llueve jamas en ese país i **las** sales que contiene el guano no estando mojado quemarian las plantas, como lo ha hecho notarla esperiencia. Por esta razon se echa en diferentes ocasiones con cierta tino, que el uso ha hecho conocer en la diferencia de cosechas.”* (Frezier, 1902 [1712-1716]): 153-154

production mainly because they did not know how to apply fertilizers to olive trees. They placed twice the amount of guano that olive trees required, and ended up burning the trees.

Thus, marine environments provided various types of seafood, as well as rich seabird guano that fertilized the desert fields of the South Central Andes. Maritime resources combined with unique terrestrial resources, including *lomas* formations and river and spring fed agriculture, created the conditions in which coastal and highlands societies of this region flourished for over 10,000 years. The social challenges presented by environmental change and the changing relationships between these resources were never more pronounced than the transition during the Late Intermediate Period.

4.2. Colesuyo region during the Late Intermediate Period

The Late Intermediate Period in Moquegua begins with the collapse of Tiwanaku and Wari. During the early Late Intermediate Period, this region was inhabited by the Tumilaca society (from around 900 to 1200 A.D.). Tumilaca phase settlers resulted from the fragmentation of the Tiwanaku centers, representing a more dispersed settlement pattern of smaller villages (Bermann, 1989; Sharratt, 2010). In contrast, during the Late Late Intermediate Period (circa 1,200 A.D.), Estuquiña groups inhabited the upper and mid Moquegua Valley (Stanish, 1989). Estuquiña society consisted of small, fragmented groups with a low level of social stratifications (Conrad, 1993). In contrast, the coastal plain was inhabited by other groups, such as the powerful Chiribaya chiefdom (Lozada and Buikstra, 2002).

4.2.1. Upper valley populations

The upper part of the Moquegua Valley has very different landscape and agrarian characteristics than the coastal valley. In contrast to the coastal region, the upper valley agriculture was based on long canals with many branches, terraces, reservoirs and the managing of *puquios* or springs. The governance (distribution and control) of water in the upper parts of the valley during the LIP and Inca occupation greatly differed from the middle and lower parts of the valley. In fact, during the Inca presence in this region (1400 – 1532 A.D.), the Incas increased the agricultural capacities in the Camata area from 200 hectares to more than 500 hectares (Dayton, 2008).

Before the Incas arrived in Moquegua, the upper and middle valley was inhabited by small and fragmented groups with a low level of social stratification (Conrad, 1993). Therefore, there are not site hierarchies in the Moquegua Valley during this period (Bürgi, 1993). Estuquiña settlements were located on ridge tops and were protected by defensive walls. This suggests that the Estuquiña, like so many other LIP peoples were under a state of endemic warfare (Stanish, 1989).

Furthermore, the domestic economy of Estuquiña groups was based on small-scale agriculture, directed toward domestic consumption, and agricultural terraces strategically located at the edges of the villages (Williams, 1997). Each village cultivated about 30 ha of fields (Williams, 2006), and subsistence was focused on maize, chili pepper and quinoa agriculture, as well on the consumption of guinea pig and camelid husbandry.

4.2.2. Lower valley populations

As mentioned above, historical accounts indicate two different coastal groups inhabited *yunga* territory, the Coles and the Camanchacas (Rowstorowski, 1976) both of which apparently spoke the Koli language (Julien, 1979).⁶⁵ These coastal groups were dispersed along coastal ravines (Bittmann, 1984a, 1984b) and exploited marine and *lomas* resources, and practiced small-scale agriculture. For example, the Coles cultivated diverse types of products such as cotton, chili pepper, and corn. They also extracted guano (Julien, 1985), and established relations of economic complementarity with fishermen communities (i.e. *camanchacas*). Archaeologically, these coastal populations are identified by distinctive ceramic styles such as Gentilar, San Miguel (Covey, 2000; Romero, 1999; 2002; Santoro et al., 2004; Trimborn, 1975) and Chiribaya Terminal (Reycraft, 1998). Although ceramic styles during this period are clearly distinctive, there is not a well-defined spatial distribution among these ceramic groups.

Today, there is a common agreement that coastal Colesuyo did not hold an important economic or political role in supporting the central government in Cuzco during the Inca Empire (Covey, 2009; Muñoz et al., 1987; Muñoz, 1998). Nonetheless, we still do not understand the ways in which expansion of the Inca Empire affected the local political economy of these *yunga* populations as well as how these local groups interacted and articulated with imperial powers and/or more powerful altiplano groups. However, there is evidence that some coastal technologies were transformed during this phase. For example, according to Dauelsberg (1982), maritime technology, such as fishing tools and hooks of northern Chile changed during the presence of the Incas.

⁶⁵ However, some investigators indicate that these coastal groups might have spoken other types of languages as well (Bittmann, 1984b).

It is known that coastal societies under Inca influence also adapted new agricultural terraces increasing the production of chili pepper, corn, sweet potato, squash, among other products (Covey, 2000, 2009). Excavations conducted by Focacci (1969) in Playa Miller-9 (located in coastal Arica, Chile) identified Inca period burials that when compared to earlier contexts, contained higher quantities of agricultural tools, especially *azadas* (hoes) and *palas* (shovels). On the other hand, Chilean investigator Ivan Muñoz (1998) noted that local populations of Colesuyo during Inca influence had more access to exotic and wealth materials, such as arybalos (ceramic urns) and *escudillas* (platters) with altiplano and imperial style. Finally, Alan Covey and Adán Umire who conducted a survey between Ilo and Ite in Moquegua and Tacna (Covey, 2000), as well as Carlos Vela Velarde's (1999; 2004) excavations in the coastal site of Hornos in mouth of the Caplina River, identified exotic materials related to later Inca period's contexts. All this evidence indicates that during the period of Inca influence, the *yunga* (coastal) populations had higher access to exotic material manufactured in the altiplano and/or the Colesuyo region that they did earlier, and they intensified their economic production becoming more specialized and/or more intensive producers.

4.3. Climate history of Colesuyo

ENSO events are complex phenomena: affecting areas of the Andes differently. For example, along the Andean coast, the dry/wet periods have different consequences. To discuss climate changes in the Colesuyo region, I examine three different sources: 1) the Quelccaya glacial ice core that indicates long-trend climate changes across the Andes (see Thompson et al.; 1985). 2) The lake cores from the Titicaca Basin (Abbott et al.; 1997) and, 3) The lake cores from the Cuzco region (Chepstow-Lusty et al., 2003). Together these sources suggest

that there were periods of dryness from: 550 to 610/730 A.C.; from. 1250 to 1310 A.C., and during the historical period, 1720 – 1860 A.C.

In Colesuyo these climatic events had specific societal consequences. For example, during 1200-1400 A.C., a period related to the Late Chiribaya social organization (Reycraft, 1998), Satterlee and colleagues (2000:96-97) have estimated a 20 to 30% decline in water runoff from the headwaters of the Osmore drainage. This decline of highland rain water resulted in a dry periods on the lower valley and coast (see Zaro, 2007:165). In response, Chiribaya communities along the river moved to small ravines located to the northern and southern parts of the Ilo Valley, accessing independent, but nonetheless reduced water sources.

Wetter periods occurred from 610-650 A.C., 760-1040 A.C., and 1500 – 1720 A.C. (Thompson et al., 1985). Nonetheless, agricultural intensifications and des-intensification (see Brookfield, 1972) are associated with both abundance and scarcity of water (see Guillet, 1987, Williams, 2006). In this respect, Williams (2006) has argued that intensification of agricultural productivity in the upper Moquegua Valley during the Middle Horizon primarily relied on two pre-requisites: labor input and favorable climatic conditions (water availability). In fact, during the Middle Horizon the Moquegua Valley incorporated technological innovations, one from the Wari tradition that constructed agricultural terraces in the upper Moquegua Valley, and the other from altiplano Tiawanaku colonists that exploited and settled in the flat lands of the middle Moquegua Valley (both circa 600 A.C.). Another period of great agricultural intensification was during Inca influence of the entire Moquegua drainage (circa 1400 – 1500 A.C.) evidenced by great hydraulic works and a greatly intensified agricultural system that is still observed in the contemporary landscape. In other words, during both the Middle Horizon

and the Inca occupation, foreign elites managed local labor for agricultural intensifications in the Moquegua region in order to obtain political and economic benefits.

5. EXCAVATIONS IN CAMATA

5.1. Excavation methodology

All excavated structures included in this investigation (Camata and Tacahuay) were designed a unit number, divided in 1 m grid quads. This type of control allowed a detailed record of objects and features found during excavations. Each archaeological layer and artifact found on floors was spatially (vertically and horizontally) recorded using forms, drawings and photographs. In addition, each strata was excavated by a layer; Layer A being the most superficial, continuing with Layers B, C, etc. All the earth recovered during excavations was screened through a mesh of 0.5 mm aperture that allowed a detailed recovery of archaeological materials. In addition, one-litter flotation samples were obtained from the center of each excavated unit from layers below the Huaynaputina ash deposition (1600 A.C.). These samples were analyzed in the Cayetano Heredia University, which is described below.

5.1.1. Botanical analyses

5.1.1.1. Macrobotanical analysis

I collected 1 L samples from the center of each 1 by 1 m excavation unit. Each sample was screened in the lab. In addition, this project recovered samples from layers beneath the ash from the Huaynaputina volcanic eruption – a stratigraphic marker that clearly separates pre-1600 A.C. contexts from the later historical occupations. These samples were dry sieved through successive meshes of 2.0, 1.5, 1.0 and 0.5 mm apertures. The objective of these meshes was to recover macro-botanical remains with similar accuracy from flotation analyses

(Pearsall 1989:79-80). Dry sieving rather than flotation has been shown to obtain better results for sites located in arid zones (Minnis and LeBlanc 1976; for an explanation see Pearsall 1989:79). Soils from the coastal and piedmont areas of the southern Andes, where Camata and Tacahuay are located, contain high levels of salinity and the region is one of the driest areas of the world (Moseley 2001). Excavations conducted at Camata in 2006 successfully used dry sieving; and I employed this method at Tacahuay to recover macro-botanical remains that ensured comparable data. Furthermore, as mentioned before macro-botanical analyses from both sites were conducted in the laboratory of Cayetano Heredia University.

5.1.1.2. Pollen analysis

Pollen analysis provided a complementary and independent line of evidence to the macro botanical information (Bryant and Hall, 1993; Dimbleby, 1985; Pearsall, 1989:257). Pollen analysis provided a more complete indication of the types and amounts of products stored in the storehouses, consumed at imperial spaces – related spaces and domestic areas of Camata and Tacahuay sites, as well as in the agricultural system of both sites. Samples were taken from each exposed floor following the procedures outlined in the Linda Cumming's manual from the Paleo Research Institute (Cummings 2007).

5.2. Camata Tambo and Camata Pueblo in context

5.2.1. Camata Tambo

The Camata complex is an Inca waystation built next to an Estuquiña (LIP) site that continued to be used during Inca presence in the region (see Figure 4). During the LH, this site included 340 ha of agricultural terraces indicating more intensified agricultural production than during the previous LIP occupation (see chapter 4). This greatly intensified imperial infrastructure implies changes in the social organization, such as the imposition of labor parties to manage agricultural works and the construction of roads. This evidence, together with the presence of the small administrative center of Sabaya (5 km down valley), suggests that the upper Moquegua Valley was incorporated into the Inca administrative system. How did exchange occur when the empire administered it? In other words, how did exchange occur at Camata Tambo? And, how did the local Estuquiña community articulate with this imperial institution?

The site of Camata Tambo is located on a promontory overlooking the Chujulay Valley. It is a rectangular building that measures 140 m long by 50 m wide. There are several structures associated with Camata Tambo including a watch post located near the entrance of the *tambo*, and an Inca road that crosses the *tambo* in the direction of Sabaya. This *tambo* is composed of a double-faced wall built of fieldstones, measuring approximately 0.20 x 0.30 x 0.20 m. The majority of the *tambo* walls are approximately 0.60 to 0.80 m wide. The *tambo* masonry construction technique differs significantly from that of Estuquiña architecture, which is characteristically coarse and unpolished. In addition, Camata Tambo has a north-south dividing wall that defines two sectors one to the east and the other one to the west.

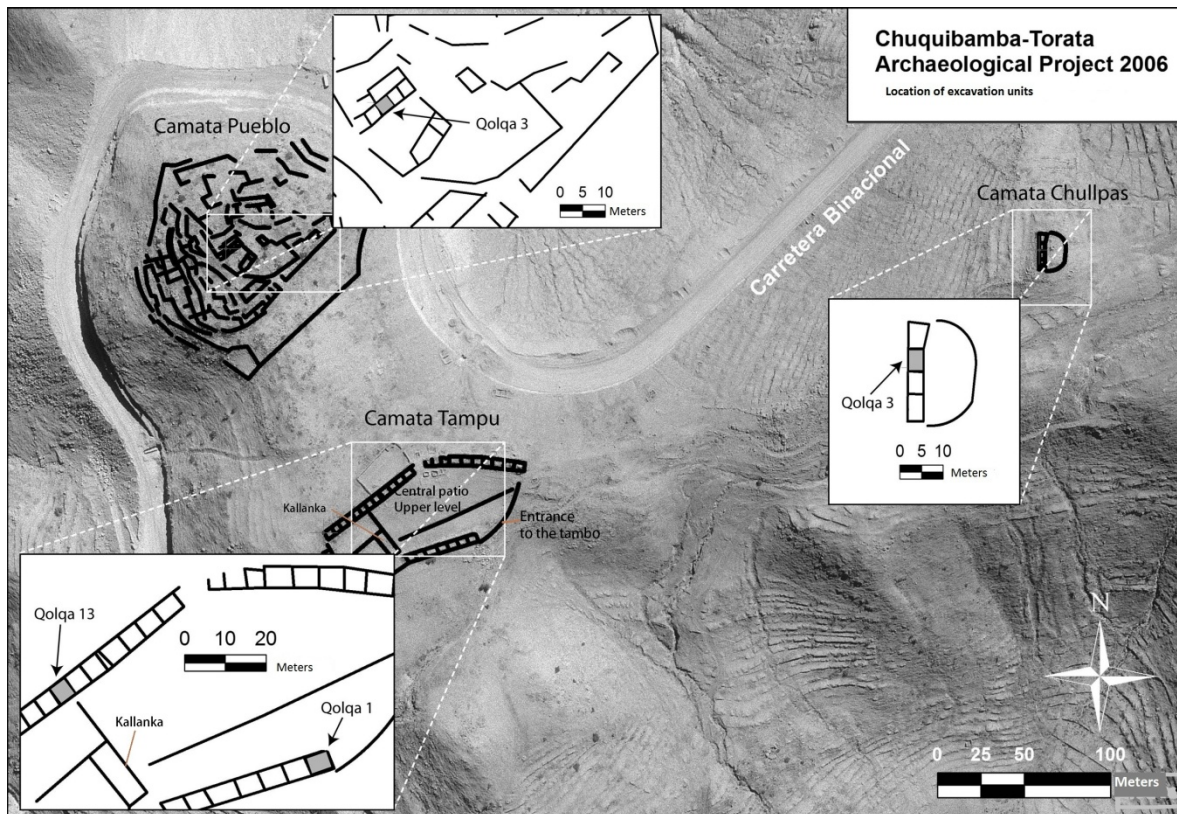


Figure 4: Map of Camata Tambo and Camata Pueblo and the location of excavation units (figure taken from Dayton 2008:276).

The west sector contains a *kallanka* or a large building measuring 9 m in length by 4.5 m in width. There are also three other rooms of approximately 5 x 6 m located to the west of the *kallanka*. The eastern sector has a central patio with two levels. One level is formed by an elevated platform located to the north following the geography of the hill. The east sector is comprised of three platforms of varying elevations that provide a leveled foundation, with the highest elevation to the north. Finally, the entrance of the *tambo* is situated in the eastern sector, near the watch post (described below).

Camata Tambo has 31 rectangular *golqas* approximately 2 m high (see Figure 5). The storage capacity of this *tambo* was approximately 1097.4 m³ (Dayton, 2006:190),⁶⁶ representing the highest storage capacity of the Colesuyo region during the Inca Period.⁶⁷ In addition, the exterior façade of the *golqas* have flat stones protruding from the wall in a diagonal alignment, creating a staircase used to enter the structure from the roof. All *golqas* have ventilation windows facing the interior of the *tambo*, and all excavated *golqas* (from a total of seven *golqas* excavated by Guillaume's and PDAM) contained aqueducts and/or ventilation channels.

⁶⁶ Previous research calculated a lesser capacity of 700 m³ at Camata Tambo (Stanish and Pritzker, 1983).

⁶⁷ Few Inca sites located in Colesuyo have storage rooms. Besides Camata, the other site with a higher storage capacity within Colesuyo region is the Inca waystation of Zapahuirra located in the upper Azapa Valley (Chacama et al., 1989; Muñoz et al., 1987; Muñoz, 1998). Nonetheless, Zapahuirra *tambo* has about seven storage rooms indicating far less storage capacity than Camata Tambo.



Figure 5: Photo showing the tallest remaining wall (*golqa* 7) of almost 2 m.

Previous research (Guillaume – Gentile, 1992) has indicated that the *golqas* of Camata Tambo are of differing sizes and contain different internal features. Therefore, the southern sector is composed of seven *golqas* approximately 6 x 5 m in size. These represent the larger *golqas* structures of the *tambo*. The northwest sector contains 13 *golqas* measuring approximately 4 x 3 m each. These are the only *golqas* with internal divisions. The architectural differences within these *golqas* might indicate that they were designed for storing different types of products.

Finally, there is a rectangular room located to the eastern side of the *tambo*, near the highway that appears to be a guard post. This room is most likely where the *tambocamayoc* (*tambo*

official) resided and carried out his functions including maintaining accounts of the goods that entered and left the *tambo*. Nonetheless, this room has not yet been excavated (see Figure 4).

5.2.2. Camata Chullpa Complex

Chullpa Complex is a D shaped structure that has four *qolqas* along a straight-lined wall, and two *chullpas* located in its center. This complex is located on top of an eastern hill near Camata Tambo (see Figure 4). The nature of the relationship between the Chullpa Complex and the Camata Tambo remains unknown. However, it has been observed that the architectural style of the Camata Chullpas Complex is dissimilar from both the Inca and LIP architectural styles (Dayton, 2008), and instead, appears to reflect a colonial architectural style. Furthermore, analyses of pollen collected from the floor, below the Huaynaputina layer, identified wheat pollen (*Triticum sp.*). The spaniards introduced this cereal grain into the area during the first decades of the Iberian occupation. From this evidence it can be suggested that these buildings were used during a brief period, between 1540's, when the Spanish first establish a settlement in the Moquegua area and 1600's, the time of the Huaynaputina ash fall.

5.2.3. Camata Pueblo

Camata Pueblo is a typical Estuquiña town surrounded by a defensive wall. This settlement has a small entrance on its southern side and several pathways that connect each sector to the center of the town. One path leads to the central area where two adjoining domestic structures with a double patio (or communal area) are located. At the center of the town and contiguous to a domestic structure, there is a group of five small *qolqas* each

measuring 2 x 2 m. Dayton has suggested that the storage capacity of this group of *qolqas* is around 59.0 m³ (Dayton, 2008). These *qolqas* differ from the typical Estuquiña domestic storage units that are usually small 1 by 1 m bins located inside domestic structures.



Figure 6. General view of Camata Tambo (showing vigilant post and entrance of the *tambo*) and Camata Pueblo.

5.2.4. Previous research at Camata

As part of the doctoral research conducted by Peter Bürgi in several sites in the upper Moquegua Valley, French archaeologist Nicholas Guillaume-Gentile conducted several small excavations at the site of Camata Tambo and Camata Pueblo (see Figures 7, 8). This project had two objectives: first, to test Murra's theory of vertical control of ecological floors, a theory which would imply that highland colonists settled in the lowlands to acquire valley products. This theory assumes that the more complex altiplano societies somehow administered lowland societies, and as part of their strategies, they placed altiplano colonists in the valley. A second objective of the excavations was to examine Llagostera's hypothesis (1976) that "...The Incas dominated the regions far from Cuzco, either through the delegation of power transmitted to recently conquered kingdoms, or through the direct presence of Inca emissaries" (Guillaume-Gentile, 1992:2; 2001). In other words, Guillaume's investigations sought to determine if the Incas had indirect or direct control of Colesuyo populations. Therefore, the Inca site of Camata Tambo and its Estuquiña component (Camata Pueblo) represented an ideal scenario to test these hypotheses.

In the course of his work, Guillaume-Gentile excavated five structures in Camata Tambo. He placed three units inside the *tambo's* *golqas*:⁶⁸ *golqa* 5 (structure 7), *golqa* 14 (structure 25) and *golqa* 27 (structure 40) (see Figure 8). In addition, he excavated two units in rooms in the western section of the *tambo*, one placed within the *kallanka* (structure 11), and the other inside a small rectangular room next to the *kallanka* (structure 12). During his excavations of the *golqas*, Guillaume-Gentile found that the storage rooms had sophisticated and complex

⁶⁸ To designate each excavated unit, Guillaume-Gentile used "Structure"; instead, this investigation enumerated each *golqa* which is used to designate the units (see Figures 9 and 10).

floors, identified by Craig Morris (1967; 1992) as “open floors”. Open floors are carefully designed surfaces composed of fills with large stones designed to control interior temperatures to keep agricultural goods in a cooled environment. In fact, these floors were designed specifically for use in environments with dramatic temperature changes, such as in the Andean highlands (Morris, 1992). Craig Morris (1992) has observed similar floors during his excavations at the Inca site of Huanuco Pampa in the central highlands. He found that the *qolqas* had complex floors made of flag slabs and mortar to promote air circulation and cool atmospheres. Guillaume-Gentile noted that the *qolqas* at Camata Tambo were mostly empty, contained small benches along their walls, and that some of them contained *ichu* (grass) that had been used as roofing material. In addition, he recovered a *tupu*,⁶⁹ a few ceramic fragments, and very little botanical evidence (he did find a small quantity of corn).⁷⁰ He concluded that these storage rooms were not in use after the Spaniards arrived in the valley. In contrast, his work in the *kallanka* (structure 11) of the *tambo*, indicated that this building continued to be used during early Colonial Period.

Guillaume- Gentile also excavated in three structures in Camata Pueblo (structures 194, 191, and 122) (see Figure 7). Structure 194 proved to be a storeroom. This 3 by 5 m room located in a row of five similar rooms at the center of the settlement; has a floor made of flagstones with mortar. This floor also contains a small canal, running north to south, exiting the structure by the southern wall next to the front window. Under the floor of this *qolqa*, Guillaume-Gentile exposed domestic garbage indicating that this space had a domestic use before it functioned as a storeroom.

⁶⁹ *Tupu* is a metal pin typically used by Andean women to hold their shawls around their shoulders.

⁷⁰ Guillaume-Gentile recovered botanical samples from *qolqas*' floors but these samples were not analyzed.



Figure 7. Map of Camata Pueblo – showing excavation conducted by Guillaume- Gentile.



Figure 8. Map of Camata Tambo – showing excavation units conducted by Guillaume -
Gentile.

5.2.5. Verticality in Camata

Archaeological discussions about verticality have mostly focused on identifying the direct or indirect access of coastal goods by altiplano societies (Covey, 2000; Muñoz, 1996; Muñoz et al., 1987; Nuñez and Dillehay, 1995; Stehberg, 1995). However, as mentioned at the beginning of this thesis, these relationships (altiplano vs. coastal) have not been fully explained, analyzed or described archaeologically. The archipelago model and the circulation of goods within/among these sites and surrounding locales (and the Colesuyo region) point to distinct modes of engagement between local/transplant populations. Therefore, in order to visualize these modes of engagements between altiplano and coastal regions, I conducted excavations at Camata Tambo and Camata Pueblo, as well as in the nearby agricultural terraces. I was particularly concerned with identifying how the local economy of Colesuyo was transformed under Inca imperial administration.

My research on the vertical exchange of agricultural products stored and consumed in Camata Tambo and Camata Pueblo was guided by the following questions: What types of goods were stored in Camata Tambo and adjacent pueblo' storehouses? Were the stored products produced locally or elsewhere? (see TABLE I). Did local elites have more access to foreign products? Was the production of local goods intensified? How did local elites interfere in the political and economic demands of the empire? How did the Incas impact the previous local and regional economic interactions in Colesuyo? Finally, what roles did *tambos* play in this region?

I sought to answer these questions by conducting both macro and micro archaeological analyses to observe the types and the potential quantities of stored products at storage systems of Camata and the transformations of the local pueblos storage practices

during Inca presence. For this reason, excavations conducted in Inca storerooms at Camata Tambo were aimed at enhancing our understandings of the political and economic organization and imperial administration of the region (D'Altroy and Earle, 1992; Morris, 1967; 1992a). In total, I excavated *qolqa* 1 and 13 of the Inca waystation, *qolqa* 3 at Chullpa Complex, *qolqa* 3 at Camata Pueblo, and several test pits in the Inca agricultural system. The results of those excavations are described below.



Figure 9. Map of Camata Pueblo showing excavation units in 2006.

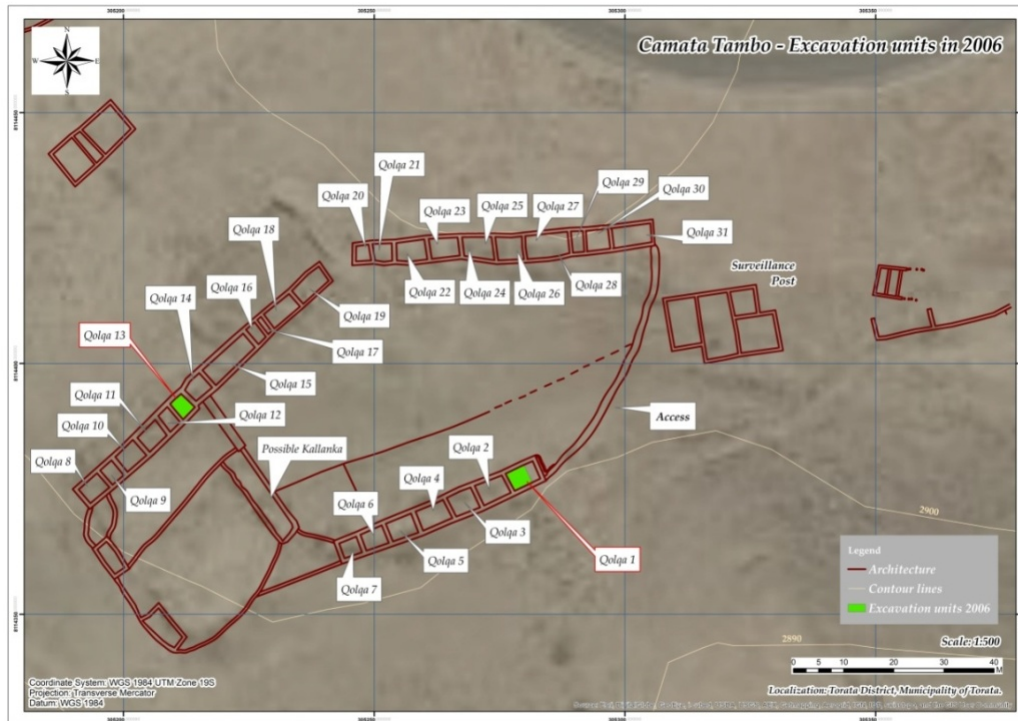


Figure 10. Map of Camata Tambo showing excavation units in 2006.

**TABLE I: LIST OF AGRICULTURAL GOODS AND THEIR ENVIRONMENTAL
NICHES**

Agricultural Goods	mid-valley products Camata agricultural system	Coastal products Tacahuay agricultural
<i>Aracacia xanthorrhiza</i> (arracacha)	Foreign goods	850-956 masl
<i>Capsicum sp.</i> (chili pepper)	Foreign good	0-1000 masl
<i>Chenopodium quinoa</i> (quinoa)	Local good (although it is not cultivated around Camata today) 500-3878 masl	Foreign good
<i>Ipomoea batatas</i> (sweet potato)	28-2000 masl	28-3000 masl
<i>Zea mays</i> (maize)	2-3500 masl	2-500 masl
<i>Solanum tuberosum</i> (potato)	4300 - 2 masl	2-4300 masl
<i>Schinus molle</i> (Peruvian pepper tree)	2500 – 2 masl	2-2500 masl
<i>Triticum sp.</i> (wheat) (Iberian crop)	500-3500 masl	500-3500 masl
<i>Phaseolus sp.</i> (beans)	3500 – 0 masl	0-3500 masl
<i>Echinopsis sp.</i> (cactus tree)	Local plant	Local plant
<i>Pachyrhizus tuberosus</i> (<i>jiquma</i>)	3500 a 0 masl	0-3500 masl
<i>Inga spp.</i> (<i>pacae</i>)	Local fruit	Local fruit
<i>Psidium guajava</i> (<i>guava</i>)	Local fruit	Local fruit

5.3. Excavations

5.3.1. Qolqa 1

This is a 5 x 6 m structure located in the southern extreme of the *tambo*. It is a typical *qolqa* with a small ventilation window and a flat stone stair protruding from the façade, which allows for entry through the roof. It is estimated that this *qolqa* was 2 m high. The small window found on the north wall measured 0.68 by 0.44 m. This window was formed by flat slabs, and was located at the level of the exterior surface.

During excavations, and under the Huaynaputina ash, we found an offering (feature 2) on top of the rocks sealing the small ventilation window. This offering consisted of two pairs of camelids feet associated with a burning event from where we obtained a piece of charcoal with a calibrated date of 1485 – 1643 A.D. (2 sigma) (sample AA73429-0167A - see TABLE II). Furthermore, at this *qolqa* we found a surface of compacted clay, corresponding to a “complex floor” composed of clay (Layer F) on top of flat slabs (Layer G). The floor of the *qolqa* was compiled of two levels of fill. The first level is composed of rocks of approximately 10 x 9 x 3 cm (Layer H) of 30 cm of width (see Figure 15). While the second, older fill was composed of small stones combined with large pieces of reddish clay (Layer I). These fills allowed air to move through the structure and helped keep the temperature stable. Associated with the floor, we also found a north-south running ventilation duct on the western side of the *qolqa*. This duct did not have an open entrance, but instead two wooden poles (*Salix humboldtiano* or willow) (about 8 to 10 cm wide) were placed lying from one end to the other within the duct. As was expected, the floor of this *qolqa* was very clean. However, we found some fragments of ceramics and sea urchin shell.

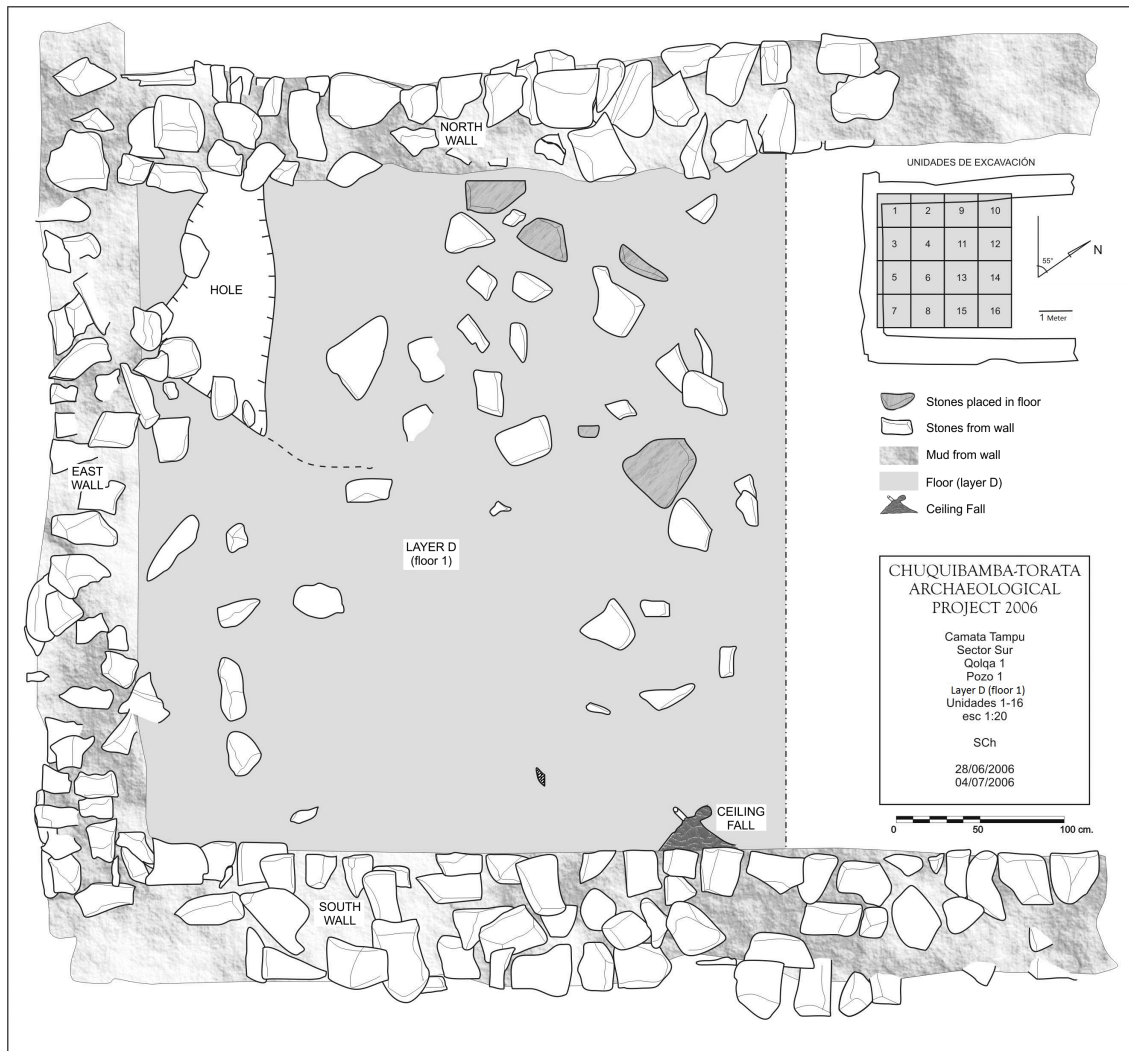


Figure 11. Map of *Qolqa 1* – Layer D (floor 1).

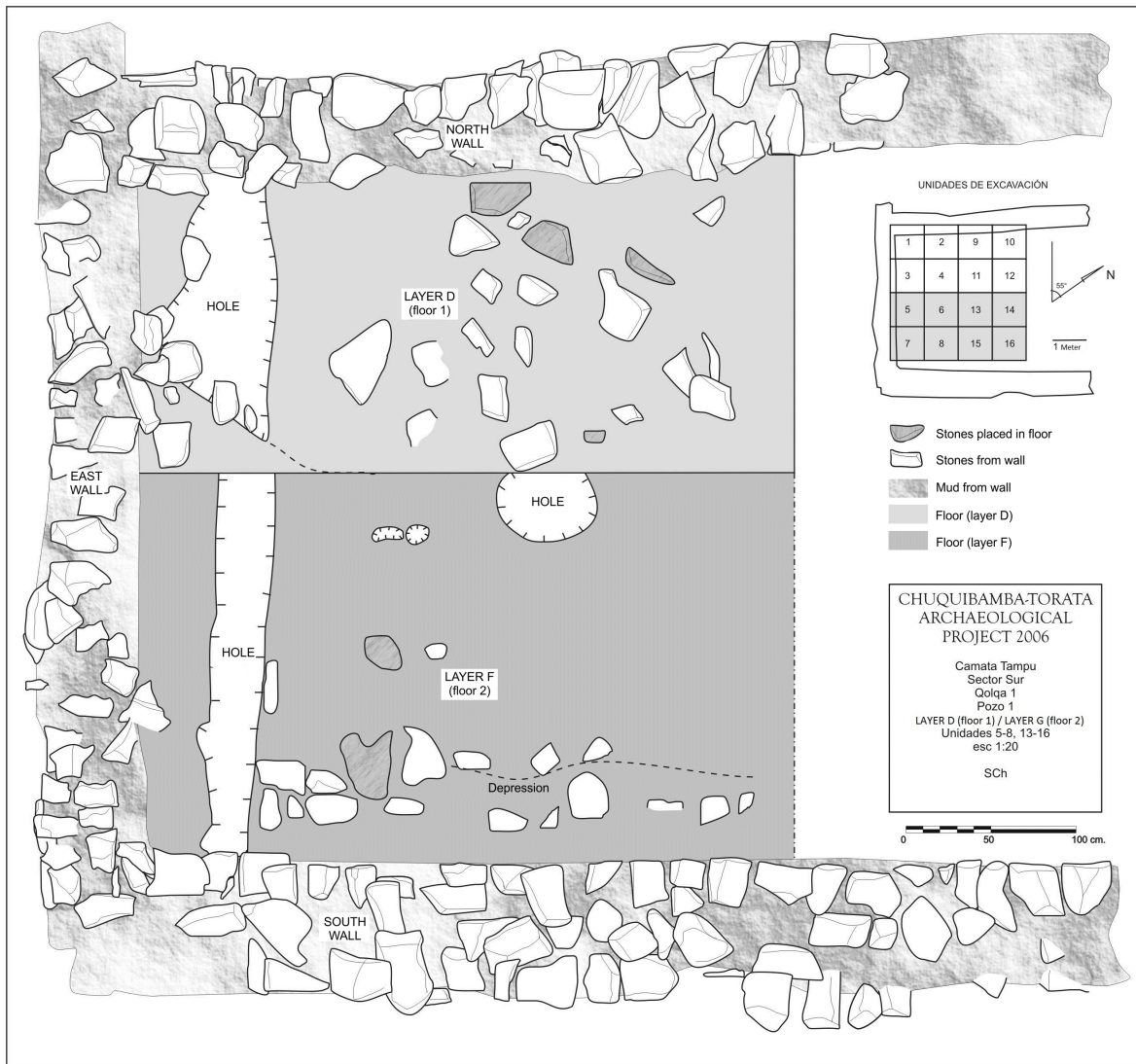


Figure 12. Map of *Qolqa 1* – Layer D (floor 1)/ Layer F (floor 2).



Figure 13. Layer G (below Layer F /first layer of floor 1) showing flat slabs below the compacted mud surface from floor 1.

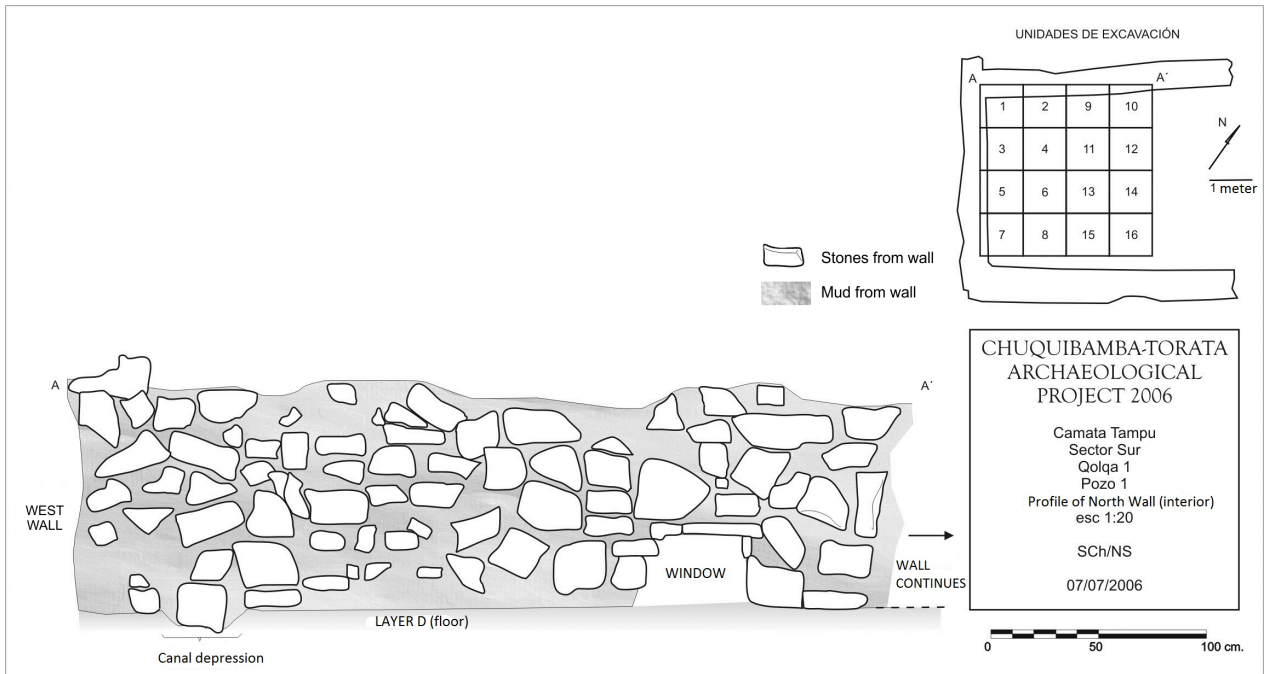


Figure 14. Profile of north wall (interior) of *Qolqa 1*.

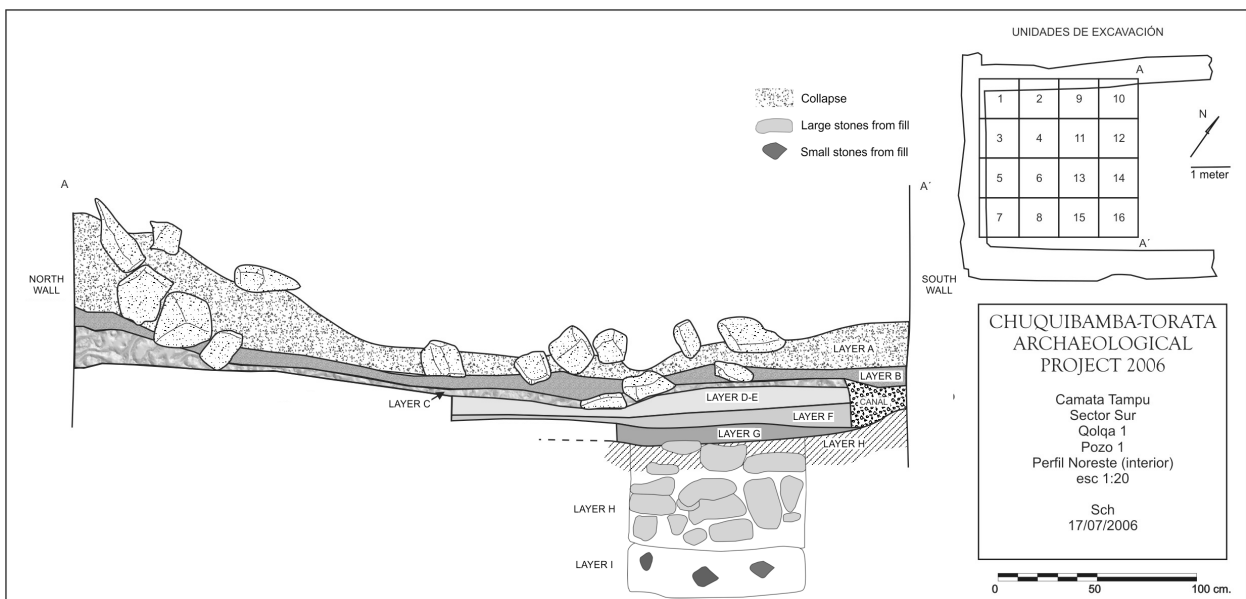


Figure 15: Profile of *Qolqa 1* showing layers H and I as part of the “complex floor”.

Analyses of botanical samples (pollen and macro analysis) collected from the floor of *Qolqa* 1 identified the presence of the Peruvian pepper tree (*Schinus molle*), the amaranth family (*Chenopodium/Amaranthus*), beans (*Phaseolus sp.*), and maize (Figure 16). In addition, macro-botanical analyses revealed the presence of potato (*Solanum tuberosum*), a product also identified in the agricultural terraces. Furthermore, as previously mentioned, we found evidence of sea urchin (*Loxechinus albus*) and other (unidentified) maritime fauna (fish bones and small pieces of shell) in this storeroom. Furthermore, macrobotanical analyses identified dry maize grains (*Zea mays*) and chili pepper (*Capsicum sp.*). As is discussed below, pollen analyses from the agricultural terraces did not reveal the presence of chili pepper suggesting that there was no local production of this crop in the upper Moquegua Valley. Furthermore, there is no evidence of this product in other areas of the *tambo*. Therefore, the presence of chili pepper together with marine fauna in this *qolqa* suggests that the stored goods were brought from non-local regions. In sum, *qolqa* 1 had a variety of locally produced agricultural crops; however, it also contained foodstuffs from the lower valley indicating that Camata Tambo storage system was intended for keeping locally and non-locally produced goods (see TABLE I).

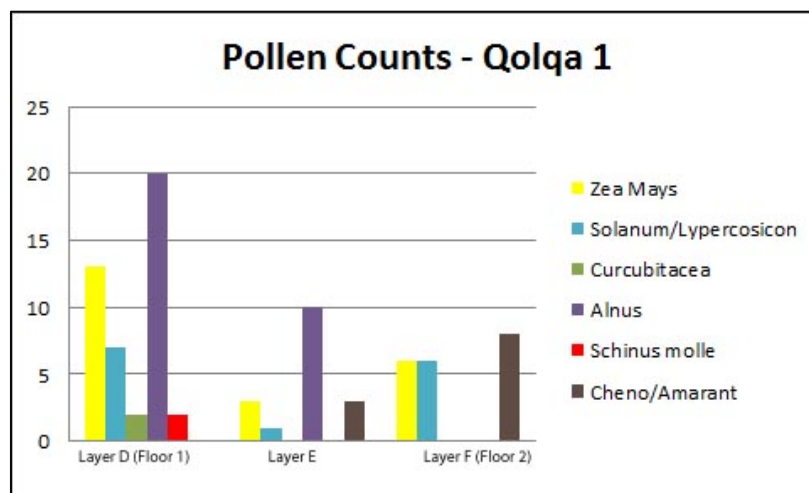


Figure 16. Pollen counts from *Qolqa 1*.

In the above graph, we can observe a higher presence of pollen of corn (*Zea mays*) in floor 1 compared to floor 2. Furthermore, floor 1 also had more presence of aliso (*Alnus acuminata*), which comes from a local tree that might have been used for the construction of the *qolqa*'s roof. Whereas, floor 2 represents the moment when *Qolqa 1* was used by the imperial administration having presence of pollen of corn and quinoa (*Chenopodium quinoa*). However, there is also pollen of *Solanum/Lypercosicon* (a tuber's family) that might indicate the possible use of some sort of tuber.

Furthermore, we collected several ^{14}C samples from this *qolqa*. First, we obtained a piece of charcoal from feature 2 (offering) that had a calibrated date range of 1485 – 1643 A.D. (2 sigma).⁷¹ A piece of wood found inside the ventilation canal inside *qolqa 1* provides a date of

⁷¹ Dates calibrated at the 2 sigma level using the McCormack et al. 2004 formula for the Southern Hemisphere (see Dayton, 2008: 197-198).

1392 – 1449 A.D. (2 sigma) (see TABLE II). A final sample included burned quinoa seeds (*Chenopodium quinoa*) (feature 10) and had a calibrated date range of 1392 to 1449 A.D. (2 sigma) (see TABLE II). Previous research suggested that the Inca arrive to the region around 1500 A.D. These latter two dates inside an Inca structure such as *qolqas*, suggest that the Incas may have arrived in the Moquegua region one or two generation's earlier (Chacaltana 2014; Muñoz 1996).

5.3.2. *Qolqa 13*

This structure is located in the northwestern sector of the *tambo*, and measures 4.5 by 3 m. At first we believed that this *qolqa* had two small ventilation windows, one in the north or exterior wall, and the other facing the interior of the *tambo*. However, during excavations, we determined that the north window was a drainage channel that crossed underneath the *qolqa* and continued inside the *tambo* (see Figures 17, 19). It is interesting to note that this *qolqa* has protruding stones in both of its façades, indicating it was possible to enter from both inside and outside of the *tambo*.

