

**THE MEGALITHIC TRADITION OF WEST SUMBA,  
INDONESIA: AN ETHNOARCHAEOLOGICAL  
INVESTIGATION OF MEGALITH CONSTRUCTION**

by

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## ABSTRACT

Megaliths have figured prominently in discussions of sociopolitical complexity and ideological systems in prehistoric societies, leading to a very wide range of interpretations concerning their significance. What has limited these discussions is the paucity of ethnoarchaeological studies of the living processes associated with megalith building. In this dissertation, I present an ethnoarchaeological examination of the continued traditional practice of erecting megalithic tombs in West Sumba, Indonesia. The construction of megalithic tombs has occurred for hundreds of years on the island of Sumba. The persistence of this practice to the present day, particularly in West Sumba, makes Sumba an incredibly unique context in which to examine megalith building and its larger social context from an ethnoarchaeological perspective. This ethnoarchaeological analysis of megalith construction in West Sumba approaches the subject from a political ecological perspective guided by the following primary objectives: 1) to examine the social aspects of megalithic tomb building in West Sumba in order to determine whether there are sociopolitical and economic advantages associated with the practice; 2) to investigate the household material signatures of megalith building; and 3) to develop a model for the sociopolitical processes that surround megalith building which can be applied to prehistoric contexts.

Ethnoarchaeological data on megalith building and its social significance in West Sumba was collected in interviews and household material culture inventories. Analysis of this data indicates that megalith erection provides a

visual representation of individual and group power and is enmeshed in a larger feasting economy through which power is achieved and relations are defined. From this analysis and a review of ethnographic accounts of megalithic cultures in other areas, I have developed a model which links megalith building to the power of individuals and groups in contexts of corporately controlled resources, relational power, competition over key resources, and the importance of group sociopolitical power.

**Key Words:** Ethnoarchaeology; Indonesia; Megaliths; Labor Mobilization; Feasting

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# Chapter I

## Introduction

### *Problem Statement*

The primary purpose of this study is: 1) to determine whether there are sociopolitical and economic advantages associated with megalithic tomb building in West Sumba, Indonesia and 2) to develop a model for the sociopolitical processes that surround megalith building which can potentially be applied to prehistoric contexts. Megalithic structures leave a dramatic imprint on the landscape and have captured the imaginations of scholars and the public for centuries. From an archaeological standpoint, megalithic monuments are of particular interest for a variety of reasons: 1) they have occurred in many parts of the world both historically and prehistorically (e.g., Africa, Southeast Asia, South America, India, Polynesia, Europe); 2) they are often associated with the prehistoric emergence of complex societies; 3) they require a very large investment of time, labor, and resources, typically representing the single largest undertaking in the societies in which they are built; and 4) they are impressive works that stimulate public and professional curiosity as to why they were erected.

In previous archaeological investigations of megaliths, questions of how and why megaliths were constructed have been put forth. Many interpretations of these monuments in prehistoric contexts attribute their construction to

sociopolitical functions, such as territorial markers (e.g., Renfrew 1976, 1983; Hårdh 1982; Sjögren 1986; Strömberg 1990). However, such interpretations are often limited to the symbolic reasons for constructing megaliths and do not incorporate comparative ethnoarchaeology or ethnography. As a result, these studies tend to be limited in their examination of the social processes involved in megalithic construction. Thus, an ethnoarchaeological investigation of megaliths concerned with understanding why they are erected (based on the social processes involved in their construction) should contribute significantly to understanding why megaliths were present in so many societies in the past. Furthermore, as traditions such as megalith erection are quickly fading from traditional societies, research on megalithic construction is particularly urgent at this point in time.

In this dissertation, my goal is to explain, using an ethnoarchaeological approach, the considerable investment of time, energy, and resources associated with megalith construction. From an ecological perspective, a practice entailing such an investment should have practical functions and entail practical social and economic benefits for those involved (see Hayden 2001). It is proposed that an understanding of why megaliths are still built in West Sumba from this ecological perspective can shed light on why they were built in other societies historically and prehistorically. Thus, research for this dissertation was guided by the following objectives:

- 1) To determine whether there are practical social, political and economic benefits accrued by individuals participating in and/or financing the

construction of large stone tombs;

2) To describe, in detail, the traditional practice of constructing megalithic tombs, from quarrying to final carving;

3) To document feasting and other social contexts associated with megalithic construction; and

4) To formulate a model for the social, political and economic dynamics of megalith building in historic and prehistoric contexts.

### ***Theoretical Background***

In addressing the significance of a study of megalith building, it is first appropriate to briefly examine the issue of what constitutes a “megalith” in archaeological terms. Megaliths can take many forms, such as dolmens, menhirs, large chamber tombs, and stone cists. Due to the range of structures built with large stones (i.e., megaliths), it is difficult to provide a perfect hard-and-fast definition of megaliths, but among archaeologists, there is a general recognition of what does and does not constitute a megalith. Generally, megaliths can probably be best described as structures built with a few or more unmodified or minimally modified very large boulders reflecting a considerable investment in labour and time, but which do not reach the level of refinement and elaboration found among such structures as the pyramids of Egypt and the Americas and large temples of ancient Greece, Rome and various states in South, East and Southeast Asia—typically constructed with numerous cut blocks of stone. By this definition, megaliths are usually not found in state organized

societies. This fact, coupled with their widespread global distribution, has resulted in the inclusion of megaliths in discussions of socio-cultural evolution.

The link between megalith building and the emergence of complex societies has been examined by many archaeologists, particularly in the context of Neolithic Europe from which the main theories concerning megaliths and their role in prehistoric societies have been generated. Collin Renfrew (1973, 1976, 1983) was one of the first to discuss, in detail, the role of megalith building in the development of prehistoric complex societies by suggesting that the construction of large monuments (including megaliths) was associated with and a marker of the emergence of chiefdom societies in the Early Neolithic of Wessex and that the monuments served as symbols of social cohesion and territorial markers among these societies. Chapman (1981) focused on the function of megaliths not only as territorial markers, but as an expression of kinship-based corporate group use-rights over particular key resources of the early Neolithic. Similarly, Madsen (1982) suggested that megalithic tomb building (both dolmens and passage graves) was part of a pattern of gradual social and political elaboration that coincided with the expansion of agriculture during the of Neolithic Denmark as well and that these monuments, following a similar line of reasoning as Renfrew, functioned as territorial markers representing group rights to certain resources. Examining the Early Neolithic of Southern Sweden, Lidén (1995) also linked megaliths to use rights over resources, although she argued that megaliths initially marked use rights over predictable wild resources and were not necessarily associated with the

expansion of agriculture. In a recent analysis of megaliths in the Brittany region of France, Scarre (2001: 285, 299, 302, 307) argued that large stone tombs and menhirs of the region functioned not as territorial or use-right markers, but as aggregation and ritual centers for dispersed groups who had become partially dependant upon plants and animals but had not yet established a system of fixed settlement.

The presence of prehistoric megaliths in Asia has also stimulated some discussion of their place in the emergence of complex societies. In the context of neolithic Korea in the early second millennium BC, Nelson (1999) has argued that the building of megalithic dolmen tombs was a response to the increased productivity of rice that enabled the emergence of an elite class who were buried in the tombs and used megaliths to advertise their power and ability mobilize labour. In the northern Massim of Papua New Guinea, Bickler and Ivuyo (2002) suggested that megaliths may have been a representation of the hierarchy of communities and centre-periphery relations during the Early Period (~1500 BP-600 BP) of the area due to their widespread appearance in various islands and their concentration in particular communities.

Other researchers have focused on the symbolic properties of large prehistoric stone monuments. McMann (1994: 534) has suggested that monumental Neolithic cairn burials in Ireland were built in locales perceived as sacred places in the earlier Mesolithic. According to McMann, these megalithic burials (1994: 537) reflect the symbolic power of stone, the significance of which may have been associated with peoples' desire to 'belong' to nature or a

response to the threat posed by domestication of changing this relationship. Bradley (1998), Hodder (1990), Tilley (2004) and Thomas (1993) have also dealt with the potential symbolic significance of large stone monuments (see Chapter 2).

In one of the few ethnoarchaeological examinations of megaliths, Parker Pearson and Ramilisonina (1998) focused on the medium of stone and its association with ancestors and death in kinship-based societies, particularly in Madagascar, where large standing stones are associated with ancestors and where there is a traditional dichotomy between the architecture of the living (made of wood) and the dead (made of stone). Parker Pearson and Ramilisonina (1998: 313) extended this notion of stone as a medium of the dead and wood as a medium of the living to an analysis of the Late Neolithic Stonehenge and the nearby timber circles at Woodhenge and Durrington Walls and suggested that Stonehenge was a domain of the dead and a place of rituals for the dead in the last half of the third millennium BC, whereas Woodhenge and Durrington Walls were places for the living and rituals and the stage of rituals for the living during the same time period.

All of these previous studies have been important for expanding the theoretical discussion of prehistoric megaliths. It should be noted, however, that most of these theories are not grounded, at least explicitly, in comparative ethnography or ethnoarchaeology. As an ethnoarchaeological study of the social context of megalith building, I feel that this dissertation can thus provide substantial insight into the explanatory discussion of megalithic monument

building. In one of the very few megalithic studies employing ethnoarchaeological data, Parker Pearson and Ramilisonina (1998) focused on the symbolic properties of stone. While I do not wish to diminish the symbolic importance of megalith building or the insights that can be gained from an analysis of megaliths that focuses on the symbolic, I argue that a focus on the social, political and economic dynamics of megalith building in West Sumba can go further in explaining why people have chosen to build large monuments from stone in varied locales from prehistoric times up to the present day. At the very least, this kind of approach is entirely appropriate for explaining why megalithic tombs are still being built in West Sumba to this day in spite of changes, in many cases, to the symbolic context of the activity. Indeed, symbolism may vary dramatically, while sociopolitical dynamics may be much more constrained.

The theoretical approach I take in this dissertation is political ecology. More specifically, it is based on the principle in which those endeavors involving large investments of time, labor, and resources should lead to practical benefits (social, economic, political) for those engaged in the activities. This perspective on megaliths is in many ways similar to the functionalist perspectives on prehistoric megaliths in Europe discussed above. However, as an ethnoarchaeological study of megalith building, this dissertation can offer more of a fine-grained and more specific view of the dynamics of social processes involved in megalith building. I feel that this approach is particularly well suited to the study of activities involving large investments of surplus produce and labor, such as megalith building. In the past, such political ecological perspectives

have been shown to be particularly insightful in the analysis of feasting in traditional societies (see Hayden 1995, 2001; Clarke 1998, 2001; Adams 2001, 2004) by focusing on how resources (e.g., food, labour) can be utilized in feasting to achieve social, political and economic goals. As megalith building is also an activity requiring large amounts of labour and resources (including food) and is associated with large-scale feasting, I feel that an ecological perspective can reveal some very key insights into what social, political and economic factors prompt people to engage in constructing large stone monuments.

### ***Research Location***

As one of the very few places in the world (others include Madagascar and, until recently, Sulawesi, Indonesia) where megaliths are still being constructed, West Sumba, Indonesia represents an ideal locale in which to pursue an ethnoarchaeological examination of these large stone monuments. In parts of West Sumba, megalithic tombs are built on a relatively frequent basis and, while megalith construction has all but ceased in many areas, large stone tombs are still very prevalent throughout the island of Sumba (encompassing the regencies of both East and West Sumba). In parts of West Sumba, megalithic tombs are still built using traditional methods, such as the use of vines and wood from the forest and a large labour force to quarry and move the large stones as well as erect the tombs. The persistence of this traditional practice of building large stone tombs has obvious appeal from an archaeological standpoint and megalithic tomb building in West Sumba has received some previous attention in descriptive ethnoarchaeological research conducted by Indonesian

archaeologists (e.g., Sukendar 1985, 2003; Kusumawati 1993, 1997, 1999, 2000). However, in addition to the logistics associated with digging and moving large stones with relatively simple technology, heavy expenditures of surplus rice and livestock are needed to feed those who provide labour for tomb building. These “work feasts” held during the different phases of tomb construction are part of a larger practice of traditional feasting that is still very prevalent throughout West Sumba, an examination of which constitutes a large part of this dissertation.

The continued performance of a wide variety of traditional feasts in West Sumba and their associated large investments of rice and livestock permits an examination of the relational structures and debts associated with feasting in general. An understanding of how all of these feasts, including those associated with tomb building, are important from a sociopolitical and economic perspective can lead to a better understanding of how megalith building is related to social, political, and economic benefits. Thus, in many ways, this is a study of the sociopolitical dynamics of feasts in West Sumba, following feasting research conducted in other contexts (see Volkman 1985; Hayden 1995, 2001; Clarke 2001) as well as West Sumba (Hoskins 1984). However, the case of West Sumbanese feasting is clearly unique in comparison to other contexts in Southeast Asia due to the contemporary construction of megaliths. Thus, where this dissertation differs from past anthropological work on Sumba is in the application of an ecological approach and a focus on the material aspects of

human behavior that an ethnoarchaeological study is poised to contribute to the field of anthropology.

Within West Sumba, two geographic areas receive particular focus in this dissertation: Kodi and Anakalang. Kodi and Anakalang are two of several cultural domains that comprise the western part of Sumba. Each domain can be viewed as a district-type polity, although they traditionally lacked the degree of political integration associated with classically defined chiefdom polities (see below). While there is much overlap between the cultural traditions in West Sumba, each domain has its own language or dialect and is marked by certain ritual traditions and textile design motifs. The domains of Kodi and Anakalang are well suited for a study of megalith building due to the fact that they are the two areas within West Sumba where megalith building occurs most frequently, and they also vary economically, ecologically and politically, thus representing good cases for comparative purposes. In addition to the data obtained from Kodi and Anakalang, more limited data was collected on tomb building, feasts, and traditional social organization in the domains of Loli and Wanukaka.

## ***Methods***

The techniques used in collecting data for this dissertation fall within the general framework of those traditionally associated with ethnoarchaeology. While the term ethnoarchaeology is typically understood as "...the ethnographic study of living cultures from archaeological perspectives" (David and Kramer 2001: 2), the actual practice of ethnoarchaeology can entail a variety of different investigative techniques, which are determined by such issues as the scale of the

project, the theoretical approach being applied, and the problem being addressed by the ethnoarchaeological investigation (see Cunningham 2003). In this study, informant interviewing, participant observation, and observations of daily activities were the primary field techniques employed. Inventories and observations of material culture in households were also undertaken. In addition, literature research on both the ethnographic context of West Sumba and the ethnographic and archaeological study of megalithic cultures throughout the world comprised a critical aspect of this study.

Informant interviewing is one of the most basic techniques of social research and comprises the majority of the field data collected. Interviews were conducted in the months of July and August of 2001, July through August of 2003, and February and March of 2005. Interviews were primarily conducted in West Sumba. In addition, comparative data on the memory of megalith building was gathered from interviews in Tana Toraja on the island of Sulawesi, Indonesia (where megaliths were erected historically) in July of 2001. All interviews in West Sumba were conducted in the Indonesian language and were, for the most part, one-on-one discussions between myself and respective informants. At times, however, it was necessary to have informant testimony translated from local languages in Sumba into Indonesian. Data collected in 2003 (in West Sumba) was conducted collaboratively with Dra. Ayu Kusumawati and Dr. Haris Sukendar of the Indonesian Research Centre for Archaeology. Fieldwork conducted in 2001 (in West Sumba and Tana Toraja) was completed in collaboration with Stanislaus Sandarupa of Universitas Hasanuddin (Hasanuddin University) in

Makassar, Indonesia with the assistance of Agustinus Galugu. Data collection in 2005 was conducted with assistance from Suzanne Villeneuve of the University of Victoria.

Informant interviews were concerned with the following kinds of data:

- 1) The traditional sociopolitical organization of the study areas within West Sumba;
- 2) The range of feasts held in the study areas and the structure of debt relations associated with these feasts;
- 3) Household demographics, economics, and political/social roles;
- 4) Household material culture inventories;
- 5) Descriptive accounts of the process of stone tomb building;
- 6) The antiquity of stone tomb building in various ancestral villages;
- 7) The ages of ancestral villages and ancestral houses; and
- 8) The costs of both resources and labour associated with megalithic tomb building.

The most extensive interviews were those conducted to obtain household demographic, economic, and sociopolitical data. Representatives of individual households were interviewed to obtain a variety of information related to household participation and investment in tomb building, feasts, and the debt relationships associated with these respective events. Additionally, information on the sociopolitical and economic standing of individual households was gathered in household interviews. This household data was crucial in determining the inter-household variability that exists with regards to the

participation and investment in stone tomb building and the potential practical benefits that might be associated with these activities as reflected in the household's social, political and economic standing. Inventories of material culture within these houses were also undertaken to determine whether this variability could be reflected materially.

Observations of various aspects of stone tomb construction were made in West Sumba, including stone quarrying, stone dragging, stone tomb building, and stone tomb carving. In addition, the feasts associated with these events were recorded and attended. In one case, I also was able to participate in the pulling of a large stone for a tomb. Feasts (e.g., funerals, house consecration feasts) unrelated to stone tomb building were also attended and details (such as the size of the feast, the number of guests, and the number and kind of livestock and rice contributed for the feast) were recorded for these feasts. This participant observation aspect of the data collection was essential in that it shed light on various details concerning sociopolitical processes that led up to the tomb-building, which at times, contrasted with informant testimony on the subject. Indeed, participant observation is generally considered to be a key component of any ethnographic analysis as it enables one to distinguish between the "ideal" patterns of behavior described by informants which may not occur in all cases (Oswalt 1974: 8).

As this dissertation is ultimately concerned with the social implications of megalith building beyond West Sumba, the comparative data collected in Tana Toraja on megalith building and their associated feasts for this project as well as

that collected for a previous study I conducted for my MA thesis on feasts in Tana Toraja (Adams 2001) was of critical importance to this study. In addition, the ethnographic data on megalith building collected from the relevant ethnographic literature of societies that historically erected megalithic monuments represents a very important part of this dissertation. These data facilitated comparative analysis of the West Sumba case and the formulation of a model for the kinds of social, political, and ecological conditions associated with megalith building cross-culturally.

What follows this introductory chapter is a discussion of past theoretical insights into the prehistoric construction of large stone monuments (Chapter II). In Chapter III, I present a broad overview of the study area, West Sumba, with particular emphasis on its social, political and economic contexts. Chapter IV describes of the process of megalithic tomb building in West Sumba. I present and analyze household participation in tomb building in Chapter V, in order to illustrate how participation in tomb building articulates with the practical social, political and economic concerns of households in West Sumba. I close this dissertation (Chapter VI) by comparing the social patterns associated with megalithic building in West Sumba with those from other ethnographically-documented megalithic societies and present a model for the social, political, and economic conditions that foster the erection of megalithic monuments cross-culturally.

## **Chapter II**

### **Reviewing Interpretations of Megaliths**

Megaliths have generated considerable discussion in the archaeological literature. In the previous chapter, I introduced some of the general themes associated with past analyses of megaliths and their function prehistorically. In this chapter, I provide a more in-depth overview of the issues related to megaliths in prehistory. In the following discussion, I examine a variety of interpretations of the social, political, symbolic, and religious significance of prehistoric megaliths which can be grouped into the following categories: Socio-functional Approaches, Megaliths as Strategies of Elite Classes, Ideological Approaches, Megalithic Monuments as Astronomical Observatories, and Megaliths as Religious Monuments.

#### ***Socio-functional Approaches***

The emergence of megalithic monuments has traditionally been considered indicative of changes in the larger social contexts with which they are associated. In this group of approaches to the analysis of megaliths, I have included works focusing on the functions megaliths had in the sociopolitical realms of cultures. The majority of these studies have been concerned with the analysis of Neolithic Europe and how megaliths and megalith building may have played an important role in the emergence of early agricultural communities and

polities. Territoriality, group aggregation, and control over land and resources figure prominently in the models proposed in these studies.