During excavations, we found that the floor of *qolqa 13* was made of flat slabs along the walls and compacted mud in the center (see Figures 18, 20). Similar to *qolqa 1*, the fill of this *qolqa* had two different strata. The first layer (Layer D) consisted of loose small stones, while the second (Layer E) was made of larger stones. This type of floor is known for Inca storage rooms and is intended to improve air circulation inside the structure. In Layer E, we found two north-south water drains. This canal was built with flat stones (see Figures 17, 20) and was used to capture rain-water. This *qolqa* is situated in a lower part of the hill and, therefore, rainwater was intentionally directed toward these two canals.



Figure 17. Photo of water canal drainage 1 that crosses *Qolqa* 13.

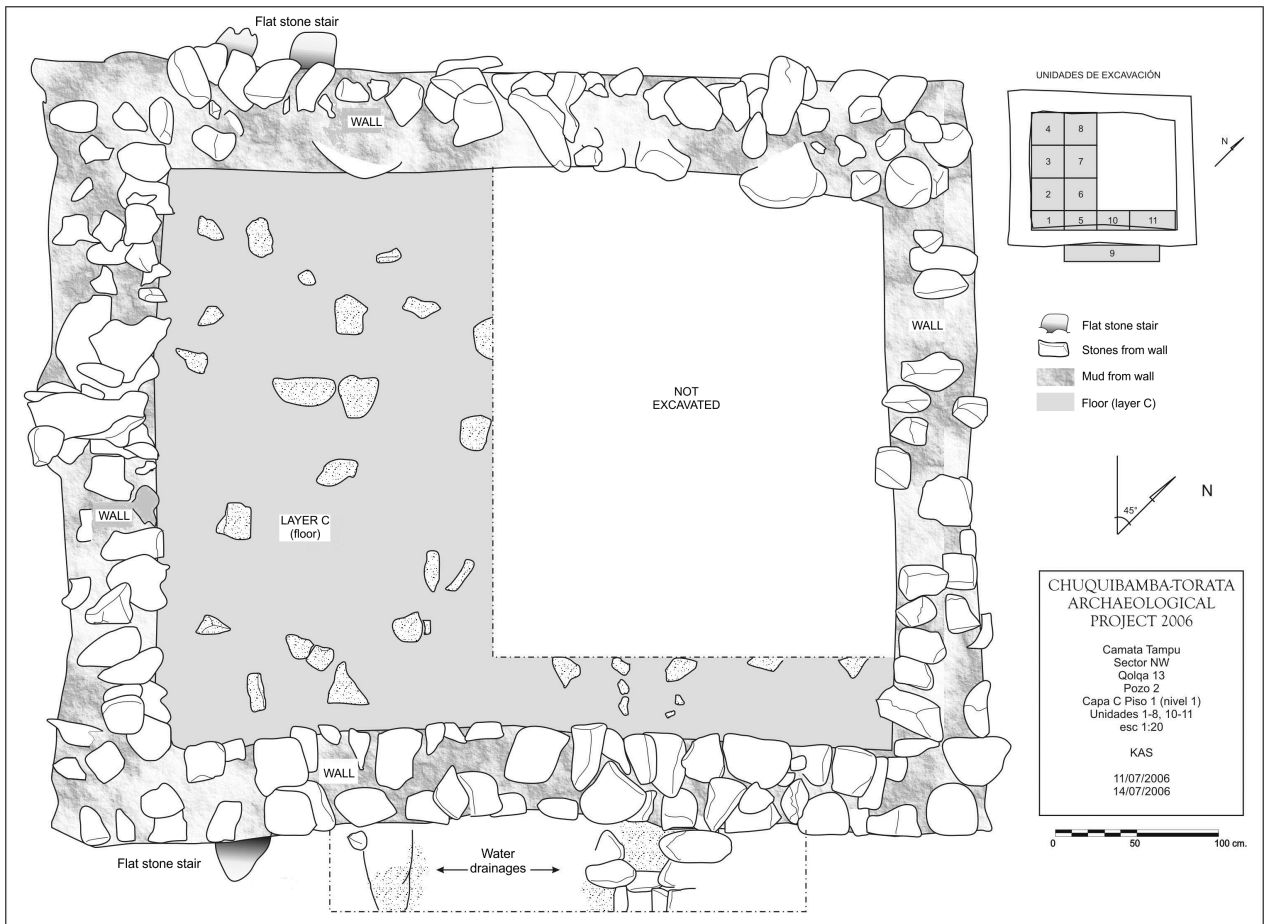


Figure 18. Map of Layer C (floor 1) of *Qolqa* 13. Observe the two water drainages running north to south across the *qolqa*.

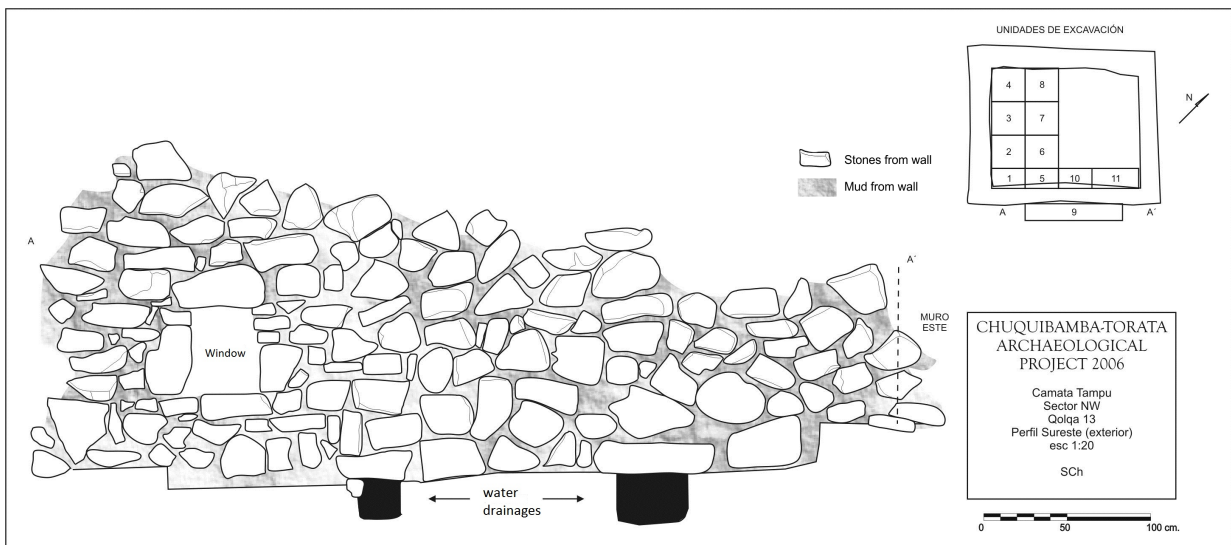


Figure 19. . Southwest profile of the south wall - *Qolqa* 13. Observe the two water drainages running across the *qolqa*.

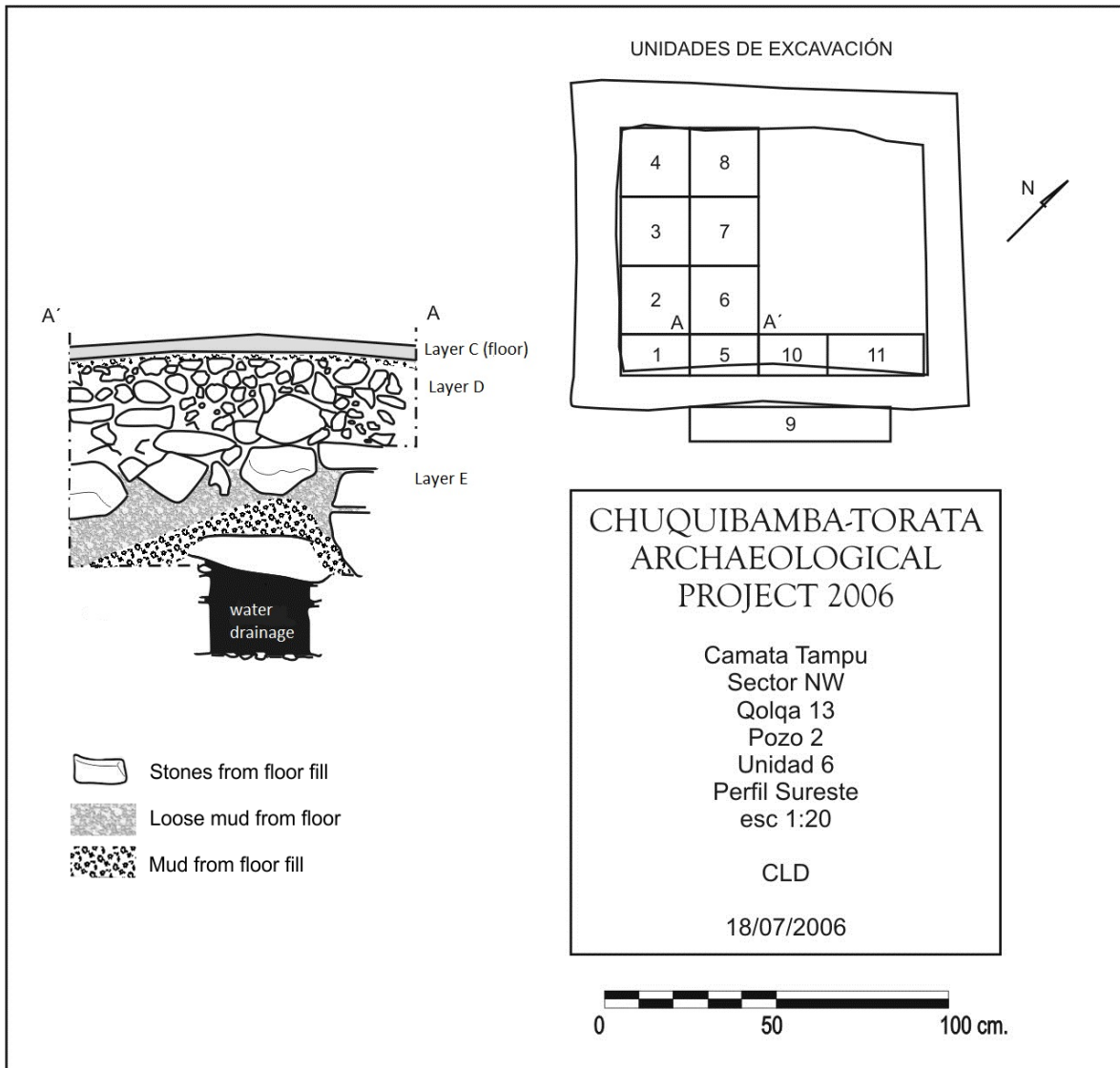


Figure 20. Profile of *Qolqa* 13 showing Layer C (floor) and complex floor composed of loose small stones (Layer D) and larger stones underneath (Layer E).

Macro-botanical analyses of samples from this *golqa* found potato (*Solanum sp.*), kiwicha (*Amaranthus sp.*), cactus fruit (*Echinopsis sp.*), as well as a high presence of *molle* (*Schinus molle*) (Goldstein and Muñoz, 2007:3-4). Furthermore, pollen analyses indicate the presence of potato (*Solanum tuberosum*) and tomato (*Lycopersicon esculento*). There was also a high incidence of corn, *molle*, the quinoa family, kañiwa and kiwicha (*Chenopodium/Amaranthus*) (all Andean grains). Therefore, this *golqa* had the presence of corn, Peruvian pepper tree seeds, and potato (although it is possible stored other types of fruits).

In sum, *golqa* 13 might have been used for storing a range of harvested plants, particularly potato, kiwicha (*Amaranthus sp.*) and cactus fruit (*Echinopsis sp.*). After taking into account botanical data and storage technologies (two drainage systems and floors), I suggest that this storage room was specially designed for storing cultigens either for exchange and/or to be consumed. Furthermore, this *golqa* had two drainages underneath the floor that increased the humidity inside the structure improving the preservation of products.

In Figure 21 (see below) we can observe pollen counts obtained from Floor 1 (Layer C) and from the fills underneath the floor (Layer D and E). Interestingly, we identify a constant presence of corn across the surface of the floor and underneath (Layers D and E). Furthermore, the floor of this *golqa* had a lower incidence of corn and *molle* than Layer D (first fill). These frequencies might suggest that the sand used as fills for the *golqa* was carried from the agricultural areas nearby the Camata Complex, with a high incidence of corn and *molle* pollen counts.

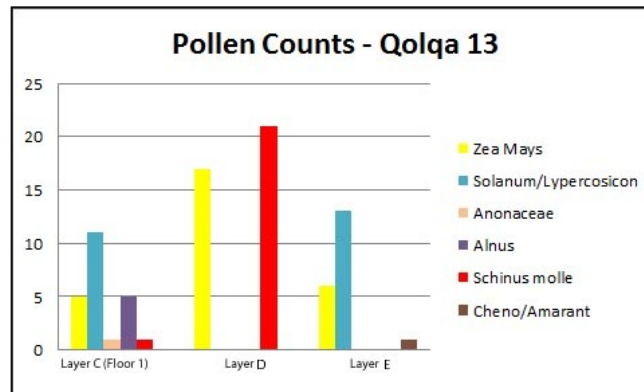


Figure 21. Pollen counts of *Qolqa* 13.

5.3.3. *Qolqa* 3 from the Chullpa Complex

During the course of my research, we also conducted excavations in a *qolqa* within the complex known as Camata Chullpa. The excavated *qolqa* is the third in a row of four. Its dimensions are 5 by 5 m. *Qolqa* 3 from Chullpa Complex also had a small window, but no water canal. We opened a 2 by 2 m unit inside this structure (see Figure 22).

Pollen analysis identified the presence of *Triticum spp.* on the *qolqa's* floor surface. In addition, pollen analyses identified the presence of *Chenopodium/ Amaranthus* (which represents wild quinoa and/or other grains), and *Inga spp. (paca)*. Based on architectural features, Christopher Dayton (2008) suggested that this structure was built during the colonial period. Although we do not know if this structure was built during the colonial period, the recovery of wheat from its floor certainly documents that *qolqa* 13 was in use during the Hispanic Period.

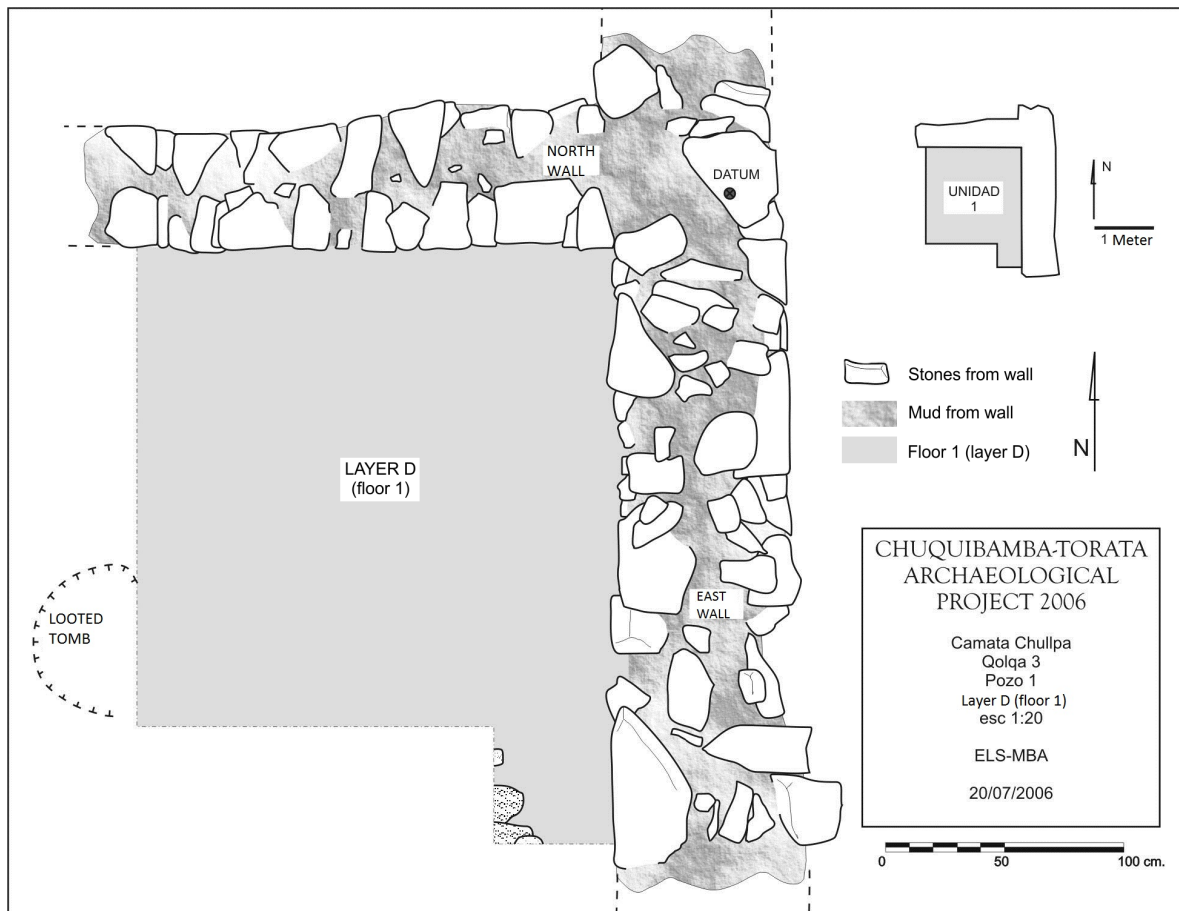


Figure 22. Map of Layer D (floor 1) of *Qolqa 3*. No materials were recovered from the floor of this *qolqa*.

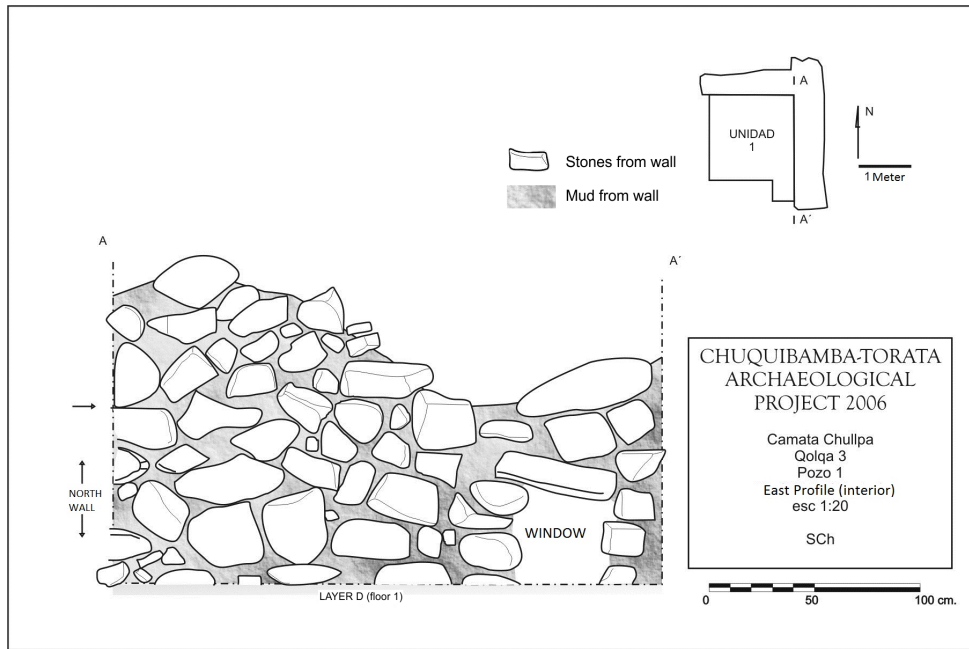


Figure 23. East wal profile (interior) of *Qolqa* 3.

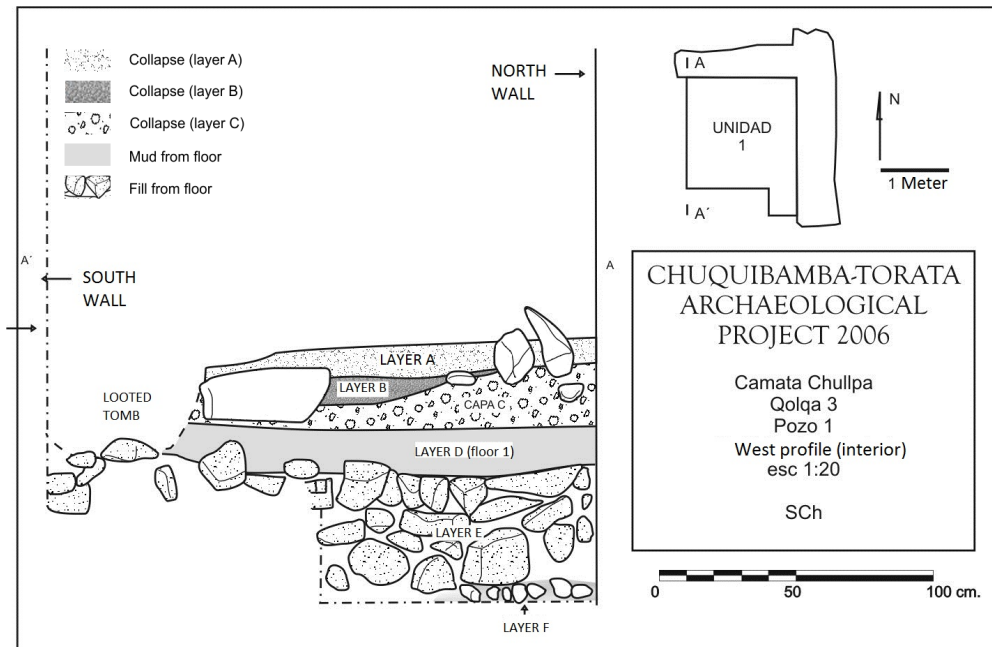


Figure 24. West profile (interior) of *Qolqa* 3.

5.3.4. Qolqa 3 from Camata Pueblo

Excavations were also conducted in the central sector of Camata Pueblo, where five small contiguous rooms dedicated to storage were identified (Guillaume-Gentile, 1992). One of these small rooms, measuring 2 x 3 m, was selected for excavations in my project. Excavations conducted in *qolqa 3* revealed two occupation levels. The latest occupation represented, by Layer G and H (floor 3), was contemporaneous to the waystation (see Figure 25). This floor was built of mud over flat stones slabs. In addition, we took a C-14 sample from Layer G, and yielded an AMS date of A.D. 1402 to 1460 (2 sigma) (see TABLE II). Underneath this occupation, we found two contiguous, but poorly preserved, Estuquiña storage bins measuring 0.50 by 1 m with thin walls 5 to 8 cm thick (see Figure 26). These bins contained burned material, including corn remains (cobs and grains) and many LIP style ceramics fragments such as Gentilar and Estuquiña. Estuquiña storage is primarily located in the kitchen area or in the living areas of Estuquiña households. Therefore, the latter occupation storerooms contrast dramatically with traditional Estuquiña storage structures and techniques. In fact, other excavations in Estuquiña *pueblos* have not found communal storage rooms (Chacaltana et al., 2010; Conrad, 1993), but only domestic ones indicating that agricultural surplus was administered by household units, and not at the community level. This evidence indicates a close interaction between the Estuquiña community living in Camata and the Inca *tambo* during Inca period, but also a greater access to products by local leaders that allowed them gain of communal and regional status and power.

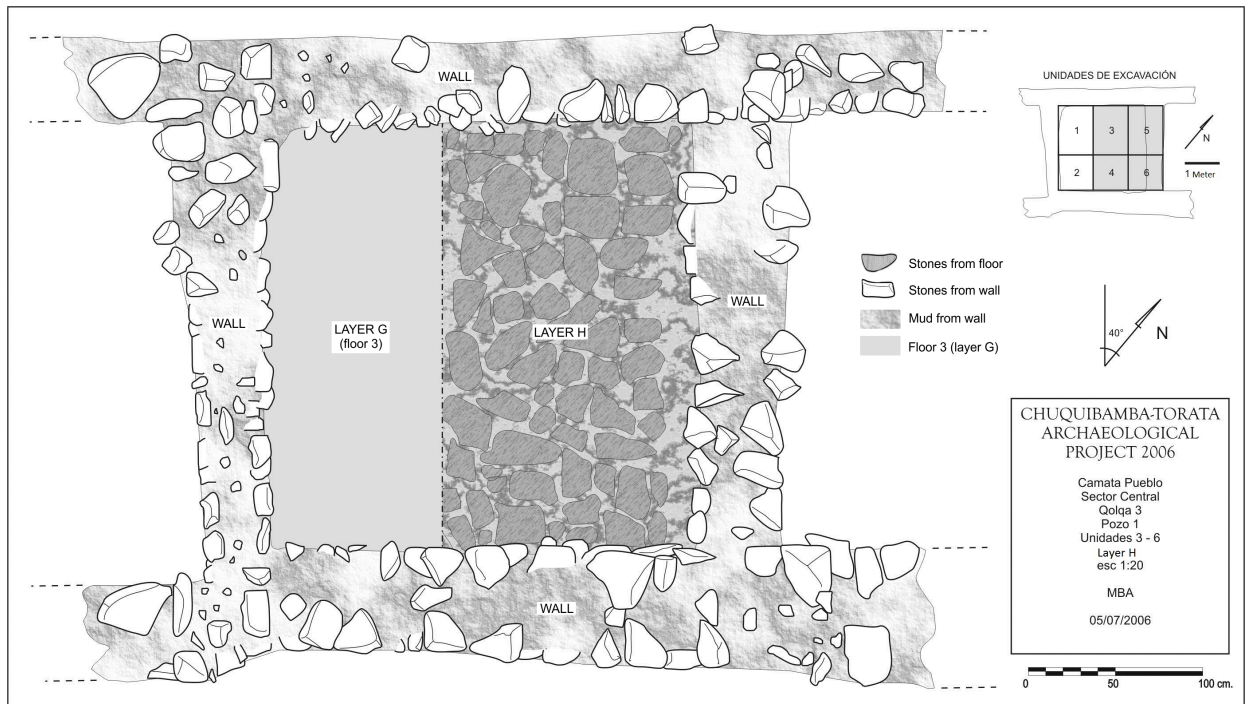


Figure 25. Map of *Qolqa 3* showing Layer G and H.

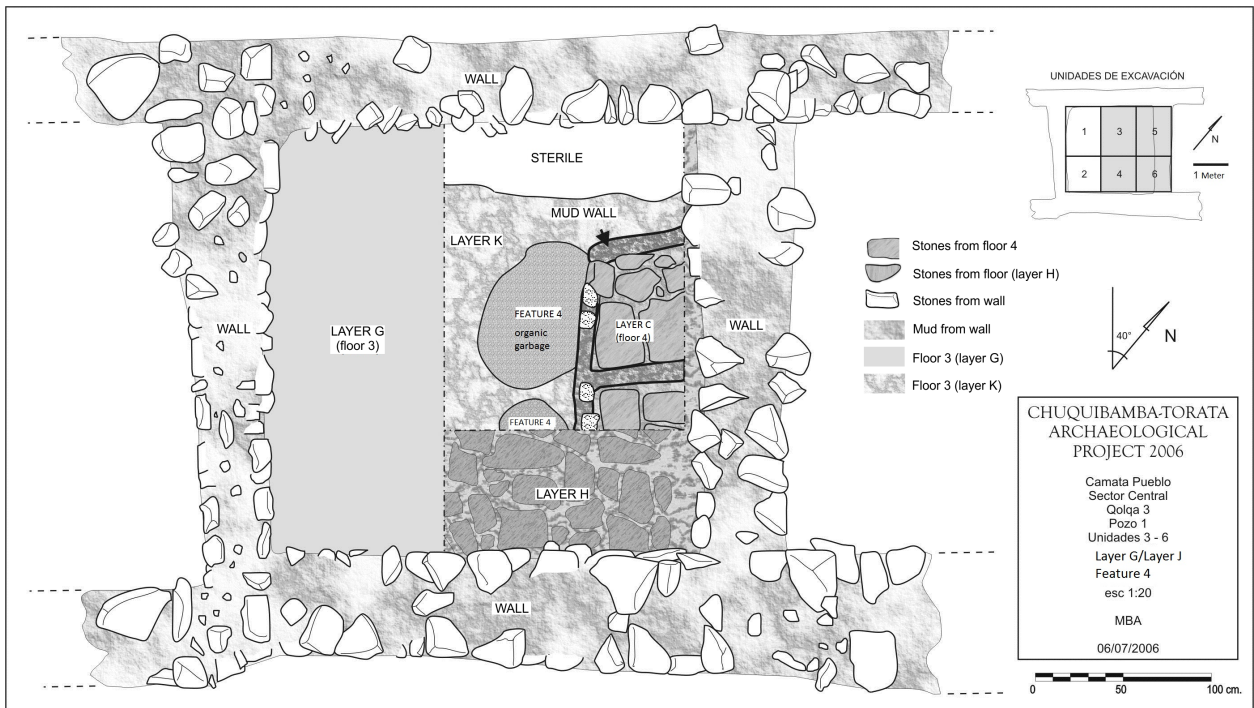


Figure 26. Map of *Qolqa 3* showing Layer G, Layer J and Feature 4.

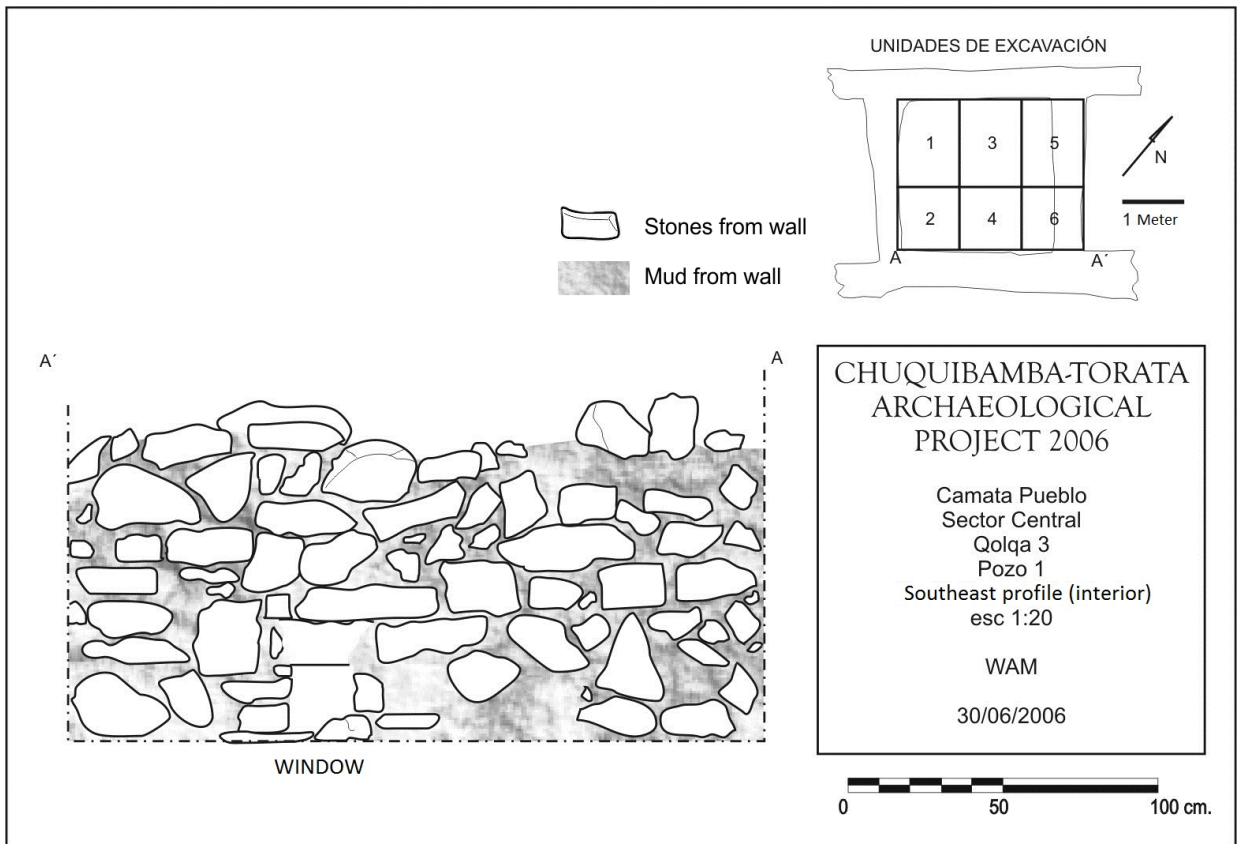


Figure 27. Southeast wall profile (interior).

Botanical analyses conducted in this structure provided valuable information of changes in consumption patterns from the LIP to the Inca period. Firstly, 80% of the total plant remains were collected from Layers J, K, and L and the features associated with them, all of which were from the LIP period. Furthermore, most plant remains came from the burnt areas outside the bins (there was almost no evidence of plants inside bins). In addition, outside the bins we also found dry corn grains, quinoa (*Chenopodium quinoa*), and beans (*Phaseolus spp.*). Pollen analyses conducted on samples from Layer J found evidence of tomato (*Solanum/Lycopersicon*), and maize and pollen from the quinoa family (see Figure 28). Finally, we recovered *Basellacea* (probably *olluco* or other tuber) and jíquima (*Pachyrhizus tuberosus*) from the LIP layers (J, K and L), and *Basellacea* from the Late Horizon layers (F, G and H).

It is important to note that this storage room had similar architectural technologies to *qolqas* in the *tambo*, including floor technologies, and the presence of air duct or drainage canal underneath the floor (see Figure 27). In fact, *qolqas* from Camata Pueblo excavated during this project and during Guillaume Gentile's project had floors made of fine slabs, small ventilation windows that face the patio (see Figure 27), and, at least *qolqa 2* had a small drainage canal underneath the floor, suggesting local emulation of imperial storage technologies.

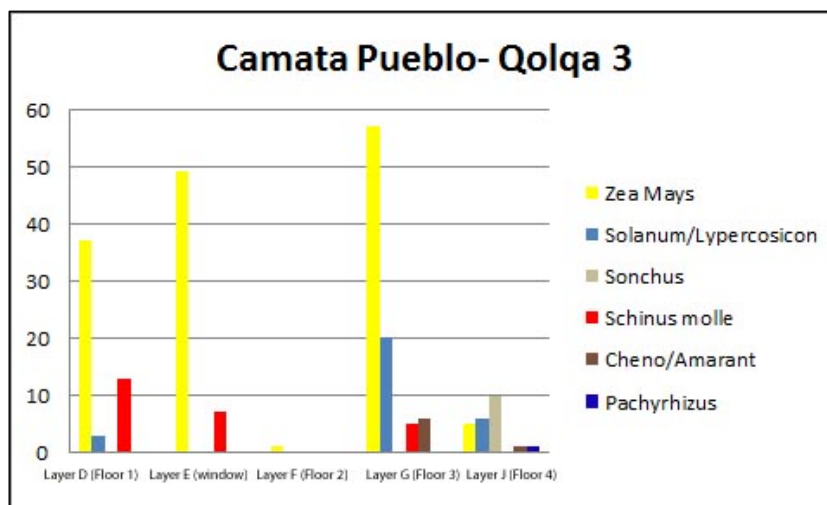


Figure 28. Pollen counts of *Qolqa 3* – Camata Pueblo.

5.3.5. Conclusions

Investigations conducted in the storage rooms of Camata Tambo/Pueblo indicated that *qolqas* were used to store quantities of local products such as corn, potatoes, quinoa and kiwicha. Additional excavations located in nearby agricultural terraces (see below) suggest that most of these species were locally grown. In addition, there was also evidence of fruits as well as other goods brought from other eco-zones of Colesuyo. This evidence indicates that Camata Tambo had an inter-regional role (see model 3 in chapter 2), mainly because agricultural intensification and storage capacities were not only intended for local consumption, but also for *tambo* officials and travelers. In addition, the great range of products stored in this *tambo* may indicate that products were intended to be distributed in other regions and/or used for exchange (characteristics suggested for model 2 in chapter 2).

Therefore, the materials recovered during my research at Camata Tambo mostly support inter-regional relations in the Colesuyo, but also intra-regional ones. The administration necessary for organizing labor parties for agricultural works to administered more than 500 ha as well as for storing goods in Camata Tambo required the intervention of imperial officials and local allies to administer local or communal labor and monitor the storage and distribution of goods. Additionally, the agricultural information and Camata's massive storage capacity point to the presence of high numbers of local and probably foreign populations, such as Lupaca *mitimaes* and/or other Inca officials. In sum, although Colesuyo was located in a marginal region of the empire, this institution had important local and regional roles, deeply transforming the lives of local inhabitants (both commoners and local leaders) and societies associated with Colesuyo, especially those from the altiplano.

On the other hand, based on excavations conducted in one of the storerooms of Camata Pueblo, I suggest that local leaders emulated and copied Inca storage technologies. In this way they would have gained greater economic advantages and, therefore, local and regional political powers. Copying technologies permitted local Estuquiña elites to have a more sophisticated administration of goods (locally and regionally produced) that were ultimately used to their own political advantage, intensifying regional interactions and more direct access to distant goods. I propose that Camata Pueblo's elites were probably well aware of Inca storing technologies and practices, since they played a role in organizing and administering the *m'ita* labor intended for the construction of agricultural terraces and building and maintaining water canals, reservoirs and the storing Inca system.

Agricultural labor requirements for this region also provide a good idea of the scale of work parties the empire needed. In general, during the LIP, Estuquiña pueblos had 20 to 30 ha

of agricultural land located adjacent to pueblos, indicating a domestic scale economy. In contrast, during the Inca period, this area of the valley had three agricultural complexes each of or which contained 300 ha. For example, Camata had 340 ha (Dayton, 2008). Therefore, during the Inca occupation, this region's agricultural labor intensified exponentially. Thus, Camata's *qolqas* represent a material expression of the newly imposed agricultural practices and imperial political economy in local Colesuyo communities of the upper valley.

5.3.5.1. Radio Carbon

Evidence obtained from radiocarbon dating also contributes to an improved understanding of Inca presence in the Colesuyo region. Firstly, a carbon sample obtained from Feature 2 of *qolqa* 1 (an offering) at Camata Tambo reveals a date from the early colonial period, leading us to ask: What was the function of the *qolqa* during this period of time? The other two dates obtained from *qolqa* 1 are relatively early dates compared to the currently accepted time of the Inca occupation of the region. Most investigations suggest that the Incas arrived in Moquegua around A.D. 1500 (see Bürgi, 1993; Covey, 2000; Moseley, 1992; Stanish, 1985). These dates offer a different scenario such as an early intervention of the Incas in Colesuyo (see Muñoz, 1998; Parsinnen, 1992) or an early Inca administration of the Colesuyo.

TABLE II
AMS RADIO CARBON DATES FROM CHARCOAL SAMPLES AT CAMATA
(DAYTON, 2008:223)

Sample Number	Context	Uncalibrated date (years B.P.)	Two-sigma calibrated range (years A.D.)
AA73429-0167A	<i>Qolqa</i> 1 -camelid bone offering (Layer C) (Camata Tambo)	353 +/-32	1485-1643
AA73434-0165B	<i>Qolqa</i> 1 (Layer D) (Camata Tambo)	460 +/-32	1427-1615
AA73437-0298B	<i>Qolqa</i> 1 (Layer F intrusion) (Camata Tambo)	398 +/- 34	1459-1626
AA73430-0299A	<i>Qolqa</i> 1 (Layer G) (Camata Tambo)	558 +/-33	1392-1449
AA73431-0508A	<i>Qolqa</i> 1 (Layer H) (Camata Tambo)	560 +/-32	1392-1448
AA73428-0096A	<i>Qolqa</i> 3 Layer E (Camata Pueblo)	515 +/-35	1402-1460
AA73433-0759A	<i>Qolqa</i> 3 (Layer I) (Camata Pueblo)	675 +/- 33	1294-1395
AA73436-0261B	<i>Qolqa</i> 3 (Layer I – burned lens above layer I) (Camata Pueblo)	660 +/- 32	1299-1399
AA73433-0759A	<i>Qolqa</i> 3 (Layer I) (Camata Pueblo)	675 +/-33	1294-1395
AA73438-0547B	Reservoir – Silt layer	358 +/-32	1482-1641

Dating analysis was conducted by the AMS Facility at the University of Arizona and calibrated using Calib. 5.0.1., and the Southern Hemisphere curve established by McCormack et al. 2004.

5.4. Analysis of the agricultural system of Camata

During the course of my research, we excavated a series of pits across several nearby terrace systems. The goal of these excavations was to identify the changes in agricultural practices that took place between the LIP and the Inca Period, and to identify the types of goods cultivated locally across time. Therefore, we took around 30 pollen samples from Camata agricultural system.

These samples were collected from different layers of three separate profiles, or transects, located in different agricultural systems surrounding the Chujulay Valley (see Figure 29). Transects 1 and 2 were located in the agricultural system near Camata Tambo. Transect 3 was located in the agricultural system of Cerro Huayco, an Estuquiña site with adjacent small agricultural terraces. These terraces were abandoned during the Inca presence (see Dayton, 2008). We also obtained samples from a reservoir located in the agricultural system of Camata (during Inca presence), which provided us with important information about ancient patterns of agriculture across time.

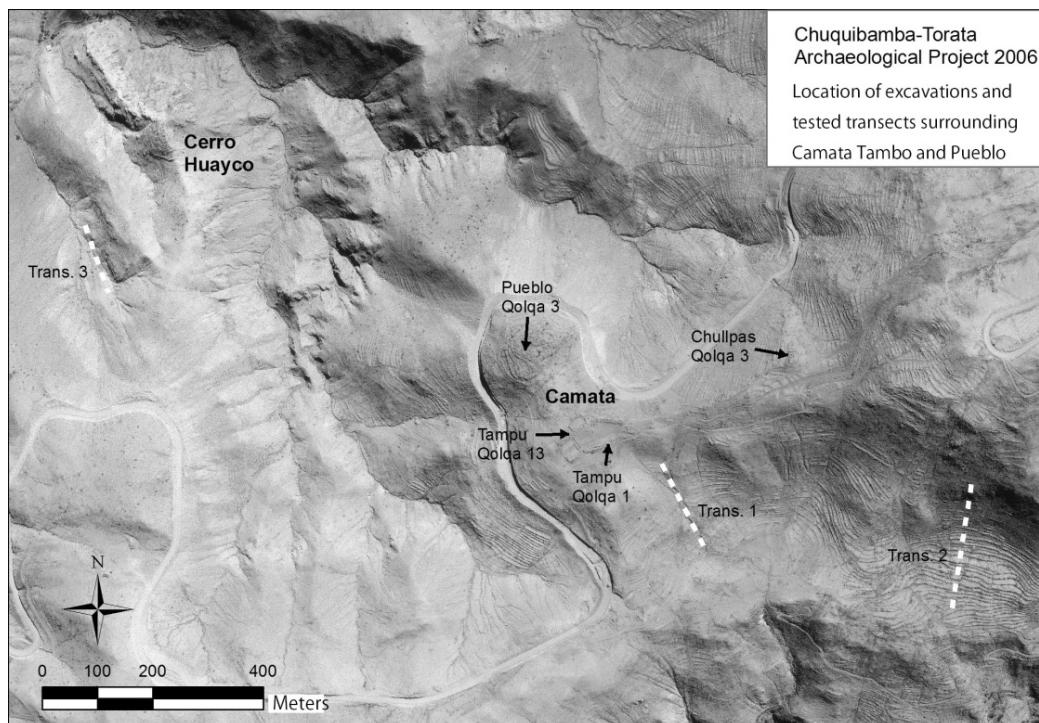


Figure 29: Location of Transects 1, 2 and 3 surrounding Camata Tambo and Camata Pueblo (photo provided by Christopher Dayton 2008).

5.4.1. Transects 1, 2 and 3

Transects were conducted on agricultural terraces. From each transect, we took many vertical samples across layers (see Figures 30, 31 and 32). Furthermore, we were only certain of the cultural relation of the first samples but not of the later ones.⁷² Nonetheless, it is assumed that first samples corresponded to different periods of the same cultural affiliation. For Transect 1 and 2, Sample 1, which was closer to the surface, corresponded to the Inca Period,

⁷² It should be taken into account that some samples are not included because they had absence of pollen counts in their analysis.

and Sample 2, below the surface, corresponded to older periods, probably including the LIP. However, because Transect 3 was conducted in an LIP agricultural terrace; Sample 1 from this transect corresponded to the LIP Period.

Transects 1 and 2 were related to Camata Tambo and revealed a high presence of pollen of corn, *molle* (*Schinus molle*), the tomato family (*Solanum/Lycopersicon*), but an absence of the quinoa family such as kiwicha and others (*Chenopodium/Amaranthus*) (see Figures 30, 31). In contrast, Transect 3 revealed a more diverse presence of plants, including sweet potato (*Ipomea batatas*), squash (*Curcubitacea sp.*), the quinoa family such as *kiwicha* (*Chenopodium/Amaranthus*) and maize. Transect 3 also reveals a lower presence of trees, such as *molle* (*Schinus molle*) and *algarrobo* (*Prosopis sp.*), which are abundant in transect 1 and 2 (see Figure 32). On the other hand, transect 1 and 2 have a high presence of *Typha* and *molle*. *Totora* or reed (*Thypha sp.*) is a cane that develops nearby water canals. *Molle* is a tree that grows along water sources providing shade and is used for cooking and beverages. We also pollen samples of many other herbs related to agricultural activities, for example from the family of *Asteraceae*, *Plantaginaceae*, *Malvaceae*, and *Amaranthaceae*, that can be used as remedies and food seasoning (see Huaman, 2009).

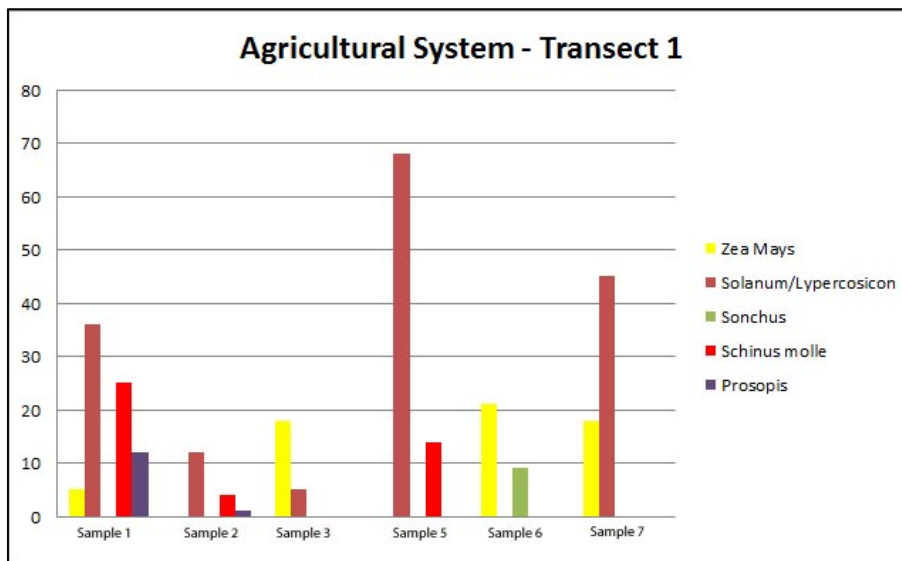
Transect 1

Figure 30. Pollen counts of the agricultural system – Transect 1.