In Collin Renfrew's analyses of European megaliths in the 1970's (1973, 1976), he linked the monuments to changes in the sociopolitical landscape that occurred during the European Neolithic, a theme that has continued to dominate the more recent discussions of prehistoric megaliths. In his study of megaliths of late Neolithic Wessex in southern England, Renfrew (1973) examined the ratio of causewayed enclosures to long barrow burial monuments in certain areas and found patterning that appeared to indicate the presence of emerging chiefdoms in the area. For each causewayed enclosure, there were an average of 20 long barrows, which, according to Renfrew, suggested a possible population of about 400-2000 people living in an emerging chiefdom territory marked by the presence of a causewayed enclosure. Renfrew refined this association between megaliths and group territories in a later work (Renfrew 1976), in which he argued that the initial appearance of megaliths in northwestern Europe around 4,000 BC emerged as territorial markers for small-scale segmentary societies characterized by small communities consisting of between 50 and 500 people lacking the hierarchical organization associated with chiefdoms and states. According to Renfrew (1976: 200), population pressure that existed in the Atlantic/North Sea seaboard necessitated the construction of monuments which symbolized the territories and resources controlled by these segmentary societies (Renfrew 1976: 200). This population pressure would have been created by the population increases resulting from the adoption of farming among

fisher-gatherer societies with already substantial populations. Population pressure was considered to be enhanced by the barrier to outward migration presented by the Atlantic Ocean (Renfrew 1976: 218). Renfrew (1985) later applied a similar perspective to the megalithic monuments of Orkney. In general, he viewed megaliths as signifying the emergence of complex polities throughout the British Isles.

Robert Chapman expanded the discussion of the apparent link between group territories and megalithic monuments by linking megaliths to resource-controlling corporate groups. Chapman (1981) argued that megalithic monuments in the European Neolithic were likely to have marked the territories and resources controlled by kinship-based corporate groups. Chapman (1981: 74) drew on ethnographic observations presented by Saxe (1970, 1971) that pointed to a link between corporate groups, resources, cemeteries, and formal rites associated with death. Chapman (1981: 78) noted that the evidence suggested a correlation between the presence of Linear Pottery Culture (4500-4000 BC) sites and mortuary practices in northwestern Europe. During this time, according to Chapman, there is evidence for a direct link between large stone tombs and critical resources (e.g., favourable pasture land in areas of southern France, water in the case of southeastern Spain, wild marine resources in Sweden, and arable land in Holland) suggesting a role of the tombs as markers for corporate group ownership over both agricultural and wild resources. In a later assessment of his megalith-corporate group model, Chapman (1995) examined the implications the monuments had for labour control in light of

discussions that labour control may have been more valuable than land for early agricultural communities in Europe (Bogucki 1988; Gregg 1988). With regards to this, Chapman (1995) noted that the use of surplus labour (a potentially valuable commodity) for non-utilitarian purposes reflected in the megaliths could have been illustrative of intergroup competition as has been discussed by Sheridan (1986) in the context of Neolithic Ireland and Sjögren (1986) for Sweden.

Torsten Madsen (1982) has argued for a similar pattern present in the early Neolithic of Denmark (3100-2200 BC). In an analysis of settlement patterns in Neolithic East Jutland, Denmark, Madsen found that the highest density of megalithic tombs could be found within 4 km of the coastline. Determination of the natural conditions in the vicinity of these tombs based on their location in relation to watercourses and coastline and analysis of soils indicated that resources (e.g., nuts, aquatic resources, wild boar) were likely more diverse in areas around tombs in comparison to other areas. In the Neolithic, according to Madsen (1982: 226, 227) sites close to varied natural resources from the land and the sea would have been sought after by early farmers and the relatively high densities of cultural material in those areas supports this notion. Thus, Madsen asserted that the megalithic tombs served as symbolic expressions of rights over particularly desirable land and coastline, along with distinctive pottery placed in front of tombs, symbols of group identity. Evidence for feasting (e.g., masses of foodstuffs and deliberately broken pottery associated with megaliths) was considered by Madsen (1982: 211, 228) to reflect a system in which territorial rights and affiliation were expressed symbolically in rituals.

Also dealing with megaliths in Scandinavia, in this case southern Sweden, Kerstin Lidén evaluated the notion that megaliths reflect a shift in subsistence from hunting and gathering to agriculture by examining stable carbon and nitrogen isotopes from human bone collagen. According to the evidence from these isotopes, the early megalith builders were pastoralists (in the sense that they kept sheep/goat and cattle) who continued to subsist mainly on Mesolithic types of resources such as game and fish, but did not receive a significant amount of food from domesticated crops. Based on this and the ethnographic record indicating the presence of sedentary complex societies which did not practice agriculture (e.g., indigenous societies of the North American Northwest Coast), Lidén argued that megalith building was incorporated into a context where sedentary complex societies had already existed and that they were used to mark the use-rights over certain desirable wild resources (Lidén 1995: 412, 413).

Focusing on the Neolithic of Brittany, Chris Scarre (2001) interpreted megalithic monuments (menhirs and chambered tombs) as aggregation centers for groups that were spatially dispersed in their settlement in the context of the Neolithic of Brittany (mid-5<sup>th</sup> millennium BC to the mid-3<sup>rd</sup> millennium BC). Scarre (2001: 297) noted that pollen evidence indicated that large-scale forest clearance in most parts of Brittany began relatively late, by the 2<sup>nd</sup> or 1<sup>st</sup> millennium BC (Late Bronze Age/Iron Age). The workforce requirements for building the megalithic monuments, according to Scarre (2001: 299), may have been fulfilled by populations that periodically came together for rituals that occurred at the

megaliths. Pollen and settlement evidence indicated relatively mobile settlement patterns with periods of colonization and abandonment during the Neolithic of Brittany (Scarre 2001). In this context, Scarre suggested that megaliths could have been ritual centers and reminders of places previously inhabited.

Far removed from the European Neolithic, Bickler and Ivuyo (2002) examined megaliths in the northern Massim of Papua New Guinea. These monuments were associated with the Early Period (~1500 BP-600 BP) of the area. The “megaliths” of the northern Massim took a variety of forms, ranging from single stones to structures with multiple internal rooms (Bickler and Ivuyo 2002: 27). The largest stone enclosure structures contained burials and were considered by the authors to represent attempts at creating a “social landscape” (Bickler and Ivuyo 2002: 34). Bickler and Ivuyo suggested that the stone arrangements represented focal areas for communities and were an expression of the hierarchical relationship between communities, with the largest villages being associated with the stone arrangements. Bickler and Ivuyo (Bickler and Ivuyo 2002: 34) proposed that this pattern was indicative of center-periphery relations (Wallerstein 1976; Damon 1990; Irwin 1983, 1985) between the large communities with stone arrangements and smaller outlying communities.

In an ethnohistorical and ethnoarchaeological study, Raymond N. Asombang (2004) examined the significance of megalithic stone (monoliths and stone circles) monuments in northwestern Cameroon. As a result of his analysis of ethnohistoric testimony regarding stone monuments in Cameroon, Asombang (2004) found that upright monoliths were very likely places of ritual activity or

shrines and that stone circles were meeting places for elders or nobles.

According to Asombang, the monoliths and stone circles were very likely built by migrant farmers from areas further to the north about 400 years BP based on ceramic indications. Based on population estimates for these farming groups, Asombang suggested that the upright monoliths were lineage or family markers and that both the monoliths and stone circles were connected with territoriality.

### ***Megaliths as Instruments of Power and Labour Recruitment***

There have been several interpretations of megaliths that have focused not only on their function for society as a whole (e.g., as territorial markers or meeting places for groups), but also on how megaliths could have been used by and be a representation of an elite class of individuals or groups. The focus in these analyses is on strategies, namely labour recruitment and the promotion of favorable relationships, that were potentially used by those who initiated the construction of megalithic monuments. While these studies echo themes similar to those discussed in the works discussed above, the focus here is particularly on how megalithic monuments could have been used as instruments to acquire power.

In a study of megalithic tombs of the European Neolithic, Flemming (1973) suggested that large stone tombs were more concerned with the social context of the living than the dead. He asserted that tombs were a necessary part of maintaining the social order by validating the status of and focusing attention on leaders by the impressiveness of the tombs and the elaborate rituals that would have taken place in front of the tombs. In addition, Flemming argued that, if

territoriality were a concern during the Neolithic, then megalithic tombs would have acted as foci for the territories of social groups. Such territorial markings would have added importance where long and short fallow swidden cultivation took place due to the shifting character of a forest that would have constantly been in various stages of regeneration. Flemming (1973) also suggested that European megalithic tombs served as centers for rituals that could have been used by dominant individuals as signaling devices to enhance their status in contexts in which their authority was otherwise limited (Flemming 1973: 187, 189).

Andrew Sherratt (1995) focused on the use of megaliths as a part of strategies associated with labour recruitment. According to Sherratt, megaliths were important “instruments of conversion” used by farmers who migrated from central to western Europe. As a large corporate endeavor, megalith building was an important means for farmers to recruit agricultural labor among the indigenous mesolithic hunter-gatherers of western Europe. In this way, according to Sherratt, the new labour pool was also indoctrinated to the Neolithic way of life. In contexts where communities had become more dispersed in the Neolithic than in previous times, Sherratt (1995) considered the design of the monuments to have been significant and noted that in many cases long barrows may have replaced long houses in those areas to maintain cohesiveness in communities.

In one of the few models attributed to the emergence of prehistoric megaliths outside of the European Neolithic context, Sarah Milledge Nelson (1999) focused on the apparent link between the emergence of an elite class

afforded by the advent of rice agriculture and megalithic tomb building in Korea. A few hundred years after the emergence of agriculture in the first half of the second millennium BC, megalithic dolmen tombs appeared in Korea. Nelson (1999: 161) contended that, based on the lack of key material culture evidence (e.g., tripod vessels), neither the introduction of rice nor megalithic tombs suggested a large-scale migration of people into the Korean Peninsula. Thus, according to Nelson, megalith building was a local response to the increasing wealth and power of an elite class. The fact that there were too few dolmens in Korea to account for the entire population and that the dolmens included many labour intensive, non-utilitarian items (e.g., polished red jars) are considered to indicate that the tombs were reserved for an elite segment of the population (Nelson 1999: 161). Because these dolmens were associated with individual and group burials, Nelson contended that they were less likely to have been considered indicators of group territories and were more likely associated with an elite who could have used the dolmens to "...trumpet their power and their ability to mobilize labour with megalithic structures" (Nelson 1999: 162).

### ***Ideological Approaches***

Many archaeologists have linked megalithic monuments to symbolic structures in societies, such as belief systems concerning ancestors or humans' relation to the natural world. In many of these analyses, ideological changes associated with the emergence of the Neolithic in Europe receive full attention and are seen as being responsible the construction of megalithic monuments. While typically not entirely dismissing the connection between megaliths and

power or other sociopolitical functions, the studies discussed in this section put special emphasis on the ideological aspects of megalithic societies and how ideological factors could explain the emergence of megalithic monuments.

Richard Bradley (1998: 34) discussed early megalith construction in Europe in terms of an emerging belief system which emphasized the power of humans and their domestication of the natural world. According to Bradley, this belief system contrasted with an ideology present during the mesolithic in which the natural world and the human world were inseparable and symbiotic. Bradley (1998: 66) noted that this ideological shift would have occurred gradually and would have been intertwined with economic changes, citing evidence indicating that major impacts of farming were not felt until a developed stage of the Neolithic. In this context, megalithic construction, according to Bradley, would have symbolized and have been an expression of the need for humans to domesticate the natural world.

Ian Hodder (1990) approached the question of megalithic tomb origins in Europe from an ideological standpoint emphasizing symbolic structuring concepts associated with domestication in Europe. Hodder (1990) argued that tombs appeared to have been part of an overall process of domestication of nature and people. Hodder's (1990: 44, 45) analysis centered around his conception of the existence of two opposing principles, which he referred to as the "domus" and "agrios," with the "domus" representing, among other things, the human domestic spheres and the agrios representing the wild, warring, hunting, and death. During the Neolithic, large long barrow tombs were placed outside of

the domestic sphere in the “agrios.” According to Hodder (1990: 254, 255), these tombs could have represented attempts to place the cultural into the natural and thus represent the control over nature that occurs with domestication. In this case, the tombs would have allowed for the transfer of the “domus” into the “agrios.” At the same time, Hodder (1990: 253) asserted that the fact that not everyone was buried in tombs and that they appeared to have been associated with restricted access was indicative of a scenario in which the control and dominance of tomb-using and tomb-building groups over others was established through tomb construction.

Julian Thomas (1993: 83) contended that the earliest megalithic tombs in western Britain and menhirs in Breton were “carriers” of symbolic media which gave significance to the places in which they were erected. Interpreting megaliths along lines of Giddens’ (1981: 94) notion that there are “dominant locales” (which tend to be architectural) in certain societies that are integrated into cycles of daily activity and may facilitate the creation of routines and social reproduction (Giddens 1981: 38). Thomas (1993: 83) suggested that the early megalithic tombs in Britain and menhirs in Breton were built to create this type of dominant locale in the landscape which would have manipulated “...patterns of human movements and interaction in the future.”

In a phenomenological approach to the study of megaliths in Brittany, Christopher Tilley (2004: 84) raised the suggestion that the first menhirs in the area had the symbolic function of stabilizing the land against encroachment of the sea during times of sea level change. Tilley (2004: 84) cited folklore beliefs

associated with large stones acting as guardian spirits in support of this notion. After sea-level stabilization in the Brittany region, many menhirs resembled giant axe-heads, a design which, according to Tilley (2004: 85), could have served as a memorial to ancestors who built stone axes. With the transformation of the shape of the stone (into axe heads), Tilley (2004: 86) also suggested that stone menhirs represented metaphor for human control over nature that was exemplified in the deliberate shaping of the menhirs and associated with large-scale land clearance and modification during the Neolithic.

Jean McMann (1994) analyzed megalithic passage tombs of the Irish Neolithic in terms of their architectural features and location in the landscape. According to McMann (1994: 534), passage tombs in places such as Loughcrew in east-central Ireland may have been deliberately situated into an old system of Mesolithic paths and “significant locations.” Based on interior and exterior designs, McMann suggested that various features of the landscape and wild animals were considered to be powerful forces in society, which contrasts with ideas that megaliths were solely related to social control, territoriality and dominance (McMann 1994: 542). Thus, according to McMann, the monuments represented an ongoing notion that humans still “belonged” to the natural world in spite of emerging Neolithic ideas that humans dominated nature (McMann 1994: 542).

In one of the few ethnoarchaeological analyses of the significance of megaliths in prehistoric contexts, Parker Pearson and Ramilisonina (1998) focused on the medium of stone and its association with ancestors and death in

kinship-based societies, particularly Madagascar, where large standing stones are associated with ancestors and where there is a traditional dichotomy between the architecture of the living (made of wood) and the dead (made of stone). Parker Pearson and Ramilisonina (1998: 310, 311) noted that the physical properties of stone, in comparison to wood, such as its durability, expresses "...the eternal in material form." Parker Pearson and Ramilisonina (1998: 313) extended this notion of stone as a medium of the dead and wood as a medium of the living to an analysis of the Late Neolithic Stonehenge and the nearby timber circles at Woodhenge and Durrington Walls and suggested that Stonehenge was a domain of the dead and a ceremonial center for the dead in the last half of the third millennium BC, whereas Woodhenge and Durrington Walls were places for the living and ceremonial centers for the living during the same time period. The motivation for constructing such large monuments of stone and wood, Parker Pearson and Ramilisonina (1998: 323) suggested, was at least partially driven by a desire for people "...to construct the world in new ways and build cosmic order on earth."

### ***Megalithic Monuments as Astronomical Observatories***

Due to the way in which some megaliths seem to be aligned with various astronomical phenomena, many researchers have contended that they were built as astronomical observatories that served a variety of purposes. As one of the first to apply a scientific approach to the issue of megaliths as astronomical observatories, Alexander Thom (1966) used mathematics to examine the notion that megaliths were used as observatories for viewing the cosmos. Thom (1966:

332) noted that the location of the monuments in relation to the position of the sun, moon and stars at different times of year indicated that the monuments were used to keep track of the earth's position in the current year in the eclipse cycle.

Euan MacKie (1977) expanded on the notion that megaliths functioned as astronomical observatories. MacKie (1977) argued that megalithic monuments in Neolithic Britain and Ireland were astronomical observatories used by an elite group with specialized knowledge of astronomy. This group would have been dominated by a religious elite who was responsible for the construction of earthworks and stone circles on the Salisbury Plain and at Durrington Walls in southern England, which MacKie suggested contained a roofed, elite structure (MacKie 1977). MacKie also focuses on data from Maes Howe passage tomb and the settlements of Skara Brae and Barnhouse, all representing Neolithic Orkney. The Barnhouse and Skara Brae sites and their associated Grooved Ware pottery and domestic, funerary, and ceremonial buildings were considered by MacKie to represent evidence of the presence of a religious elite group. According to MacKie (1997), Maes Howe's unique architectural features that illuminated phenomena, such as sunsets, were very likely used to establish solar calendars and thus represented evidence of the specialized knowledge of a religious elite.

Apparent orientations to the sun and moon occur at megaliths in other areas as well. Some megaliths in Portugal are aligned with the first full moon of the spring equinox (Roslund et al. 2000). Solar alignments are also present at Newgrange in Ireland and Gavrinis in Brittany (Joussaume 1988: 66, 118, 156).

## ***Megaliths as Religious Monuments***

While many interpretations of megaliths acknowledge that they were very likely the setting for ritual occasions, several interpretations of megalithic monuments have been particularly consumed with the idea that they were the structures of religious orders and/or set the stage for grand events of religious fervor. In contrast to previous ideas that the Romans, Phoenicians, Ninth century Danes, and giants constructed Stonehenge, in the late Seventeenth century, John Aubrey suggested Stonehenge may have been a temple built by the Druids for their own religious purposes. The idea that the Druids built Stonehenge was later championed by Dr. William Stukeley in 1740 in a book written by Stukeley entitled "Stonehenge." During that time, dolmens and menhirs in Britain were also attributed to the work of the Druids. The Druids dominated the discussion of Stonehenge until the beginning of the 1900's (Chippendale 2004: 66-71, 82-92, 172). More recently, Alastair Service and Jean Bradbury (1979) analyzed standing stones throughout Europe and attributed their function as important centers of religious expression concerned with fertility and "personal regeneration." As Service and Bradbury (1979: 259) stated, "The aim of the huge monuments themselves, was to draw the power of a special instant to the people gathered at the end of the stone rows or within the great stone rings." Weaver (1972: 75) has similarly proposed that religious fervor prompted the construction of monuments requiring large labour pools, such as the Pyramid of the Sun at Teotihuacan in Mexico.

## ***Discussion***

Previous studies of megaliths have offered diverse insights into potential sociopolitical, economic and ideological factors that may have been responsible for constructing megalithic monuments in prehistoric societies. A certain degree of overlap exists in terms of the general ideas concerning the significance of large stone monuments in prehistory. There is a broad consensus that megalithic monuments in some way represented central places for social groups, whether they were territorial markers, group aggregation centers, astronomical observatories, funeral grounds, or representations of symbolic structures. Where problems are encountered in many of these studies is the lack supporting data, little or no discussion of how labor was mobilized, and/or demonstrable motivations or sufficient conditions for the emergence of megalithic monuments. Mobilization of labour is especially critical in understanding community dynamics, who was organizing megalithic construction, who was benefiting, and the ultimate purpose such constructions served.

The models focusing on the link between megalithic monuments and territoriality have provided some persuasive ideas concerning the emergence of megaliths in Europe in a few cases. However, it is not clear what characterized the sociopolitical power structure that is implicated in many of these studies. In his study of the megaliths of Jutland in eastern Denmark, Madsen (1982) proposed a link between megaliths and rights to land and resources. However, there is no exploration of the internal power structure that would have mediated these land rights (i.e., who has access? who is initiating tomb construction? What

practical benefits they were obtaining from megalithic constructions). In this case, the lack of clear economic and settlement data, as acknowledged by Madsen (1982: 207), for the early Neolithic in Denmark has limited Madsen's discussion of social organization and any interpretation of a link between megaliths and resources.

In Renfrew's (1976) analysis of megaliths along the Atlantic seaboard of western Europe, the large geographic area which served as the focus of his study necessitated broadstroking on certain levels. In this regard, Renfrew provided a good model for population pressure due to the geographic realities of life on the edge of the continent, but his model for the social organization that existed within these societies leaves many unanswered questions. If, as Renfrew contended, the earliest megaliths in Atlantic Europe were built as territorial markers for segmentary societies with no social or political hierarchy, the construction of megalithic monuments would have occurred in autonomous communities of between 50 and 500 individuals (Renfrew 1976: 205). Beyond the problem of mobilizing the labour force required to build monuments in societies that apparently lacked any social or political hierarchy, there are problems with the size of available labour in these small-scale societies to build such monuments. Estimates of the workforce required to build megalithic tombs indicate that the community which built the La Hougue Bie passage grave on Jersey, Channel Islands would have required a total population of 1500-2000 people (Patton 1992: 394). For the Grand Menhir Brisé in Brittany, an estimated minimum of 500 people would have been required to move the stone from its

quarry (Le Roux 1997 et al.; cited in Scarre 2001:300). Thus, assuming a purely collective effort of mutual interest and initiation on the part of single communities as Renfrew's model implies, the labour pool of the segmentary societies would appear to have posed problems unless labour was called upon from other communities. And if the latter were the case, territoriality issues would presumably have complicated the picture (*i.e.*, why would individuals from community B work to build a monument symbolizing the territory and associated use rights of community A?).

Chapman's (1981) use of ethnographic comparisons, including megalithic societies of Madagascar, created a clearer model of social structure for the European Neolithic and the suggestion that the megalithic monuments of the European Neolithic were the work of corporate descent groups to mark their control over corporately-owned resources. However, it is not clear from Chapman's work what type of internal social structure may have existed in these groups and how labour could have been mobilized in the process of building megaliths. As noted above, Chapman (1995) has written an appraisal of his model concerning the European megaliths. Applying insights from work on land tenure and territoriality by Ingold (1986) and the fact that some of the early megaliths in Europe were built during a transition to full-scale agriculture (Chapman 1990; Enwistle and Grant 1989; Thomas 1991) prompted Chapman to re-evaluate the use of megaliths as territorial markers. Based on this, Chapman considers it likely that there was variability in notions of land tenure during the time of early megaliths, with some groups emphasizing fixed property (*e.g.*, land)

and territoriality, while in more mobile contexts (e.g., pastoralists and incipient agriculturalists), focus would have been on more “moveable property” (Chapman 1995: 40, 41). In such a scenario, megaliths would not always have represented the central points of clearly-defined and defended territories and were sometimes very likely “places in the landscape” of more mobile groups (Chapman 1995: 47). In re-evaluating the issue of megaliths from the perspective of labour use, Chapman (1995: 45, 46) did note that the presence of megaliths and their implications concerning the use of valuable surplus labour does suggest the kind of intergroup competition that his original model implied. However, in Chapman’s analysis, and all other territorial models, lack of supporting evidence is an issue. There is simply not enough settlement evidence to infer details regarding social organization from this period or to indicate that megaliths were associated with group territories and resources. In reference to these types of models, Richard Bradley (1998:121) remarked that “...there does not seem to be good enough evidence of productive land use in the neighborhood of these monuments to suggest that they were constructed by an entirely local population.”

From the perspective of subsistence evidence, Lidén (1995) provided some important isotopic data from human bones in her study of the emergence of megalithic monuments in Sweden. From these data, Lidén illustrated that, in the case of Sweden, megaliths need not imply the presence of subsistence based on agriculture and animal husbandry. However, it is not clear from the evidence, why complex Mesolithic societies would have begun incorporating megalith building as a strategy for marking use-rights to critical resources, as

suggested by Lidén. Lidén cites Gregg (1988: 25) when stating that use-rights over particular resources can be marked in a variety of ways (e.g., topographical features, megaliths, poles, rock paintings, shrines, cairns, fences, stone walls, ditches) among sedentary populations. Looking purely from the perspective of resource availability, the presence of domesticated plants and animals (albeit not representing a large part of the overall diet in Sweden during the time period dealt with by Lidén) would presumably have represented an *increase* in the resources available to populations. With this increase in available resources, it is not clear what would have caused the proposed strain on resources which prompted groups to build megaliths to mark use rights. In such a case, local population increases and/or the presence of immigrant populations could have prompted the need to monumentalize markers for use rights in the same way argued by Renfrew (1976), however, this possibility is not explored in Lidén's analysis. Even with a scenario of resource stress, studies indicate that the strong lineages necessary to build megalithic tombs do not occur where resources are scarce (Collier 1975: 76, 77; Hayden 2003: 236). In any case, fences, stone walls, and ditches can be much more effective markers for territories since the boundaries of territories are typically those that are points of contention and not the centers, where megaliths would be found. In these situations, perhaps megaliths were built for rights to inheritance of territories/resources.

Chris Scarre (2001) used the lack of substantial settlement data from the Neolithic of Brittany as an integral part of his model in which he suggests that

settlement in the Brittany Neolithic was dispersed and characterized by mobility. Scarre's analysis offers an alternative to models implicating the use of megaliths to mark territories or resources, which Scarre (2001: 286) noted as an explanation in need of further support from the archaeological record. His own model argues that megalithic monuments of Brittany were initially built as aggregation centers for rituals of groups living in dispersed settlements. This interpretation is, however, limited due to the lack of settlement data that could be used to model the social structure that may have existed in Neolithic Brittany or the internal mechanisms that would have motivated megalith building, not to mention the required labour mobilization.

With ethnohistoric data, Asombang's (2004) analysis offers an interpretation for megaliths in Cameroon that has some general similarities to studies of European megaliths, namely, a role of megaliths attributed to ritual gathering places with some connection to group markers and territoriality. The ethnohistoric data used by Asombang represents a unique case in megalithic studies in archaeology. However, Asombang's suggestions rest on ethnohistoric accounts for the significance of monuments that have not been built in 400 years. Although Asombang was able to put together a general picture of how megaliths were likely used in northwestern Cameroon, Asombang could not offer appreciable insight into the social dynamics of the practice of building the monuments from his ethnohistoric accounts due to the fact that testimony concerning the megaliths was gathered centuries after they were constructed.

The evidence in support Bickler and Ivuyo's (2002) interpretation of the function of megaliths in the northern Massim of Papua New Guinea is also unclear. While the largest stone monuments discussed by Bickler and Ivuyo were apparently situated in the largest communities, the implication that this arrangement of stone monuments was indicative of "core-periphery" relations is not grounded in any other evidence supplied by the authors for community hierarchies or interactions.

Models for megaliths that have focused on their potential connection to political power have provided some ideas of what may have driven the construction of monuments. By interpreting megaliths as expressions of elite power, Flemming (1973), Sherratt (1995), and Nelson (1999) all provided examples of how individual (or family/lineage) power consolidation and promotion may have been integral parts of megalith building. However, the basic nature of the sociopolitical organization (e.g., were these societies chiefdoms?) in which these elites would have existed was not explored. In the cases discussed by Flemming (1973) and Nelson (1999), the issue of how labour could have been mobilized for megalith building was also not dealt with (Was slave labour used? Were labourers pressured into service through kinship obligations? Was labour a form of political support? Were people pressured into service through religious exhortations? Was animal traction used?). In contrast, Sherratt's (1995) discussion touched on issues of labour mobilization and recruitment. However, the same issues concerning the lack of subsistence evidence in the early Neolithic (see Bradley 1998) that have plagued other interpretations focusing on

the link between monuments and agriculture also apply to Sherratt's analysis, in which the labour recruited through megalith construction was considered to have been used for agricultural endeavors. However, there is, again, no explanation of how this labour would have been mobilized in Sherratt's model.

Studies that have focused on the symbolic significance of monuments (e.g., Bradley, Hodder, Thomas, Tilley and McMann) have offered some insights into the potential symbolic structures associated with societies that built megaliths. The explanatory power of these interpretations is a little unclear in many cases however. Thomas' conception of European megaliths as dominant locales shaping interactions, movement, and social reproduction in the sense outlined by Giddens (1981) raises some questions, such as why megaliths and the effort required to build them would have been constructed for purposes related to social reproduction and human interaction when oral narratives, ancestrally-based domestic architecture, resource control, inheritance and coercion can all operate to structure social norms and ensure their continuity without the necessity for erecting megaliths. In Tilley's phenomenological approach to megaliths, some imaginative, but perhaps untestable, suggestions concerning the significance of large stone monuments are brought up, such as their role as expressions of human dominance over nature or, in the case of certain menhirs, memorials to ancestors who manufactured stone axes. However, there is a lack of cited archaeological and ethnographic data used to support these notions. McMann's suggestion concerning the symbolic connotations of Irish megaliths lacks this kind of supporting data as well. Again, there are no explanations for

how labour could have been mobilized for such undertakings in any of these models.

Bradley (1998) and Hodder (1990) both highlighted the spread of changing ideological patterns associated with the spread of agriculture in Neolithic Europe. While these speculations may eventually become relevant, there is a lack of ethnographic evidence to support the notion that these kinds of symbolic associations were associated with megalithic monuments and extremely tenuous archaeological evidence to support such ideas. It should be noted, however, that both Hodder and Bradley postulated that other social and economic processes would have been at work in the case of megalith building, as can be gleaned from Hodder's suggestion that megalithic tombs may have been expressions of dominance of tomb-building groups over non-tomb building groups. Like other interpretations of European megaliths, the lack of subsistence data for the early Neolithic in Europe raises difficulties associated with Hodder's proposed link between megalith building and domestication. In addition, the link between the spread of agriculture and megaliths does not adequately explain why the earliest megaliths in Europe date to the Mesolithic (Cauwe 1998a, 1998b, 2001a: 135, 136, 171-175, 2001b; Hutton 1991: 18, 20, 21; Schulting 1998a, 1998b; Schulting and Richards 2001; Sherratt 1990).

The ethnoarchaeological study of megaliths in Madagascar by Parker Pearson and Ramilisonina (1998) has brought some important ethnoarchaeological data to the discussion of megaliths. Their asserted link between megaliths (and stone in general) and ancestors is clear and well

supported by the data they provide from Madagascar and other societies cited in their work. Similar conclusions have been reached by Joussaume (1988) who argues that all megalithic constructions are associated with funerary activities. The authors make the significant observation that there are divergent patterns of sociopolitical organization among the many megalith building groups on Madagascar. However, Parker Pearson and Ramlisonina do not examine how any of these sociopolitical contexts could be related to megalithic construction. Thus, while the monuments may represent symbolic structures, it is not entirely clear from this viewpoint why it would be necessary to invest in building stone monuments to express these symbolic structures aside from a proposed need to "...construct the world in new ways and build cosmic order to the earth" (Parker Pearson and Ramlisonina 1998: 323). Such a need is presumably common to many societies of the world at all times and the authors provide no model for how/why the necessary labour would be assembled for these building endeavors. Also, the dichotomy of Woodhenge as a place of the living and Stonehenge a place for the dead has been called into question by Hayden (2003: 246, 247), who suggests that the lesser feasting and other material remains at Stonehenge could very well reflect its use as a ceremonial grounds reserved for the elite (a small segment of the population). In this case, the large stones used at Stonehenge would represent a more costly and more prestigious medium than wood (an appropriate material for Woodhenge as a venue for rituals involving the general public) and would thus be more appropriate for elite goals of impressing rival and allied elites in other groups.

In terms of archaeoastronomy, Ruggles and Barclay (2004) have been critical of MacKie's (1977, 1997) contention that the data suggests the presence of a theocratic elite who used megaliths as astronomical observatories during the Neolithic of Britain and Ireland. Ruggles and Barclay have noted that the bases upon which MacKie's analysis rests are inherently flawed. According to Ruggles and Barclay, MacKie's assertion that Skara Brae was a settlement of the elite (a key component of MacKie's argument) has not held up to more recent analysis in which Skara Brae as well as allied settlements have been referred to as a "peasant villages" (Parker Pearson and Richards 1994; Richards 1990, 1991, 1993; Ruggles and Barclay 2004: 63). Another pillar in MacKie's argument was the notion that Durrington Walls and other sites with rings of timber contained roofed, elite structures. According to Ruggles and Barclay (2004), this idea has not held up to studies that reveal the unlikelihood that these timber rings were ever covered (Barrett 1994; Gibson 1998). While concurring that evidence throughout Britain and Ireland from the early Neolithic does suggest that megalithic monuments were in many cases intentionally built in accordance with some celestial alignments, Ruggles and Barclay (2004) point out that much of MacKie's ideas about the precision associated with the function of megalithic monuments as astronomical observatories has been based on the work of Alexander Thom (1955, 1967), aspects of which have not been substantiated. Ruggles and Barclay have also criticized MacKie's overly simplistic portrayal of social organization during the Neolithic. While astronomical alignments seem a very plausible part of megalith building and worth exploring in some cases (e.g.,

Newgrange), the notion that astronomy was the main driving force behind their construction appears to be a very tenuous at this point.

The very earliest interpretations of megaliths as religious monuments tended to focus particularly on Stonehenge and attribute its construction to such groups as the Danes, Druids, and Romans have not received much serious consideration since the early Twentieth century. This is primarily due to the antiquity of Stonehenge, which dates to about 2950 BC in its initial phase (Cleal et al. 1995) and makes any suggestion that Druids, Romans, or Danes built the monument an implausible proposition. Service and Bradbury's (1979) more recent notion that European megaliths were built as centers of religious expression and personal "regeneration" suffers from a lack of supporting archaeological or ethnographic evidence. Such models also do not explain how religious zeal alone could account for the mobilization of large numbers of individuals to build megalithic monuments.

### ***Summary***

In sum, past analyses of megaliths and their role in prehistoric societies are represented by a wide range of theoretical perspectives that have presented a variety of possible explanations for the emergence of megalithic monuments as well as their social and symbolic significance. The great majority of these studies have dealt with megaliths of the European Neolithic and suffer from the lack of archaeological settlement and subsistence data for this period. As has been illustrated in this chapter, there is not only a paucity of archaeological evidence, but also a lack of ethnoarchaeological studies in the literature concerned with the

construction of megalithic monuments from a social perspective in which the broader sociopolitical contexts of monument building are examined with sufficient detail. By analyzing the social context and practical socioeconomic consequences of megalith building in a society where the traditional practice of building large stone monuments is still very much alive and socially relevant, this dissertation will greatly enhance our present understanding of the significance of megaliths and their emergence in prehistoric societies. Especially important will be documenting means of labour recruitment, strategies of surplus accumulation, the organization of individuals and groups, subsistence and trade, competition between individuals and groups, and fundamental sociopolitical organization.

## Chapter III

### West Sumba: General Background

In this chapter, I present a geographic, archaeological, historical, economic and sociopolitical backdrop for West Sumba, the location where research for this dissertation was conducted. In addition, I present an overview of traditional West Sumbanese feasts, a subject of particular interest in the examination of tomb building. The primary focus when presenting details concerning the traditional sociopolitical systems and feasts of the region is on two areas, Anakalang and Kodi, which are on opposite ends of West Sumba and which present a good contrast and encompass much of the variation that one finds throughout much of West Sumba.

#### *Geographic Background*

Sumba is an island situated in the eastern part of the Indo-Malaysian Archipelago. It is about 11,000 sq. km (200 km long, 36-75 km wide) and lies within the Republic of Indonesia in a province made up of Indonesia's southeastern islands known as Nusa Tenggara Timur (Figure 3.1). The regency of West Sumba comprises the western half of the island and has a total land area of 4,051.92 km<sup>2</sup>. The population of West Sumba was 357,221 in 2001 with a population density 88.16 per km<sup>2</sup>. In Kodi, on the western end of the island, population density is about 142.77 per square km, whereas the population density in Anakalang is about 26.47 per square km (Badan Pusat Statistik

Kabupaten Sumba Barat 2001: 29). The island of Sumba as a whole is dry by Indonesian standards, especially in East Sumba. Recorded average yearly rainfall amounts in West Sumba range from about 1200 mm-2450 mm (Beding and Beding 2002: xxxiv-xxxv). The Sumbanese landscape reflects this variation in rainfall, with much of the drier eastern section being dominated by large tracts of grassland and few trees. East Sumba is also a region where river-fed irrigation is necessary for the cultivation of wet-rice. In contrast, the western part of the island is relatively lush and rice cultivation is possible with a rain-fed system of irrigation (see below section on the traditional economy in this chapter). Generally, the dry season in both East and West Sumba is quite pronounced, resulting from south-east trade winds blowing off of Australia, and lasts from June to October (Gunawan 1998: 17).

### ***Sumba: Prehistory***

Among the earliest archaeological sites in the vicinity of Sumba is the Liang Bua cave site on the island of Flores, situated to the immediate north of Sumba. At Liang Bua, cranial and post-cranial remains of a proposed new form of short-statured hominin (*homo floresiensis*) were excavated in association with a flaked chert tool industry and faunal remains that include dwarf stegadons and komodo dragons. This material has been dated to a range extending from 38,000 to 18,000 BP (Morwood et al. 2004). At this point, it is not clear if there was a similar population of hominins on Sumba at any point in prehistory.

Other early sites excavated near Sumba are situated on the nearby island of Timor, where O'Connor et al. (2002) excavated a cave site at Lene Hara, East

Timor with evidence of human occupation associated with a flaked chert industry and faunal remains of marine shell dating to  $34,600 \pm 630$ BP. Also at Lene Hara Cave, O'Connor and Veth (2005) have recently uncovered the presence of complex fishing technology in the form of a shell fish hooks dating to  $9741 \pm 60$  BP (AMS). From caves elsewhere in East Timor, Glover (1977, 1986) uncovered a Paleolithic chert and obsidian flaked stone tool industry that began about 13,000 BP and persisted into the ceramic period (late third or second millennium BC). The appearance of ceramics and the remains domesticated pigs at these sites around 4000-5000 BP are considered to reflect the appearance of newcomers bringing agriculture and animal husbandry (Glover 1986: 197-204). Coinciding with the appearance of pottery and domesticated animals is an increase in the density of flaked stone, which Glover (1986: 202) suggests could reflect a population increase due to food production. Representing more recent occupation in East Timor are fortified settlements in the Tutuala area consisting of stone walls (1.5-4 meters high) surrounding villages with stone platform graves. Preliminary dating of pottery at these sites suggests an occupation that began between about AD 1000 and AD 1500 and extended into the early twentieth century in some cases (Lape 2006).

Unfortunately, evidence for a Paleolithic occupation of Sumba proper has yet to be reported on, and it is not clear when the descendants of the present-day linguistically Austronesian-speaking population of Sumba first inhabited the island. The settlement by Austronesian-speakers on Sumba has generally been considered part of a mass-movement of Austronesian-speaking peoples from a

proposed homeland in southern China to Taiwan, island Southeast Asia, areas of mainland Southeast Asia, Polynesia, and Madagascar. Based on linguistic and archaeological evidence, the migration into island Southeast Asia began about 6000 BP, and Austronesian-speaking groups (undoubtedly after changing as a result of contact with different groups and ecological conditions) are postulated to have gradually continued to spread to more distant areas (i.e., Polynesia and to Madagascar) up until 800 BP. Austronesian speaking people are credited with bringing rice agriculture, domesticated pigs and domesticated dogs to island Southeast Asia (Bellwood 1997: 111-119). However, this theory has come under some scrutiny due to local archaeological variability in island Southeast Asia which suggests a more complex scenario of change that is not solely attributable to a single large-scale migration (Szabó and O'Connor 2004; Terrell 2004).

The most well-known prehistoric site to date on Sumba is a large jar burial site at Melolo in East Sumba that very likely represents an established Austronesian-speaking presence on the island. Melolo is the most significant jar burial site in eastern Indonesia and includes large urns in which secondary burials, shell beads and bracelets, stone adzes, and stone beads were found (van Heekeren 1956; Bellwood 1997: 303-304). Ceramics, including high-necked flasks, were also associated with the burials (van Heekeren 1956; Bellwood 1997: 304). These ceramic flasks bear similarities to vessels dating to the early Metal Phase in other parts of Indonesia. These vessels, along with the presence of metal artifacts associated with the burials, places Melolo within the early Metal Phase (500 BC-AD 1000), which is marked by the introduction of Iron

and Copper-Bronze artifacts and manufacturing technology into the Indo-Malaysian Archipelago, though this classification does not always represent a full-scale local production of utilitarian metal items (Bellwood 1997: 268, 269, 304). In the case of Melolo, this classification is based on the mere presence of metal items and pottery dating to the early Metal phase in other areas in spite of the presence of artifacts, such as stone adzes, that prompted an initial Neolithic classification of the site (van Heekeren 1972).