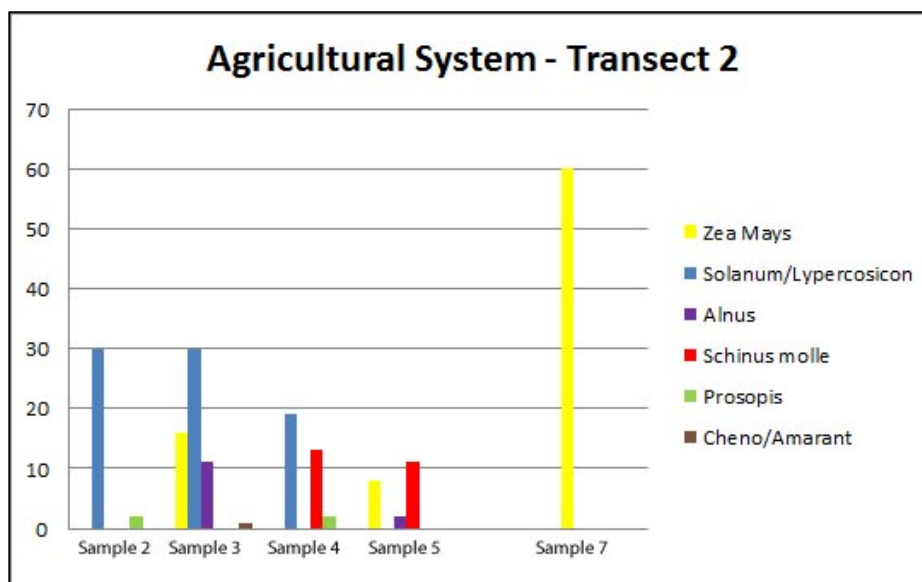
Transect 2

Figure 31. Pollen counts of the agricultural system – Transect 2.

Transect 3

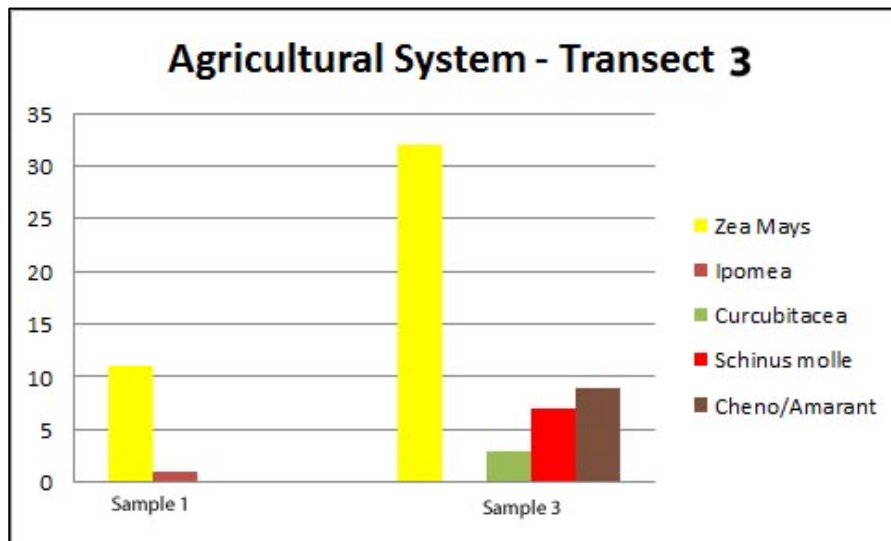


Figure 32. Pollen counts of the agricultural system – Transect 3.

The sharp fluctuations (high followed by a low) in the presence of corn pollen across different vertical layers in transect 1 and 2 might suggest periods of fallow after times of intense agricultural production of this specific crop or seasonal difference. Today, due to the warm climate of the Torata Valley, locals can grow two harvest of maize per year (Dayton, 2008:81). However, this intense agricultural use requires fertilizers. In the past (as in the present), guano likely played an important role for crop cultivation (Julien, 1985).

Macro-botanical samples from the Camata and Cerro Huayco agricultural systems also offer some insights into the agricultural practices that occurred at this region. For example,

samples 1 and 3 reveal evidence of burnt organic garbage (Chacaltana, 2010:132; Goldstein and Muñoz, 2007:8-9).

5.4.2. Reservoirs

In order to understand the agricultural production of the region during both the LIP and Inca times we also conducted research at two reservoirs that were associated with the agricultural system of Camata (see Figure 33). Reservoir 1 is located at 3,300 masl and is cut by the highway that connects Moquegua with the altiplano. This reservoir probably provided water to the agricultural system located directly below the reservoir but above the *tambo*. Reservoir 1 measures 40 x 25 m and its massive walls are 3 m wide. It had a holding capacity of approximately 600 m³ (Dayton, 2008) (see Figure 34). Several layers of silt combined with Huaynaputina ash were identified in an open profile of the reservoir. Geologist Ana Cristina Londoño, examined this profile and identified around 20 small depositions and arrived at two conclusions. Firstly, that ash depositions confirmed that this volcano erupted over several consecutive days (from 19th February to March 6th 1600) as historical descriptions indicates (Thouret et al., 2002). Secondly, that the eruption was accompanied by many rain events resulting in several fluvial deposits that were identified in the profile at the reservoir (personal communication Ana Cristina Londoño, 2006; Dayton, 2008:138; Chacaltana, 2010:135). However, beneath the Huaynaputina ash there is evidence of a 30 cm deep layer of silt, and below this layer there was decomposed granodiorite bedrock indicating this structure held water (Dayton, 2008:138).

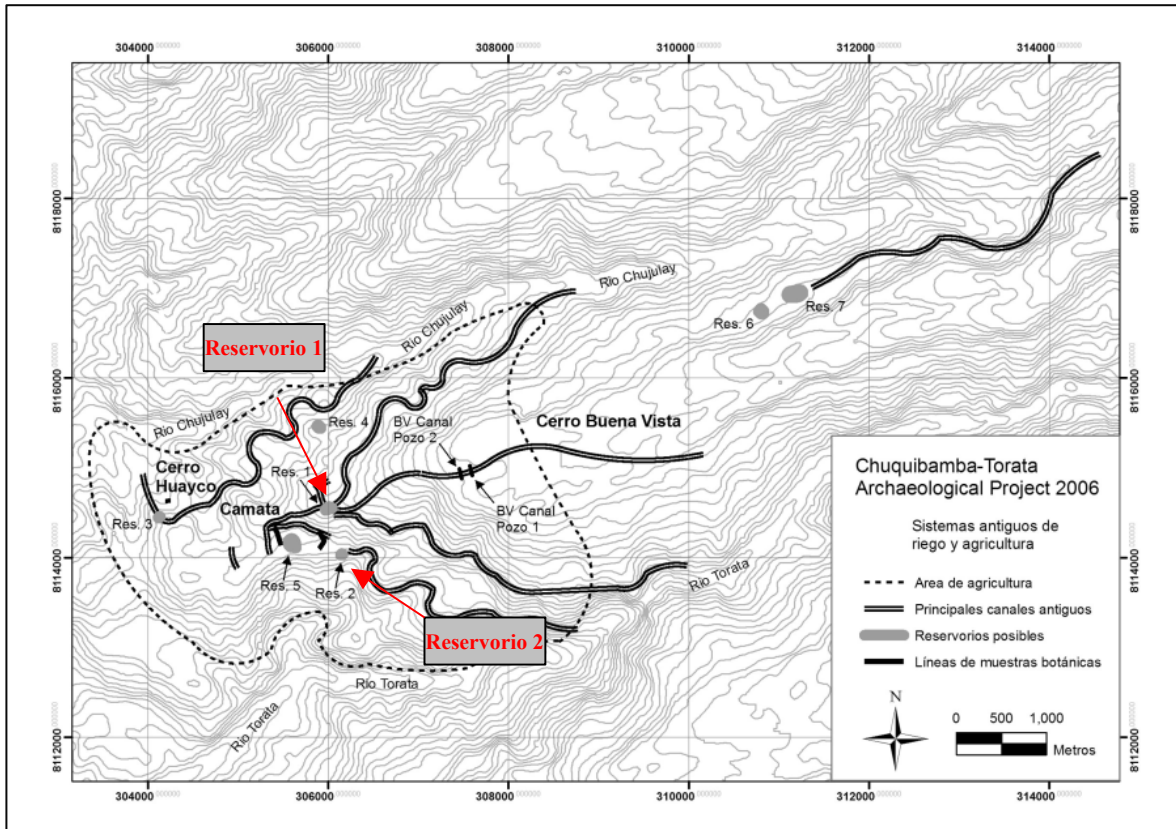


Figure 33. Location of Reservoirs 1 and 2, and of Camata agricultural system.

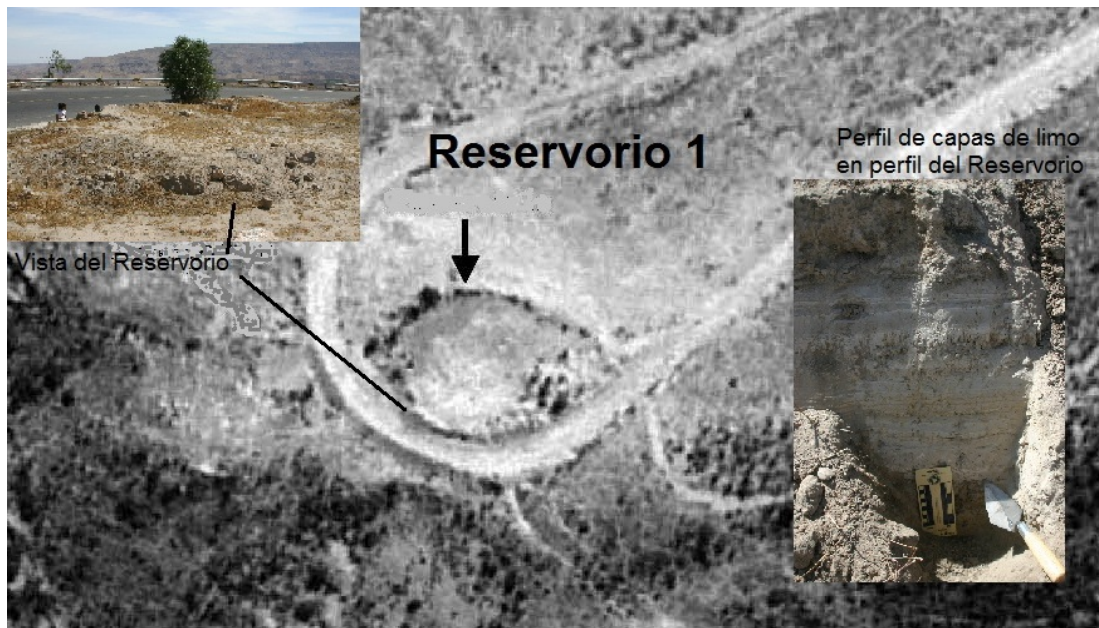


Figure 34. Photo of Reservoir 1 (cut by the binacional highway that goes from Peru to Bolivia). On the right corner, there is a detailed photo showing the multiple Huaynaputina's ash layers.

A ^{14}C date obtained from 20 cm above the granodiorite layer, and below the Huaynaputina depositions dated to A.D. 1458 to 1641 (2 sigma). This date indicates that this reservoir was in use during the later period of Inca occupation in the region. Furthermore, one pollen sample was obtained from the same level as the C-14 sample. This sample indicated the presence of corn, peanuts (*Arachis hypogea*) and capuli (*Physalis*), and the family of some economic plants such as cactus fruit (*Opuntia sp.*), the chiremoya fruit family (*Annonaceae*) and capuli (*Physalis*); economic plants that can grow locally. However, samples also included pollen

from local herbs and shrubs, and some trees such as algarrobo (*Prosopis sp.*) and romerillo (a type of conifer tree) (from the *Podocarpaceae*) (Huaman, 2009:42).

Reservoir 2 located at 2,809 masl is better preserved than Reservoir 1. This reservoir provided water to the agricultural lands of the Torata basin of the valley (see Figure 33, 34). This reservoir has a D - shaped form. It measures 18 x 14 m, and has a capacity of around 220 m³ (see Figures 33, 35). This reservoir captures water from several canals that run along agricultural terraces above it. However, it also marks the beginning of an agricultural system. We excavated a small pit in the center of this reservoir and found four layers. Under the Huaynaputina layer it had a series of silt thin depositions indicating the presence of water. We took a pollen sample from this silt layer located under the Huaynaputina ash which had a poor quantity of pollen of potato and tubers (*Solanum/Lycopersicon*) and corn, and other plants including squash (*Curcubitacea*) and *qantu* or the Inca flower (*Cantua buxifolia*).



Figure 35: Photo of Reservoir 2 (figure taken from Dayton 2008:256).

5.4.3. Conclusions

When pollen information from the Inca period agricultural sectors of Camata are compared with pollen transects from Late Intermediate Period terraces at Cerro Huayco, several conclusions can be reached. Most importantly, during the Inca occupation agricultural practices in the upper Moquegua Valley were greatly intensified in some cultigens such as in the production of corn for local consumption and inter and intra-regional exchange. In other words a large number of new terrace systems were created in the region but a small range of plants were cultivated on them. Furthermore, those plants that were grown on the Inca Period

terraces appear to reflect the Colesuyo transformation from a local domestic or communal economy to an imperial one.

Nevertheless, paleobotanical evidence found in the pueblo and agricultural terraces indicates continuity in the consumption of some products across time. These products include potato, corn, and quinoa. Nonetheless, an intensification of these products during the Late Horizon or during imperial incorporation is also evident; indicating that the agricultural change was mostly focused on the intensification of specific products such as maize, which were no doubt demanded by the state.

In sum, the storing system of Camata Tambo functioned together with the surrounding agricultural system, indicating that the agricultural system as well as the storing capacities were administered and controlled by imperial administration installed in Moquegua. The agricultural intensification of certain products (such as maize) might have permitted enough goods for local consumption as well as some surplus for exchange with altiplano populations. At the local level, local leaders (especially the ones living at Camata Pueblo) obtained greater access to locally produced goods, which indicates that they were also immersed in a new political economy of imperial scale (with local, regional and imperial characteristics and politics), that implied new agricultural practices (for examples reservoirs) and new ways of consuming food (more public and theatrical gatherings). Finally, local leaders or elites also had access to specialized knowledge such to storing technologies to keep great quantities of goods for their own political goals.

6. EXCAVATION IN TACAHUAY

6.1. Tacahuay Tambo and Pueblo in context

In 1999, Covey and colleagues (Covey, 2000:131; Umire, 1997) conducted a reconnaissance of the coastal Moquegua region where they identified an Inca waystation stone building in the Tacahuay ravine. On the surface there were Inca style ceramics from altiplano groups such as Saxamar/Pacajes from the southern part of Lake Titicaca, and Chucuito Polycrome from the northwestern part, and even some Cuzco-Inca style ceramics. Based on this information, in 2008, I conducted a survey in the Tacahuay ravine where I found a higher concentration of Inca-style ceramics, lithic tools, and metal in the domestic terraces near the Inca component, while there were fewer of these goods in the domestic terraces far away from the Inca core. The uneven distribution of goods noticed at Tacahuay Pueblo possibly indicates a differentiated access to wealth goods amongst the people residing there. Furthermore, Tacahuay is one of the few coastal sites that has not been destroyed by modern occupation and presents a clear Inca component. Therefore, excavation where conducted at this site at both Inca and local or domestic component of Tacahuay.

Tacahuay Tambo is a multi-component site located 2 km inland from the Pacific Ocean (see Figure 36). This site has a cluster of structures that mimic an Inca waystation, nearby terraces, four *tendales* (large and flat surfaces used to dry agricultural or maritime products), and at least five small cemeteries located in different areas of the site. The Tacahuay Tambo is located on a low terrace and is defined by the presence of two rectangular structures of 15 by 5 meters. It also contains other rectangular structures around an open patio, as well as

a high density of Saxamar/Pacajes, Chucuito Polychrome and Inca-altiplanic style ceramic. The entire archaeological site covers about 5 hectares (without the agricultural sector). Unlike the Inca component of the site, the domestic areas of Tacahuay Inca do not have architectural remains and their surfaces exhibit only local Gentilar and San Miguel ceramic styles.

In order to better understand Tacahuay Tambo/Pueblo compound, I divided it into sectors: A, B and C (see Figure 36). Sector A is where the tambo-like structure is located. This sector is characterized by large rooms, long domestic terraces (*tendales* or areas used to dry fish or agricultural products), and at least 6 cemeteries. Sector B corresponds to the alluvial portion of the *quebrada* where archaeological survey found domestic remains and cemeteries. However, there is no architectural presence and today modern roads that cut the quebrada demarcate it. Sector B has been heavily disturbed by of running water associated with several El Niño phenomena. Finally, sector C corresponds to the southern part of the *quebrada* and is characterized by flat areas where pre-Hispanic agricultural terraces are located. On the east side of this sector there is a colonial pueblo delineated by a wall of stones and adobe bricks. Furthermore, this pueblo exhibits evidence of water canals, pre-Hispanic cemeteries, and colonial and pre-Hispanic artifacts distributed across the surface suggesting that the colonial pueblo was located on top of an earlier pre-Hispanic occupation.

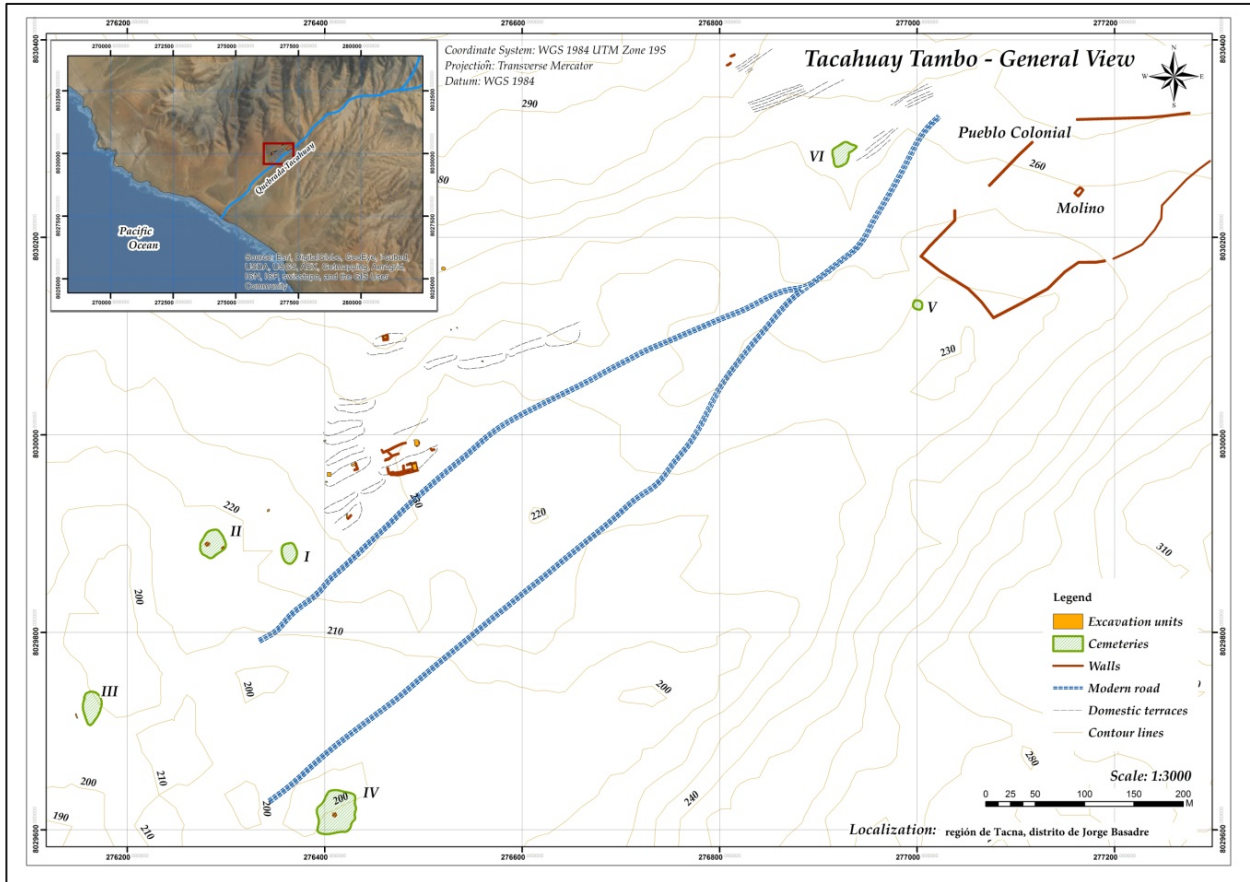


Figure 36. Map of Tacahuay architecture – observe the cemeteries in different areas across the Tacahuay ravine.

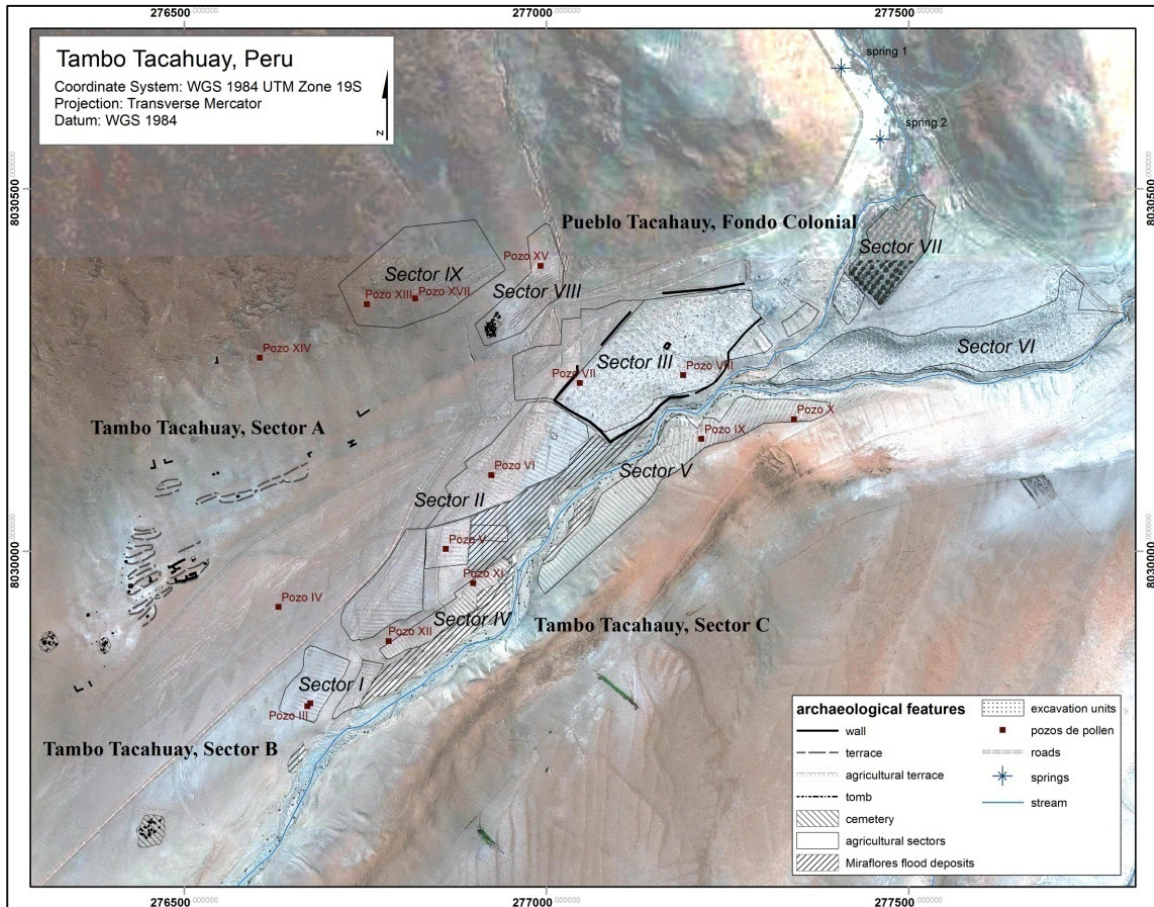


Figure 37. Map showing sectors A, B and C of Tacahuay Tambo and Tacahuay Pueblo. Also, observe the two springs situated to the northwest of the ravine (upper right corner), and the 9 agricultural sectors.



Figure 38. Photo of Tacahuay during dry season (June 2010).

6.1.1. Previous research at Tacahuay

The Tacahuay Tambo/Pueblo compound was previously identified by Alan Covey (2000). Covey conducted a reconnaissance of the coastal Moquegua region and identified five rectangular stone buildings in the Tacahuay ravine with Inca style ceramics from the altiplano on the surface (Covey, 2000:131; Umire, 1997). This evidence led Covey to conclude that Tacahuay was an Inca waystation with some architectural similarities to other Inca sites in Colesuyo (for example Zapahuira Tambo in the upper Azapa Valley). Furthermore, based on Gary Vesceius' excavations and notes, Covey (2000) suggested that during Inca hegemony, some coastal elites had more access to foreign goods because they built alliances with Inca bureaucrats residing in the tambo.

With this in mind, in 2008 I conducted a survey of Tacahuay. This survey revealed a higher concentration of Inca-style ceramics, lithic tools, and metal in the domestic terraces near the Inca component than in domestic areas located a hundred meters away. In contrast, there was a lesser presence of these goods in the domestic terraces far away from the Inca core. Based on these surface observations, I interpreted the uneven distribution of goods observed at Tacahuay Pueblo, as evidence for differential access to luxury goods amongst the people residing there.

6.1.2. Local and inter-regional movements of goods in coastal Colesuyo during the Inca Empire

It has been suggested that Inca control of coastal Colesuyo was conducted by placing highland populations or colonists in the region and/or through ‘indirect’ integration of local communities into *altiplano* populations or Inca administration (Covey, 2000; Diez de San Miguel, 1964 [1567]; Muñoz, 1996; Stehberg, 1995; Trimborn, 1975). However, imperial control of coastal Colesuyo seemed to have occurred through the use of colonists as well as through indirect relationships (Covey, 2000).

However, according to Muñoz (1996), indirect control or interaction between the Incas and the Colesuyo region resulted from alliances between local elite and imperial bureaucrats. Nonetheless, analysis of the historical records and archaeological data suggest differences may exist in the ways in which the Inca political economy and inter-and-intra-regional exchange grew in coastal Colesuyo. For example, alliance building between the Incas and provincial groups likely occurred during the initial incorporation of the provinces into the imperial system (Covey, 2003a; 2003b; D’Altroy, 1992). This type of imperial control is a low-cost strategy that

involves leaving local economies and societal structures unchanged. However, it also involves lesser extraction of local products and higher risks of indigenous rebellion. Furthermore, alliance building between the Incas and local communities occurred through gift-giving of wealth goods and intermarriage (Covey, 2000; D'Altroy, 1992). Gary Vescelious' excavations at several coastal sites from Colesuyo found Inca style ceramics in elite burials. However, he found neither Inca architecture nor goods at nearby sites. He suggests that these individuals had alliances with Inca administrators but that local communities were not integrated into the Inca administrative system (Covey, 2000:126).

Throughout this thesis I argue that despite the fact that Tacahuay Tambo' architecture resembles an Inca way station, this *tambo* was not directly incorporated into the Inca imperial system (in contrast with Camata Tambo from the upper valley). Instead, based on architectural evidence and material distribution across the site, I suggest that altiplano leaders manipulating and mimicking imperial powers in order to intensify local economic production for the benefit of their own political action established Tacahuay Tambo.

6.2. Excavations

In 2010 excavations were carried out in the tambo-like structures and nearby domestic terraces. This thesis draws heavily on information obtained from macro and micro botanical analyses as well as in preliminary faunal analyses conducted by Susan deFrance. Therefore, interpretations obtained from botanical and faunal analyses are integrated into the discussion.

Although, I excavated 14 units in total at Tacahuay; here I concentrate on 7 units (I, II, III, V, VI, VII and IX), those more relevant to this dissertation (see Figure 39).⁷³

⁷³ The other units excavated at Tacahuay not included in this thesis were from sectors of the site that were not from the LIP or Late Horizon, or where completely empty and/or not significant materials were recovered from them. For example, Units IV, VIII, XI units were localized close to the Tacahuay Tambo structure, however, materials were not found or recovery did not follow similar standard than other units therefore, we could not compare the data. Finally, Unit XI was located in an area that seemed to be from the Formative Period.

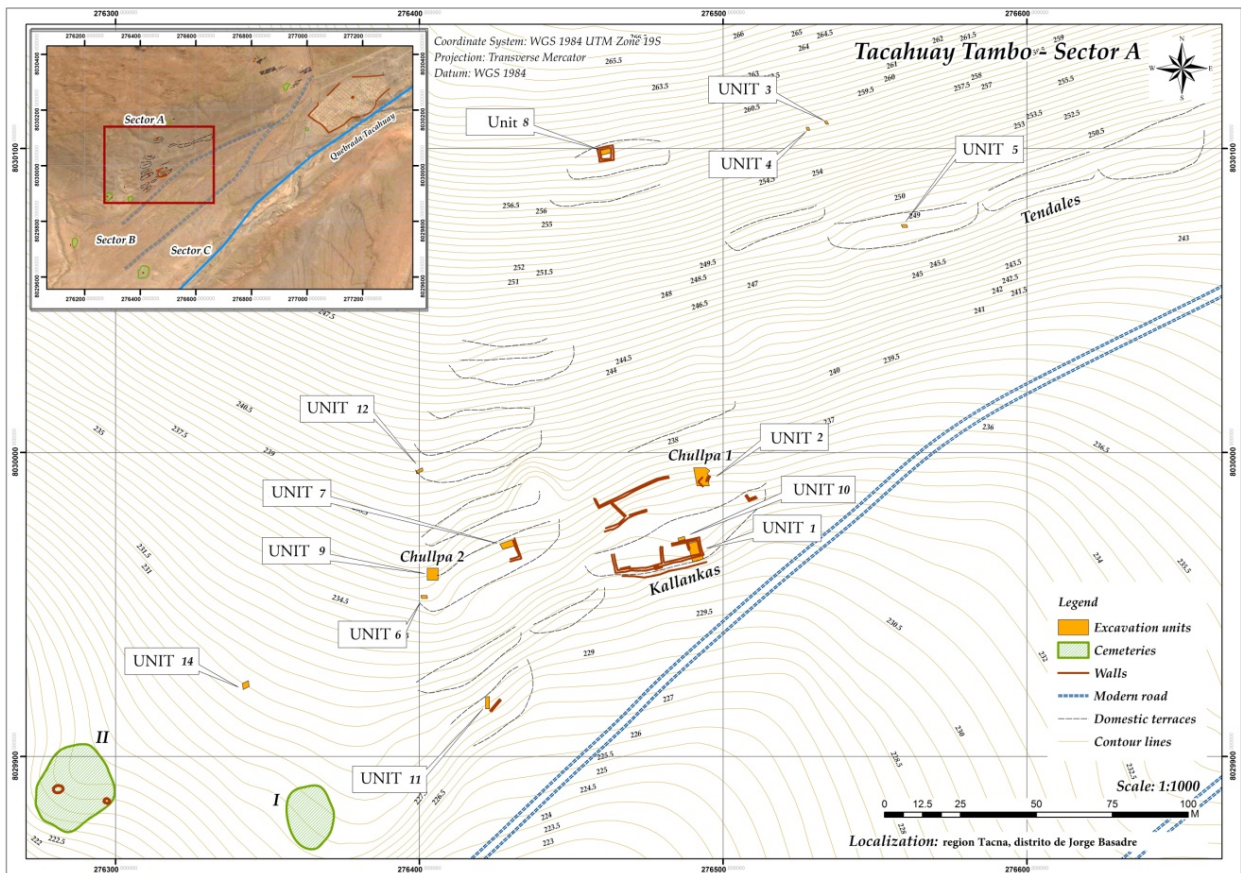


Figure 39. Map showing the location of excavated units. Observe the presence of *chullpa* 1 (Unit II) and *chullpa* 2 (Unit IX) within Tacahuay Tambo.

6.2.1. Unit 1

Unit I was located in one of the two adjacent rectangular structures that are next to the patio. The unit measured 6 by 4 m inside a rectangular structure or *kallanka* that is 5 by 12 meters (see Figure 40). This structure had a double faced-wall made of cut stones of around 60 cm in width. In addition, to the western side of the *kallanka*, there is a group of domestic terraces and other rectangular structures that Covey (2000) interpreted as a tambo structure.

During the excavation of unit I, we found that this structure was heavily used during the pre-Hispanic period and also during the early colonial period (before and after the Huaynaputina eruption in 1600s). The Huaynaputina ash serves as a clear temporary marker for most of the Osmore Valley. Therefore, layers A, B, C, and D date to the Hispanic Period, and layers E and F corresponds to pre-Hispanic times. During the colonial period and prior to 1600 A.D., this structure was used for different activities. For example, during the first years of colonial occupation (before the 1600s), this room was used for temporary living. This is the time period in which we found a fragment of porcine incisor and evidence of domestic activities taking place at this space. Furthermore, this structure was used for storing fish and the production of lithic tools (because of the high presence of lithic debitage). During a later period of time, just before the Huaynaputina eruption, this structure was used for holding European cattle. Evidence of a thick layer of cattle excrement and cattle bones was identified during exaction (Layers C and Layer D). Furthermore, according to Trelles (1991) “Tacahui” was the *caballeriza* (horse ranch) of Lucas Martinez de Vegazo (around 1560). As such, it is possible that this is one of the locations where Martinez Vegazo kept his mules and animals. Further, botanical analyses indicate that colonial layers contained olives and a high presence of

plants from open areas such as *titora* or cane (*Thypha*), which is a grass used for manufacturing reed objects.



Figure 40. Photo during the excavation of Unit I (*kallanka*), looking to the southwest.



Figure 41. Photo of porcine incisor found in Layer D (last colonial layer in the *kallanka* during excavations).

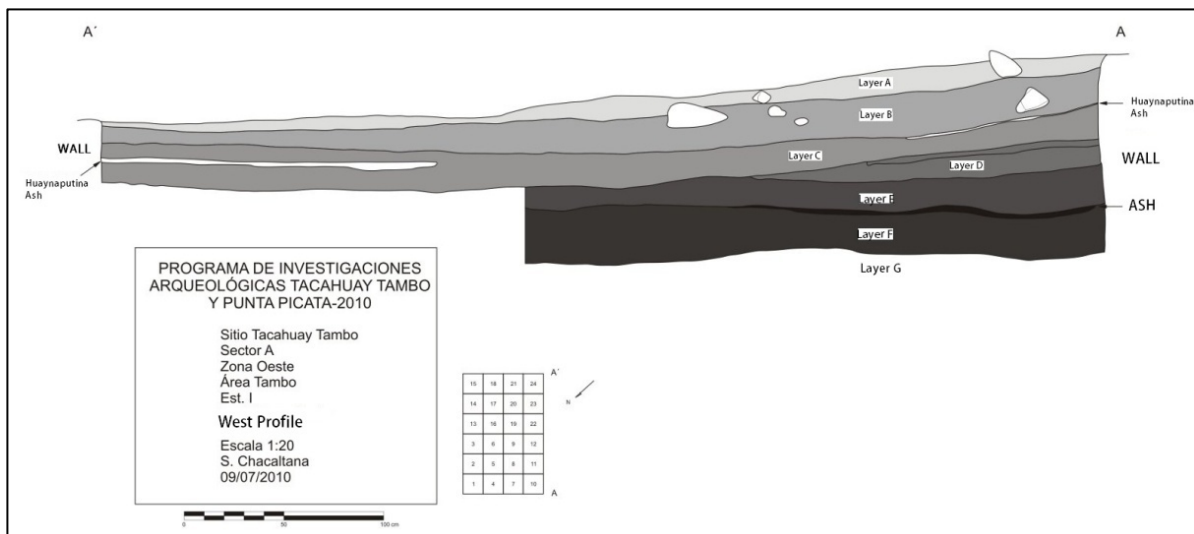


Figure 42. Drawing of west profile of Unit I (*kallanka*).

In addition, botanical analyses identify the continuous presence of *molle* and high frequencies of charcoal from the LIP to the colonial period. In addition, there is an interrupted presence of corn from the LIP to the earliest colonial layer (Layer E), but its absence in Layer D (second colonial layer) (see Figure 42). These data might suggest that agricultural activities were disrupted during the latter decades of the 15th century, probably during the Huanaputina eruption, which occurred in 1600.

It should also be noted that during the Late Horizon (Layer F), during Inca influence in the region, the period when this structure was built, there is evidence of a discontinuous deposition of garbage from sporadic cooking events (see Figure 43). This structure contained a high density of trash composed of terrestrial and marine fauna together with domesticated plants such as maize and other herbs used for cooking. (see TABLE III). Faunal analyses of Layer F (from the Inca period) identified the presence of guinea pigs, rodent, dog or fox (*cf. Canidae*), a feline, abundant camelid bones (probably *Lama glama*), other bones from large mammals, and a frog (*Anura*). This terrestrial faunal evidence contrasts with Layer G (from the LIP), which was significantly less diverse (see TABLE III). This diversity was also evident in the maritime fauna. Among maritime animals, Layer F contained fish from multiple ecosystems: *peñas* (rocky beaches), pelagic fishes (catch beach and deep sea), and benthic species. For example, the rocky sea floors fish included ray-finned or *trambollo* (*Labrisomus schordata*), blennid fish such as *pejesapo* (*Sicyases sanguineus*), and *borracho* (*Scartichthys gigas*). The pelagic species included anchovies (*Engraulis ringers*) and flying fish (*Exocoetus volintus*), both of which are caught at sea with the use of fishing nets (or *chinchorros*) using boats. We also recovered pelagic fishes that are caught along sandy beaches including drums (*Schiaenidae*), corvine drum (*Sciaene gilberti*), jurel (*Tachurus murphy*), and herring (*Clupeidae*). Finally, in this layer, we found benthic species, such as banded croaker (*Paralanchurus peruanus*) and black cusk

eel (*Genypterus maculatus*), which are caught with a sub-aquatic fishing net or with a fishing rod.

In sum, the Inca Period contained for more diversity of both terrestrial and maritime faunal species than the periods before or after (see TABLE III).

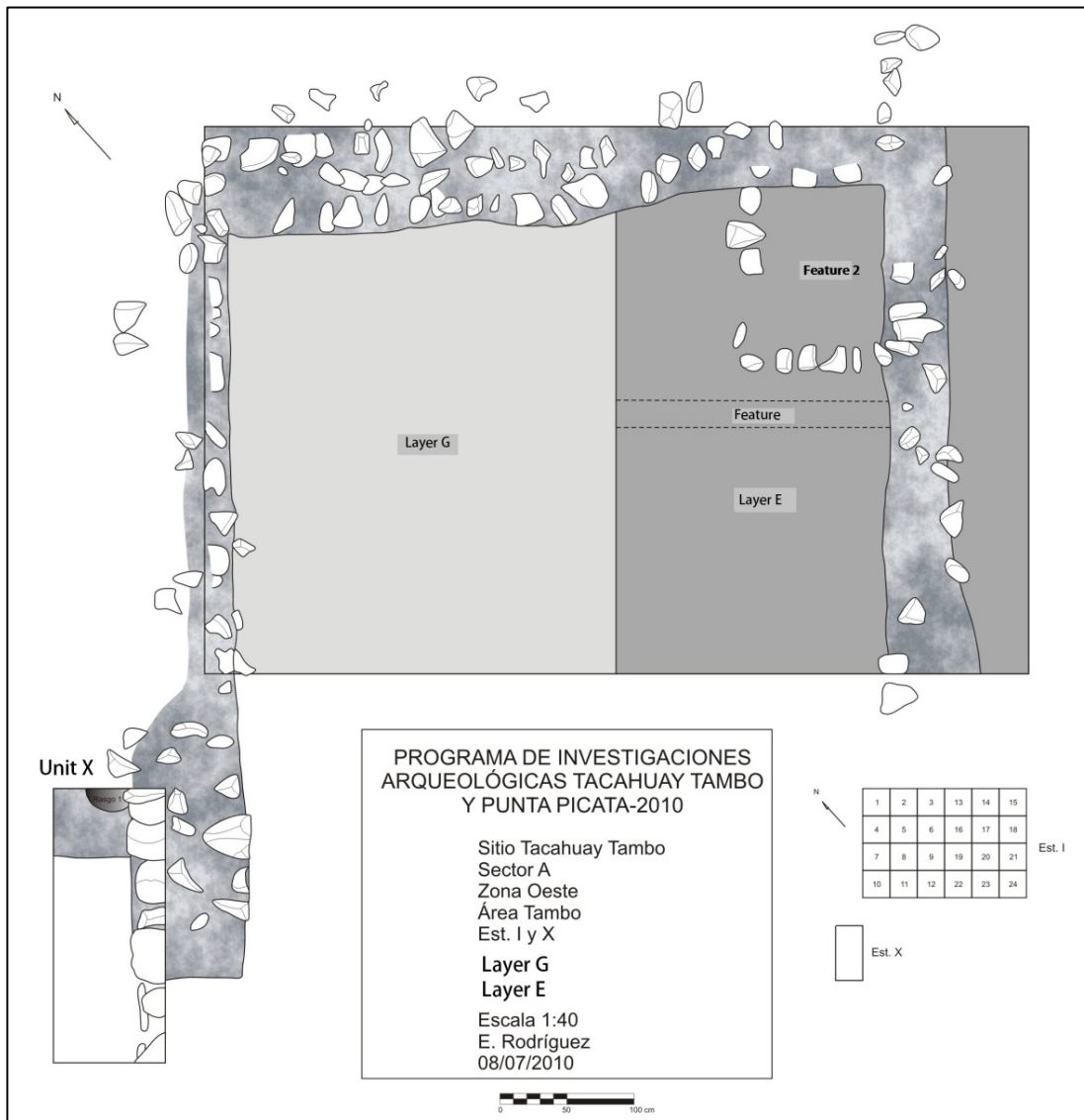


Figure 43. Map of Unit I – Layer G and Layer E.

Some of our crew during the excavations were local fishermen. They helped us identify many different fish such as Machete (*Ethmidium maculatum*) and Perico (*Coryphaena bippurus*), which are deep-sea fish. Although this type of direct knowledge of maritime fauna did not

correspond to the faunal analyses conducted by specialists, both the local fishermen and the faunal analysis recognized that fish found in Layers F and G at unit I come from a specialized marine ecosystem. In sum, the presence of fish from a diverse maritime ecosystem indicates that specialized fishing communities were involved in providing maritime products for events that occurred in this structure. In addition, the high diversity of terrestrial animals indicates greater interaction with other eco-zones and access to exotic terrestrial species during the Inca Period than in the pre-Inca and post-Inca periods. Finally, it is important to mention that this structure did not have evidence of a formal floor, which constitutes a significant difference from other “*kallanka*” found among the imperial structures.

6.2.2. Unit II

Unit II includes a disturbed *chullpa* and areas surrounding the structure, to the northeast of unit I and at the eastern border of the patio. On the surface, we observed only a circular structure that appeared to be a storeroom or *qolqa*. It measured 1.40 by 2.40 m and was constructed of mud and stone with an east facing entrance 1.40 m wide. The entrance was sealed with flat breccias stones brought from the coast (see Figure 44). While excavating, we opened the interior of this *chullpa*, which was mixed with Huaynaputina ash, indicating it was disturbed during the colonial period and likely during subsequent periods (the disturbance concentrated in northwestern corner of the building). The excavation in the western half of this *chullpa* recovered abundant fragments of broken ceramics vessels. These included local San Miguel, Gentilar, and Terminal Chiribaya styles, as well as Inca altiplano ceramic styles (see Figures from 71 to 78). There were also some metals and abundant broken pieces of human and camelid bone. This *chullpa* had an “open ceiling” composed of large flat stones. On the

interior these large stones were interlaced with other flat stones. However, on its external portion the chullpa wall supported this ceiling. Furthermore, the exterior portion, level 2 and 3 of Layer C, correspond to three natural flooding events that covered the *chullpa*. It was in level 2 of Layer C (the most recent level), that there was evidence of Huaynaputina ash representing the moment in which this *chullpa* was entirely covered.

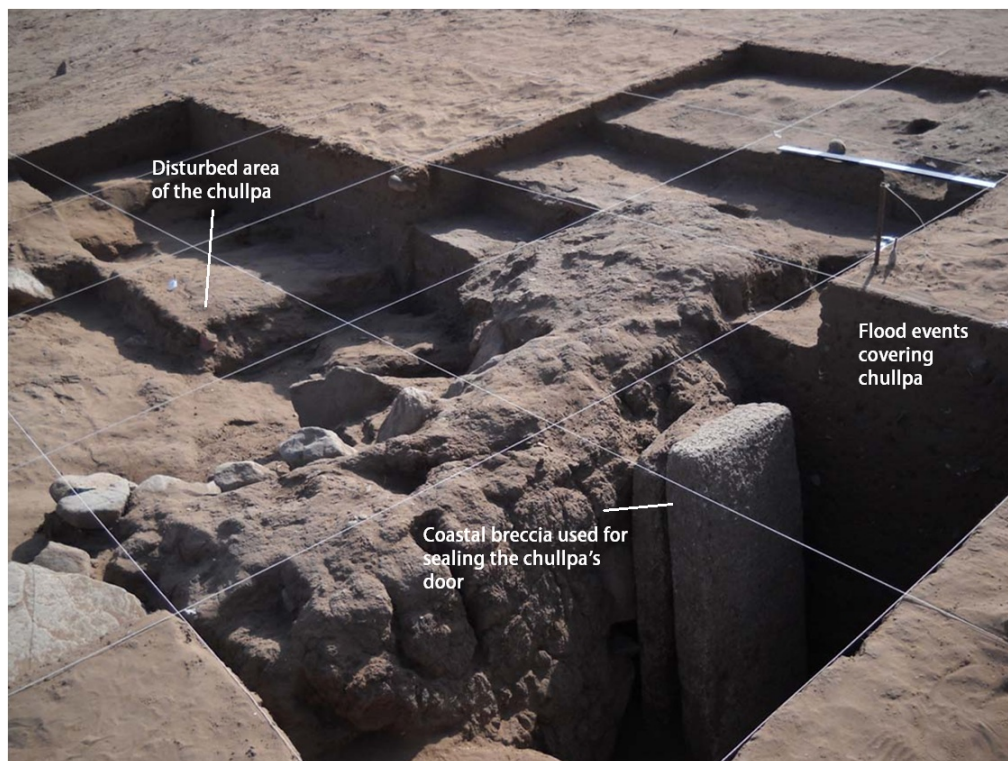


Figure 44: Photo of *chullpa* 1 (Unit II) looking at coastal breccia slabs used for sealing the *chullpa*'s door. Also, observe flood events that covered the *chullpa* and the disturbed area.

Although this *chullpa* was disturbed, bio-anthropological analyses conducted on the recovered human bones indicate that it contained at least five adults, one adolescent and one infant. Finally, we conducted excavations outside the *chullpa* where we found two depositional moments or floods (*huaycos*) that covered the *chullpa*. Furthermore, this *chullpa* had two flat breccia stones sealing the entrance suggesting that it was intentionally closed before it was buried by natural deposition.

6.2.3. Unit III

Unit III measured 1 by 1 m located to the east part of the tambo-like structure and above terraces identified as “*tendales*”. We chose to excavate here because a complete Inca jar was protruding out of the ground (see Figure 45). This unit yielded a cache of 18 complete vessels with Inca-altiplano styles with other ceramic styles such as *olla pato* (see Stanish, 1991) from the upper valley (see Figures from 79 to 90). It is interesting to note that this unit overlooks the agricultural terraces and there is no evidence for architecture.



Figure 45. Photo of cache of 18 vessels – Unit III.

Macro botanical samples from inside the vessels included *molle* (*Schinus molle*) and small pieces of charcoal. In addition, cotton seeds (*Gossypium sp.*) were recovered from the inside of one ceramic vessel (artifact 17 or specimen 183). The presence of cotton inside this vessel (it was also recovered from inside vessels found at the intact *chullpa*) and its absence from the more than 60 pollen samples taken in the agricultural sectors, raises the following questions: Was cotton brought from other coastal regions? Were people from Tacahuay acquiring cotton from other groups along coastal Colesuyo? What economic role did Tacahuay hold?