Melolo is one of many jar burial sites that occur throughout island Southeast Asia. These sites are typically associated with the Metal Phase and are found in Java, Bali, Sulawesi, Borneo, Talaud, and central and southern Philippines. Ethnographically, among the Kelabit of upland north-central Borneo, a similar practice of secondary burial in large jars persisted into the latter half of the twentieth century. The funerary items associated with these jar burials included smaller stoneware vessels and glass beads. Evidently, only high-status Kelabit individuals were interred in jars, and the burial practice was accompanied by a very large feast (Harrison and O' Connor 1970: 102-109).

The jar burials at Melolo may represent the antecedents of the practice of interring the deceased in large megalithic tombs that persists on Sumba. The inclusion of prestige items, such as stone and shell beads and shell bracelets, in these burials is similar to a pattern of placing the deceased in megalithic tombs with prestige items that presently occurs on Sumba.

On the island of Selangor, just to the north of Sumbawa (an island located to the immediate northwest of Sumba), evidence of a Metal Phase occupation

has been documented from fragments of bronze Dong Son drums found underneath a possible burial mound at Kampong Sungei Lang and radiocarbon dated to between about 500 BC and AD 200 (Bellwood 1997: 278; Peacock 1964, 1979). Classic bronze Dong Son drums, which are found throughout island Southeast Asia, were originally produced by the Dong Son culture in northern Vietnam. The Dong Son culture or phase began between about 500 and 300 BC and is associated with the first appearance of iron in Vietnam and high-status burials. Most of the earliest metal items in the Indo-Malaysian archipelago are Dong Son-type artifacts (Bellwood 1997: 269).

Certainly, the onset of the Metal Phase on Sumba, and in other parts of island Southeast Asia was accompanied by significant economic changes. It has been suggested that irrigated wet rice cultivation did not really begin to take hold in island Southeast Asia until the introduction of iron tools and domesticated water buffaloes as iron tools and water buffaloes are essential for plowing in modern forms of wet rice cultivation (Bellwood 1997: 252). The earliest indications of wet rice cultivation in island Southeast Asia come from inscriptions referring to irrigation found in Java dating to the eighth century AD (possibly for rice) (Bellwood 1997: 252; Meer 1979). Archaeological evidence from northern Vietnam and northern Thailand suggests that wet rice cultivation and the use of water buffaloes for plowing may have developed in those areas during the Iron Age (after 500 BC), and historical documents indicate that irrigated wet rice cultivation began in northern Vietnam after about 200 BC (Bellwood 1997: 252; Wheatley 1965; Higham 1989: 198-200). Whatever the case may have been,

this appears to suggest that there is a relationship between the introduction of metal and metallurgic technology and the adoption of irrigated wet-rice cultivation and the use of water buffaloes for plowing in Southeast Asia.

However, while the complex, labour intensive forms of irrigated wet rice cultivation seem to be dependent upon water buffaloes and iron tools, the lack of these remains in the archaeological record does not indicate a lack of rice production in the region. There are simpler forms of wet rice cultivation that require neither iron tools nor water buffaloes for ploughing. Various forms of "swamp rice" have been documented among groups throughout Southeast Asia and into India (Fukui and Takaya 1978; Lambert 1985: 89, 90; Takaya et al. 1978). In Borneo, swamp rice farming is often a form of shifting cultivation in which cultivation periods lasting two years or more on one plot are alternated with fallow periods of one to five years after which the swampland grasses and trees are burned off (Dove 1985: 83, 139; Padoch 1982: 70, 1988: 24; Seavoy 1973: 221; White 1995: 53). Importantly, the use of water buffalo and plough are not necessary for swamp rice systems. The plough and water buffalo are said to never have been used in the swamp rice cultivation system of the Pahang on the Malay Peninsula. There, necessary soil tillage is done with a knife (Lambert 1985: 81). Moreover, Fukui and Takaya (1978) and Takaya et al. (1978) noted that most of the swampland used for rice cultivation in Southeast Asia is too soft and deep to be ploughed effectively.

In addition to the simpler forms of wet rice cultivation, dry rice could very well have been an early form of rice cultivation (prior to irrigated wet rice

agriculture) in island Southeast Asia, as it is grown on swiddens in areas throughout mainland and island Southeast Asia, including West Sumba. Among the Kantu' of Borneo, both swidden "swampland rice" and dry rice are grown (Dove 1985).

While water buffaloes and metal tools may have not been necessary for the earliest forms of rice cultivation in the area, the introduction of metals and the subsequent development of irrigated wet rice practices certainly had a different impact on the sociopolitical landscape of the region. Throughout Southeast Asia, the introduction of metals and the subsequent development of irrigated wet rice cultivation was an obvious contributing factor in the establishment of increasingly complex sociopolitical institutions. The introduction of irrigated wet rice would have allowed for the production of larger surpluses and increased population densities as, compared to dry rice, irrigated wet rice matures faster and can feed more people per unit of land (Bellwood 1997: 252-254, 268). In addition, irrigation allows for multiple harvests per year and continuous planting on the same plots, whereas swidden dry and wet rice are dependent upon fallow cycles and seasonal precipitation that typically allows for just one harvest per year. Unequal control over these larger surpluses produced by irrigated wet rice agriculture is generally considered to have led to greater social stratification. Furthermore, the control of large surpluses could have been fostered by the use of iron for weaponry, which would confer significant advantages for those with access to iron.

On Sumba, and likely other parts of Indonesia, the introduction of

domesticated water buffaloes associated with wet rice cultivation would also have been a key aspect in the development of sociopolitical complexity considering their high value in the traditional Sumbanese economy and their particular importance in the consolidation of wealth and power through megalithic construction and feasting (see below). Indeed, Hayden (2001) notes that agricultural surpluses are converted to wealth and sociopolitical influence and power in Southeast Asian transegalitarian societies through the slaughter of domesticated animals at feasts.

Such a scenario of increased social complexity coinciding with the onset of the Metal Phase seems to be reflected in the archaeological record of the period. The elaboration of burial practices on Sumba and other parts of island Southeast Asia that occurs during the metal phase indicates a particular reverence for certain individuals in society and perhaps social ranking. This elaboration of burial practices can also be seen in the appearance of megalithic slab burials and carved sarcophagi in Java, Bali and Sumbawa. Unfortunately, the antiquity of these megaliths is unknown. Although one megalithic chamber burial from Sumatra has been roughly dated to the early-middle first millennium AD (Soejono 1991: 19; Bellwood 1997: 288), many of the early megalithic burials in the region appear to overlap with the period in which state-level societies first appeared on Sumatra and Java in the latter half of the first millennium AD (Bellwood 1997: 287-290).

Interestingly, many of these developments on the island of Sumba could have been at least partially the result of migrations to the island during the first

millennium AD or later. The present-day people on the island of Sumba have legends claiming that their ancestors migrated through various islands in the Indonesian archipelago before ending up at Cape Sasar on the central northern coast Sumba (Kapita 1976). Some works dealing with Sumbanese traditional culture have recorded claims that at least the nobility in Sumba were descended from migrants originating from Java during the time of the Javanese Madjapahit Kingdom (AD 1294-1478--Bühler 1951: 57; Colfs 1880: 128-129; Keers 1938: 931; Needham 1960: 257). Keers (1938: 931) noted that when counting the generations extending back to the first noble ancestor of Sumba, a time frame for migration to Sumba at around the time of the fall of the Madjapahit kingdom in the 15<sup>th</sup> century AD is plausible. These connections with the Madjapahit should be viewed with caution, however, as such accounts could refer to a link between the Madjapahit and early nobles who became established on Sumba, although not necessarily a direct migration from Java. Whatever the case may have been, a migration of people into Sumba during the first half of the second millennium AD could explain the apparent discontinuity between the earlier jar burial tradition at Melolo and the megalithic slab tomb building tradition that currently is still in place.

### ***Sumba: History***

An understanding of the impact that outside groups and empires have had on Sumba is of utmost importance to this study, as it is focused on the development of a prehistoric model of megalith building drawn from the current context of West Sumba. At the same time, these impacts should not be over-

emphasized to the point of dismissing any understanding of prehistoric human behavior that can be gained from ethnoarchaeological studies. For millennia (at least since the time of Austronesian expansion three to five thousand years ago--see above), 'traditional' societies (including hunter-gatherers) in island Southeast Asia have been influenced directly or indirectly by outside groups (see Headland and Reid 1989; Lape 2003; Terrell 1998; Junker 2002). Even the Dutch colonial impact over large parts of the area between the 18<sup>th</sup> and 20<sup>th</sup> centuries was preceded by impacts from kingdoms and imperial powers both indigenous (e.g., the Javanese Majapahit kingdom--see below) and foreign to the region (e.g., trade contacts with India and China by the early-mid first millennium AD—see Bellwood 1997: 136,137). In short, adaptations to outside influences should not be considered unique to the current context and should not be considered something that precludes an understanding of the social conditions that existed in prehistory.

Historically, the earliest reference to Sumba in written documents comes from the Negera Kartagama chronicles, which list Sumba as a tributary to the Javanese Hindu Majapahit empire between 1357 and 1384. In Parewatana and other areas of West Sumba, legends are still told of the first contact between the Javanese and the local Sumbanese people of the area (see above section on Sumba Prehistory). There are also indications that prominent individuals in East Sumba were given fine silk Indian textiles and *raja* (a word meaning 'king' in Indonesian) ruling titles by Javanese *raja*'s of the Majapahit at this time. Some of these cloths still remain in Sumba. By the 15<sup>th</sup> century, relations between

Sumbanese *raja*'s and the Sultanate of Bima on the island of Flores have been documented (Kapita 1976: 17 from Hoskins 1984).

In this period just prior to direct contact with Europeans, Sumba was active in a trade network that appears to have initially focused on the islands of Savu, Sumbawa, and Flores before spreading out to include larger polities, such as Java. This early period of trade consisted of the exchange of skins, livestock, and sandalwood from Sumba for iron objects, such as knives and spears, gold objects, textiles, beads, and Chinese ceramics. Many of these items are still kept in Sumbanese ancestral villages as ceremonial objects (Kapita 1976; Hoskins 1984: 9-11).

The arrival of Europeans on Sumba came in the 16<sup>th</sup> century when Spanish and Portuguese ships made trips through the eastern part of the Indo-Malaysian archipelago, occasionally stopping at Sumba to trade. Prior to this time, Chinese and Arab traders likely were involved with trade on Sumba, at least indirectly. These foreign traders exchanged metal coins for Sumbanese sandalwood and horses. Slaves were evidently also sought after and this period may have been marked by an intensification of the trade in Sumbanese slaves. It is important to note, however, that a regional slave trade within island Southeast Asia was well established prior to the arrival of European traders (Reid 1983). From the 18<sup>th</sup> century to the early part of the twentieth century, there were many slave traders on Sumba from the island of Flores who reportedly burned villages, plundered and captured people to be sold into the slave trade (Needham 1983; Kuipers 1990: 17). These slaves were individuals captured in

war at a time when there was, according to Sumbanese oral tradition, an intensification of internecine warfare aided by the presence of imported metal weapons (Kapita 1976: 18; Hoskins 1984: 11). This time of increased warfare is said to have led to the pattern of locating villages on hilltops surrounded with thorny foliage and stone walls for defensive purposes (this is how the oldest ancestral villages are still situated--see below), a pattern of defensive settlements similar to that found in Tana Toraja on the Indonesian island of Sulawesi (Adams 2001). Stone-walled defensive settlements in East Timor appear to have been present at a similar time and perhaps in response to increased warfare, although likely originating just prior to western trade incursions (Lape 2006).

According to oral traditions in West Sumba, it was dangerous to walk outside of villages unattended during the time of the slave trade and many people were compelled to become dependents of powerful nobles for protection from being captured and sold into slavery (Hoskins 1984: 11-12). The slave trade has also been linked to the historic practice of headhunting. Although not making the assertion that *all* headhunting was a part of slave raids, Kuipers (1990: 17) noted that raids conducted to obtain slaves largely focused on women and children with the men being less valuable and often killed in slave raids with their heads being displayed as trophies in the village of the slave-raiding group.

Imported metals from the Portuguese, according to informants in Kodi at the western end of Sumba, also facilitated the construction of megalithic tombs in the area. The oldest standing megalithic tombs (as opposed to the single slab stone tombs that are considered to be the first stone tombs in Kodi) in the village

of Wainyapu are said to have been built at around this time period (about five hundred years ago). However, considering the dating for the metal age in the Indo-Malaysian archipelago (first millenium AD) and contact between Sumba and the Madjapahit of Java, the area was undoubtedly in contact with metals prior to this time.

Although the initial trade with Europeans had a significant socioeconomic impact on Sumba, the foreign influence was limited to trade. It was not until 1750, when the Dutch East India Company sent a formal delegation to Sumba to request exclusive trade with local Sumbanese rulers that one begins to see the beginnings of what would later become direct control over Sumba on the part of a foreign power. This contract with the Dutch precluded the Portuguese and Makassarese (from kingdom of Makassar in South Sulawesi) from trading with Sumba. The local Sumbanese rulers involved in this contract, which apparently only involved East Sumba, received gold, weapons, beads, a flag, and a staff from the Dutch East India Company (Kapita 1976: 21; Hoskins 1984: 12-13).

Despite seeking and gaining exclusive trading rights, Dutch interest in Sumba was fairly minor until the 19<sup>th</sup> century. In 1841, The Netherlands government began developing a livestock trade between Sumba and Java (which continues today) and set up a port at Waingapu in East Sumba to which horses and water buffaloes were sent for shipment. Soon after, the Dutch established a contract with local chief-like leaders (*raja's*) in 1845 that gave the Dutch power over the region, although it was not in the form of direct administrative control. The *raja's* were accorded local authority and given a staff of office and silver

headpiece (Kapita 1976: 26; Hoskins 1984: 14). While the Dutch were becoming firmly established in East Sumba, the Dutch influence in West Sumba appears to have been comparatively limited throughout much of the 19<sup>th</sup> century. However, signs of western influence in West Sumba do appear later in the 19<sup>th</sup> century, when a Catholic mission, which included a small school for the sons of noble families, was established at Laura in West Sumba in 1866 (Kapita 1976: 39; Hoskins 1984: 14, 17).

The first direct, foreign control over Sumba occurred in the early 20<sup>th</sup> century when the Dutch effectively took over the administration of Sumba in 1908 (Gunawan 1998: 29-30). At the beginning of the period of Dutch rule, there continued to be a pattern of inter-regional warfare on Sumba in addition to battles fought against the Dutch (Hoskins 1984: 17). Headhunting raids also reportedly persisted into the 1920's, when the state of affairs on Sumba was considered very unstable with endemic warfare between local groups (Meijering et al. 1927: 24). Towards the latter part of the Dutch administration of Sumba, which effectively lasted until 1942, the Dutch had essentially pacified the island and succeeded in establishing their own institutions (Hoskins 1984: 17-19). However, the degree to which control and influence was exerted in the villages outside the principal towns appears to have been limited (see Koike 1986: 4). Colonial rule was followed by a period of economic hardships under Japanese wartime rule (1942-1945) and a period of relative stability and modernization beginning with the inclusion of Sumba within the Indonesian state in 1950 and lasting to the present time (Gunawan 1998: 31-34). As the establishment of Dutch

administrative control over Sumba and the present situation as part of the Republic of Indonesia are of particular interest concerning the following discussion of the traditional economy and sociopolitical contexts of West Sumba, the changes that have occurred on Sumba since the time of Dutch rule will be examined where applicable.

### ***West Sumba: Traditional Economy***

The traditional economy of West Sumba is based on rice (both wet and dry) agriculture and domesticated animals, primarily chickens, pigs, horses, and water buffaloes. In addition to being important for subsistence, these items, along with traditional woven cloth, are key elements of the exchange and relation-building activities that occur in the context of feasts and building megalithic tombs (see below). Although currently the cash economy has opened some doors to new opportunities on Sumba, rice and domesticated animals remain central aspects of the economy in West Sumba and can still be the subjects of disputes between households and clans.

#### Agriculture

The traditional economy of West Sumba, as in many other parts of Indonesia, is an agricultural economy based on the cultivation of wet and dry rice in addition to maize, cassava, taro, and sweet potatoes. Beans and vegetables are also grown to a lesser degree (Hoskins 1984: 3). Most informants I interviewed in West Sumba claimed that wet rice was the staple food. While this may be the emic ideal (and appears to be true for wealthy families) maize and

cassava are also very important subsistence crops, especially in the Kodi area where dry rice is grown. Non-rice crops appear to be important subsistence foods in other parts of West Sumba as well. In her study of social organization in the district of Wanokaka, Gunawan (1998: 18), indicated maize was probably the closest crop to a staple in Sumba. Gunawan (1998: 23) also stated that even those with rice surpluses would eat “maize and root vegetables” as much as possible in order to have rice available to trade for water buffaloes and horses. Fox (1992: 77) stated that maize was the staple on the island. Geirnaert (1987: 108) noted that in the district of Laboya in West Sumba, the daily diet consisted of a mixture of maize, tubers, cassava leaves, and rice.

Rice is the traditional food used for feasts and the food always served to guests (Geirnaert 1987: 108; Fox 1992: 77; Gunawan 1998: 18). In Kodi, informants indicated that people would be ashamed to serve guests anything but rice for a meal. However, rice shortages are common during the rice growing season, particularly from January through March, and maize may be more of a daily staple for most households in Kodi. Rice shortages in Kodi also periodically necessitate governmental rice aid.

In Kodi, where only dry rice is cultivated, there are traditional values placed on different grades of rice with *li pu'uta* (which is light brown in color) and *Kalengorara* (a yellow variety of rice) being reserved for nobles (particularly at feasts) and *pare' bokot*, *pare' kalowo*, *pare' kanoru*, *pare' kaka*, and *pare' kadico* eaten by all people traditionally. *Pare' méte*, a variety of black rice, is used in the traditional cloth-weaving process as a dye in addition to being eaten.

Besides the traditional rice varieties, new hybrid varieties of wet rice are grown on Sumba. Modern hybrid varieties of rice, which have been prevalent on Sumba since the 1970's (Gunawan 1984: 3), have higher yields than traditional varieties. Reported yields for a one-hectare piece of land are about 7,000 kg for hybrid varieties of wet rice and 4,000 kg for traditional varieties.

Irrigated wet rice cultivation (Figure 3.2) has reportedly occurred on Sumba for quite some time. According to informants in Anakalang, rice paddy fields have traditionally been irrigated when located adjacent to rivers and streams. On these river-fed irrigated plots, rice can be harvested twice in a year. In some cases, concrete canals are used to channel the water for irrigation, while in other cases, earthen canals are used. In the past, there was no formalized organization that dealt specifically with irrigation, however, when there were disputes regarding irrigation use, the head of the relevant clan or clans involved traditionally resolved the issue. Currently, the *Kepala Desa* (head of the village in the modern Indonesian administrative framework), in consultation with the clan head(s) and parties involved, resolves disputes related to irrigation.

When fields are located away from rivers, rainwater is sufficient to allow crops to grow, although this only allows for one harvest per year. In the case for rain-fed plots, fields are bounded with earth on each side, which allows the water from the downpours of the rainy season to collect and irrigate the rice crop. In spite of the usually marked dry season on Sumba, the claim that wet rice can be grown without river-fed irrigation appears to be valid as Geinaert (1987: 108) also described wet rice being cultivated on non-irrigated plots in Laboya, a district

located to the immediate east of Wanokaka.