6.2.4. Unit V

Unit V measured 2 by 1 m and was placed on top of one of the *tendales*. During the excavation of this unit it became apparent that the *tendal* was likely used to dry fish, including anchovies (see TABLE III).⁷⁴

6.2.5. Unit VI

Unit VI was 1 by 2 m excavation and was located in the western section of the waystation, next to the intact *chullpa* (unit IX) and domestic terraces. This area was selected for excavation because mollusks and fragments of burned ceramics were seen on its surface, suggesting domestic activities. Furthermore, we identified a ceramic jar on the northern limit of the unit (see Figure 46). This jar was measured 50 by 36 cm, and part of its mouth was broken. Macro botanical samples suggest the presence of corn and *molle* in all the pre-Hispanic layers.

⁷⁴ In addition, this area has signs of an earlier occupation that dating from the Formative period (Layer F) (see ¹⁴C TABLE IV).



Figure 46: Photo of Unit VI showing the complete vessel.

6.2.6. Unit VII

Unit VII was 1 by 5 m excavation located on the western part of the tambo-like structure. The excavation included part of a domestic terrace (and extended into the patio area). While we excavated this unit, a second wall was exposed in the domestic terrace, dividing the unit into two. Macro-botanical analysis was only conducted on samples from Layer L and Layer N (Feature 1) because these were pre-Hispanic layers below the Huanaputina ash (see

Figure 47). Interestingly, these samples revealed a low presence of burned *molle* and a high presence of charcoal. We also noted the presence of corn, sweet potatoes, and herbs used for cooking. These included *huacatay* (*Tagetes sp.*) and *cerraja* (*Sonchus*). All layers from this unit contained charcoal as well as maritime products (fish bones and mollusks). In short, the excavation yields rich remains of food preparation.

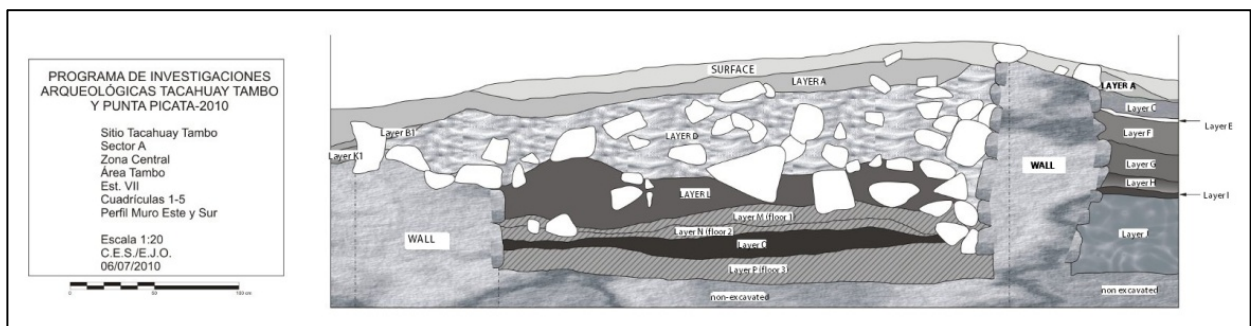


Figure 47. Drawing of Unit VI profile.

6.2.7. Unit IX

Unit IX was an intact *chullpa* located on the western edge of the tambo-like building. Similar to the other *chullpa*, this structure was not distinguishable from the surface. Although after excavation it measured approximately 2 m tall and 1.30 m wide (see Figures 48 and 50). This *chullpa* had an eastern facing entrance of 1 meter in height and 0.55 meters wide. Similar to *chullpa* I, its entrance was sealed with flat breccias stones from the coast. In addition, this *chullpa* had a rectangular external form and a circular internal one. Its roof was made of slab-stones which were used as a second entrance after the east entrance was sealed. However, at some point in time the roof was also sealed (see Figure 49).

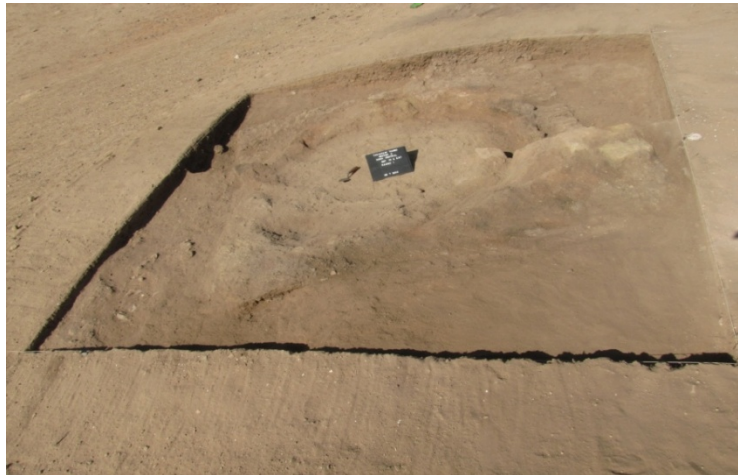


Figure 48: Photo showing how *chullpa* 2 (Unit IX) was observed from the surface.



Figure 49. Photo of the intact *chullpa* (Unit IX).

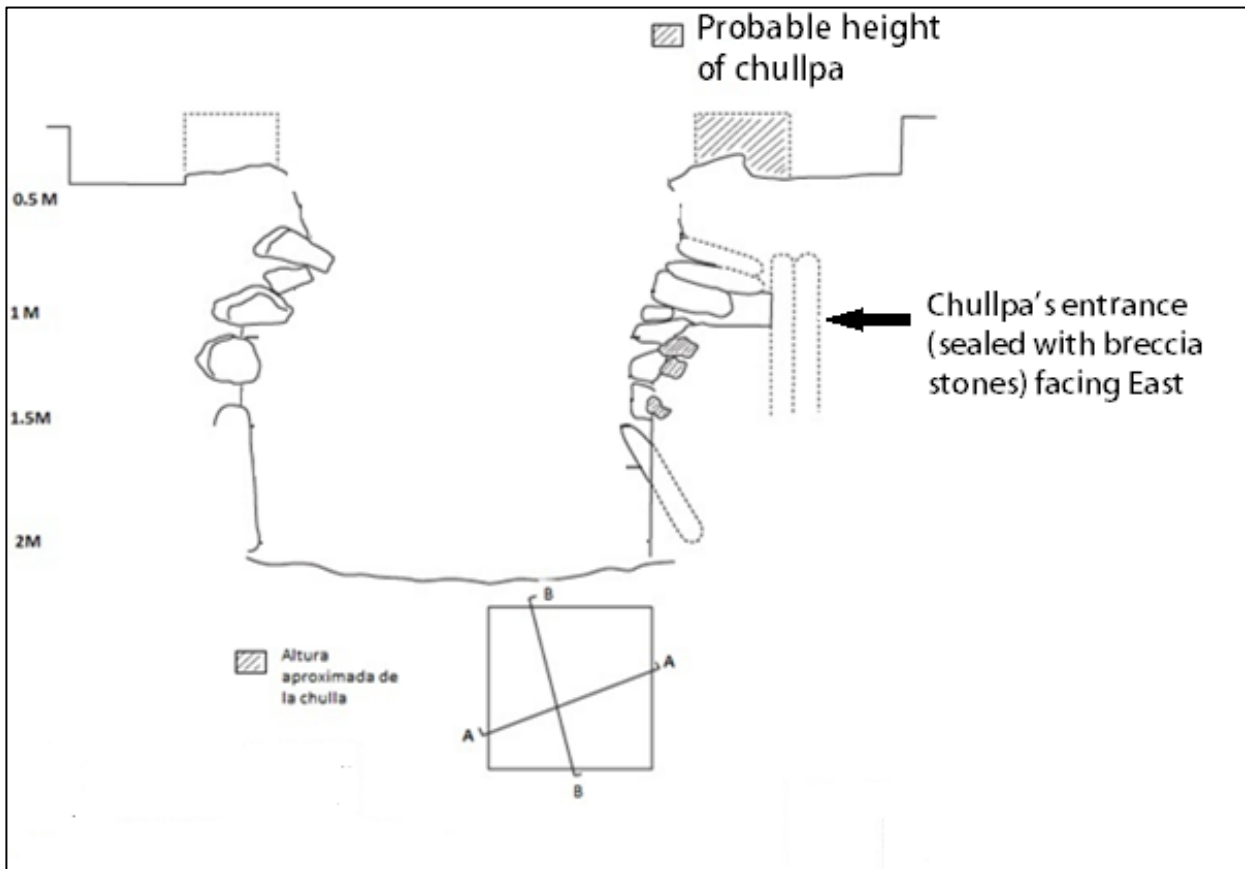


Figure 50. Drawing of *chullpa*'s 2 profile (the A – A' cross section).

We excavated this *chullpa* in 11 arbitrary levels (see Figure 51). In doing so, we were able to identify diverse types of grave inclusions deposited across time and space. Based on these arbitrary levels, Claudia Nuñez (2014) conducted a statistical analysis of grave inclusions for her *Licenciatura* thesis at Pontificia Universidad Católica del Perú. Based on her study and bio-analysis of the more than 30 individuals found at this *chullpa*, we divided this structure into three groups (group 1, 2 and 3) that were determined primarily by the absence and/or presence

of local or regional style vessel versus Inca-altiplano vessels (see Figure 51). These three groups were also divided by taking into account the presence (as well as absence) of other material cultural such drinking vessels (*keros*), spindle whorls and metal objects.

The three groups are described below. It is important to note that taphonomic processes inside the *chullpa* resulted in materials including human remains moving from the top to the bottom of the *chullpa* (see Guzman, 2011).

- Group 3 includes the arbitrary levels 7, 8, 9, 10 and 11 and contains the highest density of objects as well as individuals. These levels yielded a minimum of twenty five individuals. In addition, group 3 contained only local LIP ceramic styles such as Gentilar, Chiribaya Terminal, and San Miguel. We noted the presence of spindle whorls as well as many metals tumbago strips, and other objects, such as tweezers and *tumis* made of tin bronze (see chapter 7). In addition, Nuñez (2014) determined that both the individuals and their associated objects were placed along the internal wall of the *chullpa* perhaps to leave the area in front of the east entrance open creating a U shaped outline. This distribution suggests the active practice of inserting and moving grave goods, and mummy bundles. Finally, it should be noted that within this group we identified a semi-articulated individual in a flexed position located immediately adjacent to the *chullpa* wall.
- Group 2 is located between group 1 and 3. Group 2 contained wooden Inca style *kero* fragments, numerous spindle whorls, with a minimum of five adult individuals. It also contained two Estuquiña boot vessels, revealing an access to regional ceramic styles. This group also contained Pocoma (LIP) style ceramics, a common type across the Colesuyo region (see Chapter 7 and Appendix 1).

- Group 1 consists of arbitrary levels 1, 2, 3, 4 and 5. This group was the only group with Inca-Sillustani and Inca-Saxamar ceramic styles both of which are altiplano styles. This group, like group 2, had fragments of wooden *kero* with Inca style designs, and a minimum of five individuals. In addition, group 1 is characterized by the absence of metal objects and spindle whorls.

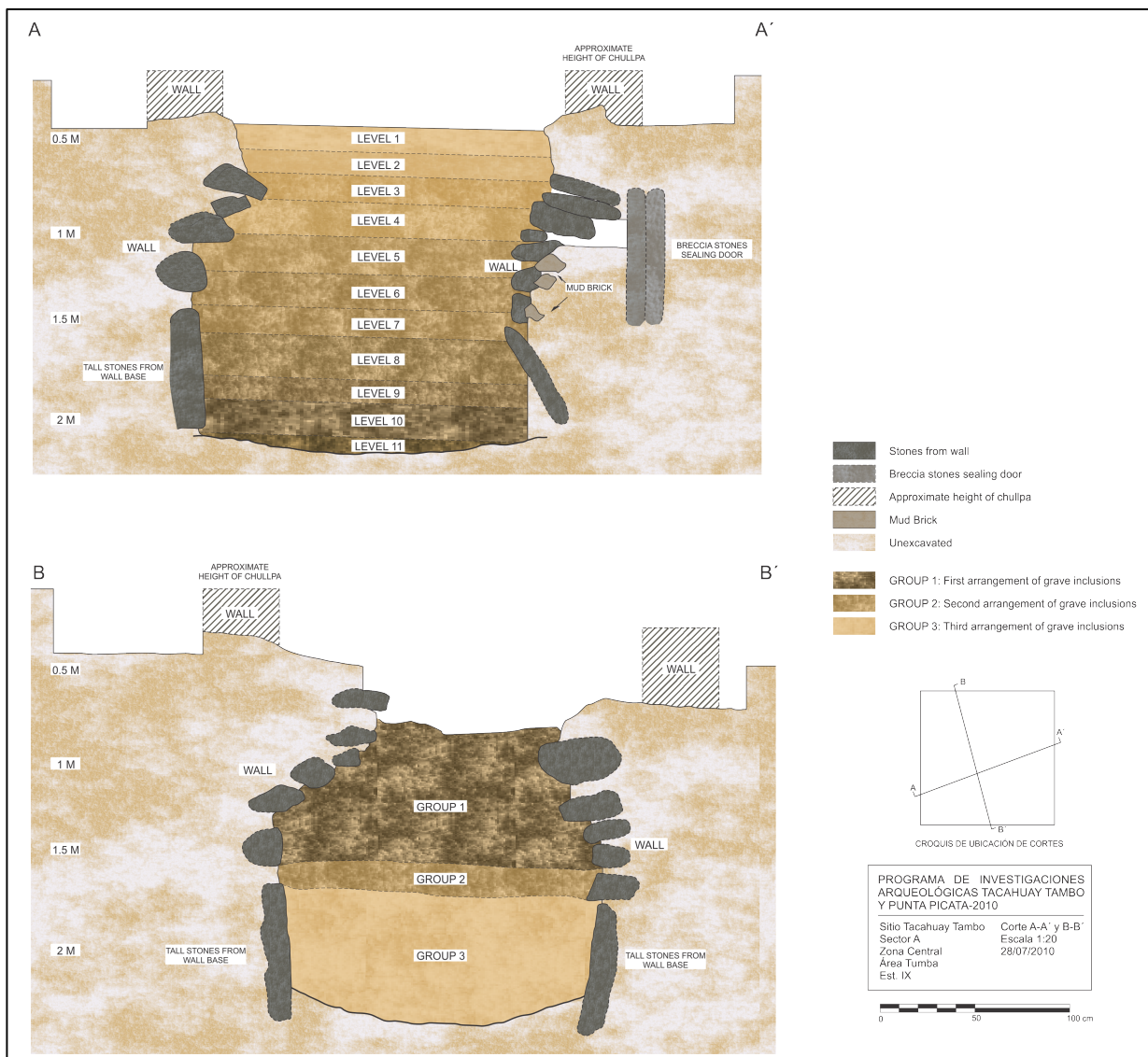


Figure 51. Drawing of the excavation levels of *chullpa* 2, indicating the arbitrary groups formed. This figure shows a profile of two cross-sections: the upper drawing corresponds to the A-A' cross-section profile, and the lower one corresponds to the B-B' cross section.

It is worth noting that unlike in Group 1, the grave inclusions in Groups 3 and 2 were not arranged in a U shaped outline. This suggests that the introduction of grave inclusions during the latter period of use of this *chullpa* occurred through the roof which must have been opened.

The *chullpa* was sealed twice and suffered two flooding events. The east entrance was sealed when the structure was still in use, and this probably coincided with the first *huayco* (flood) event during when the *chullpa* was partially covered. A second *huayco* (flood) event occurred before colonial occupation of the site, at that time the roof was used as an entrance for objects and individuals. Then, at some date, this last entrance was also sealed.

Bio anthropological analysis (Palma, 2011) indicated that there were at least 36 individuals in the *chullpa* (see Figure 54). These individuals included ten children between 0 and 5 years, five adolescents from 15 to 18 years old, four adults sexed as males between the ages of 27 and 60, six adults sexed as females between the ages of 21 and 50 years old, and ten adults for whom bio-anthropologists were not able to determine sex. This composition may suggest that this *chullpa* was used by an *ayllu* type organization.



Figure 52: Photo of surface of group 1 (level 5). We can observe the ceramic vessels with Inca style appearing from the surface of the *chullpa*.

In total we found around 61 complete ceramic vessels inside this *chullpa*. However, there were likely more than 100 ceramic vessels. Analyses conducted by Claudia Nuñez indicate that 80% of vessels were local styles (Chiviquiña, Gentilar, San Miguel), 18% were regional styles such as Estuquiña and Porobaya, and 2% were an Inca – altiplano style found at the top of the *chullpa* (see Figures 52, 53, 55). Furthermore, we found 4 *tumis*, 3 sets of tweezers, and other artifacts such as sheets made of tumbago (see metal annex). XRF analyses of knives or *tumis* revealed that they were tin-copper, with a very high level of tin (and a low presence of impurities). Compared with other tin copper objects from the region (see

Dussibieux and Williams, 2007; Miranda and Umire, 2007; Owen, 1993:213; 493; Penman, 1992; Stanish, 1985), this composition indicates that *tumis* were sumptuary objects manufactured in a specialized workshop (see TABLE VI).



Figure 53. Photo of surface of Group 1 (level 6). We can observe ceramic vessels with Gentilar style and some human remains.



Figure 54: Photo showing the human bones from Group 2, level 7.



Figure 55. Photo showing a group of Gentilar vessels - Group 3, level 10

Furthermore, we also found many fragments of wooden *keros* that were heavily deteriorated. These *keros* had rhomboidal and zig-zag designs common of the Inca style tradition (see Figure 59). In addition, we identified around 20 pairs of camelid feet, projectile points made of local (pink) quartz, many small hematite balls, crisocola beads, stone spindle whorls, and projectile points (see Figures 56, 57, 58).



Figure 56. Photo of some crisocola beads found inside *chullpa* 2



Figure 57. Photo of projectile point made of brown quartz found inside *chullpa* 2.



Figure 58. Photo of one of the spindle whorls found inside *chullpa* 2.



Figure 59. Photo of wooden *kero* with Inca geometric designs.

Botanical analyses conducted on samples from this *chullpa* provided interesting data, and a better understanding of the use of plants during funerary ritual (see this chapter). Macro-botanical data was derived from flotation samples collected from inside ceramic vessels. Samples from the ceramic vessels were compared with pollen samples taken from different areas of strata of the agricultural system. Vessels recovered from inside *chullpa* contained macro-remains of cotton seeds and quinoa (*Chenopodium quinoa*). However, these two plants were absent in the more than sixty pollen samples taken from different areas and strata of the

agricultural system and in domestic spaces. This indicates that although these products were locally used and consumed, they were brought from nearby regions or sites. In addition, we also found macro-botanical remains of *molle* seeds, corn and other taxons such as a high presence of a local herb (*Urocarpidium sp.*). This last plant is an endemic herb that is currently present in the local environment and is characterized by a flower. Despite the common nature of this plant and that several domestic contexts had a high presence of other pollen from *lomas*' environment, its identification inside vessels of the *chullpa*, suggest that it was being used for funerary ritual activities.

6.2.8. Conclusions

Tacahuay is a coastal site located in southern Peru with evidence of architecture resembling an Inca waystation (tambo) and nearby domestic structures from local populations. Here I briefly describe the results from macro and micro-botanical studies, ceramic data, faunal analyses, C-14 dates, faunal analyses and bio-anthropological studies.

Macro and micro-botanical analyses have provided us with interesting results about the economic behavior of people living in Tacahuay before, during, and after Inca hegemony in the southern Andes. Macro botanical analyses identified an abundance of maize and cotton seeds in several structures at the site, and an absence of chili pepper (*Capsicum sp.*). Furthermore, pollen analyses confirmed the absence of cotton pollen. This suggests that coastal enclaves were producing specific coastal products to be transported for regional consumption. In addition, both macro and micro-botanical analyses document an abundance of *molle* (*Schinus molle*), a tree used for wood but also for other types of consumption (i.e. *molle*

beer and/or medicinal ritual uses), and that is still cultivated today. Macro-botanical analyses also found evidence of quinoa seeds at the site. This plant is native to higher altitudes, and so it must have been transported to this coastal zone for consumption.

While I do not have the complete faunal analyses conducted by Susan deFrance, we do have information about the presence or absence of fauna species from several of the structures at Tacahuay (see TABLE III). These analyses indicate that during the period of Inca hegemony circa 1400-1532 A.D.; there is a high diversity of terrestrial fauna such as guinea pig (*Cavia porcellus*), feline and *cf. Canidae* (fox or dog) inside imperial spaces. In contrast, there is little species variation in domestic areas from the Late Intermediate Period to the Late Horizon, where our samples contained only two terrestrial animals: lama sp. and white-tailed deer (*Odocoileus virginianus*). Furthermore, across time and space there is a continuous presence of maritime species such as *Clupeidae* (sardine), *Engraulidae* (anchovies), *Trachurus murphy* (jurel) and *Sciaena deliciosa* (lorna), all of these represent fish species native to the sandy shores. This information demonstrates that people living in Tacahuay had access to maritime products (either through exchange or through their own exploitation of sea resources). Camelids were used for food, ritual and transportation.

Based on these data, it appears that during the Inca hegemony, there was the public consumption of food provided by elites to local and regional surrounding populations as reciprocity for their tax-labor and/or products. At these festivities hosted by elites, different types of meats (fish and terrestrial mammals) and plants (maize and beer made of *molle* and maize) were offered. Excavations conducted in imperial structures and on domestic and agricultural terraces indicated that inhabitants of this site had a mixed economy that included agriculture and herding. Excavations also revealed that although people living in Tacahuay

might have exploited marine resources, it was not a specialized fishing community. In short, faunal analyses indicated that people living in Tacahuay were consuming food representative of a mixed-type of economy and had a diverse diet. During the Inca hegemony of the region, this broad access to a diverse array of fauna was used politically by *curaca principales* (local elites in charge of many communities of *parcialidad*) to offer banquets to secondary leaders of local communities (see chapter 9) in exchange for maritime products (fishing communities) and agricultural products (mixed type of economy communities).⁷⁵

In sum, the presence of fish from diverse maritime ecosystem indicates that specialized communities were involved in providing maritime products for events that occurred at Inca-related structures involving food (maritime and terrestrial) consumption. In addition, the high diversity of terrestrial animals indicates an interaction with other types of eco-zones and access to exotic terrestrial species (such as the feline found in Unit I – see TABLE III).

⁷⁵ Herring is the most common species (Units I, VI, and XI). Flounder (*Bothidae*), on the other hand, is a species caught in sandy beaches and does not appear during the Late Horizon.

TABLE III

**FAUNAL (MAMMALS, REPTILE AND MARINE) IDENTIFICATION OF
UNIT I, VI AND XI**

Taxa identification	Common name	Unit I		Unit VI:		Unit XI:
		Layer F	Layer G	Layer A-D	Layer B	Layer C
Mammals						
<i>Caviaporcellus</i>	Guina pig	X				
<i>Rodentianid</i>	Rodent uid	X	X		X	X
<i>Cf. Canidae</i>	Probable dog/fox	X		X		
<i>Felidae</i>	Feline	X		X		
<i>Pinnepedia</i>	Marine mammal		X	X	X	
<i>Carnivora</i>	Carnivore			X		
<i>Lama sp.</i>	Llama (probably llama)	X	X	X		X
<i>Lama sp. (large)</i>	Large camelid			X	X	
<i>Lama sp. (small)</i>	Small camelid			X		
<i>Odocoileus virginianus</i>	White- tailed deer			X	X	
Large mammal unidentified		X		X		
Birds						
		Unit I		Unit VI		Unit XI
		Layer F	Layer G	Layer A-D	Layer B	Layer C
<i>Sula variegata</i>	Booby	X		X		
<i>Phalacrocorax sp.</i>	Cormorant				X	

<i>Cf. Pelecanidae</i>	Probable pelican			X		
Bird uid-small	Small bird	X	X	X		
Bird uid-medium	Medium bird	X	X	X	X	X
Bird uid-large	Large bird			X		
<i>Bird uid-cf. song bird</i>	Small bird	X				
Reptile						
<i>Lacertilla</i>	Lizard	X				
<i>Serpentes</i>	Snake			X	X	X
<i>Anura</i>	Frog	X	X			
Maritime species (fishes)						
		Unit I		Unit VI		Unit XI
		Layer F	Layer G	Layer A-D	Layer B	Layer C
<i>Clupeidae</i>	Herrings, shad (<i>sardina</i>)	X	X	X	X	X
<i>Engraulidae</i>	Anchovies (<i>anchoveta</i>)	X	X		X	X
<i>Exocoetidae</i>	Flying fish (<i>pez volador</i>)	X	X			
<i>Genypterus maculatus</i>	Black cusk eel	X			X	
<i>Sicyases sanguineus</i>	<i>Pejesapo</i>	X	X	X		X
<i>Scartichthys gigas</i>	<i>Borracho</i>				X	
<i>Trachurus murphyi</i>	<i>Jurel</i>	X	X	X	X	X
<i>Sciaenadeliciosa</i>	<i>Lorna</i>	X	X	X	X	
<i>Sciaenegilberti</i>	<i>Corvina</i>				X	
<i>Paralonchurus sp.</i>	<i>Coco</i>	X	X	X		X

<i>Sciaenidae</i>	Drum	X		X	X	
<i>Sparidae</i>	Porgies			X		
<i>Labrisomus sp.</i>	<i>Trambollo</i>	X			X	X
<i>Carangidae</i>	Jacks				X	X
<i>Cf. Lutjanidae</i>	Probable drum	X				
<i>Bothidae</i>	Flounder		X			
<i>Scombridae</i>	<i>Tuna</i>			X		

6.2.8.1. Radio Carbon

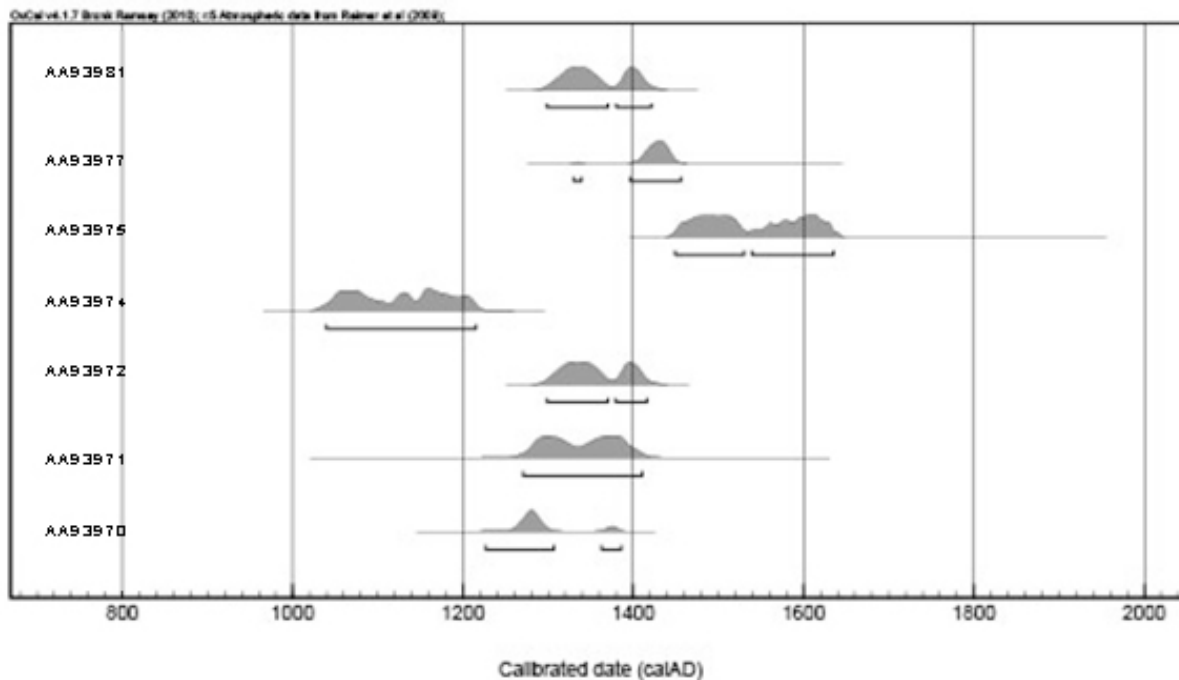
¹⁴C analyses carried at the AMS Laboratory of Arizona University provided interesting results (see TABLE IV and TABLE V). First, the *chullpa* (unit II) has a calibrated date of 1330 – 1455 A.D. (2 sigma) (sample AA93977). The dated sample is a piece of wood collected from Layer J that was part of a wood vessel (or *kero*) deposited inside the *chullpa*'s structure as an offering. Another date associated with this *chullpa* was obtained from a piece of charcoal from Layer C in units 17 and 18 located outside the *chullpa* and provided the calibrated date of 1449-1653 A.D. (2 sigma) (sample AA93975). This sample suggests that Layer C, which covered the east façade (where the *chullpa*'s entrance is located) was a consequence of a climatic event (probably a Niño event) that occurred just before Spanish arrival or during the early colonial period. We have also obtained four additional dates from Unit I (*kallanka* structure) and one from Unit X. The earliest date from Unit I is from a piece of wood from Layer G - sample AA93974 - with a date range from 1039 to 1215 A.D. (2 sigma). This was a layer below the base of the *kallanka* walls indicating it pre-dated the *kallanka*'s construction. Furthermore, samples AA93970, AA93971 and AA93972 were recovered from Layer F and yielded dates of 1227-1386 A.D., 1270-1410 A.D. and 1298 – 1416 A.D.; respectively (all 2 sigma). This layer corresponds with the pre-Hispanic use of the *kallanka* and when there were periods of sporadic food consumption. The last date comes from Unit X (sample AA93981) dating from 1299 to 1421 A.D. (2 sigma). This is a unit measuring 2 x 0.60 m located outside and next to the *kallanka* entrance. The sample was a piece of wood from Layer D (floor 2), corresponding with the second compacted floor of the patio that was associated with the use of the *kallanka*. In sum, these ¹⁴C samples demonstrated that, as expected, the construction of the *kallanka* and *chullpa* occurred during the first decades of fifteenth century.

TABLE IV
AMS RADIO CARBON DATES CHART FROM CHARCOAL SAMPLES AT
TACAHUAY

Sample Number	Context	Uncalibrated date (years B.P.)	$\delta^{13\text{C}}$	Two-sigma calibrated range (years A.D.)
AA93981	Unit X (Layer D-floor 2)- wood	616 +/-34	-24.3	1299-1421
AA93977	Unit IX (<i>chullpa</i>) wooden <i>kero</i>	488 +/-34	-25.0	1330-1455
AA93975	Outside Unit IX (<i>chullpa</i>) (Layer C) charcoal	362 +/- 34	-24.5	1449-1653
AA93974	Unit I (Layer G) below <i>kallanka</i> wall – wood	895 +/-34	-25.7	1039-1215
AA93972	Unit I (Layer F) - wood	585 +/-34	-25.5	1298-1416
AA93971	Unit I (Layer F) - burnt corn	647 +/-58	-10.5	1270-1410
AA93970	Unit I (Layer F) - wood	714 +/- 34	-11.1	1227-1386

Dating analysis was conducted by the AMS Facility at the University of Arizona and calibrated using Calib. 5.0.1., and the Southern Hemisphere curve established by McCormack et al., 2004.

TABLE V
AMS RADIO CARBON DATES FROM CHARCOAL SAMPLES AT TACAHUAY



The *chullpas* found at Tacahuay allowed us to make a different set of observations. Although these require further research, they merit mention here. *Chullpas* are above ground structures (Hyslop, 1977; Isbell, 1997). For a long time, investigators focused on identifying the function of *chullpa*'s and their significance in pre-Hispanic Andean societies. Most interpretations were based largely on the few materials found inside disturbed *chullpa* towers, analysis of their spatial distribution across the landscape, and through the study of early travelers' accounts and colonial documents. These investigations indicated these tombs may reflect *ayllu* or lineage affictions, and that they may have served as a mechanism of social control to reinforce group's identities and assert territorial rights. Some other investigators

described the funerary practices that occurred around *chullpas*, such as libation and feasting between the living and the dead (Guaman Poma, 1944 [1614]; Nielsen, 2008).

It has been argued that on the altiplano, *chullpas* first appeared during the Late Intermediate Period. During the LIP, altiplano *chullpas* were of many different sizes and shapes, such as circular and rectangular, they were built of stones and some of them were covered with mud. However, during the Inca period *chullpas* became larger and fancier and were significantly more impressive than those of the Late Intermediate Period (Hyslop 1977). This change in *chullpa* construction suggests that pre-Inca local ancestor veneration not only continued during Inca hegemony, but that these rites were permitted and supported by the newly imposed imperial powers.

In the case of Tacahuay, we found two *chullpas* one intact and the other disturbed. The preservation of the intact *chullpa* (unit 9) was likely due to being buried under a deep eolian deposition and at least two mudslide events caused by rains that occurred sometime between the Late Intermediate Period and the early colonial occupation that began in 1540. Furthermore, both of the *chullpas* were intentionally closed during the pre-Hispanic period and as such they were not previously recognized. However, sand and *huayco* deposition hid only one of them over time.

Scholars seeking to investigate *chullpas* face some significant obstacles. Firstly, remains inside *chullpas* are difficult to find, mainly because these structures have been heavily looted through the centuries. Therefore, many questions about *chullpas* remain elusive. How were the bodies and objects distributed inside *chullpa*? For, how long were *chullpas* continuously used? What types of funerary practices take place inside these structures? These are all questions to which Tacahuay's *chullpas* might be able to provide answers.

What was or is the significance of this *chullpa*? Bernabe Cobo (1960 [1654]) mentions that when the Sapac Inca Huayna Capac went to conquer the northern parts of the empire and fight against the Cayambes from Ecuador, he took with him a brave captain from Chucuito, a Lupaca leader known as Apu Cari (also see Thomson 2002:70-72) . This detail is also noted in the Chucuito *Visita* conducted by Garci Diez de San Miguel in 1570 and historian Cúneo Vidal (1977). Vidal (1977) notes that after defeating the Cayambes and receiving great authority directly from the Inca, Apu Cari returned to Chucuito, allowing his rulership under the Incas. It is also known that the son of Apu Cari, Cari Apassa (which means “family of Cari” in Aymara), was seen by Diego de Almagro when he was travelling along Chucuito (Diez de San Miguel 1964 [1567]). During an interview with this powerful *curaca*, Almagro asked about his domains. This *curaca* responded that this lands included the valleys of Moquegua, Ilo, Ite, Sama and Locumba, as well as the Azapa Valley, and the towns of Arica and Lluta and Codpa (Diez de San Miguel 1964 [1567]).

This *curaca* most likely established relations with these coastal regions by “marrying” several local women (Vidal 1977). Therefore, “Apu Cari” is an important ancestor for local indigenous communities from the altiplano and Moquegua during the early colonial period (Thomson 2002). Is it possible that his descendant’s local and powerful Colesuyo leaders; might have spoke about the important duties of their ancestor, Apu Cari during throughout the colonial period.⁷⁶

This is the history of one ancestor widely known in the Colesuyo region. I suggest that Colesuyo local leaders, such as the one living in Tacahuay, shared a collective memory

⁷⁶ Nielsen (2008) suggests that *chullpas* were the material expression of the construction of ancestorship that requires memory work and practices, both activities that might have happened surrounding this type of tombs.

of their altiplano ancestors such as Apu Cari that during Inca period acquired more solid and widespread powers. The construction of this memory gave local leaders greater access to coastal resources, therefore increasing their political stability from what it was during the LIP.

It is interesting to note that according to Alan Covey (2000) Tacari is Tacahuay, and Machina is the *curaca* from this *estancia*. He is described as a fisherman, and not as an agriculturalist. This classification begs the question: was Tacahuay identified as a fishing community because of their specialized labor as fishermen or because of the resources they administered and the tribute this site collected?

A group of Polish investigators (Baca et al., 2012) conducted a DNA analysis of the individuals found in a *chullpa* at the Late Horizon site of Tompullo located in Arequipa. This study found that this *chullpa* was used by one patrilineal family group or *ayllu*. Men buried in the *chullpa* had related DNA though the women did not. Although, we have not yet conducted isotopic analyses at Tacahuay, we do know that the *Visita* conducted by Garci Diez de San Miguel in 1570, mentions that local *curacas* or *señores principales* had two to three wives each. Thus it is possible that this polygamous scenario can be seen in the composition of the individuals in the *chullpa*. As a working hypothesis, I propose that this *chullpa* was founded by a patrilineal altiplano lineage that established ties through intermarriage with local Colesuyo women. In the near future, I will be conducting isotope analyses of many individuals from this *chullpa* in order to test this hypothesis.

The cultural material found inside this intact *chullpa* changed across time. During the earlier periods of its use, the ritual paraphernalia was mainly material manufactured in coastal Colesuyo. In contrast, during a latter period of use, there was a high density of manufactured objects with Inca-altiplano style suggesting that local leaders had access to imperial

manufactured goods as well as increased access to coastal products. Finally, macro and micro-botanical analyses show that the flora used as food and in rituals conducted between the living and the dead were local plants. This suggests a hybrid type of funerary practices. This hybridity of ritual activities and goods in the *chullpa* is evidence of a mixed-type of family or *ayllu* group in Tacahuay consisting of an *ayllu* leader of foreign origin (altiplano) and local women.

In addition, interpreting this *chullpa* as the material dimension of funerary practices, we also seek to interpret/understand the meaning of materials within a *chullpa*. As Nielsen mentions in his article, *chullpas* can be understood as the bridge between past and present, not only blurring the frontiers between the living and the dead of pre-Hispanic Tacahuay, but also, of today.

6.3. Analysis of the agricultural system of Tacahuay

As part of my overall research project, I conducted pollen sampling of the agricultural system of Tacahuay in order to better understanding the transformation of agricultural activities and the history of use and reuse of diverse agricultural sectors of the site across time and space. Tacahuay is a small, discrete coastal ravine that contains 9 distinct agricultural sectors. This site has two small-scale springs that feed an agricultural system of around 30 to 40 ha located along the flat terrain of the ravine. Springs are located around 1.5 km east from Tacahuay Tambo and around 500 m from the eastern agricultural sector (sector VII or modern olive plantation). Each sector was archaeologically tested (see Figures 60, 61).

Due to varying water availability, it is probable that some sectors were used at different time periods (from the Late Chiribaya to the Colonial Period). Sector I (on the western

extreme) is associated with a Late Chiribaya occupation, and when the agricultural land of the ravine had its most extensive use.⁷⁷ In contrast the eastern extreme is where modern agriculture occurs (see Figure 61). Therefore, this project opened test pits of 1x1 m and 1 to 1.5 m deep, from the western part of the ravine, where there is evidence of pre-Hispanic occupation, continuing to the eastern extreme, where modern agriculture occurs (see Figure 61).

Previous investigations suggested that the northern and southern parts of the Osmore River were first cultivated during the Late Chiribaya period (see Satterlee et al., 2000; Zaro, 2007). Accordingly, I initially assumed that Chiribaya populations from the lower Osmore Valley migrated to Tacahuay after the Miraflores *El Niño* episode (a mega Niño event occurred circa 1350 A.C.)⁷⁸ (see Satterlee et al., 2000). However, as is evident from surface remains, this part of the ravine was cultivated before this event.

⁷⁷ Cultivation intensity: the increasing frequency of cultivation on a constant area of land over time (Killion, 2000).

⁷⁸ It has been suggested that Miraflores *El Niño* episode produced many changes in agrarian patterns between 1,100 to 1,500 B.C. (for more information see: Magilligan, 2008; Satterlee, 1993; Satterlee et al., 2000).

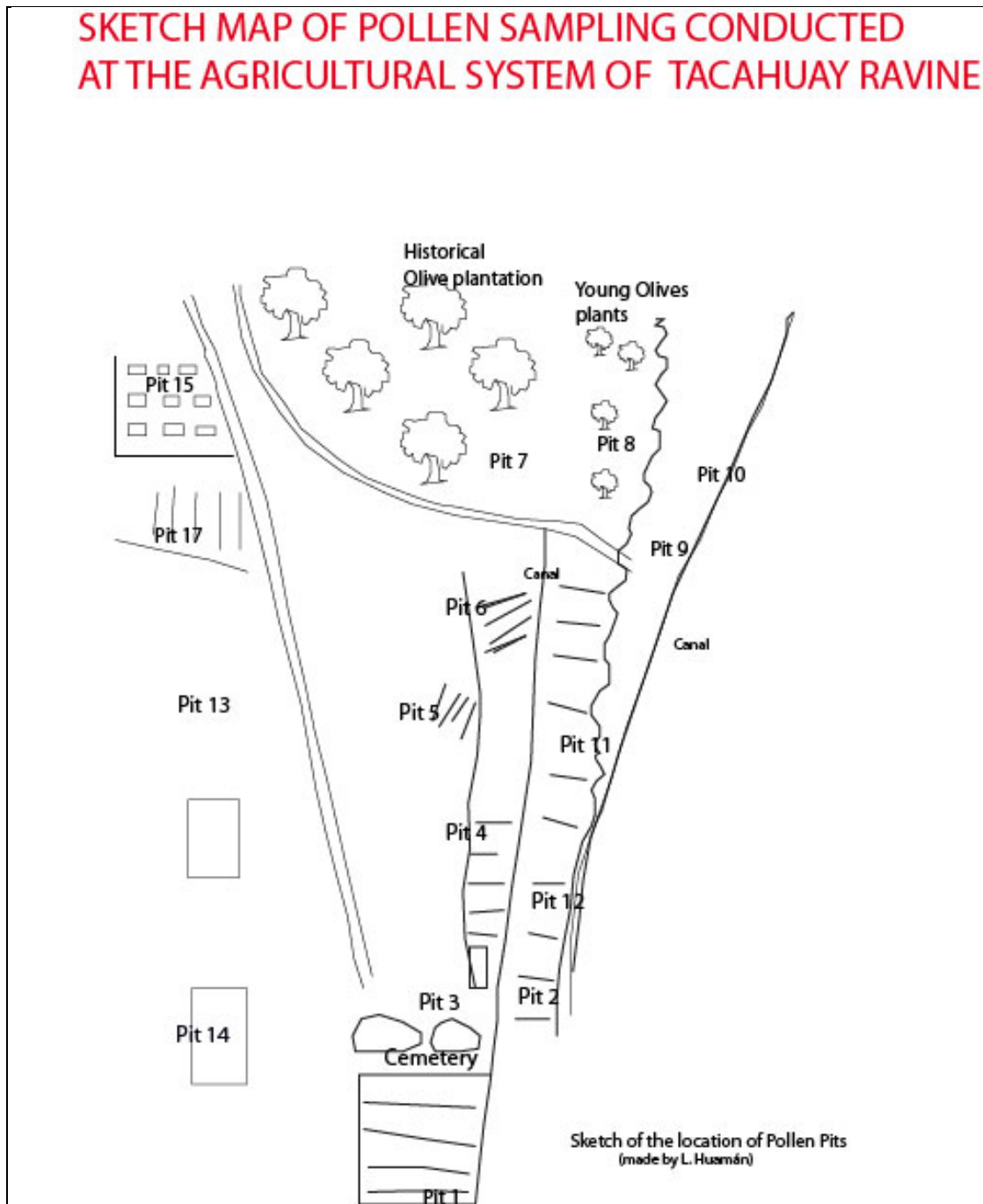


Figure 60. Sketch of the location of pollen pits in Tacahuay ravine.

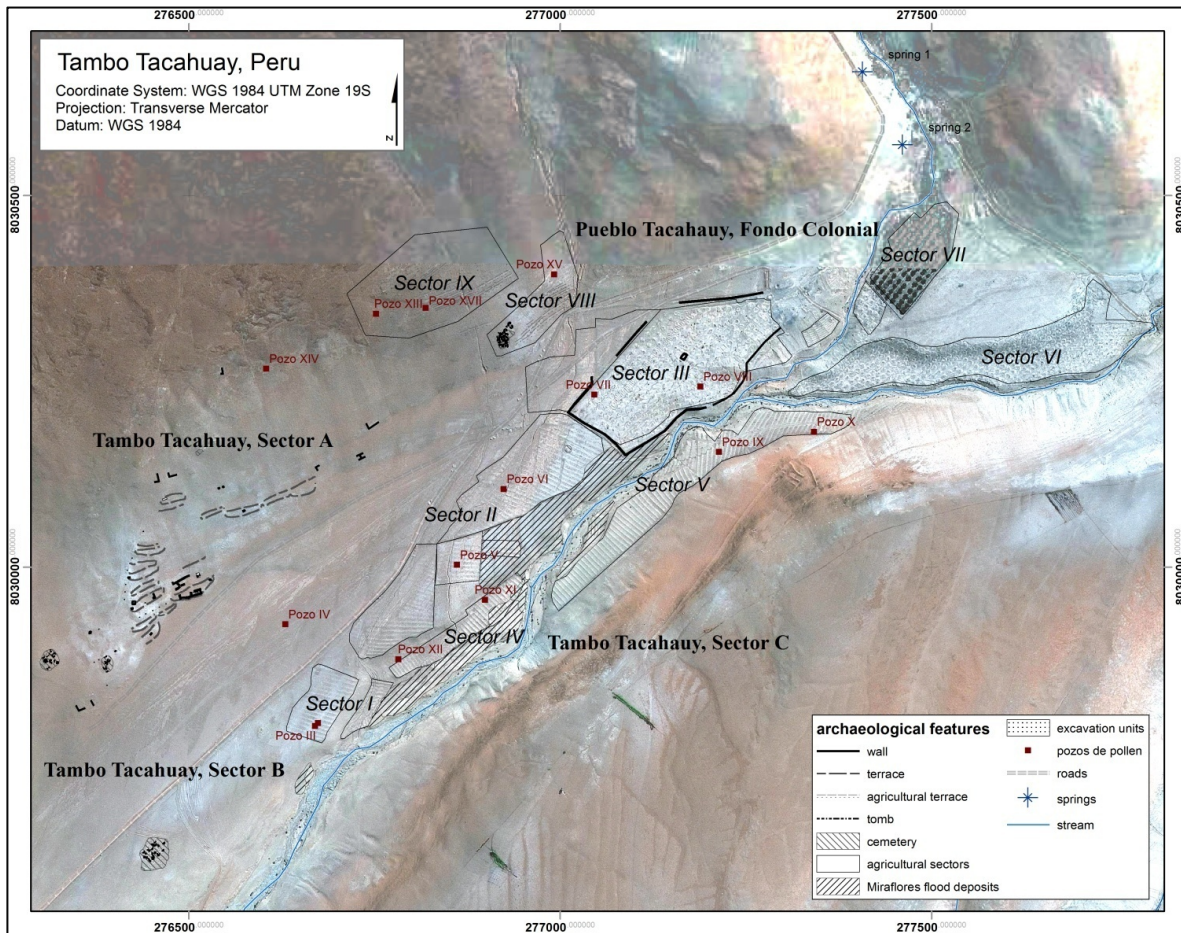


Figure 61. Map of Tacahuay showing the location of the agricultural sectors within the ravine. Also observe the location of the two springs in the right corner of the map.

6.4. Description of analyses from the agricultural sectors

Sector I. Pits 1, 2 and 3 were dug within Sector 1. This sector is 1.8 ha and is located on the western extreme of the Tacahuay agricultural system. There is evidence for agricultural terraces and irrigation canals, which are situated next to the Chiribaya period cemetery (see Figure 61). Analysis of these samples, found presence of *Fabaceae* and *Cheno-Am*. Although there is no presence of clear evidence of economic plants, these two samples can be suggesting that Chiribaya groups were probably cultivating some plants. Nonetheless, because of the high presence of certain types of trees such as *Alnus acuminata* and from the *Bignoniaceae* (woody plants) family. It might be that during the pre-Hispanic period tree cultivation was commonly practiced in this area. Finally, the fact that this sector is located far from springs indicates a higher capacity of water during this period (see Figure 61).

Sector II covers 2 ha. It is located on a flat area in the center of the Tacahuay ravine. It is composed of long agricultural terraces approximately 2.5 m wide and 100 m long. However, many floods have affected these terraces. Therefore, today its surface contains eroded cultural material. Nonetheless, three test pits were placed in this sector (4, 5 and 6) from which multiple pollen samples were obtained.

Sector III covers 4 ha, and this is where the Tacahuay colonial pueblo is located. It has evidence for colonial and modern olive agriculture over the previous occupation. Pits 7 and 8 were excavated to diachronically observe agrarian land use of Sector III.

Sector V. This agricultural sector is located on the southern and eastern part of Tacahuay. It is separated from the northern part by an old depression that cuts the area (see aerial photo). It covers approximately 2 ha. There is evidence that the site of Tacahuay it was flooded by the Miraflores *el Niño* episode (1350 - 1370 D.C.) (Satterlee, 1993, Satterlee et al., 2000) but it was

subsequently rebuilt for use (see Figure 61). In contrast to other areas of Tacahuay, there are grids measuring approximately 2 x 2 m on the surface of this sector. William Denevan (2005:162) identified these as “bordered gardens” in the northern Peruvian coast. These grids or *posas* require “less frequent water applications than furrow irrigation...” (2005:162). *Posas* are delimited by a pile of sand or rocks, intended to maintain humidity for longer periods of time. Pits 9 and 10 were excavated to test the agricultural history of this sector.

Sector VI. This sector covers 2 ha and is located in the eastern lower part of the *quebrada*. On the surface of this sector, there is evidence for contiguous circle marks on the surface, reflecting a type of olive agriculture. No sample was obtained from here.

Sector VIII. This is a small agricultural sector, covering 0.4 ha, that has been affected by several small floods. However, there is still some evidence for agricultural terraces on the surface. The sector is a flat depression located between the slopes of Tacahuay on the north part of the ravine.

Sector IX. This sector covers 0.6 ha and is located on the northern and eastern slope, close to the end of the ravine. There is evidence of small agricultural terraces as well as some canals that come from the springs located in the back area of the Tacahuay ravine. Pits 13 and 17 were excavated to examine the agricultural activities in this area.

Tendales sector. This sector is not an agricultural area, but instead a space used for drying agricultural products. However, pollen analyses were conducted with the aim of documenting activities that occurred in this area.

6.5. Conclusions

Most samples obtained from the agricultural system of Tacahuay had a low pollen count. This low presence might be related to the environmental history of the ravine (multiple floods), the high salinity of the soil, and the flat surface of the zone where most agricultural terraces were located. Nevertheless, despite these limitations, pollen identification together with macro-botanical analyses (see below), have greatly contributed to the understanding of the history of the agrarian land-use of Tacahuay.

First, there is no evidence for the cultivation of chili pepper or cotton, both of which are frequently mentioned in historical 16th century documents (Diez de San Miguel, 1964 [1567]). This provokes the following question: Was Tacahuay obtaining coastal products from other coastal regions or populations? Another important observation is that corn was identified in only two agricultural sectors of the site, Sector V and IX, dating to the pre-Hispanic period. These data indicate either that maize was only being cultivated in specific sectors of the ravine or that its cultivation was not intense. In this respect, it is important to mention that maize is present in all layers of the excavated units at the site of Tacahuay, and frequent in samples from the nearby agricultural sectors. Other economic plants identified in agricultural sectors were lucuma, and sweet potato. Finally, during pre-Hispanic periods, the local environment of Tacahuay had forestry and multiple types of plants (between economics and herbs and shrubs), more similar to contemporary coastal *lomas*' environment (for example the Atico *loma*'s environment in coastal Arequipa) (see Dillon et al., 2011).

It should be pointed out that this type of agriculture corresponds to what Charles Peters (200

0:203-223) calls “home gardens” and/or “management fallow”, which are combinations of a garden type of agriculture through the planting of seeds and the transplanting of seedlings. Furthermore, the presence of trees in Tacahuay, besides indicating a more humid environment than today, also suggests human control of specific trees (including *molle*, *Bignoniaceae*, *Alnus alcuminante*, *tara*) as well as olives during colonial period. Therefore, under a “home gardens” type of agriculture, fields could easily be reverted to fallow periods. During these fallow periods, weeds are also sources of food for humans and animals (in excavations at Tacahuay we saw that many herbs were used for cooking, ritual and other activities), for the construction of buildings and for medicine (see Lents, 2000:96; VanDerwarker, 2005).

7. SUMPTUARY CERAMICS OF COLESUYO

This project employs different methods of analysis for studying the material consumed within Colesuyo. Although this investigation focuses on the sites of Camata⁷⁹ and Tacahuay as spaces of social dynamism, its larger goals to understand the broad social changes that occurred in the region during the late pre-Hispanic period. In this chapter I analyze the ceramic (also see Appendix 1) objects recovered at these sites as reflections of the general wealth system, which integrate local and regional elites into the state economy (D'Altroy and Earle 1992). The analysis also includes a discussion of early colonial documents from the region.

7.1. Ceramic analysis

Ceramic samples were analyzed at the Field Museum's Elemental Analysis Facility.⁸⁰ The LA-ICP-MS ceramic analysis conducted for this investigation focused on understanding the ceramic production and distribution of vessel among communities of the Colesuyo region as well as to elucidate interactions between regional groups.

The research places the acquisition and exchange of ceramics (and/or other types of objects) between different groups of people, as the last process of a series of socio-economic

⁷⁹ No metal objects were recovered during my excavations at Camata.

⁸⁰ Part of this analysis was conducted in collaboration with Matthew Piscitelli, Ph.D., and I am grateful for his help.

Furthermore, LA-ICP-MS analysis was conducted under the supervision of Field Museum investigators: Laure Dussubieux, Ph.D., Ryan Williams, Ph.D and Mark Golitko, Ph.D.

and cultural steps. These steps begin with the procurement of the raw material and a wide range of manufacturing processes (i.e. techniques of manufacture, status of crafts specialists, setting and location of production, and manufacturers relations to structures of power), and finally: the distribution and the construction of desire for finished products (construction of commodities during Inca influence of the region) (see Costin, 2011). During the course of the research I focused on the following questions: 1) In what ways did the Inca empire affect the economies of small, fragmented and autonomous polities located remote regions? 2) To what extent did the imperial political structures penetrate into less complex forms of social, political and economic organizations? And, 3) how can we distinguish different types of local and regional responses to imperial powers in the archaeological record?.

7.1.1. The ceramic data

Ceramic data for this analysis comes from four Colesuyo sites dating to the Late Intermediate (LIP) (1000 – 1450 A.C.) and Late Horizon (LH 1400 – 1532 A.C.). The database is composed of 92 ceramic samples recovered from archaeological sites and 25 clays. Twelve of the archaeological samples were obtained from Porobaya 1 and Porobaya 3. Both of these are LIP sites (Estuquiña sites) located in the Otor Valley.⁸¹

Seventy ceramics samples were acquired from excavations at Tacahuay Tambo/Pueblo, and ten samples were from Camata Tambo and Camata Pueblo. The twenty-five clay samples

⁸¹ These sites were investigated by Charles Stanish (1982; 1985) in the 1980's; and he indicated that these sites had ceramics of the Inca-Sillustani style, a common style in the Colesuyo region. In addition, Stanish (1982; 1985) and others (i.e. Arkush, 2005; 2008; Bürgi 1993) have suggested that this style is related to the Colla ethnic group of the altiplano.

were taken from possible sources along the lower Moquegua Valley (20 km along the Ilo Valley and along Tacahuay ravine) (see Figure 62). These clay samples together with previous data already collected by Sharratt and Williams in 2006 (Sharratt et al., 2009) from possible clay sources of the middle and upper Moquegua Valley; represent one of the most complete datasets of an entire Andean valley.

7.1.2. Description of LA-ICP-MS analysis

The ceramic investigation conducted for this thesis is composed of two parts. The LA-ICP-MS analysis was carried out to better understand ceramic production and distribution among communities of Colesuyo region. Understanding these issues provided insights into the political relations among Colesuyo's groups. The analysis proved especially important because in contrast to my work at Tacahuay, excavations at Camata Tambo did not find ceramic fragments with designs. Therefore, the LA-ICP-MS analysis provide and means to compare ceramics from two regions of Colesuyo.

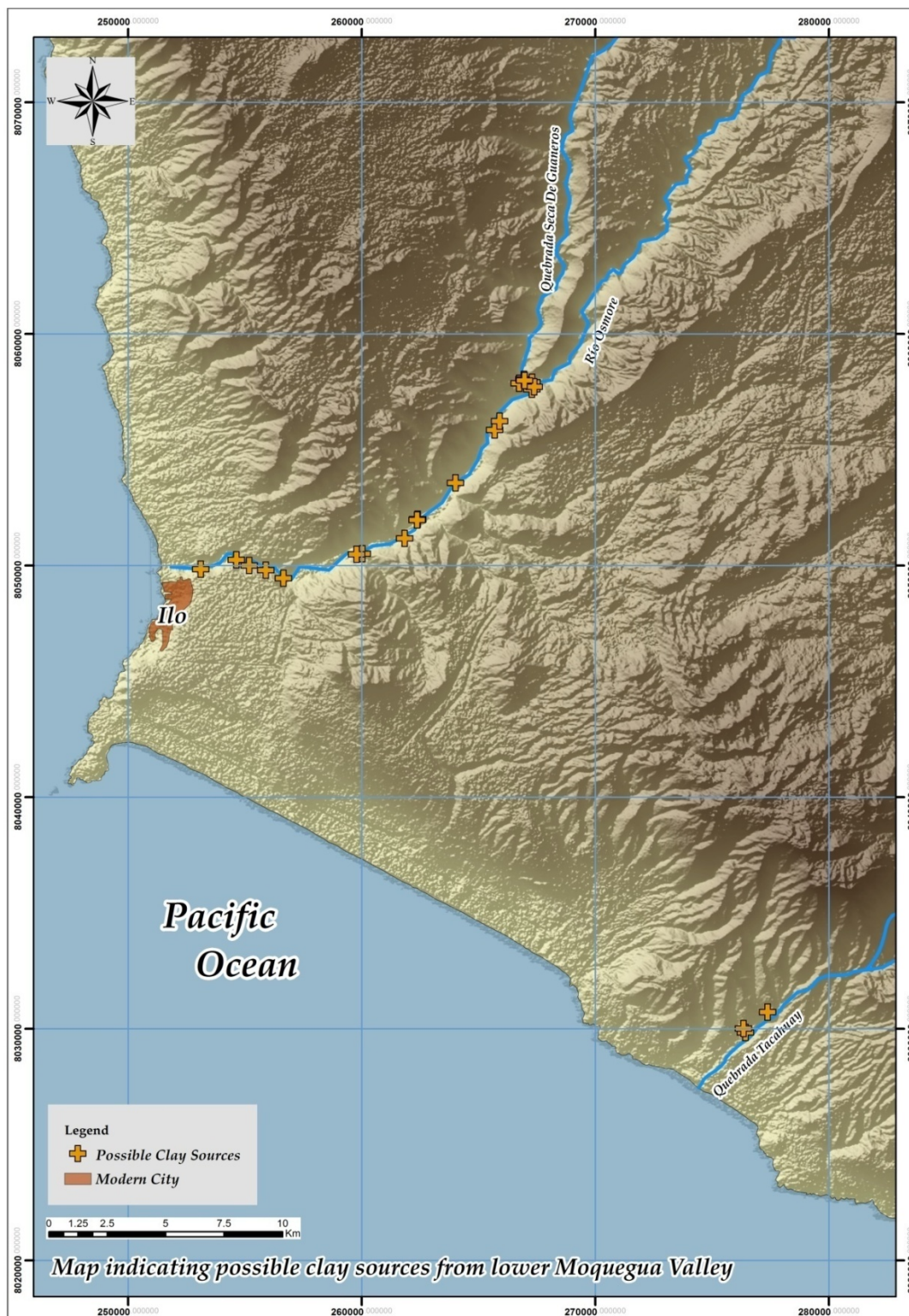


Figure 62. Map showing the location where clay samples were taken in the lower Moquegua Valley.

My clay source work built upon that of Sharratt et al. (2009), which explored the clay sources in the upper and middle Moquegua Valley. This study identified 5 distinct clay groups known as Torata, Tumulaca, Moquegua, Otorá 1 and Otorá 2, each corresponding to different geological formations (see Figure 63). The hierarchical cluster analysis on the logged values for clay samples from the lower valley collected by this investigation, revealed that clays from the lower valley and coastal ravines are chemically distinct from those found elsewhere in the Moquegua Valley (Piscatelli and Chacaltana, 2012; Sharratt et al. 2009). In fact, the clays from the lower Moquegua Valley can be divided into two main groups based on elemental composition (Figure 64). These two groups appear to be related to two geological formations: Jurassic igneous plutons located on the middle, upper and southern parts of the lower Osmore Valley, and Quaternary sedimentary, located along the coast (see Figure 65).

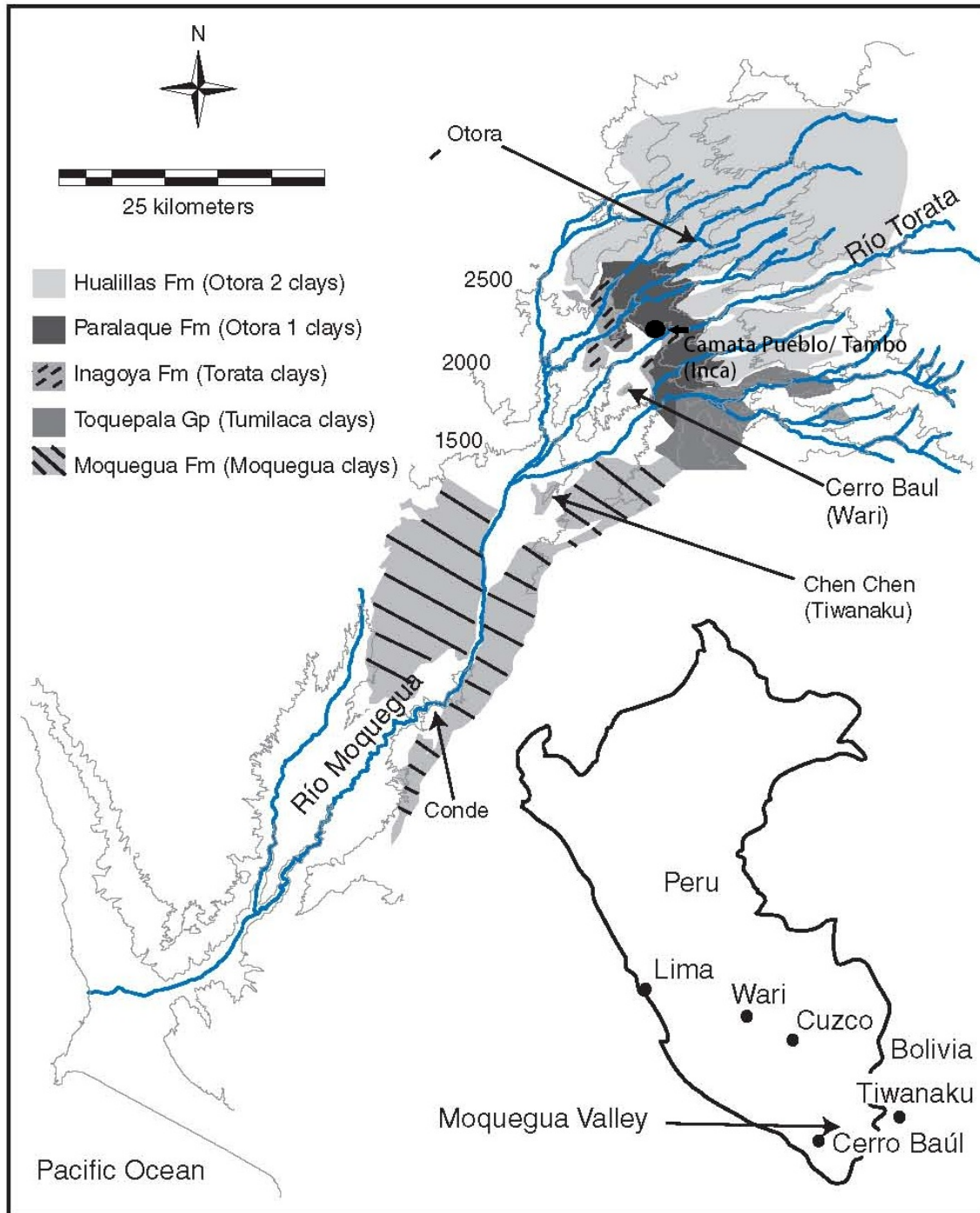


Figure 63. Map of the Moquegua Valley indicating the clay formations from the middle and upper valley (from Sharratt et al., 2009:793).

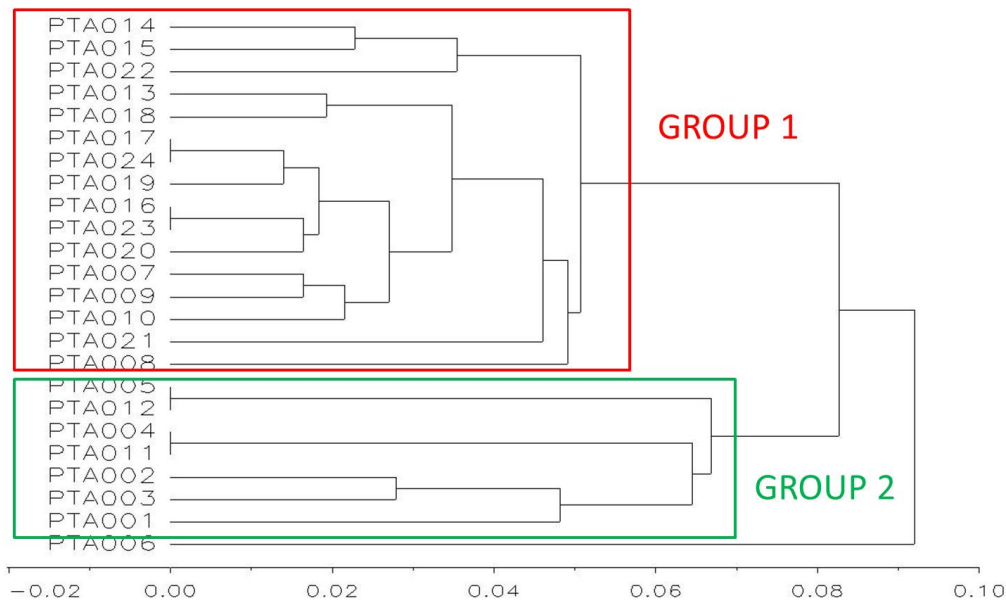


Figure 64: Graphic of two groups from possible clay sources from the lower Moquegua Valley.

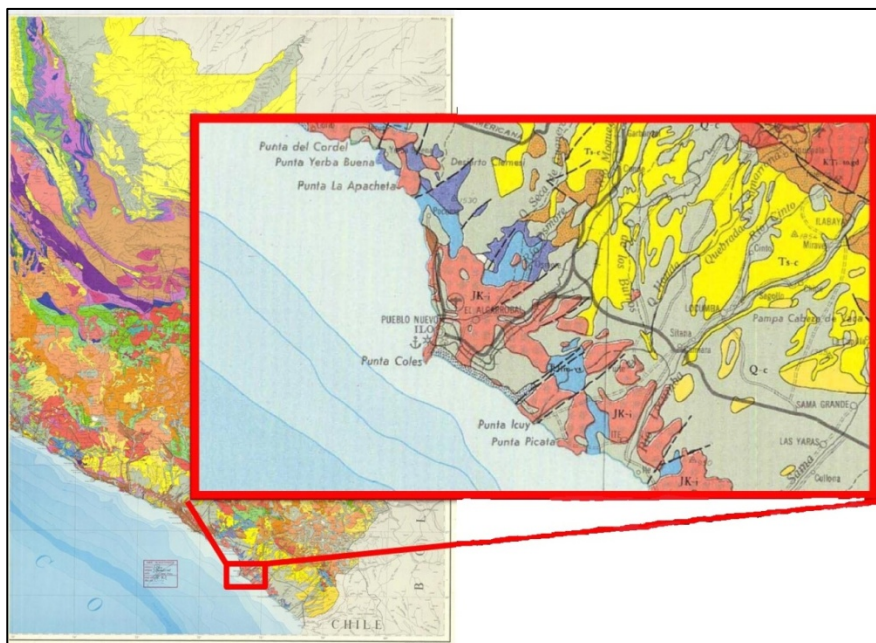


Figure 65. Geological Formations from the lower Moquegua Valley. Jurassic igneous plutons formation is in light red, and Quaternary sedimentary deposits in gray.

During my investigation iterations of principal components analysis on a dataset of 92 ceramic samples were run. Mahalanobis distance was used after each iteration to identify outliers that were removed from the dataset (Figure 66). Principal components analysis on a core group of 73 ceramic samples demonstrated that components 1 and 2 accounted for 45.7% of the variation in the sample. Principal component 1 was plotted to principal components 2. Each ellipse represented a 90% confidence interval. The ceramics from Tacahuay shows a wider variety of elemental compositions; while the small samples from Porobaya and Camata demonstrate tighter, yet chemically distinct elemental signatures that may correlate with clay sources.

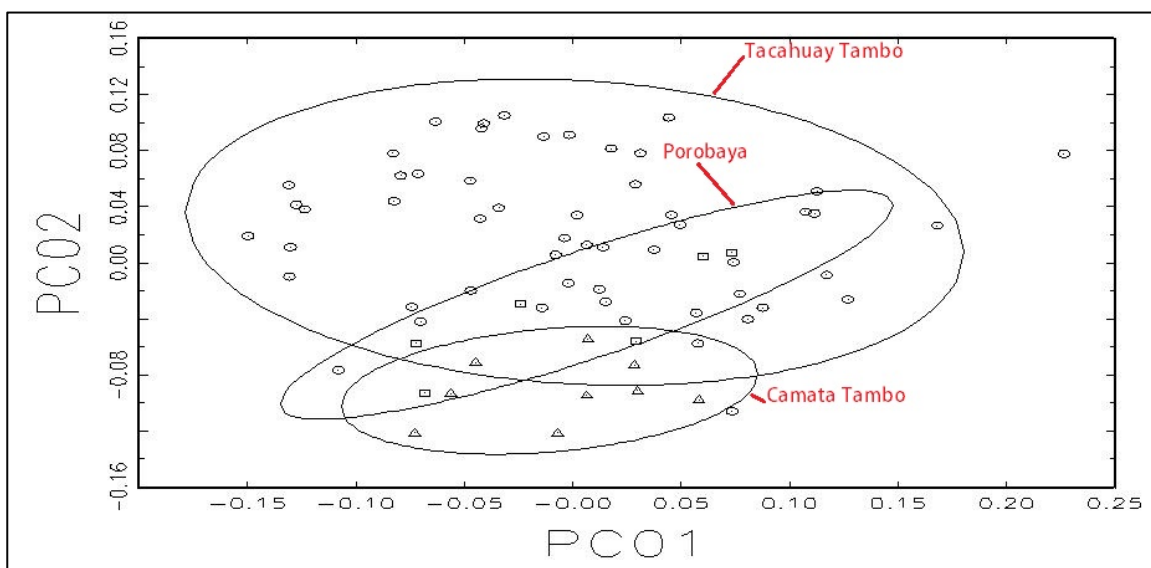


Figure 66. Graphic showing ellipses marking groups by component 1 and component 2.

A similar plot was created for principal components 1 and 2 of clay sources (Figure 67). This was done in order to demonstrate the possible clay sources used for ceramics found at Tacahuay Tambo. Also, the five middle and upper valley clay sources identified by Sharratt and colleagues in 2009, as well as the lower clays are represented by ellipses. The large ellipse represents the lower valley clays and its size may in fact reveal the need to divide the sample into the two groups mentioned earlier. Nevertheless, the ceramics from Tacahuay plotted on the graph tend to cluster within the Moquegua Valley group and to the lower valley clay group (Chacaltana and Piscitelli, 2012).

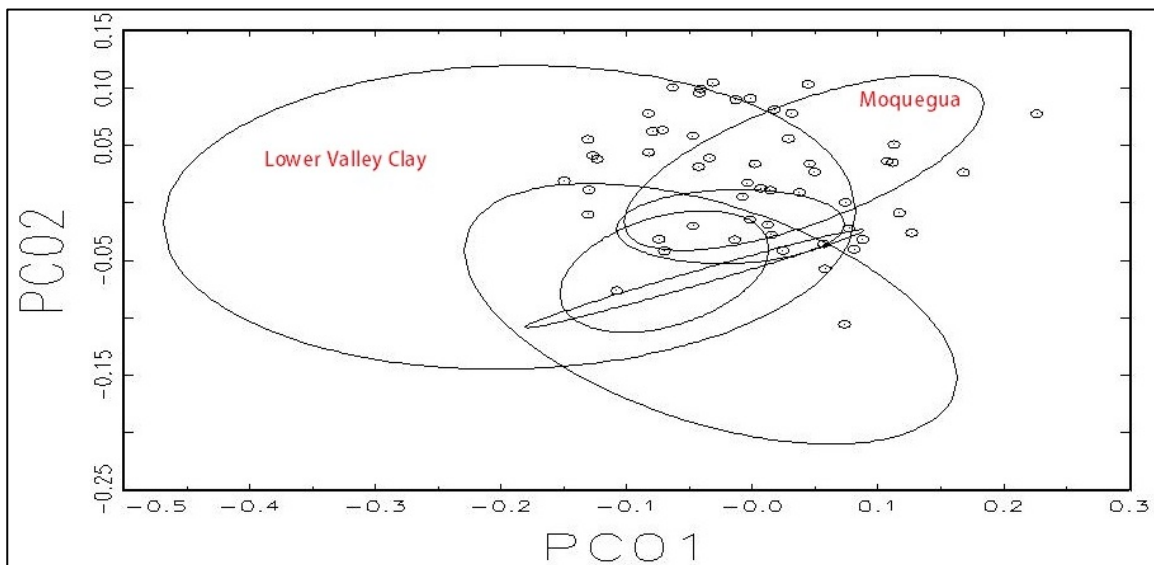


Figure 67. Graphic showing ellipses marking lower valley clays, Tacahuay Tambo ceramic sherds are clustered with the Moquegua Valley's clays.

In contrast, ceramic samples from the sites of Porobaya 1 and Porobaya 2 tend to cluster with the clay samples from the Torata Formation from the upper valley and near the Otor Valley where these sites are situated (Figure 68).

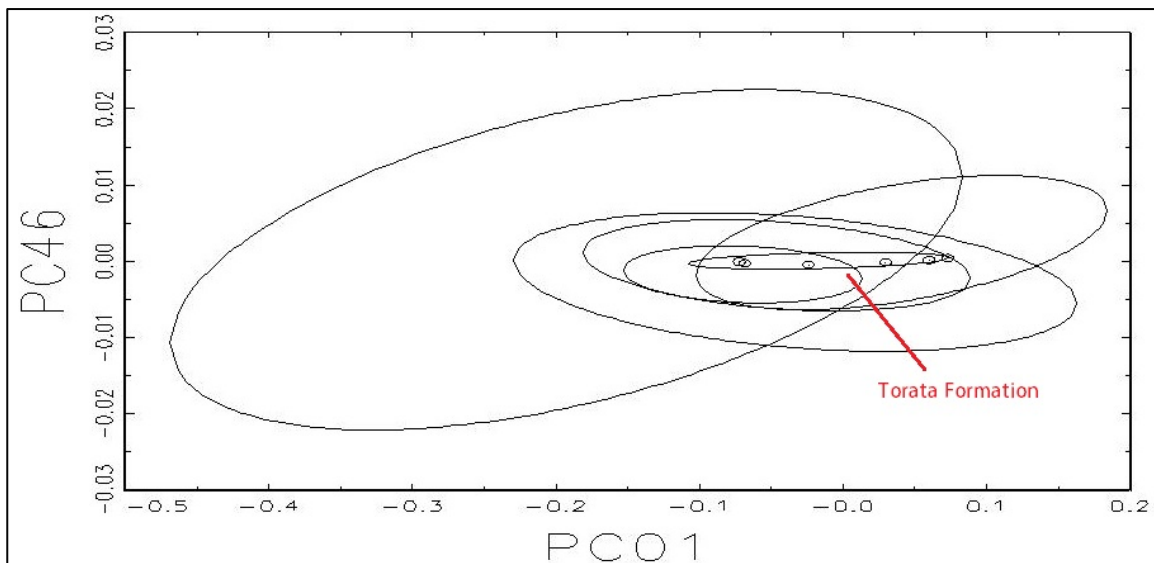


Figure 68. Graphic of Porobaya 1 and Porobaya 2 ceramic samples plotted with the Torata Formation.

Vessel fragments from the site of Camata Tambo clustered with clay samples from the Tumilaca Formation also located in the upper Moquegua Valley (Figure 69). In fact, Mahalanobis Distance calculations for group membership revealed a high probability that samples from Camata Tambo were produced using Tumilaca clay source from the upper Moquegua Valley (Figure 70).

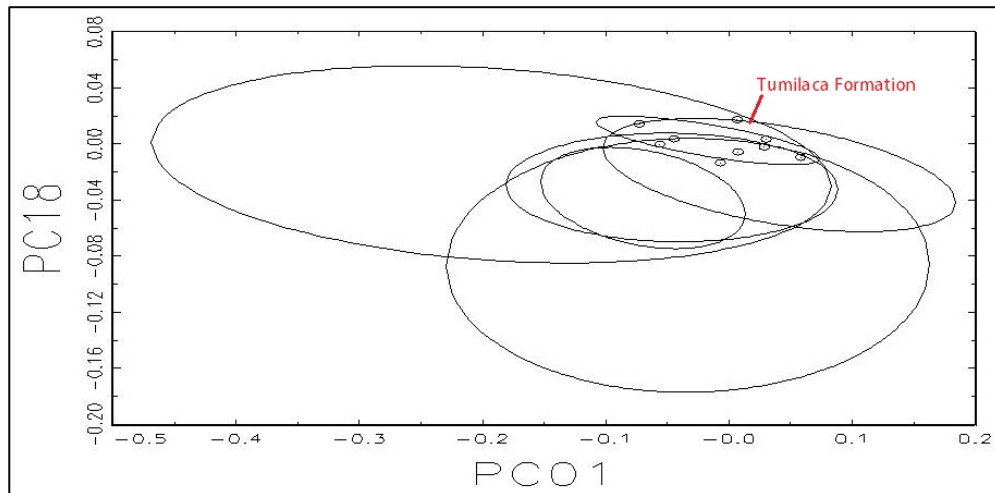


Figure 69. Graphic showing ellipses of ceramic samples from Camata Tambo plotted over the Tumilaca Formation clay source.

The following specimens are in the file PCAM

ID. NO.	PCMOQL	PCOT1L	PCOT2L	PCTORL	PCTUML	PCLVCL	BEST GP.
PTA101	0.354	13.472	5.513	46.697	98.237	27.272	5
PTA105	0.046	13.198	1.353	9.979	83.144	12.895	5
PTA106	0.008	7.467	0.719	8.655	94.300	10.242	5
PTA107	1.777	24.306	53.188	72.830	93.572	35.549	5
PTA108	0.070	12.795	1.604	14.722	92.944	15.499	5
PTA109	0.009	10.646	0.793	5.069	73.816	8.422	5
PTA111	0.277	20.990	3.479	15.251	74.360	17.363	5
PTA114	0.354	13.472	5.513	46.697	98.237	27.272	5
PTA115	2.521	39.713	51.747	32.810	70.141	27.026	5
PTA116	0.041	7.469	1.492	20.238	82.457	16.996	5

Figure 70. Malohalanobis distance calculations.

My analysis of the LA-ICP-MS ceramic data, suggest that despite the fact that the Tacahuay ceramic group had the most diverse range of ceramic composition in this study, most of the samples matched closely with the clays from the Moquegua Formation of the mid Moquegua Valley and to the lower valley clays (Jurassic igneous plutons formation) (see Figure 65). This finding suggests a dynamic and closer connection (exchange and/or access to raw material) existed between coastal and mid-valley communities during the Late Horizon. On the other hand, ceramic samples from Camata site tend to cluster with clays from the Tumilaca Formation located in the Upper Moquegua Valley. These clays are located relatively close to this site. Finally, ceramic samples from Porobaya 1 and Porobaya 2 sites from the Otor Valley (see Figure 63) cluster with clay samples from the Torata Formation from the upper Moquegua Valley and with the Otor Valley Formations (Otor 2 clays and Otor 1 clays) (see Figure 63). The Torata Formation is located at a close distance from the Otor Valley.

How can this information be used to gain insights into the late prehistoric populations of the Colesuyo region? Historical information from the region can provide some clues to contextualize LA-ICP-MS data. In the following, I describe the social organization of Inca ceramic production derived from early colonial accounts of the region.

7.1.3. Inca ceramic production

Imperial Inca ceramics were one of the commodities manufactured in state-administered contexts (see Costin, 2002; 2004; 2011; Hayashida, 1995). Previous research has indicated that production and distribution of Inca ceramics occurred within different regions (D'Altroy and Bishop, 1990). Inca imperial ceramic production was part of Inca politics, and therefore was diverse and designs were crafted for each region. For example, today we know

that the Incas did not generally monopolize raw material sources in all regions. For example, the north Peruvian coast, northwest Argentina or the Collas from the altiplano (Hayashida, 1995; 1998).⁸² As a result, investigators are not entirely sure under what conditions the empire controlled access or allowed locals to continue use of clay or sources of temper after the Inca conquest (Hayashida, 1995: 80-84). Furthermore, although it is recognized that the systematization of craft production was an important imperial strategy, this strategy was conducted in different ways (Costin and Earle, 1989; Costin and Hagstrum, 1995; D'Altroy, 1992).

Under the Inca Empire, the organization and administration of *sañoc camayocs* differed from other craft specialists. Apparently, the Incas considered that textiles (produced by *cumbi camayocs* and/or *acllas* who were women dedicated to the Inca) and metals had a higher symbolic value than ceramics. This is probably the reason why textiles and metals as well as their producers had a higher social status (Costin, 2002; Hayashida, 1995:43-55; Murra, 1975, 1980; Rowe, 1982). In addition, investigations have identified that state-related potters were organized in different ways across the empire (D'Altroy and Bishop, 1990; Hayashida, 1998; Lorandi, 1984; Spurling, 1992; Williams and Cremonte, 1992-1993; Williams and Lorandi, 1986). For example, in the altiplano region (in the case of the Lupaca and Colla), the Incas recruited artisans from households that continued to be organized along traditional lines (see Hayashida, 1995:81; Spurling, 1992).

Another important aspect of state-related potters' organization was the distance travelled to manufacture pottery. In many circumstances, potter specialists were moved to special locations within their local regions such as the case for the Collas and Lupacas (see

⁸² For a possible exception to this statement see (D'Altroy and Bishop 1990:133) work on the Xauxa region.

Hayashida, 1995; 1998; Spurling, 1992). However, in other circumstances, ceramic specialists moved great distances seen in the Huanuco and the Calchaqui region of Northern Argentina (Hayashida, 1998). Nonetheless, investigators recognize today that the Incas did not control all the steps of the manufacturing processes, nor did they closely supervise the standardization of forms and styles of ceramic vessels⁸³, and/or the distribution of these commodities (see Hayashida, 1995). For example, investigations conducted by Frances Hayashida (1995) in La Leche Valley and by Geoffrey Spurling (1992) in the Milliraya site of the Northern part of the Lake Titicaca Basin noted that imperial ceramic production was neither standardized nor controlled. In fact, at these two sites, there is evidence that the state allowed the production of Inca style vessels and also traditional local pottery (see Costin, 2002; 2004; 2011; Hayashida, 1995:230).

Furthermore, investigations conducted by Dorothy Menzel (1959; 1976) in Chincha showed that local potters in this region imitated Inca motifs demonstrating that the state did not entirely restrict the imitation of imperial styles (Hayashida, 1998:328; Spurling, 1992). An exception to the rule of imperial control is potters from the Wanka region in the central Andes. Investigations conducted here found that Inca pottery was manufactured under a closely state-supervised context (see Costin and Hagstrum, 1995), and therefore, local potters did not imitate Inca designs. These examples show a wide variety of cases. So, what occurred in the Colesuyo region?

⁸³ However, according to Spurling (1992), Milliraya pottery production was not standardized, but instead variable, suggesting that production was not unified and task-specialized.

7.1.4. Ethnohistoric accounts for the Lupacas' ceramic production

Early colonial documents indicate that altiplano ethnic groups, such as the Lupacas and Collas, had a dual type of social organization: *hanan* vs. *hurin* or *urcosuyo* vs. *umasuyo* (Arkush, 2005a; Cañedo-Arguelles, 2005; Diez de San Miguel, 1964 [1567]; Julien, 1985; Spurling, 1992). Historical records indicate that this division was political, territorial and symbolic; the *hanan* or the *urcosuyo* section was at the top of the hierarchy. This type of organization continued into the colonial period with each of these halves having their respective leader or *mallku*.

Archaeological studies have found that the Collas ethnic group had a greater influence in the upper Moquegua Valley than the Lupaca during the LIP period (see Bürgi, 1993; Stanish, 1985; Van Buren, 1993), a condition that changed during the Late Horizon, when the Lupaca gained a powerful position in the Inca government, and therefore, were able to assert more political power among Colesuyo groups (see Cañedo-Arguelles, 2005; Chacaltana, 2008, Chacaltana et al., 2010; Julien, 1983). The dual division was mapped onto their Colesuyo holdings with the middle valley, where the modern city of Moquegua is located, serving as the capital of the *hanansuyo* division, and the upper valley, where the site of Camata, Sabaya and the modern city of Torata are located, as the capital of the *burinsuyu* section (Cañedo-Arguelles, 2005).

Early colonial records also document the existence of Lupaca craft specialists in altiplano town of Cupi (Diez de San Miguel, 1964 [1567]). Historical documents also suggest that Lupaca and Colla potters (Hayashida, 1995; 1998; Spurling, 1992) had an ultimate authority known as *Apu Cari*, the most powerful Lupaca leader who had a high position of power among the Incas. He also represented the Inca power in Collasuyo, and therefore, in Colesuyo. However, this leader was not necessarily a potter himself; instead he was an administrator of pottery distribution. A second level of leadership was formed by two authorities: the *tocricamayoc* and the *kipucamayoc*. The first was in charge of organizing potters and in order to accomplish specific goals, the *tocricamayoc* worked together with the

quipupucamayoc (Spurling, 1992:255-258). The latter was in charge of the accounts of the production and distribution of ceramics. Finally, a third level of authority were *jilaqatas*, local leaders responsible for supervising the production of their respective *ayllus* (kin groups)(Spurling, 1992:255).

Based on legal disputes, Geoffrey Spurling (1992) suggested that ceramic specialists or *sañoc camayoc* settled at Milliraya, a town situated to the northeast of Lake Titicaca, had access to agricultural lands in the western valleys. The Incas provided these lands as part of their *mitimaes*' status. This information is important because it suggests that altiplano ceramists were not full-time specialists and had access to lands.⁸⁴ Dean Arnold who explored the relationship between pottery production, society, and the environment has noted that ancient altiplano potters might have not been able to manufacture ceramics during wet seasons (Arnold, 1993:226), and they would have been in need of agricultural lands to support themselves.

The need of potters to have access to agricultural lands is important since it is well known that numerous Lupacas populations inhabited Colesuyo under a range of political situations (colonies or *mitimaes*), and in enclaves) (see Chacaltana, 2008; Chacaltana et al., 2010, and conclusions from this thesis). Therefore, some Lupaca *mitimaes* who specialized in the manufacture of ceramics with an Inca style could have been living and farming in Colesuyo (in Chapter 9, I emphasized the numerous presence of *mitimaes* living in Colesuyo).

⁸⁴ In contrast to altiplano ceramic specialists who occupied part of their time doing agricultural labor because of climate conditions or other cultural aspects, coastal *sañoc camayocs* were full-time specialists (see Hayashida, 1995; 1998).

Building on these observations it is necessary to remember the LA-ICP-MS analysis⁸⁵ of Colesuyo ceramics. Ceramic samples from Tacahuay clustered with the clay samples from the mid-valley Formation (Moquegua Formation), indicating that Inca-altiplano style vessels were manufactured with clays from the Moquegua Valley. Therefore, combining the historical information on ceramic production and LA-ICP-MS data, I propose a possible scenario where ceramic specialists (administered by the Lupaca's from the altiplano) were located in the Moquegua Valley producing Inca-Cuzquenian and Inca - altiplano style vessels. In other words, the *sañoc camayocs* would have manufactured ceramics with Colesuyo clays (as LA-ICP-MS analysis also suggests) while living in Moquegua. In fact, chemical readings of Inca ceramics found in Tacahuay and Camata indicates that Inca-altiplano styles as well as Inca - Cuzquenian style vessels were manufactured with one of the many clay formations identified for the middle and upper Moquegua Valley. Moreover, Inca-atliplano ceramic styles found in Tacahuay and in the middle valley (and even specimens found in the Azapa Museum from the AZ-8 site) have identical designs, forms and color (see Figures 81, 82, 83, 129). This similitude in styles could also denote a single production center in the Moquegua Valley staffed by ceramic specialists under Lupaca administration.⁸⁶

⁸⁵ LA-ICP-MS data shows that Late Horizon and Inca-style ceramic samples from Tacahuay Tambo/Pueblo and Camata Tambo/Pueblo tended to cluster to the middle valley formation (Moquegua Formation) and to the Upper valley Formation (the Tumilaca Formation), respectively

⁸⁶ This is a working hypothesis because we have not tested ceramic samples from the Azapa Valley to identify if they match the ones tested from Tacahuay. However, vessels from Tacahuay clustered with ceramic readings from the middle valley.

7.2. Tacahuay ceramics vessels

Here I describe the ceramics vessels recovered at the site of Tacahuay.

Unit I: Ceramic vessels were recovered from layers corresponding to the pre-Hispanic period in Unit I. These included mostly bowls and cooking pots; none of which could be attributed to any of the styles described above. There are very few fragments with designs, and in contrast to ceramics from funerary structures or ritual contexts, these are mostly domestic ones. It should be mentioned that this structure had many botanic and faunal remains, especially deep-sea fish, presumably the results of sporadic cooking activities.

Unit II: Unit II corresponds to a disturbed *chullpa*. The *chullpa* contained a large quantity of ceramic fragments with local, regional and Inca-altiplano styles, including Chucuito Polychrome (Figure 71), Gentilar (Figure 72), San Miguel (Figure 73), Sillustani – Polychrome (Figure 75), Inca – Pacajes (Figure 76), Inca-Cuzco (Figure 74), Porobaya tricolor (Figure 77) and Estuquiña bowls (Figure 78).



Figure 71. A fragment of Chucuito Polychrome bowl from the Late Horizon found in Unit II.

Designs are red, black and white colors on orange slip (Esp.179-0640).



Figure 72. A fragment of a Gentilar-Inca style vessel handle found in Unit II (Esp. 20-618).



Figure 73. A fragment of a San Miguel jar found in Unit II (Esp. 226-643) (Adán Umire, personal communication).



Figure 74. A fragment of an Inca-Cuzco style jar with a triangular design found in Unit II (Esp.344-644).



Figure 75. A fragment of a Sillustani-Inca Polychrome style plate found in Unit II (Esp. 220-0642).



Figure 76. A fragment of an Inca-Pacajes bowl found in Unit II. Note the camelids in the interior of the vessel (Esp. 37-0627).



Figure 77. A fragment of a Porobaya Tricolor vessel recovered from Unit II (Esp. 16-0601).



Figure 78. A fragment of a typical Estuquiña Bowl with rims nubs recovered from Unit II
(Esp. 196-0641).

Unit III: This unit corresponds to a near-surface cache of 18 ceramic vessels found in an area on top of the “*tendales*” section. This cache was accompanied by small (hematite) rocks and the interiors of the vessels had botanical remains (see Chapter 6). Vessels found at this unit include Chilpe-Pocoma (Figure 79), Saxamar (Figure 90), Estuquiña (Figure 80), Inca-altiplano (Figures 81, 82, 83A, 83B, 84) and local jars and bowls with no designs (Figures 85, 86, 87, 88, 89A, 89B).



Figure 79. A Chilpe – Pocoma style jar recovered from Unit III (Esp. 27-872).



Figure 80. An Estuquiña bootpot with no evidence of burning stains found in Unit III (Esp. 27-873).



Figure 81. An Inca-altiplano style jar from Unit III (Esp.18-862). It has red and black horizontal lines over cream on the neck, and horizontal bands on the body. The body bands are of red triangles and black lines. There is a nub on the lip, and another on the body.



Figure 82. An Inca-altiplano style vase recovered from Unit III (Esp.18-863). The vessel has a vertical red and black over cream fern design.



Figure 83. Figure 83A (front) and 83B (back) corresponds to an Inca-altiplano style jar with three vertical bands recovered from Unit III (Esp.18- 861). Designs are black, cream and red over an orange slip. The vessel has a vertical band with red on cream triangles accompanied by two vertical bands on fern designs on both sides of the vessel. Also, on the back, there are three concentric circles circumscribe the neck.



Figure 84. Aryballoid Inca jar with a horizontal band with a zigzag design recovered from Unit III (Esp. 27-871). Designs are of black and cream colors over a red slip.



Figure 85. A large, two handled, globular jar with a convex base recovered from Unit III

(Esp.22-874).



Figure 86. A small globular pitcher recovered from Unit III (Esp.27-870). It has an intentional hole in the body that can be observed in the photo.



Figure 87. A small globular pitcher with a divergent neck and mouth recovered from Unit III (Esp.27-877).

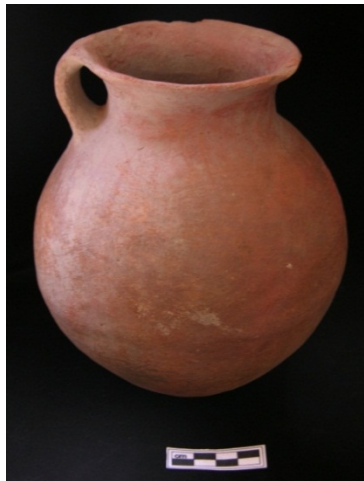


Figure 88. A small short neck pitcher with a globular body recovered from Unit III (Esp.27-878).



Figure 89. Figure 89A photo of a bowl with a red interior slip over an orange slip. Figure 89B a top down photo of the same bowl; recovered from Unit III (Esp. 23-865).



Figure 90. Saxamar bowl with red interior slip and black circles with cream dots recovered from Unit III (Esp. 23- 868). Romero (1999) found a similar bowl in the highlands of northern Chile.

Unit IX: This is an intact *chullpa* with a total of 2237 ceramic fragments and 39 complete vessels distributed in 10 depositional levels. Levels near the surface (level 10) contained Inca-atliplano styles, while the vessels near the bottom were mostly of local and regional (middle and upper valley) styles. Here, I only show the most representative vessels found in this *chullpa*, this include Gentilar (Figure 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104), Chiribaya (Figure xx), San Miguel (Figure xx), Pocoma, Inca styles vessels (Figure), Chucuito (Figure) and plain local vessels (Figures).



Figure 91. A Gentilar pitcher with a small nub on top of the handle (Esp. 238-1368, Level 3).

This nub has a small hole on the top. Colors of designs are black and orange over cream.

Designs include: birds carrying a monkey, triangles along the exterior mouth, and concentric rectangles on the body.



Figure 92. A Gentilar pitcher with a carenated body and a long neck recovered from Unit IX (Esp. 326-1384, Level 5). Although the exterior is eroded, some motifs are still distinguishable such as the fishing nets design, the circle that surrounds the Gentilar anthropomorphic figure.

Colors are black, red and cream.



Figure 93. Gentilar globular pitcher with a straight and divergent neck recovered from Unit IX (Esp. 300-1374. Level 5) . Colors are black, cream and red. Note the anthropomorphic figure surrounded by a circle, the fishing nets designs, and the bands around the neck and along the body of the devilfish design.



Figure 94. Gentilar pitcher with a carinated body and a long neck, recovered from Unit IX (Esp. 320-1381, Level 5). Designs are very clear and include the Gentilar anthropomorphic figure surrounded by a circle, also the fishing nets designs and vertical bands. Colors are black, red and cream color over an orange slip. Note the cross design in the interior of the mouth.



Figure 95. A fragment of a Gentilar-Pocoma style jar recovered from Unit IX (Esp. 418-1299, Level 8) . Designs are composed of concentric rectangles, and a Suri bird (*American rhea*). The Suri is carrying a monkey on its back (typical of the Gentilar style). The vessel has red and black over a cream-buff slip.