In addition to wet rice, dry (*pare' marah*) rice (Figure 3.3) is cultivated on hillsides in Anakalang and on the coastal plain in Kodi. Although dry rice is only a minor crop in comparison to wet rice in much of West Sumba, in Kodi, rice is *only* grown on dryland plots. Wet rice cannot be grown on rain-fed plots in Kodi due to a lack of rainfall nor can plots be effectively (or at least efficiently) irrigated due to the presence of rivers that run through gorges cutting up to thirty meters below cultivated land. The dry rice in Kodi yields one harvest per year, which can range up to about 2,000 kg per hectare of land. According to informants, dry rice can be grown in the same location for two or three years before productivity falls off and it is necessary to switch to another plot (this can be a cause for disputes when one moves to a plot located on land belonging to another household or clan). After rice has been harvested, it is common to plant maize on the same plot before planting rice again in the following planting season. When opening up a plot that has been left fallow for two or three years, it is common to burn off the accumulated vegetation.

Other crops grown throughout West Sumba on garden plots (Figure 3.4) include cassava, nuts, sweet potatoes, beans, vegetables, coconuts, and fruits, mainly bananas. As indicated previously, other crops are rotated with dry rice in Kodi and essentially occupy the same plots of land located up to a few kilometers outside of villages. In other parts of West Sumba, gardens can be found on the hillsides below hilltop villages or other locations near villages. There are also many gardens that are scattered on both hillsides and valley floors some

distance from the households that own them. In some upland areas, coffee is also grown on garden plots. Coffee is grown as a cash crop in Sumba and is exported along with cloves and copra (Hoskins 1984: 3). Around the year 2000, the cultivation of cashew nuts (*jambu mente*) began. Cashews from Sumba are sold for export to India for about 5,000 Rupiah (roughly USD \$.62 in 2003) /kg and some plots have been devoted solely to these cashew nuts.

Ownership of paddy land and garden plots is inherited through the male line. In Anakalang, the eldest son receives all inheritance upon the death of his father and ideally divides it among his younger siblings while retaining the largest portion. The division of inheritance in Anakalang is finalized with an agreement among all households in the village. This is similar to the distribution of inheritance in East Sumba, where the eldest son effectively receives all of the inheritance upon his father's death. This inheritance can be later divided among the younger brothers as well, with the eldest son receiving the greatest proportion (Forth 1981: 232). In Kodi, inheritance is divided among heirs while the patriarch is still living. Prior to officially being doled out as inheritance, land in Kodi and Anakalang is typically divided up (often equally or with the eldest son receiving the largest portion) among married adult heirs who are given rights to cultivate the land. In both Anakalang and Kodi, the division of inheritance can lead to disputes between siblings and, in Kodi, can even lead to the break-up of clans and murder (see below). In addition to being inherited, paddy land can also be obtained via domesticated animals used in barter arrangements (see below).

In Kodi, use rights to land can be obtained through various other means. Borrowing land from other clans is possible when there are good relations between the clans and there is a wife-giver:wife-taker relationship between the two clans. Sharecropping arrangements exist in Kodi as well. If one has established good relations with another clan (typically a wife-giver:wife-taker relation), they can use land belonging to a household from that other clan to cultivate crops provided that a portion (the amount depending upon the relation) of the harvest is given to the landowning household. Land can also be a part of a return bride price from the wife's clan, although this is currently uncommon. In such a case, the land will be inherited by the sons of the husband and wife couple and thus essentially be permanently transferred from the wife-giver clan to the wife-taker clan. Traditional barter is another way in which land can be acquired. A single hectare plot of land in Kodi can be exchanged for a combination of buffaloes and horses (a combined total of five animals). Similarly, a half hectare plot of land in Anakalang can be reportedly exchanged for a single large water buffalo.

Ownership of land generally appears to have been limited to the commoner and noble classes (see section on classes below) in the past. Considering that rice is not the dominant subsistence food, it is likely that many households, including some non-slave households, did not own cultivated land traditionally in many areas. This would seemingly reflect the current situation in some areas. In a survey of household landholdings in a village in Wanokaka (a district in central West Sumba), Gunawan (1998: 324) found that 11 out of the 25

households surveyed did not own any paddy land. However, all of the households (n=27) interviewed in West Sumba for this study owned plots of cultivated land.

Work on wet-rice paddy land and garden land in West Sumba is organized around a system of labour-exchange groups (a system generally referred to as *gotong royong* throughout West Sumba). In Anakalang, these groups revolve around the ownership of water buffalo. Because preparing land for planting wet-rice requires the use of 10 to 50 water buffaloes, it is typically necessary for households to pool their water buffaloes in order to carry out the task. Preparing rice fields necessitates a seemingly excessive number of water buffaloes due to the fact that large cracks form on the land during the dry season. Water buffaloes are traditionally led through rice fields prior to planting in order to consolidate the soil to prevent the rain from draining through the cracks that formed over the dry season. In addition, the stomping of buffalo hooves through the mud produces a tilling effect that is desired prior to planting rice. I observed about 20 water buffaloes preparing a relatively small plot (1/4 hectare) in Anakalang in this manner. This pooling of water buffaloes also enables households that do not own water buffaloes to still cultivate wet-rice. The human labour of the households is pooled together as well to cooperatively carry out all phases of rice cultivation. In addition, slave-owning households of the noble class (see below) formerly had their slaves participate in *gotong royong* work.

In Anakalang, there are typically 5-10 households that are grouped together in a *gotong royong* arrangement. There is one person who is chosen by

the member households to be the head of the group (*jawa pasepang*). The *jawa pasepang* is typically relatively influential and wealthy. The order in which fields are worked in a *gotong royong* appears to vary from group to group. Some individuals claimed that the work (in every phase of work from preparing fields to harvesting rice) was done on the field of the group leader prior to being done on any other member household's field, while others indicated that the order depended upon whose field was ready to be worked.

Whenever *gotong royong* work is performed on a paddy field, the owner of the field is required to provide a lunch for the workers. According to one informant, the contents of this lunch can vary according to the type of work that is being carried out: for preparing the field, the lunch can consist of vegetables and rice; for planting, it can consist of chicken or pigs with rice; for harvests, it consists of vegetables and rice; and for separating the grains of rice from the husk, chickens and rice are typically provided for lunch. Also, in the case of harvests, the group members who participate in the work receive a share of the rice they harvest. For example, if a person harvests 30 kg of un-husked rice, he can keep one kg of rice for himself (in the past, however, this would not have been applicable to the slaves of *gotong royong* group members who worked).

Because there is a sexual division of labor associated with work on paddy fields, there are labor exchange groups existing alongside *gotong royong* that are made up entirely of women members. As a tradition, only males are involved in preparing the fields, harvesting the rice, and separating the rice grains from the husks. However, only females plant the rice and also prepare the food for all of

the occasions in which a *gotong royong* group gathers for work. This women's work group is known as *kabogur mawini* in Anakalang and is typically made up of the same households that comprise a *gotong royong* arrangement. The head of these groups in Anakalang (*kepala mawini*) is the wife of the *jawa pasepang*, who heads the male *gotong royong* groups.

In Anakalang, work in garden plots in which such crops as maize and cassava are grown, is also done by *gotong royong* groups. This work is only carried out by men in Anakalang and follows the same basic rules that govern the paddy land aspect of *gotong royong*, an important one being that households must provide food for other *gotong royong* members when they work on their gardens.

In Kodi, the dynamics of labor exchange relationships between households differ a little from those in other parts of West Sumba due to the fact that there is only dry rice in Kodi, which does not necessitate the use of water buffaloes to prepare fields. However, households alone cannot fulfill the labour needs required for all of their agricultural work. These needs in Kodi are met by *gotong royong* groups made up of about seven related households and work in rotation on each member household's garden for a day (one day per week on each household's garden). This work is ongoing and not limited to rice cultivation, but also includes the cultivation of maize, cassava, sweet potatoes, and fruit crops grown in gardens as well as tending water buffaloes, chickens, and pigs. Similar to the case for the Anakalang *gotong royong* groups, the household owning the land that is being worked by group members is required to

provide a lunch for those who are working on their land. Decisions regarding work scheduling and other matters are made with a consensus among group members, and there is theoretically no single leading household of the group.

### ~~Domesticated Animals~~

The traditional domesticated animals of West Sumba include cattle, chickens, ducks, dogs, goats, horses, pigs, and water buffaloes (Figure 3.5). However, domesticated goats, ducks, and cattle have been introduced to Sumba more recently, and they are not a requisite part of the traditional feasting system (although they are killed and eaten at some feasts) or the traditional system of debt relationships (see below).

In traditional villages, domesticated animals are typically kept underneath the houses in West Sumba, except for dogs, which can be found milling around villages day and night. Livestock are also often kept in rock-walled corrals. Some of these corrals are located behind houses and owned by individual households, while others are located within or just outside villages and collectively owned by entire clans. Gunawan (1998: 51, 245) noted that in Wanokaka, water buffaloes of fellow clan members are herded into a single corral within a village. This pattern also occurs in Anakalang and Kodi in some cases.

Cattle, goats, pigs, and water buffalo are all considered valuable and probably were not consumed traditionally outside feasting contexts. Chickens also are a large part of the feasting system and are not consumed on a regular basis outside of feasts. In the more traditional villages visited when data for this

work was collected, it appeared as though chickens were only killed and eaten on special occasions and at feasts. Green vegetables, perhaps nuts, maize, cassava, rice, and, occasionally, eggs were the typical foods that appeared to have been consumed traditionally on a daily basis.

Ownership of the large domesticated animals (cattle, horses, pigs, and water buffaloes) is, like paddy land and garden plots (see above), typically inherited by the eldest son according to informants. Prior to being divided for inheritance, livestock can be used by the adult offspring of the owner when needed for such things as feasts or as a part of bride price. This does not lead to indebtedness as is the case for borrowing (see below).

Traditionally, the ownership of large domesticated animals was limited to the noble and commoner classes in Anakalang and the noble class in Kodi (there is no traditional commoner class in Kodi). The slaves of the noble classes in Anakalang and Kodi were prohibited from owning these animals. The ownership of livestock may also not have been universal within the noble classes. Among the Kodi households interviewed for this study, the majority of households did not own any buffaloes or horses. Hoskins (1984: 75) also observed that in Kodi, most households did not keep any water buffaloes and perhaps only had one or two horses and that the animals required for feasting and bride price were drawn from the herd of a prominent individual engendering debt relationships. According to Hoskins (1984: 75), the households in possession of large herds in Kodi were able to manipulate sociopolitical and economic relations through the borrowing and lending of livestock required for feasts (see below for further

discussion of borrowing).

Livestock loaning usually only occurs when an animal is needed to fulfill a feasting obligation, which contrasts with the model of borrowing livestock for draught purposes that Bogucki (1993: 499, 500) has proposed for the European Neolithic. In West Sumba, livestock pooling arrangements mediate household needs for livestock (buffalo) to prepare paddy fields (see explanation of *gotong royong* cooperative labour arrangements above). In Anakalang, the person without a water buffalo or pig required for a feasting obligation can give a person who owns one of these animals a *mamoli* or other gold ornament(s) (see prestige items section below) or the use of a piece of paddy land for the animal. When the person returns an animal of equal value to the loaner, he can get the gold object or land back. In the case of paddy land, the person who loaned the animal can keep whatever harvests the paddy field may yield during the period of time in which the debt has not been repaid. This is much like the system that Gunawan (1998: 64) described for Wanokaka, where there was a system of “pawning” in which a person could pawn a piece of land for cattle that are needed to pay “bride-wealth” or debts. In this system, the pawnee, who loaned the cattle, could even pawn the land to another person. However, Gunawan notes that the original owner has the right to recover the land after at least one season.

In Kodi, livestock borrowing does not involve a system of collateral. In Kodi, one can borrow a water buffalo or pig, for example, from another household with the promise of returning the favor at a later date. Before doing this, it is considered necessary to have had established good relations and a good “credit”

rating with the household (either in one's clan or closely affiliated clan) from which one wants to borrow livestock. When a loan arrangement is being made, the two parties decide upon a reasonable deadline at which time the debt must be repaid, with the longest terms being about one to two years. When one borrows a pig, the person must repay with a buffalo or horse, depending upon the size of the pig (a large pig could require a return payment of one water buffalo). Interest on borrowed buffaloes can accumulate over time based on the growth rate of the buffalo's horns at about three cm of growth per month. This is important, because the value of a buffalo both in terms of the cash economy and its value in traditional feasting exchange is based on the length of the buffalo's horns. Thus, loaning out a buffalo with modest horns can yield a buffalo with considerably larger horns if the loan is not returned in short order. Individuals with large holdings can also accumulate further livestock by borrowing without necessarily repaying. For particularly prominent individuals this strategy is reportedly possible due to their sociopolitical and economic power which essentially makes people afraid of demanding a return on a livestock loan.

Delaying repayment or failure to repay outstanding loans can be costly. As the deadline for repayment of a loan approaches, the debtor must visit the household of the loaner and explain why it is taking such a long time to repay the debt, which can result in strained relations between loaner and debtor. If the debt is not repaid in time, the relationship between the two parties can sour further. In such a case, some informants claimed that the loaner could take a buffalo or pig from the debtor without asking permission (if the debtor had

acquired livestock in the interim). If the debt is not repaid at all, it seriously damages the reputation and credibility of the household who borrowed the animal and can damage their important relations with other households within and outside the community. Such a damaged reputation can lead to a situation in which the debtor cannot engage in collective labour arrangements nor elicit support from fellow clan members in times of dispute or when planning a feast (including borrowing livestock for a feast). I witnessed one case in which an individual who had loaned a pig to another household began making demands for repayment from the borrower before the agreed upon deadline. While the two households were members of the same clan, the situation was very heated. These kinds of disputes were traditionally dealt with by the clan head(s) of the individuals involved, although it is not clear what kind of formal punishments could result from completely defaulting on payment aside from the loss of one's traditional clan support network. Currently, a dispute regarding failure to repay a loan by a designated time can be brought to the local police and result in jail time for the individual who failed to repay the loan.

Livestock in West Sumba can also be obtained through barter. In Anakalang, about 350 kg of rice can be exchanged for a water buffalo with fairly short horns. In Kodi, one adult water buffalo can be obtained in exchange for 300 kg of rice. Pigs (if large enough) can be exchanged for water buffaloes or horses of equivalent value. As of January, 2005, pigs were in high demand in West Sumba and a large pig could reportedly be worth one large male buffalo, one large female buffalo, and three horses, while a small pig could be exchanged

for five large chickens.

Similar to agricultural labour, livestock tending in Kodi and Anakalang is done in *gotong royong* labour exchange arrangements between related households (essentially the same households that comprise the *gotong royong* group for agricultural work). In the case of water buffaloes, horses, and cattle, young boys typically guide the livestock around while they graze on grasses in the area around villages.

In Kodi, non-related individuals outside of *gotong royong* arrangements can be hired to look after livestock in exchange for one of the calves born in a year. The person tending livestock is entitled to only one calf, whether there are 5, 10, or 20 calves born.

Today, cash costs of domesticated animals generally reflect their relatively high value in the traditional economy, although, as Keane (1997: 72) notes, monetary values of livestock do not directly correspond to their value in formal exchange. For water buffaloes, the cost depends solely on the length of the horns and can range between about one and ten million Rupiah (1 US dollar could be exchanged for about 8000 Rupiah at the time of this study in 2003) for an animal with long horns and four million for one with short horns. Onvlee (1980: 204) indicated that the most prized water buffalo on Sumba is known as *mane mandopa*, which has "horns a fathom wide" and is worth "ten ordinary water buffaloes." Due to this preference apparently based solely on horn length, there are no varieties of buffalo bred specifically for special color markings as there are in Tana Toraja, Indonesia, where much of the value attached to water

buffaloes is in their color markings (Adams 2001). Water buffaloes in the areas of West Sumba visited by the author tended to be of a uniform grayish-black color.

The price of pigs can be almost as high as water buffaloes, reflecting the near-equal value of water buffaloes and pigs in the traditional feasting system (see below). The largest pigs today can be more than 5,000,000 Rupiah, while very small pigs can be purchased for about 150,000 Rupiah. Cattle, while being similar in size to water buffaloes, are not quite as highly valued as water buffaloes with the largest cows costing about five to six million Rupiah (compared to ten million Rupiah for the largest water buffaloes). The cost of adult goats can be about 250,000-300,000 Rupiah. The relatively low cash values of goats and cattle in comparison to water buffaloes probably reflects the fact that they are traditionally not included among the requisite animals for traditional feasts and the debt relationships associated with them. Horses can range from about 800,000 Rupiah for small juvenile horses and about 10,000,000 for race horses. There are horse races throughout Sumba, although these are apparently not traditional events in Sumba. The Dutch interbred larger Australian horses with the small Sumbanese horses in the 19<sup>th</sup> century in order to produce horses that would be suitable for the Dutch cavalry (Hoskins 1984: 16). It is likely that horse racing on Sumba began sometime after this period when larger horses were introduced. Chickens are, not surprisingly, the animals with the lowest price tag, about 40,000 Rupiah for large chickens. In spite of the great monetary value attached to domesticated animals, particularly horses and cattle, their importance

in the traditional exchange system puts some limitation on their sale (Keane 1997: 37-39). In other words, a household's livestock is usually tied-up in the system of debts and credits associated with feasts.

In spite of this tie-up of livestock in feasts, large numbers of cattle, water buffalo and horses continue to be shipped in large numbers to other islands within Indonesia. This activity is especially prominent in East Sumba, where very large herds, abundant pasture land, and the largest harbor (at Waingapu) on the island are present. The livestock trade in Sumba is locally controlled by ethnic Chinese centered in the primary towns of the island as well as some of the more renowned Sumbanese livestock holders.

### Cloth Weaving

Traditionally, cloth is another very important element of the traditional Sumbanese economy and the exchanges associated with feasts. There are three primary types of woven cloth: 1) a piece of cloth worn by women and girls in a skirt-like manner (*sarung* in Indonesian, *raabi* in the Anakalang language, and *lawo* in the Kodi language); 2) a piece of cloth worn by men and boys in a skirt-like manner (*kain* in Indonesian, *reegi* in the Anakalang language, and *hanggi* in the Kodi language); and 3) a strip of cloth worn by men wrapped around the top of their heads (*roowa* in the Anakalang language and *kapota* in the Kodi language). Various motifs are woven on cloths, which typically consist of line patterns and depictions of gold prestige items, such as *mamoli* (see below). *Kain*, *sarung*, and head cloths are worn by people on a daily basis, however, people typically reserve their better quality cloth for feasting occasions.

In Kodi, making traditional cloth using traditional methods can take six months or longer. Currently, cotton is used in the process of making traditional textiles, however, in the past, bark fibers were used and are still used today in some cases. Beaten bark fiber cloth was worn by slaves traditionally and is used for certain special occasions currently. Traditional dyes in Kodi are obtained from indigo, the root of a *kabuni* flower used for yellow dye, and bark for a red dye. All households interviewed in Kodi (n=26) reportedly engaged in cloth weaving. Cloth weaving is considered to be officially an activity carried out by women, however, many informants claimed that men could also weave and that some were actually good at it. Interestingly, a male informant demonstrated to me the traditional method of spinning cotton with relative ease (Figure 3.6).

Today, cloth weaving is a household industry and source of cash. Costs for large pieces of *kain* can range from 100,000 Rupiah or so to up to 10,000,000 Rupiah (more than 1,000 US dollars) or more for *kain* from East Sumba. The most sought after West Sumbanese *kain* can be priced up to about 1,000,000 Rupiah.

### ***West Sumba: Traditional Social Organization***

#### Classes

Traditionally, there was a stratified system of social classes in both Anakalang and Kodi. In Anakalang, there were three social classes: nobles (*marabba*), free people (*kabihu*), and slaves (*ata*). This three class system is very similar to that in East Sumba, where there were also nobles, commoners,

and slaves traditionally. In Kodi, the population traditionally consisted of nobles (*maramba*) and slaves (*hamba*). The social ranking in Anakalang and Kodi both differ slightly from that in Laboya, where there are three categories of free people, the highest of which (the *ata kahado* or *at angora*) was considered to be the equivalent of a powerful nobility. In Laboya, situated to the east of Kodi on the south coast of West Sumba, slaves and descendents of slaves were divided into two groups: *ata nda pangara*, who could breed livestock used by those of higher rank and *ata kaiha*, who could not hold any livestock (Geinaert-Martin 1992: 193-194).