Figure 96. Body of a Gentilar jar with vertical bands combined with straight lines recovered from Unit IX (Esp. 474-1387, Level 9). This vessel also has a band with the Gentilar anthropomorphic figure. Colors are black and cream on orange-buff slip.



Figure 97. Fragment of a Gentilar bottle with thin horizontal designs of waves and triangles recovered from Unit IX (Esp. 481-1350, Level 9). Colors are red, cream and black on orange slip.



Figure 98. Figures 98A and 98B: two fragments of a Gentilar pitcher recovered from Unit IX (Esp 500-1324, Level 10).



Figure 99. A Gentilar-Pocoma style pitcher with the monkey design on the body, the scalar V design on the neck and the body and concentric rectangles recovered from Unit IX (Esp. 524-1397, Level 10).



Figure 100. A fragment of a Gentilar pitcher, black and white colors over an orange slip, recovered from Unit IX (Esp. 547-1331, Level 10).



Figure 101. Figure 101A is a fragment of a Gentilar jar with a monkey design recovered from Unit IX (Esp. 547-1330, Level 10). Figure 101B are fragments of a Gentilar jar red, black and cream over orange slip recovered from Unit IX.



Figure 102. A Late Horizon Gentilar style pitcher with the triangles in the interior and exterior parts of the mouth and along the handle recovered from Unit IX (Esp. 493-1389, Level 10). Note the horizontal bands with Gentilar designs such as the stylized of the devilfish and waves motifs.



Figure 103. A Gentilar pitcher with a star design and a thin vertical band with a wavy cream line on a black band recovered from Unit IX (Esp. 498-1393, Level 10). Also, note the anthropomorphic figure on the right of the photograph. Designs are of cream and black colors over a red slip.



Figure 104. An eroded Gentilar pitcher recovered from Unit IX (Esp. 529-1401, Level 10). An encapsulating circle design is noted on the body, and it has triangle design along the mouth.



Figure 105. A Chiribaya pitcher recovered from Unit IX (Esp. 322-1383, Level 5). Note the triangle design on the superior part of the neck; colors yellow, cream, black and cream over a red slip.



Figure 106. A Chiribaya bowl with an interior cross design recovered from Unit IX (Esp. 316-1379, Level 5). Note the small handle on the mouth. The designs are color cream and black on a red slip.



Figure 107. A Chiribaya bowl with an interior cross design recovered from Unit IX (Esp. 436-1346, Level 8). Note the small handle, the designs are in cream and black over a red slip.



Figure 108. A fragment of a Chiribaya jar recovered from Unit IX (Esp. 491-1351, Level 10).



Figure 109. A fragment of a Chiribaya bowl with an interior cross design recovered from Unit IX (Esp. 494-1323, Level 10).



Figure 110. Figure 110A is a fragment of a Chiribaya jar, and Figure 110B is a fragment of a Chiribaya bowl. Both fragments were recovered from Unit IX (Esp.500-1324, Level 10).



Figure 111. A Chiribaya bowl with an interior cross design recovered from Unit IX (Esp. 547-1328, Level 10).



Figure 112. A Chiribaya pitcher recovered from Unit IX (Esp. 530-1402, Level 10).



Figure 113. Fragments of a Chiribaya jar recovered from Unit IX (Esp. 547-1329, Level 10).



Figure 114. A fragment of a San Miguel style bottle recovered from Unit IX (Esp. 547-1331, Level 10).



Figure 115. Fragments of a San Miguel jar recovered from Unit IX (Esp. 547-1329, Level 10).

Black and cream over a red slip.



Figure 116. A Pocoma jar with vertical bands of wavy black lines recovered from Unit IX

(Esp. 237-1360, Level 2).



Figure 117. A Pocoma pitcher with vertical bands with black concentric circles recovered from Unit IX (Esp. 291-1370, Level 4). Also, note the triangles on the exterior part of the mouth.



Figure 118. A Pocoma style pitcher with vertical bands of black wavy lines recovered from Unit IX (Esp. 299-1373, Level 4).



Figure 119. A bowl with a red exterior slip on the rim recovered from Unit IX (Esp. 288-1369, Level 4).



Figure 120. A two handled jar recovered from Unit IX (Esp. 295-1359, Level 4).



Figure 121. A plain jar with two small handles recovered from Unit IX (Esp. 319-1380, Level 5).



Figure 122. A plain local jar with two small handles recovered from Unit IX (Esp. 306-1377, Level 5).



Figure 123. A plain local bowl recovered from Unit IX (Esp. 312-1361, Level 5).



Figure 124. A plain local jar recovered from Unit IX (Esp. 314-1378, Level 5).



Figure 125. A plain pitcher from Unit IX(Esp. 422-1386, Level 8).



Figure 126. A local Estuquiña style bootpot (*olla pato*) (Esp. 519-1395, Level 10).



Figure 127. An Inca plate (*puku*) with two nubs on the rim recovered from Unit IX (Esp. 489-1320, Level 10).



Figure 128. An Inca-Cuzco style vessel (*pyñus*) recovered in Unit IX (Esp. 303-1376, Level 5).



Figure 129. An Inca-Cuzco style vessel (*puyñus*) recovered from Unit IX(Esp. 292-1371, Level 1). It has a fern design on the body.



Figure 130. A fragment of a Chucuito bowl recovered from Unit IX (Esp. 463-1349, Level 9).

7.3. Camata ceramic vessels

In the *qolqas* at Camata Tambo Pueblo I found very few ceramic fragments. However, on the surface of *Qolqa* 1, I recovered a Chucuito Polychrome bowl. This bowl has two repair holes near the rim (see Figure 131).



Figure 131. Fragment of a Chucuito Polychrome bowl from Camata Tambo.

Qolqa 3 of Camata Pueblo: During excavations of *qolqa* 3 we found a high density of fragments from domestic vessels with cooking stains and evidence of a garbage dump.⁸⁷ Within this midden we also found a small fragment of a Gentilar style vessel⁸⁸ (see Figure 132).⁸⁹



Figure 132. A fragment of a Gentilar jar found in Camata Pueblo recovered from *Qolqa* 3 of Camata Pueblo.

⁸⁷ Most of the ceramics found at Camata did not have decoration. Some of the tested ceramic samples were obtained from small fragments inside the *qolqas*, but they were fragments with no designs.

⁸⁸ This fragment was found inside a garbage dump found below floor 3 (related to the Inca period), and related to the LIP period (see Chapter 5). At the garbage dump we also recovered botanical remains, high frequency of ceramic fragments and charcoal.

⁸⁹ Gentilar style ceramics are commonly found in Late Intermediate Period and Late Horizon contexts of the upper valley.

7.4. Conclusions

From the data obtained in LA-ICP-MS analyses and historical evidence, I suggest that Colesuyo had two Inca ceramic production centers. One located in the middle Moquegua Valley using clays from the Moquegua Formation, and the other, in the upper parts of the valley using the Torata and Tumilaca clays. This division may well reflect the dual social organization of the Lupacas. In addition, I suggest that Lupaca leaders looking for political prestige and economic advantages in the region distributed the products - ceramic vessels with Inca- Cuzco and Inca-altiplano styles - manufactured by *mitimaes* in Colesuyo. Therefore, the high quantity of Inca-Cuzqueñian style ceramics, mostly present in elite funerary contexts (see Covey, 2000, Dauelsberg, 1969; 1983; 1995 [1959] (AZ-8); Diaz, 2010) are a reflection of the close interaction between local Colesuyo elites and Lupacas' leaders during the Late Horizon. As mentioned above, ceramics represent material culture that actively created a social status and identity(ies) among altiplano and Colesuyo elites during the period of Inca influence. By having imported styles and increased access to the ceramics of the region, local elites such as the ones buried in the *chullpas* of Tacahuay, probably acquired a new type of “global” Andean identity that could only exist under the influence of the Inca Empire. These newly formed identities were manufactured and sponsored by altiplano elites and manipulated by locals, contributing to broadening economic relations and more direct access to both local and regional resources.

During the Late Horizon local ceramic styles changed in specific ways in Colesuyo. Interestingly, local ceramics did not imitate Inca styles but instead, started to become hybrids of local styles some of which incorporated Inca symbols. For example, there are Estuquiña bootpots with Gentilar designs, and there are Gentilar and Chiribaya vessels with more precise

lines and triangular designs (characteristic of the Late Horizon). Furthermore, there is the Chiviquiña style, which has been identified as the mix of the Chiribaya and Estuquiña styles during the Late Horizon (Reycraft, 1998). Therefore, I call attention on the fact that local potters did not incorporate Inca designs into their repertoire to suggest a possible scenario. Considering that during Inca influence, local ceramic styles were hybrids of different local styles that on occasions included Inca symbols (while there are no examples at Tacahuay or Camata, there are several examples at the Mallqui Museum in the Algarrobal - lower Moquegua Valley) and/or that the empire restricted the imitation or use of Inca designs to local potters. Another possibility is that the Colesuyo's potters chose to not copy Inca styles into their repertoire because of the symbolic meaning and close association of Inca and altiplano ceramics with highland identities and power (see Costin, 2011). In conclusion, Inca style ceramics represented status and ethnicity and were part of the sumptuary good distributed by regional elites (probably altiplano ones with access to the ceramic production of imperial related ceramic specialists).⁹⁰

⁹⁰ Here it is important to mention that Miguel Moreno, a local ceramic artisan that has copied and worked with coastal clays from the Azapa Valley for more than 40 years, mentioned that in order to produce vessels with Gentilar, Chiribaya and/or Inca styles different perceptions of spatial arrangements are employed. The handling of space for each of these styles is markedly and conceptually different. Taking into account that these styles are so different, it is suggested that different communities (with diverse social identities) produced diverse ceramic styles. Therefore, having or using one of these local styles would communicate group identity and establish a basis for interaction (see Wobst, 1977).

8. DESCRIPTION OF SUMPTUARY METAL OF COLESUYO

In this chapter I present compositional analyses of metal objects collected from the coastal site of Tacahuay.⁹¹ Surface collections and excavations at the site of Tacahuay recovered many metal objects, most of which were analyzed with a XRF instrument (described below). I conducted the X-ray fluorescence analysis with a portable p-XRF unit and tables of X-ray emission lines that were set to identify 15 elements (Bi, Ba, Sn, Ni, Zr, As, Au, Ti, Zn, Mn, Pb, In, Fe, Cu, Ag). X-ray emission was directed to the cleanest spot of the object's surface. The spatial distribution of these objects across the site was heterogeneous. The surface metal objects were mainly associated with the colonial pueblo and the tambo-like structure. In contrast, most of the metal objects found during excavations were recovered inside funerary contexts (*chullpas*), Unit I (*kallanka*) and Unit VII (Inca period cooking area on a domestic terrace).⁹²

Overall, pre-Hispanic Andean metallurgical traditions have been defined by the presence/absence of tin, arsenic, ternary copper (Cu and Niquel or Bismuto) as well as *tumbago* (an alloy composed of Cu, Au and Ag). I focus on these elements because of their prevalence in metal objects recovered from Tacahuay. However, before commenting on the results of these

⁹¹ I have only included data from this site because no metals were recovered during excavations conducted at Camata. It is worth noting, however, that there was an important metal tradition in the upper Moquegua Valley during the Late Horizon. For example, excavations conducted at the neighboring administrative site of Sabaya (Bürgi, 1993), found many metal objects associated with personal adornment (i.e. silver sheets attached to clothes and/or *tupus*) from the Late Horizon to the early colonial period.

⁹² Nonetheless, it should be mentioned that many pieces exhibited intense oxidation or low copper readings (see TABLE III), and were excluded from the analysis.

analyses, I will contextualize the LIP and Inca period metallurgical traditions of the Southern Andes.

8.1. Colesuyo metallurgical tradition

Colesuyo's metallurgical traditions have not been investigated in detail for any pre-Hispanic period. Previous researchers have focused on describing the form of the object and the archaeological contexts where the object was collected (for example, see Bürgi, 1993; Stanish, 1985). This produced a skewed view of the metallurgical tradition of the region (however; see Dussubieux and Williams, 2007 for the Middle Horizon). Most investigators mention that objects collected from coastal and highland Colesuyo were manufactured of copper and/or *tumbago* (Miranda and Umire, 2007; Owen, 1993:213, 493; Penman, 1992; Stanish, 1985); however, without metal compositional readings, it is impossible to have a cohesive understanding of local metallurgical practices.

In contrast, more detailed analyses have been carried out on materials in nearby regions, including as in Quebrada de Tarapacá and the Antofagasta region from northern Chile (Salazar et al., 2010; Zori and Tropper, 2010). For example, Collen Zori (2011) conducted an investigation about lead purification of silver during the Late Horizon to the Colonial Period in the Tarapacá region. She focused on Hantajaya and Tarapacá Viejo sites. Tarapacá Viejo was a colonial mining installation that was part of Lucas Martínez Vegazo's *encomienda* during the early colonial period (as was the site of Tacahuay) (see Trelles, 1991). The study conducted by Salazar and colleagues (2010) focused on elemental composition of metal objects from the pre-Hispanic site of Taltal in the Antofagasta region. This site was a fishing community that also specialized in mining (see Nuñez, 1987). Based on these studies, the investigators suggest that

Antofagasta has a different metallurgical tradition from coastal Colesuyo (the coast of Ilo and Northern Chile). The authors mention that the main differences between these two regions are that Colesuyo has different fishing technologies and varies in the elemental composition of bronzes (Salazar et al., 2010:15-16). More specifically, coastal Colesuyo is characterized by a wider diversity of fishing hooks than the Antofagasta area, and Colesuyo's tin bronze is composed of a higher percentage of impurities than the Antofagasta region (Salazar et al., 2010:17). These are two important aspects to consider when analyzing Tacahuay's metal compositions.

Unlike the Colesuyo, the altiplano region has been the focus of intense metallurgical investigation. Through this work the altiplano has been recognized as having two important traditions of bronzes productions: a ternary bronze (Cu, As, and Ni) identified for the early Middle Horizon, and tin bronze (Cu and Sn) that replaced the previous one by the end of the same horizon (Dussubieux and Williams, 2007; Lechtman and Macfarlane, 2005). Therefore, although some ternary bronze traditions persisted in the Southern Andes, tin bronze became the predominant alloys spread by Tiwanaku colonists (see Nuñez, 1987; 1999; Lechtman, 2007:330). The production of tin bronze, continued well into the colonial period.

It is also important to mention that during late pre-Hispanic metal objects were immersed in a particular sphere of exchange (Nuñez and Dillehay, 1995). In the southern Andes, the flow of metal was related to *llama* caravans and associated with other minerals such as turquoise and chrysocolla (Nuñez et al., 2003; Nuñez and Dillehay, 1995). The transport of these objects was subject to their own network system. During the Inca hegemony, the manufacturing of metal objects occurred in diverse ways (Carcedo and Vetter, 1999; Lechtman, 2007; Nuñez, 1987). This was conducted under a direct or indirect type of imperial

supervision at different steps of the manufacturing or exchange process. For example, by direct supervision there (either by having attached specialists such as the *mitimaes* metal smiths from the Lupacas' ethnic group (Diez de San Miguel, 1964 [1567]) or independent miners working in mining extraction such as in the Northwestern region of Argentina (Gonzalez, 2002; also see Nuñez, 2006:225-227). Although, the Inca administered specialization in diverse ways, the production and exchange of metals, ceramics, and textiles were handled under different economic and ideological networks and spheres of interactions (Arellano, 1999; Carcedo and Vetter, 1999; Lechtman, 2007; Rowe and Rowe, 1996).

For example, tin is obtained from cassiterite (SnO_2) sources located at specific places in the southern Andes, such as in Northern Bolivia and Northwest Argentina (Lechtman, 2007). However, to produce tin bronze, it is necessary to mix copper with tin, the latter being limited by the location of tin sources. During the Late Horizon, tin bronze was the Inca alloy. This alloy was spread throughout Tawantinsuyo by imperial channels that were distributing ingots made of tin or tin-bronze alloys and/or objects manufactured from tin bronze (Carcedo and Vetter, 1999; Lechtman, 2007). Nonetheless, the way in which this transformation occurred at the local and regional level needs to be addressed because of the great diversity of this process. For example in the Lambayeque Valley of the Northern Peruvian coast, where the Sican culture developed, tin bronze was never incorporated into the local metallurgical practices during the Late Horizon. This region was characterized by the presence of experienced metallurgical artisans that owned a sophisticated tradition of using metal alloys. These artisans from the northern coast mastered on the properties that elemental percentages produced on an item's malleability, color and mechanical properties (see Carcedo and Vetter, 1999). In contrast, in the Mantaro Valley local metallurgical tradition based on arsenic bronze continued after the Incas inserted the use of tin bronze generating two spheres of circulation

transforming commoners and elites' preferences and access to metal objects (see Bezur and Owen, 1996). Finally, in North West Argentina, investigators have proposed that under Inca control local production of bronze and metal was not standardized because the percentage of tin in bronze greatly varied before and during the Inca presence in this region (see Gonzalez, 2002:64). It has been suggested that in this area primary steps of metal production (extraction as well as manufacturing of copper ingots) happened at the domestic level and was not controlled by elites or the state (see Earle, 1994:456; Leibowicz and Jacob, 2011). However, this does not explain the non-standardized presence of tin in bronze objects (Gonzalez, 2002).

In fact, tin and arsenic bronzes have different characteristics (arsenic bronze is more malleable and tin bronze is harder). The mechanical and physical properties of these alloys, such as color are dissimilar (Carcedo and Vetter, 1999; Hosler, 1994; Lechtman, 2007). For example, low quantities of arsenic in bronze can provide the piece with a reddish color but a high quantity of arsenic gives the piece a silver tone (Carcedo and Vetter, 1999:202). In contrast, a polished and cleaned item with high amounts of tin, provide the piece with a golden aspect (Carcedo and Vetter, 1999; Dussubieux and Williams, 2007; Hosler, 1988; 1994). Therefore, because tin is added to bronze, tin proportions can be easily calculated (Lechtman, 2007). In addition, the south central Andes is well-known for its *tumbago* tradition, which is an alloy formed by the combination of copper, gold and silver. The diverse presence of these elements makes objects go from pink to bright yellow (Lechtman, 2007); each of these metal traditions has been identified at the site of Tacahuay.

Here I present the elemental composition of metal items collected from Tacahuay. In addition, I include information from fishing hooks collected from the surface of the fishing community of Punta Picata located 5 km south of Tacahuay. Although this material comes

from the surface, it is suggested that fishing hooks were manufactured from discarded metal items (Zori and Tropper, 2010). As mentioned above, tin bronze is harder than arsenic bronze, therefore, seems to be a better material for a fishing tool (Lechtman, 1996:502). Copper bronze with Sn concentration less than 0.5% (although some say less than 1%) could be unintentionally added due to the use of tin bronze scraps into containers (Gonzalez, 2002); therefore, bronze with Sn presence from 1% to 7% suggests an intentional use of tin in the manufacturing of the object. Furthermore, tin bronze with Sn higher than 7% is intentionally used to provide color and malleability properties to the object (see Carcedo and Vetter, 1999; Hosler, 1994). In conclusion, the different presence of tin in an object can indicate control of tin percentages for the manufacture of certain bronze objects. However, to identify these patterns it is necessary to know local and foreign metallurgical traditions, in this case; I describe the use of tin bronzes in the southern Andes.

In the south-central Andes Tiwanaku (Lechtman and MacFarlane, 2005; Lechtman, 1996) and Wari (Dussubieux and Williams, 2007) polities used tin bronze as well as the ternary alloy (Cu-As-Ni); respectively. Also, it is significant to mention that sheets were manufactured of *tumbago* (Cu-Ag-Au) containing high karat gold alloys of more than 40% (see Lechtman, 2007) and low presence of Cu of around 2%. Copper is added to silver and gold alloys to provide strength, as it maintains a golden color; nonetheless, there are also gold color sheets that do not contain Cu in their composition.

TABLE VI
TACAHUAY METAL READINGS: GREY COLOR INDICATES TIN BRONZE
OBJECTS WITH COLOR PROPERTIES

Compositional Analysis of metal objects from Tacahuay Tambo														
OBJECT DESCRIPTION	STRUCTURE	LAYER	LEVEL	# INVENTORY	ELEMENTS								DESCRIPTION	
					Cu	Sn	As	Ag	Au	Pb	Fe	Ni		
Artefact not identified	I	E		74/0427	17	0.16						0.68		High percentages of elements were not identified/ Fig.
Fishing hook	I	G		262/0428	7	0.06	0.01					0.44		High percentages of elements were not identified/ Fig.
Frag. Tumi	II	D base		16/0818	89	7.73	0.04					2.42		Tin Bronze with high presence of tin - probably of golden color/ Fig.
Sheet	II	D		16/0819	0.5		0.03	52.8				2.45		Mostly silver/ Fig.
Tupu	II	C- Level 1		37/0824	79	0.50	1.23					0.99		Arsenic Bronze and low quantities of tin (0.5)/ Fig.
Artefact Not identified	II	L		226/0829		0.58		29.4	65.5			0.58		Gold and Silver object (color effect)/ Fig.
Sheet	II	C Level1		37/0825	92	3.04						4.38		Tin Bronze/ Fig.
Sheet	II	A		66/0827				95.7		0.1		4.21		Silver/ Fig.
Sheet	II	C Level2		41/0826	6.6			2.56		0.1		0.77		High corrosion: imprecise elemental lectures - alloy of Ag and Cu/ Fig.
Tumi	IX	E	Level6	284/1533	97	1.69	*	*	*	*		0.79		Tin Bronze/ Fig.
Tumi	IX	E	Level 10	506/1541	92	7.53	*	*	*	*		0.30		Tin Bronze with high presence of tin - golden color/ Fig.
Tumi	IX	F	Level 1	459/1551	82	1.40	0.14	*	*	*		1.35		Tin bronze/ Fig.
Tumi	IX	E	Level 9	457/1536	95	3.81	0.06	0.67	*	*		0.18		Tin bronze/ Fig.
Tweezers	IX	E	Level 6	338/1534	95	4.93	*	*	*	*		0.51		Tin bronze / Fig.
Tweezers	IX	E	Level 9	469/1537	45	1.80	0.08	17.4				0.7		Alloy: Cu, Sn, and Ag/ Fig.
Tweezers	IX	E	Level 9	488/1539	95	4.31	*	*	*	*		0.43		Tin bronze/ Fig.
Awl	IX	E	Level 10	534/1543	9.9		0.02				0	0.19		High levels of corrosion, imprecise elemental lectures
Artefact not identified	IX	E		547/1547	57	5.99	*	*	*	6.2		0.12		Tin bronze with lead
Sheet	IX	E	Level 10	537/1544	*	*	0.16	43.5	43.5	*	*			Alloy: Ag, Au
Sheet	IX	E		547/1545	*	0.48	*	43.8	51.3	*	*			Alloy: Ag, Au/ Fig.
Artefact not identified	IX	E		547/1546	2.7	0.59	*	32.7	63.7	*		0.23		Tumbaga: Cu, As, Ag, Au (color effect)/ Fig.
Sheet	IX	E		547/1548	2.3	0.48		27	69.8			0.31		Tumbaga: Cu, As, Ag, Au (color effect)/ Fig.
Sheet	IX	E	Level 10	547/1549	2.5	0.67		46	50.8					Tumbaga: Cu, As, Ag, Au (color effect)/ Fig.
Sheet	IX	E		549/1550	2.2	0.73		44.8	51.7			0.32		Tumbaga: Cu, As, Ag, Au (color effect)/ Fig.
Artefact No identified	VII	D- LEVEL 5		183/1204	17	0.26						0.37		High levels of corrosion: compose of Cu and Sn/ Fig.
Artefact No identified	VII	N- LEVEL 1		230/1205	43	0.16						2.33		High levels of corrosion: compose of Cu and Sn/ Fig.
Tupu		SURFACE		513/831	91	7.42					0.3	1.06		Tin bronze with high levels of tin. Color effect/ Fig.
Awl		SURFACE		403/1764	96	3.90	0.05					0.39		Tin bronze/ Fig.
Tumi		SURFACE	*	402/1535	90	9.16	0.02	*	*	*		0.62		Tin bronze with high levels of tin. Color effect/ Fig.

Pink color indicates objects containing copper with low quantities of tin, and yellow color highlights the relation between silver and copper

TABLE VII

READINGS FROM FISHING HOOKS FROM THE SITE OF PUNTA PICATA

Fishing hooks from the surface of a local site (Punta Picata)											
OBJETO	CAPA	# INVENTARIO	Cu	Sn	As	Ag	Au	Pb	Fe	Ni	DESCRIPTION
Awl fragment	Surface	PP 51/222	97.2	1.32					1.46		Tin bronze
Not identified	Surface	PP 51/223	97.4	2.11				0	1.39		Tin bronze
Not identified	Surface	PP51/220	97.2	2.11	0.21				0.49		Tin bronze with small amount of As.
Sheet	Surface	PP51/220	93.8	5.51					0.67		Tin bronze
Fishing hook fragment	Surface	PP51/220	1.18								not a good XRF Reading
Not identified	Surface	PP51/219	3.51	2.09					0.27		not a good XRF Reading

Unit I: From Unit I or the *kallanka*, I have only incorporated two samples; corresponding to a fishing hook (item 262/428) and a non-identified fragment (item 74/427) (see Figures 134, 133). As seen in the table above, even though both samples did not have precise readings; these were copper artifacts with low presence of tin (0.16% and 0.06%). However, elemental readings were not precise enough to suggest whether these objects were tin copper or tin bronze.

Unit II: Correspond to the disturbed *chullpa* I, where seven metal objects were recovered.

However, this structure was looted during the colonial period indicating many metal objects

were stolen.⁹³ Nonetheless, I conducted chemical readings of these materials obtaining interesting results regarding metallurgical traditions of the region. For example, chemical readings of one *tumi* fragment (item 16/818) made of tin bronze had very high levels of Sn (7.73%) suggesting it was of a golden color (see Figure 135). Also, we found 1 bronze *tupu* (item 37/824) with 1.23% of arsenic and low levels of tin (0.50%) categorized as arsenic bronze (see Figure 137). Also there were four metal sheets; one object (item 66/827) manufactured from silver and 0.1% Pb (see Figure 140), the other sheet or piece (item 16/819) was manufactured with copper although the reading was ambiguous (see Figure 136). Another object that is an ear spool (item 226/829), was manufactured with 29.4% Ag and 65.5% Au and 0.58% Sn (see Figure 138). The low level of Sn might suggest that these items did not have tin intentionally incorporated. Furthermore, one sheet (item 37/825) corresponds to tin bronze was manufactured with 3.04% Sn (see Figure 139), one sheet (item 66/827) was manufactured of silver with some remnants of Pb (0.1%); and one sheet (item 41/826) was composed of copper, silver and 0.1% Pb (see Figure 141). However, these readings may not be reliable because of high levels of corrosion on the piece.

Unit IX: On the other hand, Unit IX or *chullpa* II had fifteen objects: 4 *tumis* made of tin bronze with Sn concentration ranging from 7.53% to 1.40%. The first *tumi* (item 506/1541) had 7.53% Sn which accounts for its golden color (see Figure 143). The other three *tumis* had a lower tin concentration that went from 1.40% to 3.81% (see Figures 142, 144, 145). Also, at *chullpa* II we found 3 pairs of small tweezers. Two tweezers (items 338/1534 and 488/1539) were manufactured of tin bronze with 4.93% and 4.3% of Sn, respectively (see Figures 146, 147, 148). However, the other tweezer (item 469/1537) had 40% Cu, Sn concentration of 1.80% and low levels of arsenic (0.08%) and 17.4% Ag (see Figure 147). At this structure, I

⁹³ Metals are one of the most desired objects for looters.

also found an awl (item 534/1534) manufactured with copper and arsenic (see Figure 149). Nevertheless, this last object presents high levels of corrosion. Also there is an unidentified highly oxidized artifact (item 547/1547) made of copper and high levels of Sn (5.99%) and Pb (6.2%) (see Figure 150). In addition, there are 6 objects that are made of metal sheets of golden color. Two of these objects (items 537/1544 and 547/1545) are alloys manufactured with silver and gold, with less than 0.5% of arsenic and tin (see Figures 151, 152). In addition, there is a pair of ear spools of golden color made of *tumbago* (item 547/1546) that had 2.7% Cu, 0.59% Sn, 32.7% Ag and 63.7% Au (see Figure 153). Finally, there are three other small thin sheets of *tumbago* with 2.3% copper, 51.7% to 69.8% gold and 27% to 46% Ag (see Figures 154, 155, 156). Therefore, there are many metallurgical traditions represented by the items found in this structure.

Unit VII: Five metal objects were recovered in this unit. Two non-identified artifacts had high levels of corrosion composed of tin bronze, although readings were not precise. The other three objects were found on the surface corresponded to a *tupu* (item 513/831), an awl (item 403/1764) and a *tumi* (item 402/1535). The *tupu* has tin bronze with high levels of Sn (7.42%) probably with the intention of creating a color effect such as obtaining a piece of a golden color (see Figure 159). In addition, the awl is made of tin bronze with 3.90% Sn (see Figure 160), and finally the *tumi* was also made of tin bronze with high levels of Sn of 9.16% (see Figure 161).

I also had access to data about the chemical composition of metal objects collected from tombs located in the middle Moquegua Valley that were excavated by archaeologists Luis Diaz in 2010. In general, these pieces had some differences with the ones found in Tacahuay. For example, although data shows that the *tumbago* objects from this site were composed of

similar concentration of elements than *tumbago* pieces from Tacahuay, middle valley *tumbago* pieces (14) had presence of Sn (0.6 to 1.5%). Also, from 15 objects, only 1 object qualified as quaternary bronze composed of Ti 0.22%, Cu 87.25%, As 0.03% and Sn 10.87%. It is interesting to observe that neither *tumbago* nor coppers compositions found at this site in the middle Moquegua Valley, were similar to those found at Tacahuay. These differences are probably an indication of differential access to/or production of - metal objects in these two areas of Colesuyo.



Figure 133. Fragment of tweezers from Unit I (Esp. 74-427. Layer E).



Figure 134: Fishing hook from Unit I (Esp. 262-428. Layer G).



Figure 135. A metal sheet with high presence of tin (and a golden color) from Unit II (Esp. 16-818. Layer D).



Figure 136. Fragment of metal from Unit II (Esp. 16-819. Layer D).



Figure 137. Fragment of a *tupa* from Unit II (Esp. 37-824. Layer C).



Figure 138. Golden color ear spool from Unit II (Esp. 226-829).



Figure 139. Fragment of metal from Unit II (Esp.37-825. Layer D).



Figure 140. Fragment of metal from Unit II (Esp. 66-827. Layer A).



Figure 141. Fragment of a *tupa* from Unit II (Esp. 41-826).



Figure 142. *Tumi* (or ritual knife) from Unit IX (Esp. 284-1533. Level 6).



Figure 143. *Tumi* with high levels of tin from Unit IX (Esp. 506-1541. Level 10).



Figure 144. *Tumi* with low levels of tin from Unit IX (Esp. 459-1551).



Figure 145. Fragment of a *tumi* from Unit IX (Esp. 457-1536. Level 9).



Figure 146. Copper tweezers with high levels of tin from Unit IX (Esp. 338-1534. Level 6).



Figure 147. Copper tweezers with silver (this is a composition) from Unit IX (Esp. 469-1537, Level 9).



Figure 148. Copper tweezers with high levels of tin from Unit IX (Esp. 488-1539. Level 6).



Figure 149. Corroded fragment of an unknown piece from Unit IX (Esp. 534-1543. Level 10).



Figure 150. Corroded fragment of metal from an unidentified piece from Unit IX (Esp. 547-1547).



Figure 151. Metal sheet made of *tumbago* (gold and silver) from Unit IX (Esp. 537-1544).



Figure 152. Metal sheet made of *tumbago* (gold, silver and tin) from Unit IX (Esp. 547-1545).



Figure 153. Ear spools made of *tumbago* (gold, silver and copper) from Unit IX (Esp.547-1546).



Figure 154. *Tumbago* golden metal sheet from Unit IX (Esp. 547-1548).



Figure 155. *Tumbago* golden adornment from Unit IX (Esp. 547-1549. Level 10).



Figure 156. *Tumbago* golden adornment from Unit IX (Esp. 549-1550. Layer E).



Figure 157. Bronze fragment with high levels of corrosion from Unit VII (Esp. 183-1204).



Figure 158. Unidentified metal object from Unit VII (Esp.230-1205).



Figure 159. *Tupa* with high levels of tin found on the surface (Esp. 513-831).



Figure 160. Unidentified metal object found on the surface (Esp. 403-1764).



Figure 161. *Tumi* with high levels of tin found on the surface (Esp.402-1535).

8.2. Conclusions

At the site of Tacahuay metal objects were only recovered inside imperial spaces, especially within the *chullpa*.⁹⁴ In addition, archaeologists have suggested that during the late LIP no metal objects were placed in tombs (Miranda and Umire, 2007). It is apparent that local coastal populations (since the Middle Horizon) were re-using discarded objects to produce fishing tools. It has been suggested these fishing tools had a chemical composition of tin bronze that might have arrived to coastal Colesuyo by interaction with altiplano populations. We know that the Tiwanaku culture used tin bronze across the southern Andes (Lechtman and MacFarlane, 2005, 2006); therefore, tin bronze probably reached coastal Colesuyo during the Middle Horizon and continued until later periods.

This research suggests that during the Inca influence of the south-central Andes, some metal objects were distributed broadly. Coastal local leaders might have acquired these commodities through their relations with altiplano factions. For example, *tumis* and tweezers found in the *chullpa* contexts (*chullpa* IX) were most likely part of a specific sphere of interaction developed during the Late Horizon. Furthermore, the *tumis* found inside the *chullpa* had a very high percentage of tin, not presenting impurities and intentionally obtaining a specific color. Compared to other tin copper objects from the region, this composition might be indicating that *tumis* were objects manufactured in a specialized workshop. Was this the Lupaca workshop located in the altiplano and administered by Lupaca leaders that historical records note (see Diez de San Miguel 1964 [1567])? It is possible that these *tumis* were signs of power that were distributed by imperial channels and that Tacahuay leaders had closer relations

⁹⁴ It is interesting to mention that despite we know that fishing communities were using discarded copper materials of earlier periods for manufacturing fishing hooks (Salazar et al., 2010), some archaeologists have suggested that fishing communities were specialized metallurgical artisans of fishing tools (see Nuñez, 1987).

to altiplano elites. In other words, the local leaders residing in Tacahuay could have had direct access to metal objects such as *tumis* (from the altiplano) and other personal metal adornments as prestigious objects with reflections of power (see Besom, 2010:399-422; Guaman Poma, 1994 [1614]). The distribution of sumptuary goods such as metal objects produced in the altiplano to local leaders allowed altiplano factions to maintain their coastal enclaves like Tacahuay.

9. HISTORICAL ACCOUNTS OF COLESUYO

Many historians have intensively studied the late pre-Hispanic and early colonial role of the Moquegua Valley within the broader Colesuyo region (Cañedo Arguelles, 1993; 1994; 1995; 2005; Hidalgo, 2009; Julien, 1982; 1985; Rice, 2011; 2012; Rostworowski, 1986; Van Buren, 1996). These studies have mainly focus on better understanding Murra's model of vertical control of ecological floors that suggested the presence of Lupaca colonies in Colesuyo were pre-Inca (Cañedo Arguelles, 1993; 1994; Murra, 1972, 1975). However, archaeological studies have not found evidence of Lupacas colonies in Colesuyo before the Inca presence in the region (Bürgi, 1993; Stanish, 1989). Instead, these studies have recognized that the Lupaca polity administered the mid- and upper-Moquegua Valley during the Late Horizon (Bürgi, 1993; Van Buren, 1993; 1996).⁹⁵ This evidence contradicted Murra thesis of ecological complementarity as an ancient Andean means of adaptation. Furthermore, it pushed the dates later for the control of ecological floors, indicating that the nature of the vertical control was political rather than adaptive (Bürgi, 1993; Conrad, 1993; Stanish, 1989). Furthermore, Van Buren's studies in the colonial site of Torata Alta suggest that Lupaca's persistence through the colonial era was also political rather than adaptive, as curacas saw their advantage as being part of an *encomienda* of the crown (Van Buren, 1993; 1996).

However, these studies did not elucidate the different ways in which Lupacas administered Colesuyo region. Consequently, in order to understand the social and territorial

⁹⁵ In contrast, archaeological evidence does not show evidence of Lupaca influence in the region, instead, it is suggested that the Collas polity had some colonies in coastal valleys (Stanish, 1991; 1998).

distribution of Colesuyo during the Late Horizon, I briefly review the Lupaca ethnic colonization of the Moquegua Valley. I also review documentary sources concerning Martínez de Vegazo's *encomienda*, which provide information about local leaders and their tributaries located along coastal Colesuyo from Ilo to the Tarapaca region. By combining these historical accounts with the archeological evidence obtained from Tacahuay, I propose a model of social and territorial organization of coastal Moquegua from the LIP to the advent of Inca influence in the region. Finally, this historical information also contradicts the traditional ethnohistoric model that suggests that pre-Hispanic socioeconomic organization of coastal communities in Peru were politically autonomous villages primarily related to fishing and agricultural activities (Rostworowski, 1977; 1989). This model also suggests that fishing communities along coastal pre-Hispanic Peru were under the control of agricultural-based polities (Rostworowski, 1977; 1998; Zaro, 2007).⁹⁶ In sum, this chapter provides a more dynamic synthesis of John Murra's model of vertical archipelago and the horizontal model proposed by María Rostworowski (1977; 1981; also see Lozada and Buikstra, 2002, 2005; Zaro, 2005).

Archaeological investigations have focused on elucidating the Lupacas territorial and social distribution in the altiplano from the LIP to the colonial period (Arkush, 2011; Murra, 1964; 1972; Julien, 1988; Stanish, 1998; Stanish et al., 1987; Van Buren, 1993; 1996). This is because colonial accounts that recorded oral testimonies of local lords during the early colonial period mention that before the Inca incorporation, altiplano polities were unified and centralized "*señoríos*" (see Betanzos, 1996 (1551-1557); Cieza, 1985: 121 [1553: II. xli]); Covey, 2008; Julien, 2000). However, archaeological studies showed that these polities were not

⁹⁶ Rostworowski (1977) proposed that coastal communities did not were involved in a vertical system such as the one proposed by Murra. There is an ample distribution of coastal resources in the marine, littoral, agricultural and inland *lomas* and forested sectors (see Zaro, 2005:163). Therefore, these coastal societies were autonomous, and practiced endogamy.

organized and unified but instead had a balkanized landscape (Arkush, 2011). Nonetheless, for strategic purposes factions inside polities collaborated and had the ability to organize into larger groups (see Arkush, 2011:221).

However, during Inca incursion of the southern Andes, the Collas and Lupacas pursued different strategies against Inca governance.⁹⁷ The Collas fought against the Incas, therefore, local lords were eradicated, but some of their territorial organization continued (see Arkush, 2011); however, for another perspective see Julien, 1983). On the other hand, the Lupacas allied with the Incas, so Lupaca's lords or *malkkus* acquired greater political economic power and influence. Nonetheless, the social organization of both altiplano polities was deeply transformed. Inca incursion into the altiplano removed communities from hilltops and settled them into altiplano/pampas areas. These communities were organized into dual moieties such as *Hanansuyo* (or *Urcosuyo*) and *Hurinsuyo* (or *Umasuyo*)⁹⁸ and arranged into a decimal system of administration to control new tributary requirements (Julien, 1983).

Historical records suggest that during Inca influence of the Southern Andes, Lupacas from the altiplano had many colonies in foothill and coastal regions of Colesuyo (Stanish 1985, 1998). It is suggested that the Lupaca groups had the political leadership of Colesuyo region and apparently organized the Moquegua Valley according to the altiplano dual division of lands and political organization primarily imposed by the Incas (Cañedo-Arguelles, 1994; 2005; Rice, 2012:72-74). Colonial accounts mention that the Moquegua Valley was divided politically, geographically, and symbolically in two halves (Cañedo-Arguelles, 1993; 2005). The Hanansuyo was the upper part of the polity and hierarchically considered as the most important half. In

⁹⁷ Colonial documents indicate that during Inca incorporation of the southern Andes; the Collas and Lupacas ethnic groups were at war (Cieza de León, 1985: 130-136 (1553: Bk. 2 Chs. 41-43); Cobo, 1979:140 (1653:Bk. 12 Chs. 41-43).

⁹⁸ *Urcosuyo* part was considered of higher prestige, masculine and strong; while the *Umasuyo* was feminine and of lower status.

contrast, the Hurinsuyo (or Umasuyo) was the other half, located on the southern and lower part of the polity and hierarchically less important (see Cañedo Arguelles, 1993:23).

Therefore, by the early colonial period, the landscape of the Moquegua Valley displayed evidence of multiple episodes of conquest by expansive political entities such as the Wari, Tiawanaku, Incas and now Iberian empires. When the Lupacas established the dual division of lands in the Moquegua Valley under the Incas, this region had a fractured landscape. Estuquiña populations immersed in endemic warfare inhabited the upper and mid-Moquegua Valley, and the Collas had some colonies in the region involved in the vertical exchange of products (Stanish, 1998).⁹⁹ Within this scenario, important remain unanswered regarding how Lupaca – Inca administration of resources and territories were influenced by this fractured political landscape. While a full investigation of this question is beyond the scope of this thesis, analysis of the documentary record in light of the archaeological findings from this study can enable some headway to hypothesis for future research.

The place where the actual city of Moquegua is located became the capital of the *Hanansuyo* division, and the town of Torata in the upper valley was the capital of the *Hurinsuyo* division.¹⁰⁰ Each of these territories was closely related to different altiplano factions (Cañedo Arguelles, 1993: 23). Nonetheless, while the upper Moquegua Valley had the presence of the

⁹⁹ The Collas were enemies with the Lupacas and then, the Incas.

¹⁰⁰ However, Prudence Rice indicates that the Inca site of Camata (in Moquegua) was under the jurisdiction of Martin Cari, *cacique principal* of the *hanansaya* moiety of Chucuito (Diez de San Miguel, 1964:14 in Rice, 2012:73). However, here it is important to mention that there are other sites known as Camata that were related to the altiplano polities. For example, to the eastern valleys of the altiplano there is one location known as Camata in the Carabaya region (see Flores and Capriles, 2006). In addition, John Hyslop (1976) also mentions a site known as “Mocachi- Camata” as a habitation and burial area located within Lupaca territory or in the altiplano. Therefore, it is important to not assume that Camata (or Camatha) from Moquegua is the only location with that name.

Inca administrative site of Sabaya, the waystation of Camata Tambo and an increased agricultural system; the mid-Moquegua Valley had none evidence of an Inca settlement. However, this lack of evidence could be an issue of preservation as this area has been densely populated since the Iberian Empire entered the Moquegua Valley.

In contrast to the Inca administration that focused mainly in the upper lands of the Moquegua Valley; Spaniards highly desired the lands from the middle valley because these were ideal for viniculture and the production of wheat (Rice, 2011). These were two of the most important cultigens of the colonial economy, and highly desired by Iberian populations. Nonetheless, some indigenous leaders and native factions had lands in the upper and mid-valley, entering into the colonial economy by competing with other Spaniards citizens to sell their products (Rice, 2011). Most of the indigenous populations concentrated in the upper parts of the valley because it was more politically autonomous. In contrast to the middle Moquegua Valley, the upper Moquegua Valley mainly produced corn, fruits and other products that were sold and distributed among Hispanic populations (Trelles, 1991). Consequently, during the colonial period there were a few wealthy Indigenous elites with local and regional political influence; and there was a skewed distribution of lands ownership in Moquegua.

When the Spaniards settled in the Moquegua Valley around 1540's, they installed two cities (Rice, 2011): San Sebastian de Escapagua and Pampa de Moquegua. San Sebastian de Escapagua is where the small airport is located today. The other area, where *vecinos* and *heredados* also settled, was an area identified as Pampa de Moquegua, located in southern part of the river where Inca occupation was concentrated (Rice, 2011:86, 87). This geopolitical scenario structured indigenous actions developing certain characteristics. First, most of natives' disputes reclaiming political power centered in the upper valley (Cañedo-Arguelles, 2005).

Second, many *curacas* and *principales* successfully navigated throughout these new power structures.

However, while historical accounts provide information about the altiplano enclaves located in western lowlands, it does not provide information of the local social configuration. Therefore, archaeology has fostered understanding of the economic, political and social landscape from the LIP to the Inca periods (Bürge, 1993; Chacaltana, 2014; Stanish, 1985; 1998). In contrast, the work of Trelles (1991) on the early *encomienda* from Lucas Martínez de Vegazo established in the southern Andes provides information about coastal *curacas* and *principales* the relations between coastal villages and altiplano polities and the social landscape of coastal Colesuyo (i.e. Covey, 2000). Therefore, in the following I briefly review the *encomienda* system installed by Spaniards in the Andes.

9.1. Iberian institutions and actors: power structures

Around 1535, before Spaniards were familiar with people and lands of the Southern Andes, Francisco Pizarro granted an *encomienda* of 900 Indians from Carumas (highlands of Moquegua) to a young conquistador, Lucas Martínez de Vegazo.¹⁰¹ Vegazo came to the New World when he was very young and participated in the events of Cajamarca. Also, he played a crucial role during the civil wars between Pizarristas and Almagristas, supporting the Pizarro faction or brothers. Some years later, during the *encomenderos* rebellion against the crown, he again supported the Pizarros brothers. This represented a political act turned against him when

¹⁰¹ Pizarro was still in Cuzco and had not travelled across the Tawantinsuyo territory (Trelles, 1991).

Viceroy La Gasca defeated the *encomenderos* insurrection in 1548 and expropriated Martinez's *encomienda*.

After losing his *encomienda* right to indigenous labor from Carumas granted by Francisco Pizarro in 1535; Martinez Vegazo participated in the founding of the city of Arequipa in 1540 (Trelles, 1991: 39) becoming an important *vecino* of this prosperous colonial town. In the same year, Francisco Pizarro granted Vegazo with 1638 *indios* from Tarapaca, Ilo, Arica, and Arequipa, leading to Vegazo becoming a rich *encomendero* with a very high number of tributaries. During those years, Vegazo was part of the elite group known as “first conquerors”;¹⁰² all of which had *encomiendas*.

An *encomienda* was a system of reward (specific number of tributaries) given to “first conquerors” by the Iberian crown. *Encomenderos* were responsible for indoctrinating Indians into Catholic Practices. In reciprocity, Indians had to pay tribute to both - *encomenderos* and the Catholic Church. During the first decades of the colonial project, tribute was paid in kind and later moved to mixed cash and in kind system. Nevertheless, the *encomienda* was based on the

¹⁰² According to Pizarro cedula, tributaries (Indian men from 18 to 48) from Vegazo's *encomienda* were distributed in the following way: Tarapacá: 900 tributaries, Arica: 444 tributaries, Ilo: 194 tributaries, Arequipa 100 tributaries. However, it is apparent that information about lands, curacas and number of tributaries was obtained by curacas from Chucuito that were in Cuzco. At that time, Spaniards had not explored yet this land. Part of this *encomienda* included *mitimaes* from other regions, a group that would start a dispute with Vegazo later on.

control of people and labor, not territory.¹⁰³ An *encomienda* was highly desirable for Spaniards because it provided the means of producing heritable wealth.¹⁰⁴

However, during the first decades of the colonial project, as with other institutions of the conquest, many aspects of the *encomienda* system were unclear. As population units, *encomiendas* did not have well defined territorial limits. In practice, this system was malleable (fluid territorial limits) to the benefit of Spaniards, having an unclear (probably by intention) understanding of the Andean kinship system that organized Andean society. In practice, the *encomienda* was used as a means of securing one's political, social and economic position in the new colonial society.

Around 1540, Martínez Vegazo started to run his *encomienda* and other businesses he had in Arequipa. However, in 1542-1543 Spain instituted "New Laws" in the colonies. These laws aimed to stop *encomenderos'* abuses to the Indians and preserve the local population (Someda, 2005: 104-105; Spalding, 1984: 143-144). "New Laws" also specified that when two generations of the *encomenderos* passed, Indians had to pass under the administration of the crown. The objective was to gradually dissolve the *encomienda* system and to lessen *encomenderos'* power as well as to stop the moral and physical damages that *encomenderos* were causing the Indians. As expected, these laws were unpopular between *heredados*¹⁰⁵ of the Viceroyalty of Peru. Hence, in 1544, viceroy Blasco Núñez de Vela came to Peru in order to re-organize the

¹⁰³ Even Trelles (1991) emphasized that *encomiendas* were not a grant of people, but instead, more specifically was a grant and/or distribution of curacas.

¹⁰⁴ At the beginning *encomiendas* were in perpetuity, but the establishment of the New Laws in 1542 limited the *encomienda* for two *vidas*. These changes created much of the internal conflicts between the Spanish during the 1540s as *encomenderos* fought to maintain their *encomienda* in perpetuity.

¹⁰⁵ *Heredados*: Spaniards that were capable (by birth right) to inherit an *encomienda*.

encomienda system. While, Nuñez de Vela had a strong opposition from colonial Spanish society, he was determined to install the New Laws in the Viceroyalty. At that time, Gonzalo Pizarro was the leader of the *encomenderos*' rebellion against the crown. He killed the viceroy Blasco Nuñez de Vela in the battle of Iñaquito in 1546. Therefore, Gonzalo Pizarro was the de- facto ruler until 1548, when he was defeated and killed by the viceroy Pedro La Gasca for rebelling against the crown.

Vegazo participated together with the Pizarristas in the *encomenderos* revolt against royal forces, an alliance that would cost him his *encomienda* after the defeat of the revolt. Some years later, after Gonzalo Pizarro was defeated and during the administration of Pedro La Gasca (from 1549 to 1550), Lucas Martinez de Vegazo had his *encomienda* back (Trelles, 1991). A new *tasa* requirement was established; and he received less number of Indians than before. This new requirement intended to be more accurate in counting Indian populations and tributes. La Gasca knew that the first *tasa* established by Francisco Pizarro's government were not met by Indians mainly because native populations were diminished, and also because this early *tasa* was not a real reflection of the numbers of Indians and communities of the Andes (Trelles, 1991). Therefore, during the La Gasca government, Spanish administration conducted a careful list of *curacas*, towns, and numbers of tributaries around the Andes. La Gasca's *tasa* was used until Toledan reforms around 1570's.¹⁰⁶

Census information produced during the La Gasca government represented an important corpus about the kinds of products that native communities had to deliver. Therefore, the census conducted by La Gasca constitutes one of the most important

¹⁰⁶ Francisco de Toledo had the aimed to conduct a census of Andean population conducted by a well-trained commission (see Trelles, 1991).

documents having information about the territorial occupation and social organization of Colesuyo native populations during the early colonial period (Trelles, 1991).

On the other hand, Indian labor was not only granted to *encomenderos*. Some *encomiendas* or native groups were granted to the Iberian crown. In fact, Francisco Pizarro assigned Lupacas from the Chucuito ethnic group to the royal crown. Therefore, Lupaca tribute went directly into the royal coffers (Julien, 1983). However, this direct association of Lupacas with the crown brought natives some socio-economic benefits. For instance, compared to other *encomiendas*, Lupacas did not pay high tributes and were exempt from participating in the forced mining labor at Potosi. Under this situation, natives inhabiting Colesuyo wanted to be identified as Lupacas in order to escape high taxes and mining labor tribute (see Van Buren, 1996).

However, after the *encomenderos* revolt, a large part of the new colonial society (the crown, *curacas* and some Iberians that were not *encomenderos*) continued fighting against the *encomienda* system. After the *encomenderos* revolt and the subsequent enforcement of the New Laws, *encomiendas* could only be inherited by two generations. Consequently, this disposition did not allow Iberian non-*encomenderos* to have access to Indian labor and limited the power of *curacas*.¹⁰⁷ In fact, the *encomienda* system institutionalized the legal jurisdiction of *encomenderos* over Indians, limiting the power of *curacas* to have direct and exclusive access to Indian labor

¹⁰⁷ Bartolomé de Las Casas called attention on the abuses *encomenderos* were causing to the Indians. This defense of Las Casas open a debate in the Iberian Peninsula that eventually caused the New Laws. Among Las Casas' arguments were that Indians were free human beings, they should be pacifically converted to Christianity, and the duty of the crown was to protect them. Therefore, in 1540 Las Casas presented his arguments in the court of Valladolid ("Junta de Valladolid") in front of Carlos V. However, at this Junta he had an opponent, the jurist Juan Gines de Sepúlveda. Sepúlveda alleged in favor of the *encomienda* system; among his arguments were that violence inflicted over Indians was justify because Indians natural state of being was to be ruled by the Iberians that were of superior nature; therefore, if necessary, Iberians could use violence.

(Trelles, 1991:121). Under this situation, in 1562, Fray Domingo de Santo Tomas organized a “*junta de curacas*” (a *curacas*’ convention) in Arequipa.¹⁰⁸ Many *curacas* from Martinez de Vegazo’s *encomienda* attended this meeting, being one of the first times that the dual leadership of *curacas* was clearly registered in the region (Trelles, 1991:123-124).

Dual leadership consisted of a *curaca principal* or *curaca hanansuyo* that was accompanied by a *curaca hurinsuyo* (or secondary *curaca*), the first being of a higher hierarchy than the second (see also Cañedo-Arguelles, 1994; 1995; Chacaltana, 2008). In fact, some investigators have argued that secondary *curacas* were placed by the Inca administration as a way of legitimizing local *curacas* (*curaca principal*) during imperial influence. Nonetheless, this suggestion needs further investigation.

9.2. Colonial society at Colesuyo: power from the bottom-up

Around 1540, when Spaniards began to settle in the southern Andes, the Moquegua Valley arose as the main producer of wine and brandy (Rice, 2011). Moquegua was the principal distributor of wine, brandy, and wheat to the emerging centers of the altiplano such as Potosi, Cuzco, Arequipa and other regions of the Andes. Consequently, in contrast to the Inca period, the Spaniards highly desired lands from the middle Moquegua Valley because these were ideal for cultivating grapes and wheat. Nonetheless, some indigenous leaders and Indian factions had lands in the middle valley, and some competed with Spaniards to sell their products and monopolize the market (Rice, 2011). Consequently, the Colesuyo region also had a few rich Indians with local and regional political influence.

¹⁰⁸ “*Junta de curacas*” happened in Arequipa and in Lima (in the location known as *Mama*) (Trelles, 1991:124).

But, most of the indigenous populations concentrated in the upper parts of the valley because it was more politically autonomous; while most of the Hispanic population settled around the city of Moquegua. As mentioned above, the upper Moquegua Valley focused in the agriculture of corn, fruits and other products sold and distributed among Hispanic populations (Trelles, 1991).

Therefore, here I mainly focus on the *encomienda* received by Lucas Martinez de Vegazo in 1540 in order to identify local leaders of the Colesuyo on land distribution of Lucas Martinez de Vegazo's *encomienda*.¹⁰⁹ This dataset is interesting because it provides different types of information such as the number of tributaries (therefore population), the economic activities conducted by local populations, and social organizations of these coastal communities that are important to understand this region during the pre-Hispanic period. Lucas Martinez de Vegazo was granted with a large *encomienda* that included a list of *curacas* together with their secondary *curacas* (or local *curacas*) located in the region. The three main communities or groups listed on this early *encomienda* were: Ilo, Arica and Tarapaca, which I describe below.

9.2.1. Ilo Area

The first and northernmost part of coastal Colesuyo territory was controlled by *curaca* principal "Pola" from the "Ilo community". He controlled an area that went from Ilo to the Locumba valley, and had seven secondary *curacas* distributed along this region.

¹⁰⁹ We have to keep in mind that the first *encomienda* that Vegazo received was in 1535 and were Indians from Carumas. However, this *encomienda* was taken away by Francisco Pizarro; nonetheless, in 1540 Pizarro gave Vegazo 1637 Indians from Ilo to Tarapacá (Trelles, 1991:27-30).

TABLE VIII

LIST OF PRINCIPALS CURACAS, TOWNS, AND NUMBER OF TRIBUTARIES FROM THE 1540 VEGAZO'S ENCOMIENDA OF THE ILO AREA

ENCOMIENDA LUCAS MARTINEZ DE VEGAZO: 1540				
(ILO)				
Principal	Town	Tributaries	Percentage	Observations
Pola	Ylo	20	11.5%	Farming community
	Chiri	6	3.5%	Fishing community at Ilo
Casaveli	Meca	30	17.4%	Farming community
Guata	Ete	25	14.4%	Farming community
Ulli	Piato	12	6.9%	Fishing community
Ilo	Tamanco	14	8.1%	Farming community
Moto	Parica	26	15.1%	Farming community
Machina	Tacari	40	23.1%	Fishing community

In the 1540 census, Pola is identified as a fisherman with a total of 194 tributaries. However, at the community of Ilo, location where this *curaca* resided, he only had 20 tributaries. On the other hand, at the community of Chiri (near Ilo) resided a secondary *curaca* (with an unknown name) with 6 tributaries. However, we know the names of the other six secondary *curacas* under the Pola's leadership, as well as their living location. For example, we have *curaca* Ulli that lived at Piato and had 12 tributaries, *curaca* Machina that lived at Tacari (Tacahui)¹¹⁰ and had another 40 tributaries.¹¹¹ All these three secondary *curacas*, as well as Pola, were fishermen (and therefore were the local leaders of a specialized fishing community). Nonetheless, Pola also had *curacas* that were not listed as fishermen and it is assumed they were farmers or practiced a mixed type of economy.¹¹² For example, *curaca* Casaveli, lived in Meca and had 30 tributaries; *curaca* Guata had 25 tributaries and lived in Ete (today Ite). Also, secondary *curaca* named Ilo lived in Tamanco and had 14 tributaries. Finally, *curaca* Moto lived in Parica, had 26 tributaries.

From this list, there are many aspects that need to be discussed. First, it is apparent that Pola was a fisherman listed as principal *curaca*. This is interesting because Rostworowski suggests that fisherman *curacas* from Colesuyo were under the supremacy and control of *curacas* specialized in agriculture. If so, this evidence would contradict the general idea that most

¹¹⁰This place has been identified as Tacahui or Tacahuay (Covey, 2000).

¹¹¹It is interesting to note that if the location of Tacari corresponds to the actual site of Tacahuay, and Machina is the *curaca* from this estancia; he is also described as a fisherman, and not as a farmer. This classification brings the following question: Was Tacahuay identified as a fishing community because of their specialized labor as fishermen or because they were in charge of procuring marine resources in for exporting?

¹¹²This suggestion is also based on the fact that among products this *curaca* had to tribute with marine products such as fish and seaweed, but also corn, beans, chili pepper, coca leaves, and cotton.

powerful *curacas* from Colesuyo since the Chiribaya period were agriculturalist (see Lozada and Buistra, 2002). Therefore, whether or not Pola was fisherman, he is identified as the one that controlled a large fishing population and their surplus production. Second, we can observe that in the La Gasca *tasa* (1550) fish tribute assigned to Pola was one of the highest in the region (the first one was Arica) (Trelles, 1991). This is meaningful taking into account that during the colonial period, fish tribute was one of the few tributes that were met by local populations. This suggests that although Pola was identified as a *curaca* of fishermen and agricultural communities (Trelles, 1991:158).

Finally, it is also observed that during the early colonial period this region also had *mitimaes* populations. Based on the Toledo Tasa in 1572 and on the *kipu* reading of the *visita* conducted by Diez de San Miguel in 1567 at Chucuito, in Sama, there were 328 *mitimaes* tributaries from Chucuito and 297 *mitimaes* tributaries from Chucuito in Moquegua (Garci Diez de San Miguel, 1964:64-66 [1567]). In general, *mitimaes* populations located in Colesuyo were far more numerous compared to the fishing and agricultural communities under the leadership of coastal *curacas*. For example, compared to communities under the control of curaca Pola, *mitimaes* populations had twice as many people.¹¹³ The presence of relatively numerous Lupaca colonies in Colesuyo provides some important information about the nature of relations between altiplano groups and Colesuyo populations.

¹¹³ In here I mention that during the 1540 *tasa*, it is registered that Ilo produced high quantities of corn (150 *fanegas*) (Trelles, 1991: 208, 211). Apparently, corn production acquired in Ilo, during the early colonial period, allowed fishermen communities, such as the one Vegazo's had in Tacahuay to consume this product. Probably for the pre-Hispanic case was not the case, however, it could be argued that *mitimaes* communities located in coastal Colesuyo had specialized economic roles, such as farming corn and/or chili pepper, as we will see later on.

9.2.2. Arica Area

Another area mentioned at the 1540 *tasa* was the region that included the valleys of Arica, Azapa and Lluta, under the leadership of principal *curaca* Lalio (see Figure 162). It is suggested that Lalio was a powerful local *curaca* that had a total of 446 tributaries between fishing and farming communities located at different altitudes (mid-valley and coastal ones) controlling an ample diversity of resources. However, in addition he also governed three *mitimaes* communities (two Lupaca colonies, and the other one is of unknown ethnic identity).

TABLE IX

*LIST OF PRINCIPALS CURACAS, TOWNS, AND NUMBER OF
TRIBUTARIES FROM THE 1540 VEGAZO'S ENCOMIENDA OF
THE ILO AREA*

ENCOMIENDA LUCAS MARTINEZ DE VEGAZO: 1540				
(Arica, Azapa and Lluta)				
Principal	Town	Tributaries	Percentage	Observations
	Camarasa	120		
Guacocan	Azapa	10		
Lalio	Guator	27	—	
	Estancia	15		
	Ariaca	15	91	Fishermen from Lalio
	Estancia	6	54	<i>Sementeras</i>
	Estancia	4		<i>Sementeras</i>
	Ulavaya	70		<i>Mitimaes</i>
Auca	Auca (Chucuito)	50		<i>Mitimaes</i> Lucapas
Canche	Inchachura (Chucuito) ¹¹⁴	94		<i>Mitimaes</i> Lupacas
Pano	Ariaca	35		Fishermen from Tarapacá

¹¹⁴ Inchachura corresponds to the town of San Benito de Tarata (Pease, 1979: 97-120).

Curaca principal Lalio lived in Guator (Guanta) (mid-valley location) and had 27 tributaries (see Figure 162). There were also 15 of his tributaries living in Arica, all of which were fishermen. Furthermore, Trelles (1991:163) mentions that Lalio had two small *sementeras* in the upper valley, where Indians cultivated coca and chili pepper. Therefore, *curaca* Lalio from the town of Guator controlled diverse economic enclaves, Arica being an important fishing community that had people from the “Ilo community” and “Arica community”. As mentioned above, Lalio had 15 fishermen tributaries living in Arica. In addition, there was also a fishing community from “Tarapaca community” of principal *curaca* Tuscasanga that had 35 fishermen tributaries settled in Arica under the leadership of secondary *curaca* Pano. Furthermore, secondary *curaca* Moto who was under the control of principal *curaca* Pola (from the “Ilo community) had 26 tributaries in Arica. On the other hand, Tarapaca was also a fishermen town ruled by secondary *curaca* Pano.

Furthermore, there were three *mitimaes* communities under the leadership of Lalio. One from an unknown origin listed as Ulavaya with 70 tributaries, and other two *mitimaes* communities from Chucuito controlled by *curaca* Auca with 50 tributaries, and Inchachura with 94 tributaries.¹¹⁵ There are some interesting aspects to observe for *mitimaes* populations under *curaca* Lalio. First, similar to the community of Ilo, *mitimaes* populations settled in Arica were more populous than local communities (except of the town of Camarasa). The reason for this disparity is unknown; however, one cause could have been that large numbers of *mitimaes* were located on coastal Colesuyo because they were accomplishing important socio-economic roles

¹¹⁵ According to Trelles (1991:160), the towns of Camarasa, Guator, Ariaca e Ullabaya corresponded to Camarones, Guanta, Arica and Hilabaya, respectively.

for altiplano societies.¹¹⁶ Second, at the 1572 Toledo *tasa*, Inchachura tributaries were only 11. We can observe an obvious decrease of population from the 1540 *tasa* (94 tributaries) to the Toledan *tasa* of 1572. This decrease was probably due to the emigration of *mitimaes* back to their homelands, as occurred in many areas of the Andes after the fall of the Incas. Also, it is important to take into account that in Colesuyo this migration was more intense, mainly because indigenous populations of Colesuyo wanted to be identified (or counted) as Lupaca due to this group's privileged position under colonial rule (see Van Buren, 1993; 1996). Furthermore, the communities of Inchachura and Auca went back to Cariapasa, *curaca* principal of the region.

In 1557, many *curacas* from Chucuito wanted to recover their *mitimaes* communities settled in Auca and Inchachura (valleys of Azapa and Lluta) that at that time were part of Martinez Vegazo's *encomienda* (Trelles, 1991: 172). Consequently, the *curacas* began a legal demand for this cause, ending in Vegazo returning these *mitimaes* to Cariapasa, *curaca* principal of the region. Nevertheless, for losing these two communities, Vegazo demanded back the Indians from Cochuna (Moquegua). To maintain control over their Indians from Cochuna, in 1544 Vegazo gave them to Isabel Palla or Isabel Yupanqui (a noble Indian woman) as dowry when she married Martin Peres Villabona (an young Iberian man from Vegazo's intimate circle). This history of this noble Indian woman deserves further exploration, but for now, I

¹¹⁶ Similar to *mitimaes* communities located in Ilo, Sama and Locumba; in Arica, Azapa and Lluta, had a very high number of tributaries that were *mitimaes* (Trelles, 1991:161), similar to Sama and Locumba. In fact, we know that Arica and Carumas were two localities where chili pepper tribute was very high (Trelles, 1991:216). For example, it is mentioned that chili pepper was an important product for the *curaca* of Pomata, because he distributed and controlled this product to Sama and Locumba Valleys.

will focus on a famous Colesuyo *curaca*, Cariapassa, descendant of the important “Apu Cari” a Lupaca leader from Chucuito.

Cariapassa (or Cari Apassa) was a regional leader of Colesuyo. One of the first times we read about Cariapasa was in Diez de San Miguel’s *visita* “Padrón de indios ricos de Chucuito” (1964: 107, 117 [1567]),¹¹⁷ where this *curaca* appears as Martin Cari that had many *mitimaes* communities located in Moquegua (for example Sama, Larecaja, Capinota, Chicanoma).¹¹⁸ It is known that Catari Apassa (or family of Apu Cari), was seen by Diego de Almagro when he was travelling along Chucuito (Cúneo Vidal, 1977: IX, 23). This conquistador interviewed this *curaca* and asked him about his domains. Catari Apassa responded these included the valleys of Moquegua, Ilo, Ite, Sama and Locumba, as well as the Azapa Valley, and the towns of Arica, Lluta and Codpa. Apparently this *curaca* established relations with the Colesuyo region by “marrying” several local women, his descendants’ being local and powerful Colesuyo leaders (Cúneo Vidal, 1977:325, 327). For example, one description mentions that Hernando Pizarro and Gonzalo Pizarro battled against Catari Apassa and his troops in Desaguadero. After he was defeated, Catari Apassa ran away to Tacna where he already had many lands (Cúneo Vidal, 1977:328). According to Cúneo Vidal (1977), when Catari Apassa was in Tacna he converted to Christian doctrine and took the name of Juan Catari Apassa. In this region, he had many sons with the following names: Caqui, Quina,

¹¹⁷ “*Martin Cari, curaca principal de la parcialidad Hanansuyo de Chucuito de quien sucede don Martín Cari dijo que a su abuelo de don Martín Cari que se llamaba Apo Cari le hacían chácaras en toda esta provincia porque era gran señor como segunda persona del ynga y mandaba desde el Cuzco hasta Chile y de daban ropa y alguna plata e indios e indias que le servían*” Diez de San Miguel (1964: 107, 117 [1567]).

¹¹⁸ *Yungas* region refers to where coca was cultivated, a region located between Chuquiabo and Capinota (Diez de San Miguel, 1964: 17 [1567]).

Quea, Lanchipa and Ara. Many of his sons were local *curacas* that Catari Apassa had with local women (Cúneo Vidal, 1977:330).¹¹⁹

On the other hand, many chroniclers also mention Apu Cari because he accompanied Sapac Inca Guayna Capac to his campaign against the Cayambes of Ecuador (Cieza de Leon, 1985: 127, cap. II [1553]; Cobo, 1979: 157-160). After helping Guayna Capac to defeat the Cayambes, Apu Cari went back to Chucuito and legitimized his local rulership under the Incas. However, Pedro Cieza de León mentions that Apu Cari established a close relation to Viracocha Inca, and not to Huayna Capac. This chronicler describes that Apu Cari was a “false” governor of Chucuito, because he fought against *curaca* Capana (or Zapana), the real governor of Chucuito.¹²⁰ The account suggests that in fact, Apu Cari defeated Capana and appropriated from all his possessions, remaining as the main lord of this land (Cieza de Leon, 1985: 127, cap. II [1553]). From these descriptions, it is known that “Apu Cari” was an

¹¹⁹ At the *visita* to Chucuito it is mentioned that the father of Martin Cari was Pacaxa (Diez de San Miguel, 1964: 117 [1567]). Although the name does not seem similar to Cariapassa, historian Cúneo Vidal mentions that Cariapassa was also known as Cariapaxa.

¹²⁰ Here is important to mention that chronicler Cieza de Leon (1985: 127, cap. II [1553]), mentions that Apu Cari from Chucuito established a close relationship Viracocha Inca, and not to Huayna Capac. This chronicler describes Apu Cari as an impostor governor from Chucuito, mainly because he fought against *curaca* Capana (or Zapana), the real governor of Chucuito. He continues mentioning that Apu Cari defeated *Capana* and appropriated from all his possessions, staying as the main lord of this land. However, his son or some of his grandsons are mentioned as Don Carlos *Cariapassa*, Don Felipe Cari, and Don Carlos *Cariapassa* (Diez de San Miguel, 1964: 306 [1567]). Also he has a town of *plateros* (metal smiths) called *Sunancaya*, and other one, of *olleros* known as *Copi* (*Cupi*) (Diez de San Miguel, 1964: 14 [1567]).

important leader, and many coastal *curacas* claimed to be his offspring in order to legitimize their rulership. This is critical information for the interpretation of data for this thesis, as we will observe in the following.

9.2.3. Tarapaca Area

Another region that was listed in this *encomienda* is Tarapacá. Although it was not mentioned by this *encomienda*, we know that the curaca principal was Tuscasanga that had 900 tributary Indians (Trelles, 1991). In fact, Trelles notes that one of the probable reasons this *curaca* was not mentioned at the 1540 census was because many *curacas'* names were not recorded at this first census. Nonetheless, Tuscasanga controlled several enclaves from the coast to the upper valley (see altitudes).

TABLE X

*LIST OF PRINCIPALS CURACAS, TOWNS, AND NUMBER OF
TRIBUTARIES FROM THE 1540 VEGAZO'S ENCOMIENDA OF
THE TARAPACA AREA*

ENCOMIENDA DE LUCAS MARTINEZ DE VEGAZO: 1540 (TARAPACA)			
Principal	Town	Valley	Altitudes (m asl)
Opo	Pachica	Cato	1,590
	Puchuca		
	Guamba		2,370
Ayavire and Taucari	Canina	Carvieza	2,380
	Omaguata		
Chuquecambeco	Chuyapa		315

We know that Tuscasanga had four secondary *curacas*. The first local *curaca* known as *curaca* Opo had tributaries at the town of Pachica, Puchuca and Guamba. Apparently this secondary *curaca* practiced a mixed economy because these towns are situated at different elevations, Pachica being at 1,590 m asl, and Guamba at 2,370 m asl. In addition, secondary *curacas* Ayavire and Taucari (potentially referring to a dual organization) had tributaries settled at the town of Canina located at 2,380 m asl, and at the town of Omaguata. Finally, *curaca*

Chuquecambea was settled at the town of Chuyapa located at 315 m asl. As observed, Tuscasanga had tributaries occupying diverse ecological floors across the region of Tarapaca, allowing access to diverse types of products.

9.3. Conclusions

This thesis employs several types of colonial documents to better understand how local communities, and its everyday life, were transformed under Inca and Iberian colonialism. Looking at historical records we can observe two main aspects that shaped new indigenous identities under the early Spanish conquest: pre-Colombian practices and the political memory accommodated to the structures in power (Cummins, 1998).

First, a ranked dualistic structure and leadership system was strongly instituted by the Lupaca throughout Colesuyo, using their Inca imperial influence and political status. In fact, there were some lineages that started before Inca influence of the region; however, they acquired more prominence and control during the Inca occupation of the altiplano; such as Cari Apassa lineage (Cúneo Vidal, 1977:IX). In addition, as observed in Martínez de Vegazo's *encomienda* there were some family groups or *ayllus* that were composed of one principal *curaca* and many secondary *curacas* with both agricultural and fishing communities. For example, principal *curaca* Pola from Ilo had seven secondary *curacas* along coastal Colesuyo that were both agriculturalist (or mixed-economy) and fishermen specialists. Observing the material culture of Colesuyo, this specific social organization would gain more consistency. As mentioned before, there are different ceramic tradition (from Ilo to Tarapaca) that is recognized as San Miguel, Gentilar and Terminal Chiribaya. In fact, fishermen populations located along the coast shared a common ceramic style and traditions (together with the

fishing technologies), identifying themselves as fishermen but being under the leadership of a *curaca*. Then, although Pola was a fisherman, he had three fisherman *curacas* and four agriculturalists' *curacas*. These coastal *ayllus* or communities were social organizations composed of many *parcialidades* with their own leader. However, under the direction of an authority, these *parcialidades* had diverse groups with economic specializations and social identities expressed in the material culture¹²¹ as well as their life styles (see Figure 162). For example, Maria Cecilia Lozada and Jane Buikstra (2002) have argued for a “similar” model, based on bio-anthropological investigations as well as on genetic markers. In their studies of Chiribaya societies, they found out that these fishermen and agriculturalist groups formed dissimilar economic factions but not necessarily different ethnic groups. Did this trend of economic specialization of coastal Colesuyo societies become stronger when Chiribaya populations moved to the southern and northern parts of the Ilo valley producing new material culture and social interactions?

It is apparent that although these fishermen and agriculturalist villages were under the direction of a principal *curaca*, they were sharing common cultural activities and practices with other fishermen villages of Colesuyo that were not part of the same *ayllu* or community. Taking into account that this type of coastal social organization was reflected in the colonial records, it was probably the case during the pre-Hispanic period, and especially during the Late Horizon. However, we still do not know if these large communities seen in Martinez Vegazo's *encomienda* (with villages of fishermen and/or agriculturalist) were an organization that

¹²¹ As mentioned in chapter 7, LIP coastal ceramic styles (Chiviquiña, Gentilar and San Miguel) that continued during the Inca influence, had different technological characteristics and iconographic styles and motives indicating they were produced by different communities. Nonetheless, it has been reported that many of these vessels appear in one context such as inside the *chullpa* from Tacahuay Tambo.

consolidated during the LIP or it was imposed by the altiplano as a strategy for the vertical control of ecological floors during the Inca influence of the southern Andes.

This chapter depicts a bottom – up perspective of an altiplano enclave located on coastal Colesuyo. Tacahuay was an enclave that allowed altiplano elites to have access to agro-maritime goods (and also for local consumption). These goods were acquired from other small fishermen and/or agricultural villages along the coast. In contrast to altiplano *mitimaes* that depended on its relation with its place of origin,¹²² the enclave would be characterized by having more political and economic independency by establishing a local lineage by intermarriage (i.e. between an altiplano lineage with local women). Kin relations with both altiplano elites and with less powerful coastal ones allowed an altiplano enclave to have access to sumptuary goods (from the altiplano and from Inca influence) and access to local goods. Nonetheless, it is interesting to note that kin relations with the altiplano were based on different economic and social strategies than with coastal ones. Tacahuay elites buried themselves according to altiplano mortuary practices (*chullpas*) that were alien to a coastal landscape probably symbolizing their altiplano lineage or ancestry. However, rituals and mortuary practices were mixed with local traditions such as the use of vessels with local styles, plants and construction materials. Instead, with other coastal villages, Tacahuay would rely on their traditional relations by being part of a similar coastal community or being under the leadership of a principal curaca (i.e. Pola from the Ilo community). However, this enclave would have had greater socio-economic roles by hosting feasts and distributing sumptuary goods (now acquired by being an altiplano enclave). As an altiplano enclave, this last strategy of horizontal control secured access to agro-maritime goods.

¹²² Altiplano colonies are also mentioned in the historical records (see tables presented on this chapter).

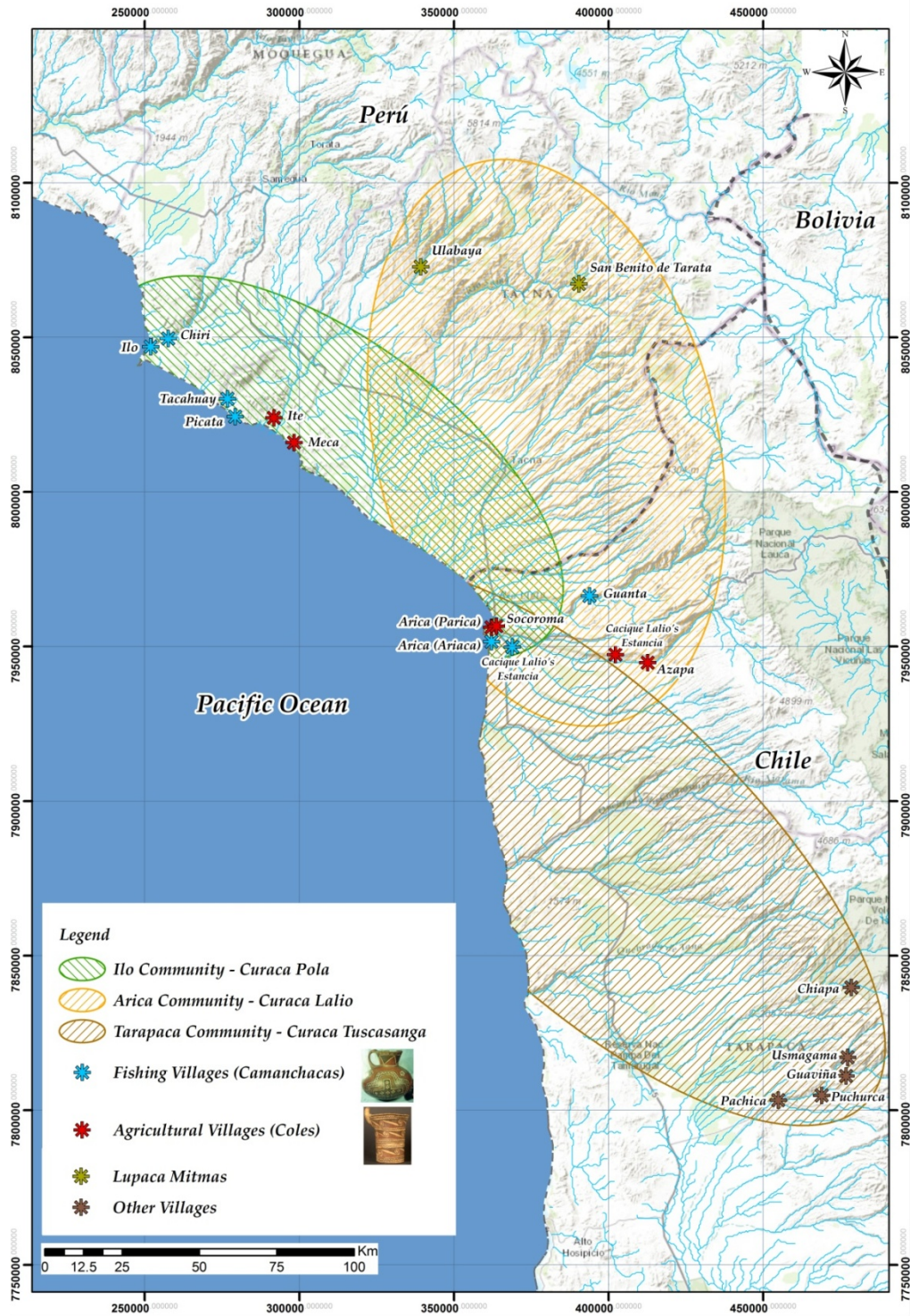


Figure 162. Map marking each of the three communities/region of Colesuyo (Ilo, Arica, Tarapaca communities), as well as identifying the fishing and agricultural villages along Colesuyo region.

10. CONCLUSIONS

This thesis examines how the economies of small-scale, non-hierarchical societies of Colesuyo were transformed under both the economic and political influence of the Inca Empire (circa A.D. 1400) and their close interactions with more powerful altiplano societies. The aim of this investigation was to elucidate the ways in which the Inca Empire affected both the local and regional economies of Colesuyo and to understand how regional and local agency played new roles under these new imperial influences. To address these issues, the dissertation combines historical information, macro and micro botanical data, faunal data, and chemical characterization readings of ceramics and regional identification of clay sources to investigate the regional and inter-regional economic changes that occurred during the Late Intermediate Period and the Late Horizon. To better understand the transformations that occurred within the Colesuyo region, the investigation compared archaeological data collected at two sites, Tacahuay Tambo/Pueblo and Camata Tambo/Pueblo located within different ecological zones: with Tacahuay Tambo being a coastal community with a mixed economy that included maritime resources, agriculture and herding, and Camata Tambo/Pueblo representing a highland community with an agricultural and pastoral focus. Furthermore, this dissertation provided us with two examples of the “vertical control of ecological floors” (or vertical archipelago) model for Lupacas group (case II of Murra’s model of vertical control). The Tacahuay and Camata cases could be simply described as an indirect type of relation with the Inca Empire because they both used previous established altiplano networks. Nonetheless, Camata and Tacahuay established different mechanisms of interactions, and levels of political

and economic relations revealing a complex socio-economic landscape that was transformed during the Inca presence and/or influence on the region.

Tacahuay and Camata were selected for investigation since they both contained local LIP communities as well as nearby imperial architecture. In addition, they are located at two different eco-zones and had diverse socio-political organizations. Therefore, these two local communities experienced the processes of Inca imperialism differently. In this sense, contact and incorporation were processes that for the imperial project might have occurred similarly, however, from a local perspective, the multiple forces of the empire are experienced within a continuum where local actors played crucial roles influencing the imperial experiences at the local level.

Therefore, in order to observe the economic transformations that occurred at these two sites between the LIP and the Late Horizon, I conducted excavations in domestic and imperial structures at both sites. Archaeological research was also performed at other economic loci including agricultural terraces, storage areas, and *tendales* or zones used for drying products. Diverse lines of evidence were used to understand the multiple ways in which the Inca empires impacted local and regional interactions.

10.1. Local and regional reconfigurations initiated by imperial powers

The Inca Empire incorporated the upper parts of the Moquegua Valley into their imperial administrative system by building a *tambo* next to the community of Camata, constructing a small administrative center at Sabaya (5 km from Camata), improving a road that connected Camata with the altiplano and the mid-valley, and intensifying agricultural

works along the valley. For the Estuquiña populations, this meant the participation in labor requirements imposed by the empire, which as I have already suggested, were organized and overseen by local leaders. The local leaders of Camata Pueblo had direct access to the local economic products (maize, quinoa (*Chenopodium sp.*), *Solanum sp.*) and well established storage technologies that translated into a greater access to local and regional power. Therefore, the leaders from Camata established strong associations with Inca institutions and were supplying of coastal goods to far-away populations (maybe the altiplano region). In addition, the administration necessary for organizing labor parties for the many agricultural works as well as for the storage and distribution of goods required the intervention of imperial officials and local allies. Furthermore, the large scale agricultural production inferred at Camata, by the presence of the massive storage system and extensive agricultural works, point to the presence of high numbers of foreign populations, brought in as *mitmas* and *yanaconas* and possible Inca officials. Finally, colonial records document the presence of altiplano enclaves located in the Colesuyo region that had direct connections with altiplano factions, nonetheless, these colonies have not been identified archaeologically.

In contrast, Tacahuay which is located near the pacific coast was not directly incorporated into the imperial system. Unlike the Camata area and the upper valley, that had a well-maintained Inca road system, no formal roads connect Tacahuay with other areas of the region. The *tambos* of the two regions are also substantially different: most importantly Tacahuay Tambo lacks of imperial buildings (such as the *kallanka* like structures). Furthermore, Tacahuay does not contained storing rooms, and unlike Camata it also contains multiple altiplano *chullpas*. Nonetheless, as mentioned above the Tacahuay Tambo had a high density of Inca-altiplano ceramic styles fragments (on its surface and recovered during excavations) as well as other material goods (such as *keros* and metals) with Inca style and/or

manufacture signature. In contrast, the Camata tambo contains mostly Estuquiña style ceramic fragments and ceramic fragments with no designs. Given the surprising results of our excavations at Tacahuay, which was previously characterized as a “standard” Inca *tambo* (Chacaltana, 2014; Stanish and Pritzker, 1983), we can ask, What was the nature of the interaction between Tacahuay, the altiplano groups and the Incas?

It seems clear that local labor at Tacahuay was not organized in the same way as in Camata. Based on historical records and archaeological evidence it appears that coastal societies (both, the multi-economic groups known as Coles that practiced agriculture and herding, and the specialized fishing communities known as Camanchacas) were non-complex socio-political organizations that had intricate social interactions with other coastal communities of Colesuyo and the altiplano groups. The nature of these complex social interactions within coastal communities was revealed when I analyzed the data of the early *encomienda* system installed in Colesuyo in 1540 (see Trelles, 1991). Coastal elites (*principal curacas*) were identified either as fishermen or farmers in early historical documents (Trelles, 1991). They had socio-political power and influence across coastal Colesuyo and were controlling the horizontal exchange of goods.¹²³ In fact, these communities (a total of three communities were identified) were composed of hundreds of tributaries, being the smallest one of around one hundred tributaries, and the largest one of 900 tributaries. At the same time, these large communities had many small agricultural and fishing groups located at towns along coastal coast Colesuyo. These locations were of around 10 to 100 tributaries towns (see TABLES VIII, IX and X). Furthermore, the documents suggest that the *principal curacas*

¹²³ Historical records identify these groups by their principal location and the name of the *principal curaca*. These groups have been identified as: “Ilo community” with their *principal curaca* known as Pola; “Arica community” with their *principal curaca* known as Lallo, and “Tarapaca community” with their *principal curaca* known as Tuscasanga.

established kin relations with altiplano groups. By establishing “marriage alliances” altiplano elites were able to acquire agricultural and maritime products for their own consumption. In contrast, inter-regional connections allowed coastal elites to have direct access to goods with Inca signatures, and access to coastal products that the Tacahuay enclave did not produce such as deep sea fauna, and agricultural products such as cotton, quinoa and chili pepper.

It is likely that during the Inca influence in the region, these coastal elites were legitimized (recognized or chosen) by altiplano leaders, or were from the altiplano itself and/or held altiplano identities. Archaeologically this was observed by the presence of altiplanic *chullpas* at Tacahuay that point to altiplano ancestorship¹²⁴ on the coast. Finally, the identification of socio-political entities composed of many small towns (in charge of *local curacas*), either fishing or farming communities, distributed along coastal Colesuyo, explained the presence of markedly different traditions of ceramic styles across Colesuyo (i.e. San Miguel versus Gentilar). In fact, the presence of different ceramic traditions (based on designs and styles of manufacturing) at the coast, such as Gentilar style associated to fishing communities, and San Miguel style associated to farming communities, indicate that although fishing communities belonged to one of the three big socio-political configurations mentioned above, they shared similar ethnic identities based on their economic specialization (for additional hypothesis around these particular archaeological and historical dataset see Durston and Hidalgo, 2009).

In this respect, various investigators (Lozada and Buikstra, 2002:31; Netherly, 1977; Rostworowski, 1975:315, 1981) of pre-Hispanic and colonial coastal economies have suggested

¹²⁴ Historical records also indicate the presence of altiplanic ancestors installed in Colesuyo when descendents of the regional leader Apu Cari, married Colesuyo women (Cúneo Vidal, 1916).

that fishing communities kept tight cultural traditions among themselves. According to these studies, fishing communities practiced endogamy and they even spoke their own language, maintaining socially and biologically separated from agricultural communities (for pre-Hispanic examples also see Lozada and Buikstra, 2002; Zaro, 2007). In contrast, I propose that during Inca influence of coastal Colesuyo, the large socio-political entities were composed of fishing and agricultural communities. These small communities under the administration of a *principal curaca* had to tribute specific goods according to their economic specialization (agricultural goods and/or marine resources). Consequently, fishing communities had closer ties (identity similitude) with other fishing villages along the coast of Colesuyo despite the fact that they might have belonged to different socio-political entities. For example, we know about the case of many fishing communities that were in Arica during the early colonial period (1540) which were from the “Ilo community”, the “Arica community” and, the last one, from the “Tarapacá community”, all three fishing communities having similar identity (fishing practices and other related activities), but providing tribute to a different *principal curaca*.

Tacahuay is one of these small farming communities that had a mix economy based on the extraction of maritime fertilizer, agriculture, herding and the non-specialized exploitation of maritime resources. This type of coastal organization developed complex socio-economic relations, such as: 1) the presence of Inca – altiplano ceramic styles, 2) the presence of altiplano funerary traditions such as *chullpa* 2) regional elites with access to Inca material culture manufactured by altiplano-Inca specialists (including ceramics, *keros* and metal objects) and - 4) the identification of a high consumption of exotic goods (maritime and terrestrial fauna). Furthermore, in case of Tacahuay during the period of Inca influence in Colesuyo local and intra-regional interactions were intensified mainly because regional elites had access to specific economic products that were used for inter and intra-regional consumption.

10.2. Imperial transformations at Colesuyo

Diverse lines of evidence suggest that during the LIP goods moved widely between populations located in the upper Moquegua Valley, coastal communities¹²⁵ and the altiplano. However, the exchange of goods was irregular and of low intensity. During Inca influence, the vertical exchange of specific goods and people committed imperial institutions such as Camata Tambo, and a continuing but more complex horizontal coastal interaction accomplished by the Tacahuay enclave. Consequently, during this time period Colesuyo was a region where socio-political and deep economic transformations and cultural innovation were occurring. Nonetheless, the outcome of these broader cultural and political changes happened differently in different locales. Furthermore, these inter-regional exchanges were conducted within economic spheres fashioned by the empire, but assumed by regional elites. Therefore, in this thesis I asked: how these inter-regional exchange systems change and how did they operate under new imperial forces?

In this thesis I use multiple methodologies that address this question. In the following, I briefly describe the main results obtained from each of the used archaeological procedures.

I conducted Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS) analysis on ceramic fragments from the site of Camata and Tacahuay as well as from different clay sources along the lower Moquegua Valley. This type of analyses helped to reveal some of the social dynamics that occurred within and between communities on a variety of scales.

The identification of trace elements and geochemical analysis revealed the chemical signatures for different geological sources for 92 ceramic samples collected from the sites of

¹²⁵ This was suggested to have occurred for Chiribaya populations (Lozada and Buikstra, 2002; Zaro, 2007).

Camata and Tacahuay, and other sites from the nearby Otorá drainage. In addition, this study included the chemical identification from 25 clay samples collected from the lower Moquegua Valley. My analyses conducted with the LA-ICP-MS technique contributed to understanding the social dynamics both within and between communities on a variety of scales.

This obtained information was reinforced with the clay samples analyses conducted by Nicola Sharratt and colleagues in 2009. Sharratt identified 5 distinct clay groups from the upper and middle valley. Clay groups are known as Torata, Tumilaca, Moquegua, Otorá 1 and Otorá 2. Each corresponds to different geological formations. Based on statistical analyses we found that ceramics from Tacahuay tend to represent a wide variety of elemental compositions while the small samples from Camata demonstrate tighter, yet chemically distinct elemental signatures that may be used to correlate with potential clay sources.

On the other hand, the ceramics recovered at Tacahuay plotted over the middle valley clays. These tended to cluster within the Moquegua Valley group as well as the lower valley clay group. Ceramics samples from Camata Tambo, clustered with clay samples from the Tumilaca Formation, in the Upper Moquegua Valley. In fact, Mahalanobis Distance calculations for group membership revealed that there is a high probability that the ceramic samples from Camata Tambo are composed of Tumilaca clay. In contrast, the ceramics found at the site of Tacahuay had the most diverse range of ceramic compositions in this study. The ICP-MS analyses conducted on Inca – altiplano styles vessels found in different contexts at the site of Tacahuay indicate that these “foreign styles” (altiplano Inca styles) were closely related to the Moquegua Formation from the middle valley. This information suggests that these Inca-altiplano styles vessels were manufactured near the mid-valley.

LA-ICP-MS data supports information contained with colonial documents from the region. Historical records show that the middle Moquegua valley was closely connected with the Hanan Lupaca faction from the altiplano (see “La Visita de Juan Gutierrez Flores al Colesuyo y Pleitos por los Cacicazgos de Torata y Moquegua” published by Cañedo-Arguelles, 2005; also see Cañedo-Arguelles, 1993). In Chapter 7, based on chemical characterization analysis and historical data from the altiplano region (Hayashida 1995; Spurling 1992), I have suggested the probable presence of altiplano potter specialists (*sañocamayocs*) located in Moquegua manufacturing ceramics for regional consumption of altiplano enclaves such as Tacahuay. For example, Spurling’s studies of Colla potters had found that these potters’ specialists were organized along lines of Lupaca organizations (see Spurling, 1992).¹²⁶ Colla ceramic specialists were assumed by the Lupaca elites because the Collas elites were defeated by the Incas. However, we know that Colla potters also had lands and people living at the eastern valleys to provide their community with lowland products. This information suggests two important aspects to take in consideration about altiplano ceramic workshops. First, because pottery cannot be manufactured during wet season, altiplano potters were not full time specialists (see also Arnold, 1993:226). Second, altiplano potters had colonies and lands in the lower valleys for practicing agriculture and supplying their leaders. Although, we do not have the same type of historical data for Lupacas’ ceramic specialists, based on ICP-MS results and historical accounts which indicates that the Lupaca Hurin faction had close ties with the upper Moquegua valley, and the Lupaca Hanan faction was closely related to the middle Moquegua valley, I suggest the possible presence of Lupaca ceramic specialists in the middle Moquegua manufacturing Inca-altiplanic styles for a regional consumption and mainly using clays from the Moquegua Formation.

¹²⁶ However, on top of the organization, they had an imperial administrator (see Spurling, 1992).

Furthermore, recent investigations in the Moquegua Valley have further documented the strong influence that altiplano polities had on the region. For example, more than 1500 funerary contexts having Inca-altiplano styles very similar to the ones found in Tacahuay, have been recently found in the city of Moquegua.¹²⁷ The spatial distribution of ceramic vessels with specific types of designs and styles could be indicating that these vessels were being produced by the same manufacturing group (or workshop), and distributed by regional elites (*principal curacas*) to *secondary curacas* (or local elites).

In addition, this project also included the faunal analyses of Tacahuay conducted by Dr. Susan deFrance. Faunal analyses of Camata are not available mainly because most of the storerooms found at this Inca waystation were found empty. However, based on excavations conducted at structures of Camata Tambo and Pueblo, we identified a high presence of camelid bone, and access to marine resources. In contrast, although for Tacahuay we still do not have the complete faunal analyses; there is a preliminary report with information about the presence/absence of fauna species from diverse structures excavated. These analyses showed that these spaces of this site (imperial and domestic), had a differentiated access to faunal species, especially during the Inca hegemony. For example, inside the rectangular room of the waystation where excavations identified the preparation of food for communal feasting during the Inca influence of the site, faunal analyses showed a high variation of different types of terrestrial fauna such as guinea pig, feline and fox or dog. In contrast, at domestic areas from both, the Late Intermediate Period and/or the Late Horizon, there is not a great variation of fauna species. Instead, this dataset indicated a continuous presence of two terrestrial animals: *lama sp.* and white-tailed deer.