In Anakalang, according to informant testimony, free people or commoners traditionally represented the most populous of the three classes followed by slaves and then nobles (informants would not speculate on the precise percentages of the population in each class). In Kodi, informants estimated that traditionally the *maramba* (noble) class made up about 80% of the population, while 20% of the population was of the *hamba* (slave) class. Membership in the classes was inherited matrilineally throughout West Sumba. This system of class inheritance made it nearly impossible for people's children to rise to a higher class due to proscriptions against women marrying men of lower classes.

There were other rules regulating the behavior of the slave and commoner classes. In Anakalang, slaves were not permitted to eat in the same place as nobles. Slaves could also not own land or large domesticated animals (i.e., water buffaloes and pigs), although in Kodi, informants claimed that if a noble

slave owner were generous, he could have given some livestock to one of his slaves to own. This is similar to the situation in Laboya, where one category of slaves (*ata nda pangara*) could hold livestock, but not land, although their noble masters could take these animals for their own use when needed (Geinaert-Martin 1992: 195). There were class proscriptions concerning the ownership of traditional prestige items as well. For example, in Kodi, slaves could not own gold prestige items, such as *marangga* (gold breastplate), *tabelo* (gold headdress), or *mamoli* (gold earrings). These proscriptions extended to traditional woven cloth. In Kodi and Anakalang, slaves were only permitted to wear a certain type of woven cloth (known as *bola* in Kodi) containing relatively simple woven designs. In addition, funerals for slaves were very simple compared to those for commoners and nobles, entailing the slaughter of one pig (typically from the slave-owner) and a simple ground burial. In comparison, noble funerals could be much more elaborate in terms of the slaughter of domesticated animals (involving several water buffaloes) and the form of interment, often in megalithic tombs (see below). Prominent nobles in Anakalang and other areas could also have one or more of their slaves killed and interred in dolmen tombs built underneath the tomb of the noble slave-owner (whose tomb would be built on top of the stone table structure erected over the slave tomb—Figure 3.7).

Slaves in Kodi lived in the back of, or in the kitchen of, the noble slave-owning house, or in a separate house within 10 or 20 m from the noble household. In Anakalang, some nobles owned up to twenty or thirty slaves

traditionally. Unmarried slaves in Anakalang typically lived in the back of the house, while married slaves with families were allowed to establish their own household within a short distance (10 m or so) from the household of the slave-owning noble house.

The noble classes obtained slaves through inheritance and marriage. Warfare between villages and clans (see below) also was a way in which slaves were acquired. Capturing slaves was often the reason for warfare and was a way in which a commoner or noble could become a slave. In Anakalang, it was possible for a person unable to repay a large debt (most likely from borrowing for feasts) to become a slave of the person to whom he or she was indebted. In Anakalang, indebtedness and poverty often led to self-enslavement to erase the debt (Keane 1997: 58). Concerning marriage, in Anakalang and Kodi, members of slave-owning noble households could bring a certain number of slaves (perhaps one or two) with them when marrying and leaving the household upon reaching adulthood. Women who owned slaves brought these slaves with them when entering into a marriage and taking up residence in the groom's household. In Kodi, land, livestock, and prestige items could also be exchanged for slaves traditionally.

Currently, although slavery has been prohibited since the early part of the twentieth century on Sumba, wealthy nobles in Anakalang who own large herds of water buffaloes can attract "dependants." In Anakalang, dependants provide labour for a wealthy noble's large feasts and for dragging the stones of a noble's tombstone. In exchange for their labour, dependants receive support in their own

feasts and assistance with day to day economic concerns from wealthy nobles (Keane 1997: 57). Gunawan (1998: 101-102) writes of a similar arrangement in Wanokaka, where nobles with large tracts of land and abundant livestock attract dependents who provide daily labor in exchange for such things as food, shelter, and support in bride-wealth payments (Gunawan 1998: 102). According to informants, dependents in Anakalang follow similar proscriptions traditionally associated with slaves, such as remaining in the back section of a house, although they can be given land and livestock by wealthy landowners. However, dependants do not exist in all parts of West Sumba. In Kodi, there reportedly are no dependent arrangements.

With the beginning of the Dutch administration of Sumba in 1908, slavery became outlawed. However, as noted in the preceding paragraph, a system of dependents persists in some parts of Sumba. From the Dutch period, members of the nobility were able to maintain much of their political and economic dominance, in part, through education in Dutch schools and the Dutch appointment of prominent individuals of the noble class as local leaders (*raja*) (Keane 1997: 42, 43). Individuals of high rank were also chosen for local leadership positions in the early part of the Indonesian administration of Sumba in the mid-1950's (Hoskins 1984: 26).

### Adoption

As land, animals, and houses are traditionally inherited through the male line, having male children to ensure the continuation of a family's wealth is still of obvious importance. In cases where there is not a male child in the household to

inherit the house and the wealth associated with it, it is possible to adopt males into the household in both Anakalang and Kodi. A family is permitted to adopt a male child from another family within the same clan or a different clan (usually within the same village). In this case, a person may kill a pig and host a feast for the village to announce their intentions to adopt the child. The arrangement made for the adoption generally depends on terms agreed upon by the two households involved and requires the household head wishing to adopt to give animals and, in some cases, land to the child's household. It is also possible for a household head to adopt one of their male grandchildren if he has no male children of his own. The grandchild would, in turn, inherit his grandfather's house and wealth associated with it. In such a case, if there is an agreement between the family of the son-in-law and the father-in-law, the father-in-law would need to go to the village of his son-in-law and present and slaughter a pig. The father-in-law would then take home a horse, dog, and his male grandson in return. Additionally, a household head without an heir can adopt a male nephew. In this case, it is necessary for the household wishing to adopt to hold a feast for the village entailing the slaughter of a pig or water buffalo.

Adoption can also occur in order to accommodate rules of exogamy within clan groups. When a man and a woman from the same exogamous clan group (see below) have a strong desire to marry, then the woman can be adopted by another clan to make the marriage "legal." This other clan would then be entitled to receive the bride price payment from the man's family (Hoskins 1984: 308).

## The Household

The household is the basic unit of sociopolitical organization in West Sumba. Households are also the nuclei of the family's economic activities with domesticated animals being kept underneath the house and rice and sacred ritual objects being kept in the "attic" between the living area (for humans, cats, and dogs) and the roof of the house. Households in West Sumba are typically inhabited by a married couple, their unmarried offspring, elderly parents, and sometimes grandchildren as well (typically 5-11 individuals living in a single household). Married children, who have not yet established households of their own often live in the household as well. Prominent noble households often include a number of wives, dependants and, in former times, slaves.

Houses, like land and livestock, are typically inherited by the eldest son. Younger siblings usually establish their own households sometime after marriage. In Anakalang, when a married couple wishes to establish a new house in another village, but within the same clan, the married couple must go to the main house of the village (*uma bakul*) and kill a pig for the people in that village in order to be permitted to establish a new house in the village.

## Ancestral House Groups

In Kodi and Anakalang, ancestral houses and the group of individuals associated with the house, which can have several branch houses attached to it, is referred to as an *uma*. Each *uma* is theoretically made up of a single patrilineage descendant from a common founding ancestor. However, in actuality, membership in an *uma* can include individuals not related in descent

terms via adoption practices, which can occur under the various circumstances described previously. Thus, *uma* ancestral house groups are best defined by their connection to the ancestral house (*uma*) rather than common descent from a founding ancestor and are probably best referred to as ancestral house groups as opposed to patrilineages. In this way, the social organizational framework of West Sumba is similar to that found in Tana Toraja, Indonesia (see Adams 2001, 2004) and fits well within the general characterization of corporate or house-based societies discussed by Lévi Strauss (1983) as groups that are not necessarily bound by strict common descent categories.

In both Kodi and Anakalang, collective ownership of land evidently was not associated with ancestral houses, although there is collectively owned land at the clan level (see below). However, in Wanokaka (located in central West Sumba), the rice fields that were the original fields acquired by the founder of the *uma* are corporately owned by all *uma* members and looked after by the guardian of the house (Gunawan 1998: 57). In addition to this ancestral land, there also appear to be cases in which collective ownership of *uma* land in Wanokaka can be the result of the death of the landowner. For example, if the owner of a tract of paddy land or a garden plot dies and has no heirs, ownership of the land can revert to his *uma*, although there are also accounts of this land being acquired by the larger clan group (Gunawan 1998: 73). However, it is not clear as to whether guardianship of this land would have been administered by the resident of the ancestral house.

In Kodi, there can be 40 or more branch houses associated with a single *uma*. The majority of these branch houses are located adjacent to garden plots located from 50 m up to 5-10 km outside of the main village. In Kodi, due to the great expense in terms of the slaughter of livestock and the gathering of labor required for building an ancestral house (described below), there are many empty spaces in villages where ancestral houses should be standing (spaces designated for particular ancestral house groups). In addition, there are branch houses of ancestral houses established within the ancestral village known as *kare ka tena*. In Anakalang, *uma* branch houses are known as *ana uma* and can be located in the ancestral village or outside of villages adjacent to paddy fields and gardens. A new ancestral house group is created when there are too many people in an ancestral house group or in certain cases of dispute. In Kodi, the establishment of new ancestral houses is usually tied to the establishment of new clans, as there are traditionally only four major ancestral houses (*uma*) in each clan in Kodi. An *uma* and its constituent members can also move and become affiliated with another clan as a result of a dispute within the larger clan group.

As physical structures, ancestral houses (*uma*) in Kodi are financed and built collectively by *uma* members (see below section on feasts). They generally measure about 9X9 m and are marked by their high-peaked roofs in which rice and ancestral heirlooms are traditionally stored (Figure 3.8). Bamboo and wood are used in the construction of a proper *uma*. The frame of the *uma* structure decays after about 30-50 years, with the grasses used for the roof of the structure needing repair or replacement every ten years or so. The four main

pillars of the house can be retained through subsequent rebuilding episodes, although they too must be replaced after about 50 or 60 years. One of these pillars is ascribed a spiritual and ritual designation similar to house posts in various other Austronesian societies in island Southeast Asia (see Fox 1993: 21).

The interior of a Kodi *uma*, below the attic level, is ideally divided into sections that correspond to certain tasks as well as sleeping quarters (Figure 3.9). The fixed sections of an *uma* are the *karabawawi* (lit., the place of women's activities) located in the center-rear section of the *uma* behind the hearth (*rabok*), the *likico* (place for storing pots, plates, and other items associated with food preparation and serving) in the rear left corner of the house, the *halimbiaro* (the sleeping quarters for the eldest male of the founding family line of the *uma*) in the center-left portion of the *uma*, the *rabok* (hearth) situated in the center of the four major posts of the *uma*, the *koro harri* (sacred space where certain rituals are practiced) located in the front left section of the house, and the *tabalo bokolo* and *tabalo dape* (places for receiving guests and meetings) taking up the front and right sections of the *uma* respectively. There can be several bedrooms flanking the edges of the interior of the *uma*, where individuals attached to the *uma* (while not necessarily living there year-round) sleep when they congregate in the ancestral house for ritual occasions. The partitioning or lack of partitioning of bedrooms can vary between *uma* structures, and this interior partitioning within the house is a function of the collective level of interest and investment in the house on the part of those attached to it.

The *uma* is the location at which major ritual feasts of the lineage are held. Most major feasts, regardless of the host or sponsoring group of the feast, were traditionally (and are still often) held at the ancestral house. For certain ritual occasions, there was traditionally one *rato marapu* (priest of the traditional *marapu* religion), ideally from the same *uma* group or larger clan (*parona*), who was summoned to the *uma* to perform the necessary rites. In both Kodi and Anakalang, the ancestral house traditionally was where the ritual paraphernalia and gold prestige items (e.g., *mamoli*, *marangga*, *tabelo*—see above) worn during rituals of the lineage were traditionally stored. However, these items are now spread out among the houses located near garden plots outside of the ancestral villages due to theft concerns. In addition, it is a traditional practice to display the mandibles of pigs and horns of water buffaloes slaughtered at feasts hosted by the *uma* on the front veranda of the *uma* structure (although water buffalo horns are currently only rarely displayed due to theft concerns).

In terms of political authority within the ancestral house group, prominent older male individuals, including the *rato marapu* priest, collectively discuss important issues concerning the lineage. However, the household head who has inherited the ancestral house (representing a direct descent line from the ancestral house founder) is the individual responsible for managing the ancestral heirlooms and also was traditionally the most prominent individual in the lineage in social, political, and economic affairs concerning the larger clan group. This position is usually inherited by the eldest male son of the patriarch occupying the ancestral house (theoretically representing a direct descent line from the lineage

founder), although a certain level of renown achieved through sponsoring feasts and demonstrating leadership abilities is required for this position and another individual within the lineage can assume this role if there is a male heir who has not demonstrated the abilities required for the role. In addition, other individuals within the *uma* have attained the achieved status of *rato* or *tokoh* (a status different than the inherited ritual practitioner title of *rato marapu*) through feasting and tomb building (see section on clans in this chapter) can assume a similar level of prominence within their *uma*.

In Anakalang, there are typically different functions attributed to ancestral houses within a larger clan group. These functions can be largely symbolic or they can apply to rituals and other tasks. For example, in Anakalang, the *uma pangundang* is designated as the *uma* responsible for hitting a gong to announce that there is a funeral within the clan. The living patriarch of the *uma pangundang* is the individual in charge of filling this role. There is also an *uma* which has the traditional role of gathering the adult male population of the clan together to prepare for warfare with another clan. Similarly, ancestral houses in Wanokaka are traditionally assigned ritual and political roles within their clans (Gunawan 1998: 56). These roles can range from looking after the gate of the village to resolving disputes or leading rituals. In Kodi, there are also certain *uma* in several clans that have specific functions. These functions are usually associated with ritual roles and the performance of certain rites considered beneficial to agricultural productivity (e.g., ensuring adequate rainfall). According to informants in Kodi, the roles attached to the ancestral houses were primarily

limited to ritual contexts, although this may just be a reflection of the fact that the organizational framework of the Indonesian government has taken on the administrative and political roles that were likely previously assigned to ancestral houses.

### Clans

The clan (*parona* in the Kodi language and *Kabisu* in the Anakalang language) is traditionally the highest level of formalized sociopolitical organization in both Anakalang and Kodi. Clans are exogamous patrilineally-based groups (which, like the *uma*, lack strict membership categories based on descent and blood relations) made up of four or more *uma* that are theoretically linked to a common ancestor who founded the clan. The *uma katakunata* (great house) is the principal ancestral house of the clan and is accompanied by three other *uma* that represent its “tails.” The total number of clan households in Kodi, which includes *uma*, *kare ka tena* (*uma* branch houses within the ancestral village), and garden houses (*uma* branch houses located outside of villages, often in small house clusters), within a clan in Kodi can be up to about 200 households. The number of households in a clan in Anakalang can similarly be in the hundreds. The main ancestral house and house of the founding ancestor of the clan in Anakalang is known as the *uma bakul*. While there is a clear hierarchy of settlements with ancestral villages and surrounding hamlets or household clusters in West Sumba, clans do not reach a level of prominence where they control more than one ancestral village.

The great house (ancestral house of the founding ancestor) in a clan represents the focal point of clan-wide rituals and other social activities. This house was traditionally the place where the major clan heirlooms were kept (before they were moved to garden houses due to theft). In Kodi, in front of the great house, there is a central ceremonial area surrounded by the four ancestral houses of the clan (Figure 3.10). This open space (known as a *natar*) is typically circular or oval shaped, 5-10 meters in diameter and surrounded by a ring of megalithic tombs in which the ancestors of the clan lie to rest. Surrounding the tombs are the four main ancestral houses of the clan. In Anakalang, the ancestral houses surround a similar ceremonial area (known as a *talora* in the Anakalang language) in which the megalithic tombs stand, although the houses in Anakalang are typically arranged facing each other in more of a linear fashion.

The head of a clan is known as the *kepala kabisu* in Anakalang and was traditionally the senior male of the founding *uma* (ancestral house) of the clan. In Anakalang, the position of clan head was usually an inherited position, but, as occurs with ancestral houses, another individual from within the same clan could assume the role when there was no heir or an heir without the talent and influence to assume the role.

The clan head traditionally would take a lead role in dispute resolution within the clan and would represent the clan in dealings and disputes with other clans. These disputes could be related to the ownership of land and livestock, the use of irrigation, and inheritance in Anakalang. In Addition, when individuals

were planning a feast or holding a feast in Anakalang, it was usually necessary for them to first consult with the clan head and often hold a portion of the feast in front of the house of the clan head.

In Kodi, the position of clan head is still ideally fixed for the senior male of the founding ancestral house of a clan (*uma katakutana*) and this person plays a lead role in dispute resolution. However, as with *uma*, while this was traditionally an inherited title, an individual from a different *uma* could take on the role of clan head if there was not an heir qualified to assume the role from the great house. Moreover, the position was not formalized as a descent-based position until the Dutch began controlling the administration of the area at the beginning of the twentieth century (see also Hoskins 1984: 289).

Traditionally and in the current context of clan affairs, there is a small group of individuals within each clan (about 5-10 in each clan) who have the most authority. These individuals are currently referred to as *tokoh* (an Indonesian word referring to a prominent individual in social affairs) or by the traditional Sumbanese term *rato*. This position is largely an achieved status attributed to those who have a number of qualities, including bravery, wealth, the ability to attract a large group of people, and the ability to effectively lead the public through advanced oratory abilities. In addition, in Kodi, having sponsored large feasts, megalithic stone tomb building, and costly marriage arrangements are considered to be milestones that, when achieved, can give one the title of *tokoh* or *rato*. In all of West Sumba, building large tombs and sponsoring large

feasts are activities that are traditionally associated with men of renown (*tokoh*) and part of the path to achieving such renown.

Similarly, such material investments in clan feasts and exchange obligations can be necessary for any individual in a clan to have a voice in clan affairs and labor exchange arrangements. Failure to engage in the exchange obligations associated with clan feasts can even result in one being completely phased-out of clan rituals (Hoskins 1984: 311, 312). Informants in Kodi claimed that when one stops participating in these events, either through material means (e.g., contributing livestock to clan feasts) or by providing labour (e.g., building stone tombs and ancestral houses), they essentially “run away from the culture” and are ashamed to ask for any kind of support or assistance from fellow clan members.

In terms of collectively-owned resources, ancestral heirlooms and a certain amount of land is considered to be property of the entire clan, the guardian of which is the clan head. In Kodi, this land consists typically of forested land that is not permitted to be used for cultivating rice or other crops. Theoretically, the land used by individual households for cultivating crops is also considered to be the property of the entire clan, although in actual practice usufruct rights and real ownerships are claimed by individual households within the clan. Large quarries (from which the stone used for building tombs is obtained) also typically constitute clan land. In Kodi, a person must give livestock or cash in exchange for using a quarry belonging to another clan.

Disputes (also see the following section on disputes) and warfare have traditionally characterized the relations between clans. Inter-clan warfare was very prevalent up until the beginning of the twentieth century. Reasons for going to war included both land and livestock disputes and raids to obtain slaves. Currently, land disputes between households in different clans sometimes still result in violent conflicts between two clans, as the land officially owned and used by an individual household is also considered, in many ways, to be the property of the entire clan. Disputes within and between clans can also occur when feasting exchange obligations are not met and feast debts are not repaid (see below). A good support network within the clan built through participation and investment in clan-wide feasts (see below) can be of considerable importance for a household involved in such disputes.

In both Anakalang and Kodi, there is a certain amount of land that is considered to be the collective property of the entire clan, the guardian of which is the clan head. In Kodi, this land consists typically of forested land that is not permitted to be used for cultivating rice or other crops. However, in Anakalang, clan land can be used for cultivating crops if needed by a clan member. In this case, the individual wishing to use the land must consult with the clan head and present the clan head with a certain amount of livestock (at least one water buffalo). Additionally, a household in Anakalang could theoretically cultivate maize or other garden crops on clan land simply by gaining formal permission from the clan head. Clan members in both Anakalang and Kodi can freely use clan land for obtaining, vines, bamboo, and other items necessary for building a

house or pulling a large stone for a stone tomb. In all of these situations concerning the use of clan land by individual households, having established good relations with the clan head is considered to be essential. In terms of the clan head's use of clan lands, the head of a clan in Anakalang, according to informants, could freely use the lands of his clan for his own cultivation (although there undoubtedly must have been some kind of checks against the abuse of this entitlement).