¹²⁷ Personal communication with Project director: Luis Diaz – 2010 Moquegua.

In contrast, across time and space deFrance identified a continuous presence of maritime species such as sardine, herrings and shads, anchovies fish species native to the sandy shores. Therefore, this information demonstrates that people living in Tacahuay had access to maritime products (either through exchange or by their own exploitation of sea resources) although they were not fishing specialist. Instead, the dataset obtained from faunal analyses indicates that people living at Tacahuay were exploiting a variety of resources such as *lomas* resources, using camelids for food, ritual, and transportation, and obtaining deep-sea fauna through exchange with fishing communities.

Finally, the faunal analyses indicated that during Inca hegemony communal consumption of food took place at Tacahuay. Local elites hosted festivities where varieties of food (fish and terrestrial mammals) and drink (beer made of Andean pepper mint and maize) were offered to surrounding populations as reciprocity for provisioning specific products. Also, faunal analyses indicated that although people living in Tacahuay might have exploited marine resources, this was not a specialized fishing community. In other words, the presence of fish from diverse maritime ecosystem indicates that other, perhaps more specialized communities were involved in providing maritime products for events that occurred in the *kallanka* type of structure at Tacahuay and/or to transport elsewhere. In addition, the high diversity of terrestrial animals indicates an interaction with other types of eco-zones and access to exotic terrestrial species.

On the other hand, botanical and pollen sampling conducted at both Camata and Tacahuay were designed to observe the transformations of agricultural activities and consumption in different contexts across time and space. Archaeo-botanical analyses conducted in Tacahuay identified the abundant presence of maize in all areas (local and

imperial spaces), and a greater access to foreign foodstuffs during Inca hegemony, including quinoa. Instead, archaeobotanical analyses conducted at Camata's storerooms (at the Inca waystation and pueblo) and agricultural system provided information about the intensification of maize agriculture stored at imperial *qolqas* together with other cultigens from lower valley.

Macro- and micro-botanical dataset obtained from Tacahuay *chullpas* allow us to examine what type of flora was used as food in rituals that took place between the living and the dead. The botanical information indicates that local plants *molle*, and cotton were being used during ritual. However, micro-botanical analyses revealed the absence of cotton and chili pepper remains in the more than 50 samples collected from different areas of the agricultural system that are common cultigens on the coast.

Therefore, archaeo-botanical analyses provided with information about the differentiated consumption of plants on this site. Then, while cotton seeds appeared inside vessels from funerary and other ritual contexts, quinoa appeared as garbage of imperial related contexts (refuse of communal cooking practices). However, people living at Tacahuay consumed maize before and during Inca influence of the site, cultigens that seemed to have been cultivated on the site. In fact, archaeo-botanical analyses indicated that Tacahuay had a garden type of agriculture (non-intensified agriculture) based on the cultivation of corn and a variety of plants and trees such as *molle*. This dataset indicate that although Tacahuay had a limited type of agriculture, local agriculture was mainly based on providing food for Tacahuay consumption and a small quantity used for communal consumption and, even for export. In conclusion, based on archaeo-botanical information (and faunal analyses), I suggest that Tacahuay enclave did not have administrative function; instead, it most likely functioned as

post where agro-maritime products were collected for later transport to the upper valley and the altiplano region.

In contrast, excavations and archaeo-botanical analyses conducted at three storing units at Camata Tambo and one storeroom of Camata Pueblo revealed that high quantities of local products such as corn, potatoes, quinoa and *kinicha* (*Amaranthus caudatus*), were being stored in these loci. In fact; these products were also being grown at the enlarged agricultural system that the empire installed around Camata Tambo. In addition, there is also evidence of fruits as well as other goods brought from other eco-zones of Colesuyo, such as chili pepper and maritime products from the coast.

Furthermore, the storeroom excavated in Tacahuay Tambo dramatically contrasted with typical Estuquiña storing structures and techniques (Conrad, 1993). In general, during the LIP Estuquiña *pueblos* did not have communal storing, instead the Estuquiña kept their products inside their houses in small (0.50 m by 1.0 m) bins. Therefore, based on architectural evidence from Camata Pueblo and nearby Estuquiña towns, Estuquiña elites underwent a political and economical transformation under the influence of newly imposed imperial infrastructures. In Camata specifically, Estuquiña elites gained more political power based on their direct relations with Inca administration. This was evident by large-scale communal store in the center of the town. Research conducted at other Estuquiña settlements suggests that similar transformation of local power occurred within them as occurred within Camata. For example, Conrad's excavations in San Antonio, an Estuquiña settlement next to the Inca-colonial site of Torata Alta (Rice, 2012; Van Buren, 1993), revealed that during the later periods of the LIP, public spaces began to appear at sites that had a direct relation with Inca institutions.

Moreover, on the surface of the site of San Antonio, Conrad (1993) found small central rooms similar to the storing rooms seen at the center of Camata Pueblo. This evidence suggests that specific Estuquiña elites in the Upper Moquegua Valley were negotiating and acquiring higher socio-economic statuses based on their direct relation to new Imperial enclaves (Camata Tambo) and administration.

This dataset suggest that the aim of Camata Tambo was not focused on supplying local needs. Instead, it appears that Camata Tambo controlled the exchange of goods among diverse groups in the Colesuyo region by storing both, local goods and imports. This is confirmed by the presence of diverse storing technologies in Camata Tambo, which formalized exchange systems among Colesuyo populations because products were being transported elsewhere outside Colesuyo. In addition, the exchange of goods outside Colesuyo was probably administered by the *tambo* – Inca administrators and local elites. In fact, in Camata, local elites played important roles in helping organize imperial work parties and articulating the empire with the balkanized Estuquiña societies of the upper valley. Furthermore, elites from Camata Pueblo took advantages of the imperial presence in the upper valley by copying storing technologies from the *tambo*, and having more direct access to products stored at this installation. Under this scenario; local elites consolidated their status in a regional as well as a “global” level with the Inca Empire.

In other words, Camata and the groups from the upper and middle parts of the Moquegua valley were directly incorporated into the imperial administration by the use of infrastructure, such as Camata Tambo. In addition, the administration necessary for organizing labor parties for agricultural works as well as for storing goods required the intervention of imperial officials and local allies. Finally, similar to other sites of the southern parts of the Inca Empire, Camata Tambo has early dates for the presence of the empire in the region (see

Parssinen and Siiriainen, 1997). Two dates from layers from floors of the storeroom from the *tambo* (layer G and H) provided similar calibrated dates of 1392 – 1449 (2 sigma).

10.3. Tested models of interactions

10.3.1. Interactions between complex societies and fragmented societies

Based on the investigation conducted at Tacahuay, I suggest this coastal enclave shares several similarities with the “Interaction between complex societies and fragmented societies” model. During the Inca period, Tacahuay is one of the many fragmented coastal communities. Although coastal societies interacted among each other, it seems that local elites established interactions with more complex societies (Lupacas and therefore the Incas) in an individualized manner. In fact, these leaders had access to objects or exotics (Inca ceramics, keros and metal objects) that had symbolic recognition across the Colesuyo region. For example, in Tacahuay Inca material culture was found inside the intact and disturbed *chullpas*, suggesting that a specific group (in this case a lineage) had access to exotics. Furthermore, the presence of these *chullpas* at Tacahuay also suggests the founding of an *ayllu* probably established by a marriage alliance between the altiplano and local elites (an altiplano leader with a local Colesuyo woman). This model also suggests that there is no investment in local economic production and technologies, in fact, Tacahuay was not an Inca waystation nor has evidence of agricultural intensification, however, during the influence of the Inca Empire this enclave procured agro-maritime goods for being locally and far-away consumed. Finally, although Tacahuay had many aspects suggested by this model, it also has certain variations.

Although, the Incas did not incorporate the coast of Colesuyo, under their Inca influence; the elites and commoners living in Tacahuay had differentiated access to local

resources and exotic goods. Exotics goods were provided by powerful altiplano elites (or their regional representative) who had increased power under Inca influence. This process led to the formation of coastal and local elites who had regional influence and greater economic access to local products that translated into superior local political and economic power. For local coastal elites, and their kin, this provided an opportunity to transcend their local identities and to construct new hybrid identities that included/incorporated elements from outside of Moquegua.¹²⁸ In Tacahuay particularly we observe the development of a leadership that is recognized by the presence of *chullpas* that stand for a local – altiplano type of *ayllu* (formed by altiplano elite with local women) that formed new kin relations and also identities.

10.3.2. Interactions between complex societies and corporate societies

On the contrary, based on the investigation conducted at the site of Camata located in the upper Moquegua Valley, I suggest that the interactions between Estuquiña societies - such as the Estuquiña pueblo (Camata Pueblo) situated next to the Inca waystation - with the Inca Empire share similitude's with the "Interactions between complex societies and corporate societies" model. Estuquiña societies were in constant competence among each other interaction observed on the fortified settlements that characterized these LIP societies.

¹²⁸ Tacahuay interactions with Lupaca groups can be related to many concepts of the interaction model presented in chapter 2 as "Interactions between empires and fragmented societies". Tacahuay's elites established relationships with more complex Lupaca organization by employing the new powerful ideology by using sumptuary goods related to new powers (Inca-altiplano ceramics and metal objects), marrying with Lupaca elites establishing formalized leadership (materialized by the presence of *chullpas* representing *ayllu* that have altiplano relations).

Furthermore, this model of interaction suggest that corporate societies compete for political preeminence, therefore, complex societies insert institutions of power at the local level. In fact, the presence of Camata waystation, the construction of agricultural works that greatly increased agricultural production; and the administrative center such as Sabaya instigate that local leaders formed part of these newly imposed imperial system. Therefore, this relation established between local leaders and the imperial system allowed local elites to participate in the manufacture of new power structures, another characteristic emphasized by the corporate society model.

In conclusion, at both sites investigated for this thesis, coastal elites had access to goods provided by the imperial administration resulting in higher incidence of non-local goods. However, *ayllus* or local leaders' interaction with the empire resulted in more benefits for specific Colesuyo elites and did not “trickle-down” to all levels of society. Furthermore, the imperial impact at these two sites and regions of Colesuyo was different. In contrast, to Camata, Tacahuay and other settlements located on the coastal region were not directly articulated into the imperial system, however, they formed part of the inter-and-intra regional connections that were promoted and commenced by the Incas, but not managed or directed by them. Tacahuay had the presence of local and altiplano (foreign) elites. Other coastal elites from less centralized societies than the Estuquiñas' elites (from the upper valley) appears not to have interacted directly with the empire, they closely cooperated with altiplano ones. By establishing these relations, coastal elites had access to goods with regional and imperial styles (although regionally produced). In turn, altiplano elites acquired coastal and regional prestige by creating new relations with coastal elites.

Upper and lower valley, regional and local elites were actively using, ignoring and/or mimicking Inca strategies to achieve their own socio-political goals related to controlling access to local (highland and/or coastal) resources. This was done using different tactics, scales of influences and manipulating interactions, all aspects that are addressed in this thesis.

Furthermore, under these convergences of interactions, groups from the upper, middle and coastal parts of Colesuyo and the altiplano, did built stronger and more formal economic relations. They also formed more complex forms of social interactions that are also suggested in the historical records of the sixteenth century.

10.4. Proto-globalization

Having described the local experience of Inca imperialism in the Colesuyo region, we need now need to ask, How do empires operate? Although globalization theory sounds too modern to explain the broad complex and ample social interactions of the pre-Hispanic past; this perspective has already been successfully used to analyze ancient networks (see Dornan, 2002; Giddens, 1999; Jennings, 2011; Pitts, 2008; Horchschild, 2006). One of the major contributions of globalization theory is its ability to help analyze the impacts of powerful societies on the social practices of less powerful social organizations by taking into consideration (see Dornan, 2002; Giddens, 1999; Pitts, 2008). In other words, globalization theory can be used to elucidate the ways in which the economic, ideological and/or political aspects of power impact the daily practices of less powerful societies (from elites to commoners).

Studies focusing on the “globalization of archaic empires” recognize the “international dimensions of the empire”¹²⁹, by examining how ideas and beliefs go beyond the political borders of empires, and in doing so, acquire their own political dimensions. Also, this theory focuses on dense connections and complex interactions created by imperial powers across the empire but that are fashioned by heterogeneous sources. Consequently, although these perspectives have been used for modern social contexts, I use globalization (or proto-globalization) theory as a tool for observing inter-elite interactions, incorporation of local elites into imperial frameworks, and the dissolution and/or the formation of new dynamics at the regional or broader level of the pre-Hispanic past during Inca influence of the southern Andes.

This perspective illustrates the widespread transformation I believe occurred across Andean societies during Inca imperial hegemony¹³⁰. Even though this investigation examines the interactions between empires and its peripheries (or marginal regions) as fluid and not static (Chase-Dunn and Mann, 1993; Hall et al., 2011; Pitts, 2008)¹³¹, by incorporating globalization theory I recognize:

First, that the Incas initiated intense physical, political and economic connectivity across the pre-Hispanic Andes. In fact, the empire used their political and ideological

¹²⁹ Studies that focuses on “International dimensions of the empire” (or International influence of empires) observes beyond the imperial boundaries or political borders of empires. For example Sinopoli (2001a:463) mentions that these studies acknowledge that material culture, ideas and beliefs, travel beyond the political borders and that these are differently incorporated by local societies.

¹³⁰ According to Gramsci (1971) hegemonic power is based upon the consent (rather than the coercion) of dominated groups. In other words, this type of power is the construction of a set of ideas (worldview) that are generated by elites but also molded by social practices (of both, the dominated and the subalterns).

¹³¹ I am aware that globalization theory does not explain different types of interactions carried out by different social actors and their changes over time, this being an important part of this thesis.

machinery to implement power; however, at distant regions the empire was experienced by the flow of objects, ideas (worldview), and people connected or related to the Incas. Therefore, globalization theory acknowledges that when people, things and ideas begin to travel in a system no longer controlled by a complex society that originated these changes; a cascade of interactions occurs where the agency of elites (imperial, intermediate and local) play crucial roles. Furthermore, this perspective of globalization is being used by other Andean investigators (Jennings, 2011) to explain the socio-political transformations occurred during the Middle Horizon (A.D. 500 -900) across the Andes during Wari imperialism.

Second, by taking this perspective I recognize the different expressions that occurred at the local and imperial levels. For example: the varying nexuses developed between local leaders and imperial powers, local negotiations of identity (i.e. instead of acculturation) and the transformation of local consumption of food, material culture and desires. In addition, it is important to mention here, that globalization theory observes the changes that appeared at the local level within a broader frame of reference (micro-histories of Tacahuay and Camata under processes of Inca imperialism). Thirdly, globalization theory allows us reflect on the different meanings for the consumption of material culture with imperial or regional styles across the empire (Cummins, 2004, 2007).

Nonetheless, we also need to ask, “What is the difference between globalization, horizon and hegemony?” All terms implying some sort of influence; and as mentioned before, “influence” can refer to any type of interaction (Stanish, 1992). Nevertheless, interactions are different in their nature and in their intensity mainly depending on societal characteristics such as their elites’ and commoners’ interests and their social intervention. In the following, I briefly describe each of these concepts mentioned above.

Hegemony (which in the Andes is frequently referred to as a horizon) is a concept mainly focused on an ideological influence (Gramsci, 1971; Sinopoli, 2001a). The term horizon is usually used to refer to an ideological type of diffusion - where the center of the diffusion is not necessarily a centralized administrative center that promotes expansive policies, but can also be a ceremonial center expanding rituals, ideas, objects and symbols - across a territory and people. For example in the Andes, the term Early Horizon is used to mark a period of time where we recognize the Early Horizon (or Chavin Horizon) stylistic influence throughout a vast region of the Andes. In contrast, the term “hegemonic influence” indicates an imperial local interaction based on an ideological aspect while at the same time, acknowledges the existence of other sorts of interactions, such as imperial incorporation of provincial territories (Sinopoli, 2001a).

Instead, globalization refers to an intense or dense interregional interaction that goes beyond the initial intentions of the political or economic center of power. It is a kind of a ripple effect on interactions that originates from a source of power and continues beyond primary goals. Under this perspective, global interactions occurred in the ancient world when two material conditions happened. First, a high concentration of interactions facilitated by the presence of a sophisticated technology in transportation and bureaucracy across subjugated territories. Second, the establishment of a variety of political institutions defined by the empire but managed by local groups.

These two conditions of processes of imperialism occurred many times in the Ancient World (Hall et al., 2011; Pitts, 2008; Stahl, 1999).¹³² However, I suggest that in the Andes it

¹³² Such as the Hellenistic era that have been described as an era of globalization where homogenization and interdependence of Greek culture and politics across the Mediterranean World occurred (Horchschild, 2006) or in the first century B.C. Rome

only occurred during the Inca Empire.¹³³ When the empire began to organize populations in a more bureaucratic way across their incorporated territory, promoting a more effective infrastructure (such as roads and tambos), and encountered other complex social organizations that emulated and/or initiated political actions (such as tambos and/or other ideological practices) in order to gain their own political power (“cascades of interactions”).¹³⁴ Conditions that were initiated by Inca expansion, and in marginal (and provincial) regions, continued on their own.

Until now, the Andean economy has been considered not being immersed in a market system. Yet, the constant construction of social relations promoted by the empire created political and economic expansions¹³⁵ that can be seen as an Andean type of “proto-globalization”. This Andean “proto-globalization” was performed by the empire using the decimal system of administration imposed on subject populations (or other types of organization – for example see Netherly, 1990, 1993) for extracting tax-labor, which deeply altered locals’ lives and ethnic and gender experiences across the Andes (see Costin, 2011). In

expanded across India, to the Sahara, to England and Europe, when the Mediterranean sea “mare nostrum” (our sea).

¹³³ Although Wari and Chimu societies have been classified as having imperial aspects mainly because they had institutions used during Inca imperialism (i.e. roads, quipus, political social organization); the Incas used these institutions in a more systematic and pervasive way across the Andes.

¹³⁴ However, Jennings has suggested that a type of ancient globalization occurred during the Middle Horizon. He defined globalization under two criteria: “All globalizations should (a) **be trigger by a surge in long-distance connections** with the (b) **creation of a global culture**. If a period meets these two criteria, then it is a period of globalization (Jennings, 2011: 21).

¹³⁵ This is especially interesting if we take into account the census information that was collected by Francisco Pizarro in 1534 (see Parsinen, 1992).

addition, this perspective was based on the intense flow of goods, people and ideas that transformed the Andean world into one with global characteristics. Here, I also note that even though the empire had a solid machinery (logistic, military, and institutions), each Inca emperor (*Sapac Inca*) developed a “*parentesco*” relationship with provincial groups, therefore, groups within provinces had kin types of interactions with *Sapac Incas* and not necessarily with the state (see Parssinen, 2003:168). Therefore, for the case of the Incas, globalization theory is used to understand diverse lines of interactions occurred between people, objects, ideas, as well as its consequences.

10.5. Redefining the empire from its margins

In general empires use multiple sources of power to expand across a vast territory. Monolithic perspectives of empires observe imperial expansion as unidirectional. For these perspectives, imperial expansion initiates in the core, and expand to the peripheries. The peripheries provide raw materials to the core. However, in regions absent of decision making from the core and free of institutions of power, regional elites (or intermediary elites) take advantages by continuing with their traditional lines of power and/or assuming new roles. In many cases, they even emulate or copy imperial institutions based on their new gained prestige or authority.

Nonetheless, multiple lines of evidence are necessary to observe the diversifying nature of local – imperial relations, as well as to identify experiences from the margins. Furthermore, empires established as an extensive body of institutions, administration and imperial authorities also go through a process of transformation. Local transformations of imperial institutions happened in many different ways, however this mainly occurs because in order to govern and

administer, imperial officials of diverse rank need to understand local knowledge and establish different sorts of relations with subjugated subjects. Therefore, understanding the practices of empires, investigators require the identification of the relations established at different scales.

For example, in the upper Moquegua Valley relations were managed by local connections with imperial officials from Camata Tambo and other imperial institutions such as Sabaya (an administrative Inca site of the upper valley). Instead, in the lower valley we cannot identify relations established between Tacahuay elites (local elites) and imperial ones. In its place, we observe regional elites (from the altiplano), mimicking imperial infrastructure (Tacahuay Tambo) and political strategies, which allowed them to acquire greater access to economic products from the coast. This also provoked that local coastal elites gained/developed hybrid or more regional types of identities. Finally, the evidence from Tacahuay reveals how new economic and political relations can emerge as a collateral consequence of empire and how symbols of power may be carefully selected depending on the specific context.

The two case studies examined at this thesis, Camata and Tacahuay, have also enhanced our understanding of the model of vertical control of ecological floors (Bürgi 1993; Murra, 1972; Van Buren, 1993). I have laid out the diverse mechanism of exchange and interaction these two enclaves, used to procure local resources. These two sites established diverse political and economic relations with: groups within the region, altiplano groups, regional elites and the Inca political system. Finally, interactions (local and regional) established by these two communities across time, either part of the administration of the empire or not, reveal a complex political picture. Interaction and exchange under the influence of the Inca

Empire transformed local connections and local economy in ways that have not been addressed before.

Finally, this thesis showed a more complex picture of the Inca Empire, and as observed from the margins; the regional and local interactions during the time of imperial influence do not fit within traditional imperial concepts of Inca imperialism. The Inca Empire is in fact, a product of multiple convergences, and divergences from, heterogeneous sources. With a new analytical framework we may better appreciate the intensely diversifying as well as unifying nature of the Inca experience. Inca imperialism, intentionally and unintentionally, set in motion new power relations among and between Andean groups such as occurred in coastal Colesuyo. altiplano populations were integrated by two processes clearly differentiated an early process occurred during the 15th century, and a later one, occurred during the beginning of the sixteenth century. In distant or marginal regions of the empire, agency played by intermediary leaders **was crucial**. Elites were managing imperial systems and powers (throughout the uses of *tambos*, bureaucrats, officials and other imperial institutions). However, agency played by leaders was not directed to imperial goals, but instead to individual or communal ones. Additionally, this thesis also suggests that despite local populations in 'marginal regions' (to the empire) were not integrated to an imperial system, the quotidian lives of people inhabiting these territories were transformed and affected by their leaders interacting with imperial ideologies, institutions and power as well as with their own traditional authority.

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APPENDIX:

DESCRIPTION OF LOCAL AND REGIONAL CERAMIC STYLES OF COLESUYO

Ceramic studies conducted in Colesuyo for the Late Intermediate Period and Late Horizon have associated different ceramic styles with local ethnic groups (Bird, 1943; Dauelsberg, 1961; Julien, 1985, Rivera, 2008; Romero, 2002; Schiappacasse et al., 1989a, Schiappacasse et al.1989b). For example, local styles such as Gentilar, San Miguel and Chiviquiña (Late Chiribaya) have different designs, shapes, colors, and technologies. Consequently, it has been suggested that different ethnic groups manufactured these distinctly different styles. San Miguel ceramic style are associated with coastal agriculturalists, Gentilar styles with fishermen communities and Terminal Chiribaya ceramic styles with local populations from the Chiribaya ethnic groups of the LIP that continued into the Late Horizon (Reycraft 1998). Other ceramic styles, such as Estuquiña are found widely described and are not currently associated with any specific ethnic group. The following provides brief descriptions of the many late prehistoric ceramic styles that have been identified in the Colesuyo.

Estuquiña:

References: Richard Reycraft 1998:166; Charles Stanish 1985

Period: Late Late Intermediate Period to the Late Horizon

Distribution: Presence in the upper parts of the Moquegua valley, Otor Valley and coastal Colesuyo.

APPENDIX (continued)

Description: The Estuquiña ceramic style is “simple” and is rarely decorated. Designs generally consist of black lines over red slips on the body and/or mouth. Estuquiña ceramics are composed of bowls with opposing nubs on the rim (see Figure 78), bootpots¹³⁶ (see Figures 80, 126) and jars. The surface of Estuquiña vessels is not polished; however, these usually have a burnished surface with red slip. Estuquiña ceramic paste is not well fired (resulting in a brown to gray color) with medium to coarse size inclusions (see Reycraft, 1998:166). However, it is important to mention that Stanish (1985), who excavated in the Otorá Valley, suggests that the Porobaya style represents the decorated version of the ceramic corpus from the Estuquiña period. This suggests that the Estuquiña style represents the domestic and/or cooking vessels of that period. However, both, bowls and bootpots were also used in ritual activities. For example, Estuquiña ceramics have been found in ritual offerings on top of Cerro Baúl (mostly bowls) and in Tacahuay inside funerary and ritual contexts.

Porobaya: (black on white and tricolor).

Reference: Charles Stanish 1985

Period: Late Intermediate Period

Distribution: Found in the upper Osmore and Otorá Valley.

¹³⁶ Bootpots were used to toast corn and/or other grains (Stanish, 1985:32).

APPENDIX (continued)

Description: This ceramic style has red and black (fugitive color) designs over a red slip or no slipped (or no slip) vessel surface. The Porobaya tricolor includes whites (see Figure 77). Designs are characterized by linear decorations, running vertically from the neck to the handle or body of the vessel. Forms are usually jars and bowls. Furthermore, Stanish mentions a Porobaya tricolor, which is characterized by a red burnished slip with black and fugitive white linear decorations. This style has close similarities to the Allita Amaya polychrome described by Tschopik (1946), and according to Stanish, is the decorated version of the plain-ware Estuquiña-Inca Period ceramics (Stanish, 1992:36).

Gentilar:

References: Junius Bird 1943; Jesus Gordillo 1996; Ivan Muñoz 1981:128; 1998; Mario Rivera 2008; Carlos Vela Velarde 1999; Alvaro Romero 2002:197; Mauricio Uribe 1999:213; Latcham 1938; Charles Stanish 1985:33; Catherine Julien 1985.

Period: The Late Intermediate Period and Late Horizon.

Distribution: Gentilar ceramics are present in high frequencies along coastal Colesuyo (from Ilo to Northern Chile). However, they are also present in the upper and middle Moquegua Valley. This style is contemporaneous with other Late Intermediate Horizon styles such as San Miguel and Chiribaya Terminal (or Chiviquiña). Although Gentilar ceramics are commonly found in the upper Moquegua and Otorá valleys (also see Guillaume-Gentile, 1992; Stanish, 1985), they have not been reported in the Titicaca Basin.

APPENDIX (continued)

Description: The Gentilar style is complex and composed of compacted and discontinuous red panels. Designs are black, white and red on a smooth red slip. The vessels were fired in an oxidizing environment (Stanish, 1985:33-4) and have thin walls. Gentilar ceramics are also characterized by geometric and polychrome designs, on high quality vessels. Motifs are extremely varied, mainly geometric, and included crosses, crosshatched areas and anthropomorphic and zoomorphic designs. The zoomorphic figures are composed of birds with long necks, devilfishes and monkeys. The most famous forms are medium and small cups, jars with long handles, and sometimes jar bodies with scoured lips. Finally, the LIP Gentilar style (see Figures 92, 96, 97, 98, 99, 100, 101, 103, 104, 132), is clearly distinctive from those produced during the Late Horizon (Stanish, 1992). In fact, during the Inca influence of Colesuyo, Gentilar vessels have more intense and varied colors, interior rim triangles, and sometimes, lines that are more finely drawn (see Figures 91, 102). Because Gentilar style iconography resembles maritime fauna and activities (fishing nets), this style has been associated with fisherman communities (Julien, 1985).

San Miguel:

References: Mario Rivera 2008: 97; Ivan Muñoz 1981:128, 1998; Richard Reycraft 1998:174; Percy Dauelsberg 1961; Mauricio Uribe 1999:211-212; Charles Stanish 1985:23.

Period: The Late Intermediate Period. Chronologically San Miguel has been estimated to date to around A.D. 1000 (ie. before the Gentilar style).

APPENDIX (continued)

Distribution: Coastal Colesuyo. However, San Miguel style vessels are less common than in the Gentilar style vessels in the upper valley.

Description: The San Miguel style has three colors: black (brown), red and cream. Usually, the vessels have white and black slipped surfaces, and the designs are drawn with cream, red and black. According to Reycraft (1998), most vessels are poorly made and have many manufactured “mistakes”. Designs tend to be concentric circles and zigzag lines with V forms (see Figures 114, 115). Vessels forms include medium and big globular jars with flat bases, drinking vessels (*keros*) vessels with modeled figures on the rim, and anthropomorphic or zoomorphic vessels (Rivera, 2008:97). On the neck of jars, there are some bands with triangles, dots over the lips and long lines along handles. This style is associated with coastal agricultural communities (Julien 1983).

Chiribaya:

References: David Jessup 1991:13; Richard Reycraft 1998:165-185; Mauricio Uribe 1999; Miranda and Umire 2007.

Period: Early Intermediate Period to Late Horizon.

Distribution: Along coastal Colesuyo from Ilo to the Azapa Valley. Chiribaya style ceramics are also found in the middle and upper Moquegua Valley.

APPENDIX (continued)

Description: Chiribaya designs are colored cream, red and black. Designs are composed of geometric motifs with scalar bands, circles and semi-circles, small white dots, and crosses. Here I focus on late Chiribaya styles, either called Terminal Chiribaya or Chiviquiña (a combination of Chiribaya with Estuquiña styles) (Reycraft, 1998). Pastes are brown with coarse temper usually of white quartz. Forms include bowls¹³⁷ and jars both with and without handles and pots have two handles on the body (see Figures 105, 108, 110, 112, 113). It has been suggested that in Colesuyo, this style changed with Inca influence (see Figure 105).

Pocoma:

References: Ivan Muñoz 1998; Alvaro Romero 2002:199; Richard Reycraft 1998:174; Charles Stanish 1985:35; Percy Dauelsberg 1972/1973; Mario Rivera 2008:97, Mauricio Uribe 1999.

Period: Late Intermediate Period and Late Horizon.

Distribution: Northern Chile and southern Peru, particularly in the Caplina, Sama and Osmore valleys of coastal Colesuyo.

Description: This style contains red and black designs over a non-slipped, or poorly slipped, surface (see Figures 116, 117, 118). Pocoma ceramics have motifs distributed in light red panels and separated by black lines. According to some investigators, the Pocoma styles is the last phase of the Gentilar style during the Late Horizon (Stanish 1985), and, as Uribe (1999:213-214) mentions, there is a Pocoma - Gentilar style (see Figure 99).

¹³⁷ Bowls have crosses on the interior surfaces (see Figures 106, 107, 109, 111).

APPENDIX (continued)

Chilpe:

References: Percy Dauelsberg 1995 [1959]:48; Virgilio Schiappacasse et al. 1989b:200; Álvaro Romero 2002:199; Mario Rivera 2008:972.

Period: Late Intermediate Period and Late Horizon. Chilpe black-on-red is contemporaneous with the Gentilar.

Distribution: Coastal Colesuyo.

Description: This style contains red plates with black designs. The designs are spirals, lines with triangles, wavy lines, crosses with semi-circles on the mouth of the plate. It is similar to the Sillustani style from the altiplano (see Figure 79).

Collao (Black on Red):

References: Marion Tschopik 1946:21, 22, 23, 24.

Period: Late Intermediate Period.

Distribution: Altiplano and highland Colesuyo.

Designs: This style contains poorly drawn black designs over red slips. The designs include undulating lines forming circles with dots or crosshatched lines and triangles. The designs are distributed around the necks of large jars, on the outer surfaces of cups, and in the inner surfaces of bowls.

APPENDIX (continued)

Chucuito (Black on red/Chucuito Polychrome):

References: Charles Stanish 1985; Mary Van Buren 1993:255, 257, 260; Peter Burgi 1993; Matt Bandy and John Janusek 2005:270-271; Charles Stanish et al. 1997:47; Marion Tschopik 1946:27, 31.

Period: Late Intermediate Period and Late Horizon.

Distribution: Eastern altiplano and Highland Colesuyo.

Description: Designs include flies, bugs, llamas and the *qantu* flower (*Cantua buxifolia*). These designs are well manufactured and the polychrome versions have white, black, red, orange and buff colors (see Figure 71). During the Late Horizon this styles has a variety of anthropomorphic and zoomorphic (see Figures 130, 131).

Sillustani (Black on Red/Black and White):

References: Elizabeth Arkush 2005: 651; Charles Stanish 1985: 29; Catherine Julien 1983; Marion Tschopik 1946: 25-27; Mary Van Buren 1993:288, 291-293

Period: Late Intermediate and Late Horizon

Distribution: Northwest Titicaca basin from Chucuito to Pukara (Arkush 2005) and Colesuyo.

APPENDIX (continued)

Description: Forms include bowls as well as small and big bottles. The bowls are characterized by burnished red or cream surfaces with black and occasionally white designs on the interior. Designs include parallel black bands near the rim or farther apart with a black zigzag (Arkush, 2005:651). Lines are sometimes purple (see Figures 75). According to Stanish (1985) most of the Sillustani ceramics found in Porobaya date to the Late Horizon and come from Sillustani. In contrast, the Late Intermediate Sillustani bowls are deeper, have thinner lips, and contain simple decorations.

Sillustani Polychrome:

References: Elizabeth Arkush 2005: 652; Catherine Julien 1983:117; Marion Tschopik 1946

Period: Late Intermediate Period and Late Horizon

Distribution: Northwest basin, from Cutimbo and Arku Puncu (west of Chucuito) as far as north as the Pucara area (Arkush, 2005:652).

Description: Forms include bowls, small and large jars, and small bottles. The large jars have applique fillets on the rim or neck. Vessels have white slip with brown/black and red slips at the rim, crosshatched bands, and geometric linear motifs (Arkush, 2005:652).

Saxamar/Pacajes:

References: Ivan Muñoz 1998; Marion Tschopik 1946; Matt Bandy and John Janusek 2005:270; Charles Stanish 1985:56; David Browman 1985; Martti Parssinen and Siiriainen 1997: 261, 262; Alvaro Romero 2002.

Period: Late Intermediate Period and Late Horizon.

APPENDIX (continued)

Distribution: Southern parts of the Lake Titicaca region. During the Late Horizon this style is highly present in the upper and middle Colesuyo region.

Description: Bowls and plates have camelids designs as well as black circles with cream dots (see Figures 76, 90 and photo from Romero, 2002: Figure 5 (A)).

Having described most of the Late Intermediate and Late Horizon ceramics styles found in Colesuyo, I will briefly describe the ceramic vessels found in the excavated structures at Tacahuay. I focus on vessels and styles found in the funerary contexts, ritual and other types of structures and/or spaces of Tacahuay and Camata.

 VITA

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EDUCATION

- 2001 BA Humanities with mention in Archaeology, Pontificia Universidad Católica del Perú.
- 2002 Licenciatura Degree, Pontificia Universidad Católica del Perú.
- 2006 M.A. Anthropology, University of Illinois at Chicago.
- 2008 Ph.D. Candidacy, Ph.D. Program in Anthropology, University of Illinois at Chicago.

PROFESIONAL POSITIONS

- 2000 Assistant Secretary, Comision Nacional de Arqueología del Perú. In charge of helping proofreading all incoming Research and Evaluations Projects, as well as Final Reports from projects conducted in Peru.
- 2002 Teaching Assistant, Department of Humanities, specialty of Archaeology, Pontificia Universidad Catolica del Peru.
- 2006-I Research Assistant – Dr. Brian Bauer, Department of Anthropology, University of Illinois at Chicago.
- 2006-II Teaching Assistant, Department of Anthropology, University of Illinois at Chicago. Introduction to Archaeology 102.
- 2007-I Teaching Assistant, Department of Anthropology, University of Illinois at Chicago. Introduction to Cultural Anthropology.
- 2007-II Teaching Assistant, Department of Anthropology, University of Illinois at Chicago. Human Evolution 105.
- 2008-2009 Research Assistant - Dr. Ryan Williams, Department of Anthropology, Field Museum of Natural History. In charge of constructing the Andean Collections' website.
- 2010-II Teacher, Department of Humanities, Faculty of Archaeology, Pontificia Universidad Católica del Perú. Course: “Gender Archaeology” (with a focus on complex societies and colonialism).
- 2013-II Teacher, Department of Humanities, Faculty of Archaeology, Pontificia Universidad Católica del Perú. Course: “Peruvian Archaeology 5” (Late Intermediate Period).
- 2012-
today Teacher, Department of Humanities, Antonio Ruiz de Montoya, Jesuit University, Course: “History of Peru 1: pre-Hipanic and early colonial period”

VITA (continued)

ARCHAEOLOGICAL FIELD EXPERIENCE

- 1998 San Diego Archaeological Project, directed by Ph.D. Candidate, Ivan Ghezzi, Yale University. Assistant.
- 1999 Pauraurku Research Project, Archaeological Survey in the Callejon de Huaylas, Peruvian Central Highlands. Ph.D. candidate Alex Herrera. Assistant.
- 1999 Pontificia Universidad Catolica del Peru. Tombs excavations in Pueblo Viejo, Valle de Lurin, Lima – Peru. Student.
- 2000 Instituto de Estudios Andinos (INDEA). Tambo de Mora, directed by Lic. Carlos del Aguila and Javier Alcalde. In charge of a unit.
- 2000 Fortaleza de Chankillo Project. Field Instructor for Earth Watch, directed by Ph.D. (candidate) Ivan Ghezzi. Field Supervisor and Instructor for Earth Watch participants.
- 2001 Museum inventory of archaeological material from Lake of the Condors, Mallqui Bioarchaeological Center in Amazonas, Peru. Directed by Sonia Guillen, Ph.D. Assistant.
- 2002 Excavations in Ilo, Southern Andes. Field Assistant and Instructor of Archaeological Field School of USA universities.
- 2003 Excavations in Ilo, southern Andes. Field leader and Instructor of Archaeological Field School, around 15 students of USA universities.
- 2004 Archaeological Project of Cerro Baul. Student, in charge of a Unit.
- 2006 Project “Domestic and agricultural units in the Chuquibamba and Torata valleys from Arequipa and Moquegua”. Field chief of excavations for Doctoral dissertation.
- 2009 Investigations in Tacahuay Tambo and Pueblo, an Inca waystation in the Peruvian coast. I conducted mapping and survey of Tacahuay site and surroundings.
- 2010 Co-investigator of Program of Investigations Tacahuay Tambo – Punta Picata. In charge of conducting the investigations (excavations and lab analyses) at Tacahuay site for Dissertation investigation.
- 2011 Laboratory analyses of materials recovered from Tacahuay Tambo.
- 2011 Co-Director of the “Program of Investigations Wari Settlements in Moquegua, Perú.” Project directed with Dr. Donna Nash.
- 2012 Co-Director. “Program of Investigations Domestic, Ritual and Chronological Sequence from the Middle Horizon to the Late Intermediate Period.” Project directed with Dr. Donna Nash.
- 2013 Director of the “Program of Investigations Sabaya and Torata Alta”. Field school professor, UIC, together with Dr. Ryan Williams.
- 2013-
Feb. 2015 Director of the Project Vilcashuamán – Pisco from the Qhapaq Ñan Program of the Ministry of Culture-Perú. In charge of doing the Cultural Heritage Development (investigation, conservation and heritage revalorization for local populations) of more than 600 km of the Inca road or Qhapaq Ñan that crosses the provinces of Ayacucho, Huancavelica and Ica.
- 2015-2016 Director of the Program Colesuyo 2015-2016 conducted with Dr. Patrick Ryan Williams.

VITA (continued)

PUBLICATIONS

- 2008 Chacaltana Cortez, Sofia
‘Camata Tambo y Camata Pueblo en el valle de Moquegua.’ In *La Parihuana, Medio Informativo del Museo Contisuyo*. Año 4, No. 4, pp. 2-3.
- 2009 Chacaltana Cortez, Sofia and Nicola Sharratt
‘International Collaboration and US Graduate Training; Peruvian and British Perspectives’ In: *Society for American Archaeologist Record*, September issue.
- 2009 Chacaltana Cortez, Sofia y David Goldstein
‘Pornografía Culinaria’ (Gastro-pornography). In *El Comercio*, Daily Peruvian Newspaper, Dominical section, November 22, pp. 5.
- 2010 Chacaltana Cortez, Sofia and Donna Nash
Offerings as a pre-Hispanic Tradition: the case of Cerro Baul in the South Central Andes. In *Actas del Simposio Internacional sobre Arqueología del Área Centro Sur Andina*, edited by Augusto Belen Franco, Mariusz Ziolkowski, Justin Jennings, y Andrea Drusini. Instituto Francés de Estudios Andinos, Lima.
- 2011 Chacaltana Cortez, Sofia; Christopher Dayton, and Monika Barrionuevo.
‘Sistemas de almacenamiento en la Costa y la Sierra de Colesuyo, Andes sur-centrales.’ In *Latin American Archaeology Publications. at ‘Comparative Perspectives on South-American archaeology: Peru’*.
- 2010 Chacaltana Cortez, Sofia
Tesis de Licenciatura titulada “*El rol de los sistemas de almacenamiento de Camata Tambo y Camata Pueblo, un tambo Inca y una comunidad local adyacente ubicados en la región del Colesuyo, valle alto de Moquegua*” Grade: outstanding.
- 2010 Evidencias arqueológicas en Camata Tambo, Tambo Inca ubicado en el valle alto de Moquegua, Andes sur-centrales. In *Arqueología y Sociedad 21*, Centro Cultural de la Casona de San Marcos, Special Edition 145-170.
- 2011 Gender and Archaeology in Peru. Small article directed to non-specialized public on site <http://blog.pucp.edu.pe/item/139574/el-genero-y-la-arqueologia-por-sofia-chacaltana-cortez>
- 2013 “La economía urbana Inca: El rol del sistema de almacenamiento en las ciudades incaicas”. *Inka Llaqta* No. 3.
- 2013 Williams, P.; A. C. Londoño; A. Hart, M.; D. Nash; S. Chacaltana; S. Hente, M. Surface Architectural Scanning of Archaeological Sites with Ground Based Lidar in Southern Peru. In *Proceedings of the Digital Heritage International Congress*, Vol. 2: 605-608. Marseille, France.
- 2014 *Sistemas de almacenamiento de Camata Tambo y Camata Pueblo*. Lima, Asamblea Nacional de Rectores.
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VITA (continued)

PRESENTED PAPERS

- 2005 Chacaltana Cortez, Sofia and Donna Nash. 'La importancia de los Rituales en los Andes sur-Centrales. El caso de Cerro Baúl.' Simposio Internacional de Arqueología del Área Centro Sur Andina', Universidad Católica de Arequipa, Perú.
- 2006 Inka strategies of control in the Southern Andes: The role of Camata Tampu, an Inka way station in the Upper Moquegua Valley of Peru' Paper presented at the 25th Northeast Conference on Andean Archaeology and Ethnohistory', Pennsylvania University.
- 2007 Chacaltana Cortez, Sofia and Donna Nash. 'Offerings as a pre-Hispanic tradition: Cerro Baul case, in the Upper Valley of Moquegua.' 'Paper presented at the 106th Conference in American Anthropological Association: Critical Intersections/Dangerous Issues', San Jose, California.
- 2007 Chacaltana Cortez, Sofia; Christopher Dayton, and Monika Barrionuevo. 'Sistemas de almacenamiento en la Costa y la Sierra de Colesuyo, Andes sur-centrales.' Paper presented at 'Comparative Perspectives on south-american archaeology: Peru', Perspectivas Comparativas sobre la arqueología de la costa sud-americana' sponsored by University of Pittsburgh, the site museum of Pachacamac, Perú, the Instituto Nacional de Cultura del Perú, the Pontificia Universidad Católica del Ecuador.
- 2007 "Political Agency and local elites in Colesuyo during the early contact period". Paper presented at Society for American Archaeologist (SAA), March 26 - 30, Vancouver, Canada
- 2008 "Inka storage systems in coastal and highland Colesuyo" Paper presented at the 25th anniversary of the International Program Contisuyo, Moquegua- Peru, July 26 – 29. Autora principal: Sofía Chacaltana, autores secundarios; Mónica Barrionuevo y Christopher Dayton.
- 2008 "Agencia Política y élites locales durante la época colonial temprana en el valle de Moquegua, Perú. An historical perspective." Paper presented at the 25th anniversary of the Faculty of Archaeology from Pontificia Universidad Católica del Peru.
- 2009 "From Inca Tambos to Tambarrias" Paper presented at the 37th Midwest Andean Conference, Michigan University, Ann Arbor, Michigan, USA, March 20 – 22.
- 2010 "*Estrategias políticas Incaicas y agencia local en el Colesuyo*". Paper presented at Congress of Homenage to Craig Morris. Los Inkas y la Interacción de sociedades, Paisajes y Territorios en los Andes. Lima, from 14 to 18 of June.
- 2010 "*Los Tambos Coloniales*" Paper presented at International Symposium of Historical Archaeology, Lima from 11 to 14 of August.
- 2011 "Perspectivas Arqueológicas y de Género: las construcciones y el encuentro de las ideologías de género incas y coloniales y sus posibilidades de investigaciones arqueológicas". Presentation to the Students of Archaeology Conference, Pontificia Universidad Católica del Perú.

VITA (continued)

- 2012 “Espacios públicos prehispánicos” Conference presented to the International Conference of “New public and private spaces in Andean cities”, Universidad Antonio Ruiz de Montoya, Lima from 28 to the 29 of March.
- 2012 Congress organizer (together with Luis Jaime Castillo) of the Round Table “Mujeres y Poder en los Andes Prehispánicos”. An interdisciplinary event of the Archaeology Faculty, October 13th, Universidad Católica del Perú, Lima.
- 2014 Piscitelli, M. and S. Chacaltana. “Inferring Socio-Political Dynamics in the Moquegua Valley through Geochemical Analysis”. Conference presented to the 79th meeting of the SAA Congress, from the 23 to the 27 of April, Austin, Texas.
- 2014 “Para vivir, no hay que dejarlos morir: Tacahuay, an altiplano enclave in coastal Colesuyo”. In the 54th Berkeley meeting, from the 10 to the 11 of January, Berkeley University, California.
- 2014 Congress organizer (together with Colleen Zori) of the session: “Provincial uses of Inka Material Culture”, 79th meeting of the SAA Congress, from the 23 to the 27 of April, Austin, Texas.
- 2014 “Material culture in coastal chullpas from Tacahuay Pueblo and Tacahuay Tambo”. Conference presented in the 79th meeting of the SAA Congress, from the 23 to the 27 of April, Austin, Texas.
- 2014 Congress organizer of the “Qhapaq Ñan International Conference” from the 26 to 27 of June, Ministerio de Cultura, Lima.

GRANTS

- 2007-2008 Provost Award from the Graduate College at University of Illinois at Chicago
Grant used to conduct preliminary fieldwork at Tacahuay waystation located in southern Peruvian coast.
- 2009 Lewis and Clark Grant (Lewis and Clark Scholar). Grant used to conduct research at Tacahuay waystation and local Pueblo located on the southern coast of Peru.
- 2010 ‘Doctoral Dissertation Research Grant’ by the National Science Foundation Grant No. 950385. Used to complete fieldwork at Tacahuay Tambo.
- 2011 3er position of the National Licenciatura thesis of Peru, given by the Asamblea Nacional de Rectores, Perú. Thesis published in a book format.
- 2013 Group Investigation Grant to members of the Riva-Agüero Institute. Coordinated by: Gilda Cogorno and Sofía Chacaltana Cortez. Project “Pre-Hispanic hydraulic archaeology: infrastructure, authorities, and government of water (lower parts of the Rímac Valley: 900 -1450 d.C.).
- 2014 EEUU Embassy Fund for the conservation, and musealization of the archaeological material for the Samuel Espinoza Lozona in Huancavelica (grant obtained when directing the Project Vilcashuaman – Pisco of the Qhapaq Ñan Program). Grant for the 2015 year, currently I am in charge of administering these funds for the museum Samuel Espinoza Lozano and the EEUU embassy.

VITA (continued)**PROFESSIONAL ASSOCIATIONS**

Society for American Archaeology
Instituto Riva-Agüero
Museum Contisuyo (Moquegua), Peru

LANGUAGES

English (fluent written and spoken)
Spanish (native language)

REFERENCES

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