Large quarries from which the stone used for building tombs are dug also typically constitute clan land. In Kodi and Anakalang, a person must give livestock or cash in exchange for using a quarry belonging to another clan (see section on stone tomb building below). However, individuals are entitled to freely use a quarry belonging to their own clan. Smaller costs are necessary for people who wish to use the land of another clan for obtaining wood or fishing. In Anakalang, opening up a garden on the land of another clan requires giving up a share of the produce to the clan owning the land.

### Social Organization Beyond the Clan

In both Kodi and Anakalang, administrative frameworks above the level of the clan are rudimentary at best. In Anakalang, villages (*paraingu* in the Anakalang language) often contain multiple clans. These villages were traditionally located on hilltops, primarily for defense (including protection from slave raiders), similar to the traditional pattern that occurs in Tana Toraja on the island of Sulawesi (Adams 2001), West Timor, and Sumatra (Kusumawati and Sukendar 2003: 46). There are a variety of ways in which multiple clans can

come to inhabit a single village in Anakalang. In Anakalang, there can be more than one allied clan that establishes a village as well as “outside” clans that purchase land on which to set up houses in the village, provided that there are good relations between the clans. Villages can also end up containing multiple clans when bride-takers from other clans set up households in bride-giver clan villages and when a clan divides into two separate clans.

When there is more than one clan in a village, the founding clan is generally the most prominent with regards to village social affairs. However, in cases of multiple clans occupying a village in Anakalang, the households of non-founding clans typically represent branches of clans that have each respectively founded villages in other locales and thus owe their primary allegiance to the main ancestral house (great house) of those villages. Beyond villages containing multiple clans, there were no traditional supra-clan systems of sociopolitical administration in Anakalang prior to Dutch colonial administration.

In contrast, relatively loose confederations of clans did exist traditionally in Kodi. A *kabihu* in Kodi is a group of allied clans in a territory with clearly defined spatial boundaries, much like a district, but which is internally divided along clan lines. Among the *kabihu* in Kodi, the smallest contains 6 clans, while the largest is made up of 22 clans (Hoskins 1993:7). Although the clans within a *kabihu* represent an alliance, this does not prevent inter-clan conflicts from arising between clans within a *kabihu* and the vast majority of the recent inter-clan disputes (documented in the following section on disputes) that I recorded in the

*kabihu* of Balaghar, in the southern part of Kodi, occurred between clans within the same *kabihu*.

Spatially, most *kabihu* in Kodi contain in their territory various ancestral villages, each of which contains the main ancestral houses and branch houses of a single clan (*parona*). Unlike the case in Anakalang, these villages are usually not located on hilltops, however, this is most likely due to the lack of hilltops on the coastal plain of Kodi as opposed to an absence of traditional conflict and warfare. Groups of clans can be clustered into large villages consisting of the ancestral houses of each clan surrounding the clans' respective ceremonial areas. In the *kabihu* of Balaghar in the southern end of Kodi, all 12 of the clans that make up the confederation of clans are clustered in a single large village known as Wainyapu. This village is actually a conglomeration of 12 clan villages, each of which comprises a different section (with its own ceremonial area) of the larger village. Balaghar represents a unique case in this regard, and this spatial consolidation is attributable to defensive concerns. According to oral accounts, most of the clans of Balaghar migrated from a locale on the coast of East Sumba and consolidated their clans into one large village due to fear of attacks from previously established clans in the area. As is the case throughout Kodi, the branch houses of the Wainyapu clans are scattered in household clusters on the land of their clans.

The land area of the Balaghar *kabihu* covers approximately 88 km<sup>2</sup> and is partitioned along clan lines. Over time, however, individuals have obtained land from other clans through bartering and as part of return bride price payments,

resulting in a patchwork of land divisions along clan lines. The traditional administrative framework of the *kabihu* was reportedly much more rudimentary than that of clans in the past. There was no position of *kabihu* head. Prominent members of the *kabihu* reportedly gathered and still do gather on certain occasions, namely for the resolution of particularly large disputes (not all disputes) between clans within the *kabihu*, warfare with other *kabihu* (in the past), and when there are plans for a particularly large *woleka* (see below) feast in one of the *kabihu* clans. There are currently seven such individuals in the Balaghar *kabihu* (referred to as *tokoh kabihu*) who have the most influence in these matters.

The one single event that can incorporate all clans of a *kabihu* is the *pahola*, which is traditionally held at two different *kabihu* within Kodi, Tossi and Balaghar. At the *pahola*, members of the *kabihu* hosting the event engage in a mock battle on horseback with other surrounding clans. The event is associated with several small feasts at the ancestral houses of the clans in the *kabihu* (see below section on feasts in this chapter). However, the event is not performed in all *kabihu* within Kodi.

### Modern Developments

The sociopolitical order throughout West Sumba changed in a variety of ways in the 20<sup>th</sup> century. When the Dutch began attempting to implement a direct colonial administration at the beginning of the twentieth century, slavery, inter-clan warfare and headhunting were prohibited (Hoskins 1989: 419). However, warfare and headhunting persisted through the early part of the

twentieth century and it was not until 1933 that the Dutch replaced a colonial military presence with a civilian police authority. Among the results of this pacification campaign and abolition of slavery was reportedly a migration of individuals out from hilltop ancestral villages to locales closer to new roadways in an environment in which safety from slave raiding was not a paramount concern (Kuipers 1990: 26).

In terms of political administration, the Dutch appointed local *raja*'s (rulers) to govern newly defined districts (Kuipers 1990: 25). These districts typically corresponded to the territories of different linguistic groups in West Sumba. The individuals appointed to positions of authority were usually prominent individuals in the traditional administrative systems on Sumba (Djakababa 2002: 45, 46). However, when traditional authority figures were opposed to Dutch colonial efforts, the Dutch appointed individuals to authority positions that were most favorable to Dutch colonial interests. When these leaders were not traditional clan heads and other individuals of renown, the real authority of these newly appointed *raja*'s was often limited (Groeneveld 1931: 13-14; Koike 1986:8).

The system of *raja*'s instituted by the Dutch remained largely intact until 1962 (16 years after Indonesia achieved independence from Dutch colonial authority), when the Indonesian system of local administration was fully implemented in West Sumba (Kuipers 1990: 30). Currently, below the provincial level (which encompasses several islands in Eastern Indonesia), there is a system of Regencies (*Kabupaten*), Districts (*Kecamatan*) and townships or

subdistricts (*desa*, a word which actually means 'village' in Javanese and Indonesian). The western half of Sumba constitutes an entire regency (West Sumba) made up of 15 *kecamatan* (Beding and Beding 2002: xxxv). This regency is headed by a *bupati* (regent) who is chosen by a provincial legislative assembly. There is also a governing council in the regency capitol of Waikabubak consisting of elected representatives from different *kecamatan*. The *Kecamatan*'s comprise territories very similar to those represented by the former Dutch districts and is headed by a *camat* (district head) who is appointed by the regent (*bupati*). In Kodi, there are two *kecamatan*, Kodi and Kodi Bangedo. Each of these *kecamatan* contain two to three traditional *kabihu* (clan confederation territories). There are two *kecamatan*, Katikutana and Umbu Ratu Nggay in what approximates the traditional boundaries of the Anakalang ethnolinguistic domain. Each *kecamatan* has several *desa*'s with an average of about 12 *desa*'s per *kecamatan* in West Sumba. The *Kepala desa* (village or township head) is chosen by the populace living in the *desa*. While this system has certainly altered the sociopolitical order in West Sumba, those in positions of power are still typically prominent members of their own clans (capable of organizing clan members and allies to vote) and, particularly those below the regency level and those positions that are elected, accessing these positions of power is still highly tied to traditional means of attaining renown through a combination of refined oratory abilities, demonstrated leadership qualities, and sponsoring large feasts. In addition, higher level appointed officials are chosen from successful lower-level elected officials. In this study, particular attention will

be given to how feasting and tomb building has traditionally and continues to be associated with accessing sociopolitical power.

### Summary

In what seems to be a marginally productive agricultural environment, relatively complex traditional sociopolitical systems appear to have emerged in West Sumba. The clan and ancestral house structures traditionally formed supra-local polities with social ranking that were centered around single ancestral villages surrounded by garden hamlets and house clusters. The supra-local scope (at least beyond the boundaries of a single village) of these clans tempts one to classify West Sumba as a region of simple chiefdoms, which in the most general sense, have been categorized as societies with the following characteristics: 1) ascribed social ranking (Johnson and Earle 1987; Renfrew 1974; Service 1962) and 2) at least one level of administrative hierarchy above the local community (see Beck 2003; Blitz 1999; Drennan 1991; Earle 1987, 1991, 1997; Hally 1996; Johnson and Earle 1987; Junker 1999; Milner and Schroeder 1999; Redmond 1998; Spencer 1987; Sturtevant 1998). In the case of the *kabihu*, a classification of complex chiefdom, with a three-tiered administrative hierarchy (see Beck 2003; Johnson and Earle 1987), could even be used to describe the traditional context of Kodi. However, while the framework for such an organization scheme seems to be in place, there is a lack of political authority at levels above and below the clan. In the case of household clusters, which represent a lower order of settlement hierarchy than the clan ancestral villages in Kodi, one does not find the political organization that

characterizes lower-order settlements in chiefdoms (e.g., with lower-order village heads below the chief). In Kodi, clan authority was also traditionally unstable as the clan head was not necessarily the most prominent individual in a clan. At the highest level of administration in Kodi, the *kabihu* confederated group of clans, there is no real authority independent of the clans and no fixed hierarchy of clans to create a central settlement or a paramount chiefdom with a chiefly governing figure. However, the spatial scope of these *kabihu* structures is similar to that of complex chiefdoms in that they could represent the third tier of an administrative structure (with the clans and attached hamlets representing lower-order structures). Thus, West Sumbanese clan structures represent what could be called proto-chiefdoms, the maintenance of which is tied to the obligations and debt relationships associated with clan feasts, the control of land, and probably warfare in the past. It is plausible that at times in the past, individuals could have dominated the sociopolitical landscape at even the highest *kabihu* level and effectively established a complex chiefdom for a period of time, although this notion would require further exploration.

Wealth differentiation and social class distinction are also common themes in the traditional sociopolitical landscape of the areas focused on in this study. With a broad-based subsistence economy in which rice (which has the most value as a subsistence food) appears to be less prevalent than maize, the ability to produce rice surpluses was probably limited to a relatively small number of traditionally wealthy noble households that obtained their cultivated land through inheritance and/or bartering. The high value attached to domestic animals,

particularly water buffaloes and pigs, as well as the large numbers of these animals owned by the wealthiest people in Sumba (informants claimed that there were *raja*'s {chiefs-see above} in East Sumba that own hundreds of water buffaloes) implies that the ownership of domesticated animals was also a key factor in traditional wealth and power consolidation. As Keane (1997: 57) puts it, "...to maintain basic social relations with others, to sustain a decent reputation, and to avert the ire of ancestors one must have access to cattle and rice." In the following discussions of feasts and megalithic construction (two venues through which wealth and power can be expressed) an emphasis on domesticated animals and rice is prevalent.

### ***Disputes***

As alluded to in the previous discussion, disputes between households, lineages, and clans are not uncommon in West Sumba. This does not appear to be a recent phenomenon, as headhunting was a very frequent occurrence throughout the entire island up until the early part of the twentieth century, and, according to informants, the occurrence of disputes over things, such as land and livestock, has been an issue since former times (i.e., pre-Dutch colonial period). There can be a variety of causes for disputes, the most common traditionally appear to be related to land and livestock ownership and use, while feast debts, infidelity, theft, tomb building, ancestral re-burial, and marriage payments can also lead to disputes. In addition, disputes associated with other, more modern, issues can arise with very serious consequences.

In Kodi, disputes related to land use are not unusual. In 1995, a person from the Kaha Malagho clan reportedly used land belonging to a household in the Weingyali clan. As a result, a group of individuals from Weingyali gathered together and burned down the house of the perpetrator from the Kaha Malagho clan. The dispute was eventually resolved in a meeting between prominent individuals from each clan and was concluded with a feast at a garden hamlet house in the Weingyali clan that included one pig from each of the two clans involved.

A similar dispute occurred in 2002, when a person from the Kaha Deta clan was reportedly using land belonging to a household from the Kaha Katoda clan. In this case as well, the burning of the house belonging to the perpetrator of the Kaha Deta clan was the result. The issue was taken to local court, and the boundary between the two clans (as interpreted by Kaha Katoda) was subsequently reestablished. The brothers, one of which is the current modern *Kepala Desa* (township head) of Wainyapu and its environs, of the individual from Kaha Katoda assisted with the dispute and helped bring it to court.

Occasionally, interpersonal violence can result from disputes related to land use. For example, in the village of Wainyapu in 2003, a person from the Kaha Deta clan was using land belonging to the Kaha Katoda clan without permission. A dispute arose and a person from Kaha Deta reportedly killed a person from Kaha Katoda. Following this incident, a group of young men from Kaha Katoda sought out the perpetrator for revenge. When they found that there was no one at his household, the group burned down the perpetrator's house

and took and killed some of his livestock. The burning of the perpetrator's house in the context of land disputes occurred at least two other times within the previous ten years (prior to when data was collected for this study) in the *kabihu* of Balaghar.

In the case of livestock theft, the death of the perpetrator can also result. In 1985, an individual from Paronabaroro (a village about two km north of Wainyapu) killed a man from Mahendok (a clan in Wainyapu) for stealing one of his water buffaloes. Soon after this incident, the individual from Paronabaroro was identified and sent to prison. Aside from the prison sentence, no formalities (e.g., feasts) reportedly occurred between the two clans over the dispute.

However, there are means to resolve such disputes before they escalate to house burning or inter-personal violence. In 2001, households from the Kaha Katoda clan were using land for planting and harvesting crops that belonged to a household in the Weinjoko clan. A confrontation ensued that involved people from each clan wielding *parang*'s (traditional iron knives) and *tombak*'s (traditional spears with iron point). The clan heads of each clan and local government officials were summoned to put a stop to the incident before anyone was seriously hurt. Prominent elders from each clan then gathered together with government officials to resolve the dispute. The dispute officially ended with a feast held at the founding ancestral house of the Weinjoko clan. One dog from the Weinjoko clan was killed and eaten for the feast. Representatives of the Kaha Katoda clan brought one pig that was killed and eaten for the feast and one large piece of woven cloth that was presented to the Weinjoko clan.

A similar dispute in Wainyapu related to land use rights occurred in 2003 between a household in the Weinjoko clan and a household in the Mahendok clan (a household from Mahendok wanted to start a garden on land owned by the household from the Weinjoko clan). This dispute was resolved with a consultation with local government officials and a feast involving one pig from each clan. Government intervention also occurred in the context of a dispute in 1987, when a person from the Weinjolo Deta clan was harvesting coconuts that were situated on land belonging to another clan. The local *Kepala Desa* intervened in this case and declared it a 'no fault' decision, while restoring the boundary between the two clans. Interestingly, the *Kepala Desa* at the time was a member of the Weinjolo Deta clan (the clan of the accused).

Other reasons for disputes in Kodi can be related to marriage negotiations. This type of dispute appears to have been more common than land disputes in the late 1970's (Hoskins 1984). These disputes typically surround the agreed upon number of heads of water buffaloes and horses as well as gold ornaments to be paid for a brideprice and the number of pigs and woven cloth representing the return-brideprice. Such disputes are associated with the perceived status of the lineage and clan groups of each party (wife-giver and wife-taker). Cases of elopement and when a woman is impregnated prior to marriage by an undesirable (from the perspective of the woman's family) suitor can also lead to disputes. These marriage-related disputes are all typically resolved through the course of the negotiations and a good network of supporters from the respective clans affiliated with each party is considered

essential for a favorable result in this regard. The key element in disputes related to marriage is the value attached to domesticated animals in the feasting economy through which renown is built up and power is achieved (see Chapter V). Thus, while feelings of dishonour on the part of the parties involved may seem to be at the heart of disputes in cases of elopement, undesirable marriage partners, and disagreement over brideprice, it must be remembered that marriages are, in essence, wealth exchanges and both parties seek to obtain the most from the transaction (see below). In any case where personal offense is taken in these contexts, an increase in the brideprice or return-brideprice (depending upon who is offended) is considered necessary. The potential to increase these costs can probably help explain why marriage negotiations in West Sumba can be very fickle (see Keane 1997).

The emphasis on livestock in the traditional feasting economy of Kodi was viewed by Hoskins (1984) as a primary reason why disputes surrounding marriages were more common than land disputes at the time she conducted fieldwork in Kodi in the late 1970's. When the topic of disputes came up, informants I interviewed in Kodi could offer no recent accounts of disputes surrounding brideprice. This could be due to the fact that most of the reported brideprices I recorded in interviews were at the base level of the cost scale, which would presumably not have involved a lengthy negotiation process. It is also possible that these kinds of disputes are not viewed in the same way (and are considered a different category of disagreement) as land disputes in the way that they are played out in the process of marriage negotiations. The current

emphasis on land disputes could also be due to an expansion in population that has put a premium on arable land that is largely based on inheritance. In the late 1970's areas to the east of Kodi in the mountainous regions with more precipitation had higher populations and were areas in which land disputes were reportedly more common (Hoskins 1984). Since that time, population in all of West Sumba appears to have expanded greatly. Population densities in West Sumba were 50/km<sup>2</sup> in the early 1980's (Helmi 1982), while in 2001, there were 88.16 individuals per km<sup>2</sup> in West Sumba as a whole and 142.77 per square km in Kodi (Badan Pusat Statistik Kabupaten Sumba Barat 2001: 29).

At a smaller scale, unpaid debts can be a cause for disputes between individuals. As noted previously, if debts are not repaid in time, the lending household can reportedly forcefully procure livestock from the borrowing household. If a debt is never repaid, one's reputation can be seriously damaged, which can have a very negative effect on one's relations with others. Currently, when these traditional debts have not been repaid for an extended period of time, the creditor can reportedly consult the local police authorities. In such a case, the police will set up a deadline for repayment and if the debt is not repaid by the deadline, the debtor can be arrested. However, these kinds of arrangements require good relations with local authorities and do not appear to be universally applied.

Disputes related to tomb building can also arise. For example, when a household (Household A) is planning to build a stone tomb for the second or third time, another household (Household B) in the same clan that has not yet built a

tomb may take issue with the plan (often due to the fact that livestock from different households in the clan would continue to be used for the same household's tombs) and try to prevent it. In a meeting with prominent clan members, a decision can then be made allowing Household B to build a tomb with help from the other households in the clan.

Reburial of an ancestor can also be a cause for fractured relations between descendents. In Kodi, the transfer of the bones of ancestors from temporary burials in the ground or from stone tombs thought to be too old and in disrepair to recently built tombs are typically accompanied by a large feast (see Chapter 4 below). In the case of distant ancestors, a decision by one descendant to rebury the individual in a tomb they built can lead to bad feelings on the part of some of the ancestor's other descendents. This occurred in 2004, when a prominent individual from the Kaha Malagho clan reburied the bones of a deceased ancestor in a tomb he built in 2003. However, there was not complete consensus among clan members concerning the reburial and another prominent individual in the clan unsuccessfully tried to solicit police intervention to disallow the reburial. Fortunately, the disagreement concerning reburial was not allowed to escalate and good relations between the two parties were being restored without any special feasts or official interventions while I was conducting fieldwork in February of 2005.

Disputes of a much larger scale can involve entire districts of West Sumba. In 1998, a large dispute occurred between the contemporary districts of Lauli and Weyewa. According to informants, the dispute stemmed from the

resentment that had built up among people in Lauli due to a perception that people from the neighboring domain of Weyewa were unfairly obtaining civil servant positions in the regency government in Waikabubak (which is located in Lauli). It was argued by people in Lauli that people from Weyewa were being favored for civil servant positions even when they had not passed the necessary examinations. According to many, this favouratism was due to the fact that the Regent of West Sumba was from Weyewa (Hoskins 2002: 804). Individuals on each side used rocks, *parang* knives, *tombak* spears, and bamboo as weapons. Many people were reportedly injured and some were even killed. The Indonesian government intervened to put an end to the violence and organized a meeting between prominent elders from both Lauli and Weyewa to resolve the dispute. Unfortunately, the incident was sensationalized in the international mass media which referred to it as “tribal warfare” and did not present the incident in the proper context (see Hoskins 2002: 84).

Disputes between siblings can also occur (typically over inheritance), although this is considered to be uncommon. Informants in Kodi cited a case in 2002, in which a disagreement over inheritance between two brothers led to murder. In traditional practice, the eldest brother is theoretically responsible for dividing up inheritance evenly and according to need among all male siblings. When livestock inheritance was to be divided among siblings in the Weinjolo Deta clan in Kodi, there was a disagreement concerning the share that a younger brother should receive. In this case, the older brother felt entitled to all of the livestock they were to inherit from their father. The younger brother was

reportedly killed by the older brother in the conflict of interests. The *uma* (Uma Bangar) that both brothers claimed membership in has not yet been rebuilt and remains in a state of disrepair due to the fracture within the family.

While there can be many causes for disputes in West Sumba, the very fact that they occur on a relatively frequent basis, especially in Kodi, is indicative of an environment in which competition between individuals and clans is prevalent. In a traditional context, this competition appears to have been primarily related to the control and ownership of land and livestock resources. This pattern (especially competition related to the control of livestock resources) is similar to that discussed by Hayden (2001) for transegalitarian societies in mainland Southeast Asia. In the past (before the beginning of the twentieth century), there was also reportedly competition surrounding the ownership of slaves, as slave raids were common on Sumba. This overall competition is reflected in the promotional nature of stone tomb building and feasts (see sections on feasts and chapter on stone tomb building below).

### ***Feasts***

Due to the requirements of feeding the labor organized to pull the large stones used in building tombs and in the large feast performed after a stone has been erected, tomb building in West Sumba can be viewed as the material expression and result of a series of large feasts. Thus, before proceeding with a discussion of the construction and erection of megalithic tombs, it is first necessary to provide some background on the feasts performed in both Anakalang and Kodi. What follows is a general discussion of the feasting pattern

in West Sumba divided into two themes: (1) debts and relations and (2) solidarity and promotion of households, lineages, and clans.

### Debts and Relations

As in other parts of the world, feasts in West Sumba are venues at which debts are created and important relations are established and maintained. In Kodi and Anakalang, when asking informants why individuals brought livestock to feasts, there were four primary reasons given: 1) in order to repay a feasting debt; 2) in order to fulfill feasting obligations associated with affinal relations (see below); 3) in order to establish a feasting debt relationship; and 4) in order to build good relations that can be helpful in the future (e.g., soliciting marriage partners). In addition, informants in Anakalang also stated that bringing livestock to feasts was a way in which one could express and enhance one's status or renown.

As can be seen in the above list of reasons why people bring livestock to feasts, the link between interpersonal relations and feasting contributions is quite strong in West Sumba. In West Sumba, one's relations are, in many ways, defined in feasting contexts. Of particular importance is the way in which affinal ties are expressed at feasts, as the relations between wife-giver and wife-taker families and clans represents one of the most important socioeconomic relationship on the entire island of Sumba.

## Marriages

These affinal relationships are established through what are often very expensive and time consuming marriage proceedings. Traditional bride price and return-bride price costs can be staggering and represent the early stage of a relationship that is expressed in exchanges of livestock and prestige items (gold ornaments and cloths) at subsequent feasts. Marriage proceedings begin with a delegation from the would-be groom visiting the home of the would-be bride's family to ask permission for marriage. The man's delegation includes immediate family members and supporters from within his clan as well as close friends and trusted individuals from other clans. The man's family and supporters also often loan livestock as a contribution to the bride price payment, and there is one individual who is the sponsor (i.e., a person, usually the father of the would-be groom, who provides at least 30% of the total livestock required for the bride price).

In Kodi, the traditional bride price is usually set at five horses, five water buffaloes, and one *mamoli mas* (gold earring) (an expense totaling up to 35,000,000 Rupiah or \$4,375 US dollars), while the return-bride price payment (from the bride's family) is five sarongs, five large pieces (for men) of finely woven cloth, and two pigs (one of which is killed for a feast at the time payments are exchanged) (an expense totaling up to 7,000,000 Rupiah or \$875 US dollars). The bride price payment and return payment are ideally made at the same time, although partial payments are sometimes made with the promise of fulfilling the payment obligation at a later date. Unlike the interest that can

accumulate on debts associated with livestock borrowing, there does not officially appear be any interest that is accrued on outstanding payments associated with marriages. However, until the bride price is completely paid, it is common for the married couple to remain on the land of the wife's clan and not be permitted to move and establish a household on the land of the husband's clan.

The brideprice payment described above (10 heads of livestock) does not apply to the wealthier families in Kodi. Hoskins (1984: 364) stated that marrying someone from a prominent family in Kodi required a brideprice payment of between 30 and 50 head of livestock. This pattern is reflected in the higher bride prices reported for individuals from more prominent families in this study, including one brideprice of 50 water buffaloes, 50 horses, and 10 *mamoli mas* with a return payment of 5 large male water buffaloes, 5 large pigs, 20 large pieces of finely woven cloth, and 20 woven sarongs. In other parts of West Sumba, including Anakalang, bride price can be even higher, exceeding 50 buffaloes and 50 horses at times in addition to a variety of gold and silver prestige items, such as a *kanataru* (mixed gold and silver necklace). Return payments from the bride's family in these areas can also include *galang gading* (ivory bracelets) and other gold and silver items. These high return-bride price payments are considered to be equal and often even exceed the initial bride price payments. For example, traditionally in Anakalang, slaves and even, in some instances, land could be part of a return bride price payment given to the groom.

The relationship established between the respective families and clans of the bride and groom at marriage is expressed in the context of later feasts. When a household of the wife's family (wife-giver family) holds a feast following the establishment of the marriage relationship, it is considered necessary for the husband and/or an individual from the husband's ancestral house group or clan, or even a close friend of the husband (as a wife-taker relation), to attend the feast and provide a buffalo or horse. In return, the wife-giver household that received the livestock contribution is obligated to bring a pig and/or cloth to a feast hosted by the wife-taker household who made the initial feasting contribution (see also Geinaert-Martin 1992: 242-246). An individual of a wife-giver family can also bring a water buffalo or a horse in lieu of a pig or finely woven piece of cloth, however, a member of a wife-taker family is not permitted to bring a pig in place of a water buffalo or horse. In addition to feasts, relations with affines can be very important for labour and economic support (e.g., borrowing livestock, assistance with tomb building) (see also Kuipers 1993: 162).

What is particularly interesting about the feasting relationship between wife-giver and wife-taker families and clans is the degree of flexibility associated with them. In Anakalang, the term *ngaba wini* refers to wife taker and extends from the husband to their clan and even close friends. The same also applies to *yera* or wife-giver families. As a result, important debt relationships can develop between, for example, a cousin of the husband and a cousin of the wife. In terms of the husband, his primary obligation in these relations is with the wife's parents and, to a lesser degree, siblings.

Outside of wife-giver and wife-taker relations, these same rules (i.e., the formula for kinds and amounts of gifts and counter-gifts) concerning feasting contributions do not apply, although one must be an invited guest and have had a prior agreement established concerning one's feast contribution. For example, in Kodi, a variety of households within a single clan and sometimes from other, non-affinally related clans typically provide pigs and sometimes even water buffaloes to a household when the household is building a stone tomb or hosting a large, promotional *woleka* feast (see below). In these cases, it is typically expected that the contribution will be returned in kind (i.e., the return will be of comparable amount/size) when the donor household hosts a similar feast or has a tomb built of their own. This expectation of a return contribution at a later feast is critical and is, as noted above, one of the driving factors prompting individuals to make livestock contributions to feasts hosted by other households. Indeed, the promotional aspects of these feasts and the important relations they are associated with keep the cycle of feasts and debts relevant today. These are important aspects of Kodi feasts discussed in further detail in the following sections.

### Solidarity and Promotion of the Household, Lineage, and Clan in Kodi

In addition to being a primary means of maintaining and expressing affinal relations, feasts in West Sumba can be very important means of solidifying the bonds within households, lineages, and clans as well as promoting the success of clans, lineages, and households through the provisioning and slaughtering of expensive livestock. In Kodi, where clans and lineages continue to be

particularly strong, the focus of feasts, even those performed at individual households, can be as much on lineages and clans as on the household.

*Kodi Woleka, Ancestral House Building Feasts, Funerals and Tomb Building Feasts*

Among the various feasts performed in Kodi (childbirth feasts, housebuilding feasts, work feasts, wedding feasts, fertility feasts, thanksgiving feasts, funerals, and feasts held for stone tomb building), there is typically one household that serves as the primary sponsor of the event, and the feast is sometimes held at the sponsor's own branch household. However, the largest of these feasts, *woleka* (a thanksgiving feast to celebrate economic success), ancestral house building feasts, funerals, and feasts associated with stone tomb building, were traditionally, and are still frequently, only held in front of and inside of the ancestral house of the *uma* in the ceremonial grounds (*natara*) of the clan, which is surrounded by the four primary ancestral houses and the megalithic tombs of the clan.

In these large, clan-wide events, it is common for all of the households in the clan, or at least the lineage, to contribute/lend the plates, pots, and cups required for serving food and drink to those attending these feasts. The sharing of plates and cups often represents a borrowing arrangement. In this case, there is no return obligation for borrowing glass plates or cups for example, however, if one of the items breaks, it must be replaced by the household who borrowed it (or replaced with an equivalent amount of cash or an animal with a corresponding value to that which was damaged). Borrowed plates and cups

usually have the lender's initials painted on the bottom, so they can be retrieved later.

It is possible for households to avoid excessive borrowing when hosting a large feast by having groups of people eat in shifts. For example, if a household has 500 plates and 1,000 people attending a feast, the household can have 500 of the people attending eat first, after which time the plates can be washed and used to serve the remaining 500. I witnessed this practice at two of the tomb-building feasts I attended in the village of Wainyapu.

In terms of the livestock required for feasts, informants in Kodi claimed that all household heads felt obligated to provide a water buffalo or pig (depending upon their finances) for a large feast within their clan (especially for funerals, stone tomb building feasts, and *woleka* thanksgiving or celebration feasts). While the primary sponsor of a *woleka* thanksgiving feast usually makes the largest contributions of livestock for the feast, more than half of the pigs and buffaloes are usually the result of contributions from fellow clan members and these often also do not constitute debts for the primary sponsoring household (although this can vary and be dependent upon the arrangements made prior to the feast). For dragging stones to build megalithic tombs, there are also usually significant contributions of livestock from fellow clan members (particularly those attached to the same *uma* ancestral house group) of the primary sponsor of the tomb building (the "tomb owner"), although the tomb owner usually provides more than half of the livestock slaughtered for the feasts held to feed the workers who pull the large stones.

The majority of livestock slaughtered for the feasts held to build ancestral houses (ancestral houses need to be rebuilt periodically, as the wood and bamboo frame as well as the grass roofs of the houses begin to deteriorate after about 30-50 years) comes from clan households other than that of the primary sponsor and it is not uncommon for all of the households attached to the house to provide equal contributions of livestock. Those contributions from within the ancestral house group do not create debts for the primary sponsor, typically the eldest male descendent of the house founder, although those from other *uma* within the same clan usually entail reciprocal obligations (i.e., livestock contributions for later housebuilding). In total, there can be more than 20 chickens, more than 50 pigs, and about 10 or more water buffaloes required for the feasts and for paying (usually a couple of water buffaloes and 8 pieces of finely woven cloth) the *tukongo* (wood carver and lead builder), who carves special motifs on the four main posts of the house and directs the construction activity.

While the *woleka* thanksgiving feasts, ancestral house building feasts, and feasts for stone tomb building appear to be very much group oriented (at the level of ancestral house groups and clans) in terms of what could be considered promotional shows of wealth as well as actions that can reinforce the solidarity of the ancestral house groups and clans (e.g., communal pooling of resources and labor for large work projects and feasts that benefit all households in the clan or *uma*), there is considerable variation and there are many instances of *woleka* feasts and stone pulling feasts in which a very large proportion of the food

provided comes from the household of the host (depending upon their relative wealth within the clan). For example, of the 100 buffalo that were slaughtered for a *woleka wongo weyu* feast in the village of Ratenggaro in 1995, 50 were provided by the official host household of the event. In the village of Wainyapu, an informant recounted the time he had a tomb built for his deceased father in 1980, for which the total livestock expenses required for building the tomb were 18 horses, 11 water buffaloes, 32 pigs, 1 goat, and 5 chickens. The entire process of building the tomb was completed in one season and all of the animals reportedly were from his own stock. Similarly, Kodi funerals (although typically not undertakings of the same scale as tomb building, ancestral house building, and *woleka* {thanksgiving feasts}) can be promotional events for the primary sponsoring households of the events. There can be 3-30 buffaloes killed over the course of the three-day span of funerals and most of these are typically provided by the deceased's first son, with others provided by other close family and affinal relations. Additionally, at feasts, such as *woleka*, large funerals, and tomb building feasts, there can be hundreds and, at times, more than one thousand invited guests.

Among these promotional events, the *woleka* (thanksgiving or celebration feast) probably represents the most overtly promotional of all feasts held in Kodi (at least as a single event). The two primary stated reasons for holding a *woleka* feast are: 1) to show thanks to the ancestors for one's success; and 2) to show that one has the wealth and resources to hold such a lavish feast. There is also a certain feeling of obligation to the ancestors that is said to compel individuals to

hold *woleka* and other large feasts. Informants stated that they felt obligated to continue with the traditions of their ancestors. Kuipers (1990), dealing with the nearby domain of Weyewa to the east of Kodi, describes these obligations to the ancestor's as being similar to exchange obligations that, when unfulfilled, are considered to lead to hardships. However, it is important to note that relatively few individuals are able to sponsor a *woleka* feast in their lifetime and that there are clear social, political and economic advantages to sponsoring these feasts, acknowledged by Kuipers (1990) for Weyewa and Hoskins (1984) for Kodi, that will be discussed throughout this dissertation. In sum, these advantages can consist of 1) the access to sociopolitical power both within and outside of one's clan that is associated with being a *tokoh* (the *woleka* being considered a milestone to achieving this status); 2) the establishment and solidification of important debt relations that can be key sources of political and economic support; 3) obtaining returns on outstanding feasting debts; and 4) impressing potential marriage allies and prominent individuals that can be important relations in the future by promoting one's own success at a lavish *woleka* feast.

In order to host a *woleka* feast, one must 1) have sponsored tomb construction for oneself or a deceased father or grandfather and 2) have been the primary sponsor of the construction of an ancestral house. Informants indicated that there were three different levels of *woleka* feasts that differed in their time span and the amount of livestock slaughtered for the feast. The most lavish *woleka* can span four days and entail the slaughter of hundreds of pigs and water buffaloes, although the *wolek balemema* (one day *woleka*), which can

involve more than 100 buffaloes and pigs (usually with pigs making up at least 2/3 of the total livestock count), is the most commonly performed *woleka* today. Ceremonial dancing and boxing can also be a part of the largest *woleka* feasts, for which more than 1,000 guests can be invited. The largest proportion of livestock (although not necessarily more than half of the total) theoretically comes from the main host of the feast. However, as noted above, other households of the clan typically provide large amounts of livestock as well. In addition, invited affinal relations and others bring water buffaloes and pigs.

After having completed the three large endeavors that are essentially achievement milestones (tomb building, ancestral house building, and *woleka*), a person attains a very high distinction and receives the title of *rato* (an honorific title denoting expertise in rituals—see also Hoskins 1984: 272). Currently, the word *tokoh* (an Indonesian word denoting an individual of particular prominence and renown) is used to refer to such individuals in everyday discourse and this title is associated with not only expertise in ritual but also with wealth, the ability to attract a large following through hosting large feasts, and the ability to exercise good judgment in times of disputes and other affairs. *Tokoh* essentially represent the “inner circle” of clan power, and the costly prerequisites for attaining these positions of power ensure that only the most wealthy and capable people succeed in achieving them (see above section on clans).

### *Yaigho*

An event of a much smaller scale than the feasts previously discussed is the *yaigho*, which is more focused on the promotion of the individual household

than the large feasts discussed above. A *yaigho* is a one-night ceremony that can take place at an ancestral house or the host household's own branch household. The *yaigho* is a ritual placation to ask forgiveness from spirits (including ancestral spirits) for an infraction (e.g., neglecting participation in debt relationships—Kuipers 1990: 108). It tends to be performed after certain unfortunate incidents, such as when a person is struck by lightning or when a house is burnt to the ground, which are believed to occur when spirits (including ancestor spirits) are displeased by the actions of the living. As a part of the feast, a prayer is performed by a singer (*tou yaigho*) and a diviner (*tou parupu kaloro*) that includes a dialogue with the ancestors (Hoskins 1993: 195). Gongs and drums are played during this rite and there can be pigs, chickens, and/or buffaloes slaughtered during this feast from the host household as well as other households from within the same clan and in other clans. The *yaigho* rite is often performed as part of a *woleka* feast and at the final stage of building an ancestral house (so that the ancestors will return to the top of the house). To host a *yaigho* requires certain leadership qualities to persuade others to participate in and invest in a *yaigho* and convince others it is necessary to hold such an event. A properly executed *yaigho* reflects the host's ability to perform the associated ritual chants properly or to have them performed properly by someone else, which suggests a certain competence in rhetoric that is considered essential for economic negotiations (Kuipers 1990: 158). Consequently, the *yaigho* is also considered to be part of the path that can lead to the acquisition of the traditional title of *rato* or *tokoh* (title given to those who have demonstrated the ability to host

large feasts, attract a following, possess superior oratory abilities—see also Hoskins 1993).

In a case I recorded in Wainyapu in Kodi, a *yaigho* was performed as part of a ceremony to rebury the remains of an ancestor from a ground burial to a new tomb. The *yaigho* was said to be necessary due to the fact that the person whose remains were being transferred to a tomb conducted headhunting raids. His actions in life therefore were considered to necessitate placation before the body entered a proper tomb in the *natara* (ceremonial center of the clan). On the night of this *yaigho*, a chicken was killed the liver (*hati*) of which was examined by a ritual specialist. Another chicken was killed very early in the following morning (4:00 am) which was followed by the slaughter of a water buffalo. These animals were provided by the host of the *yaigho*, although only people invited from other clans were permitted to eat the meat of the buffalo. The ritual singer and diviner were given a live buffalo and pig to divide between them. This case of a *yaigho* illustrates how the event can offer the opportunity for promotion on the part of the host by slaughtering valuable livestock.

#### *Kodi Pahola and Padu*

The *padu* and *pahola* are Kodi feasts that are not officially hosted or sponsored by any one household. The opening and closing ceremonies of the period known as *padu* (October-April) are events performed in Wainyapu that encompass all of the clans in the village. The ceremony representing the opening of *padu* is performed in October (the beginning of the rainy season and the rice-planting season). Similar village-wide planting feasts take place in the

Torajan highlands of Sulawesi (Adams 2001: 176). All households attached to the various clans and ancestral house groups of Wainyapu gather at the village and kill and eat chickens and rice (one chicken brought by each household) at the *Uma Hawudi Kaha Maawo* (the ancestral house designated with the role of hosting the *padu* opening ceremony). After this event takes place, it is forbidden to play gongs, perform special dances, and hold large feasts until April (although funerals can be performed if necessary during this time). In April, when the six month period of *padu* comes to a close, everyone attached to the clans and ancestral house groups of Wainyapu gathers at a large natural stone (*Watu Kahale*) and eats chickens (one chicken from each household) with rice. At this time, people also reportedly toss rice at each other.

The *pahola* is a mock battle between two groups of men mounted on horseback. There are several *pahola*'s that occur in different locales throughout West Sumba, although Kodi and Laboya (Geinaert-Martin 1992) are the main traditional areas where they are held. In Kodi, there are two main locales where *pahola*'s are traditionally held, one at the village of Wainyapu in the southern end of Kodi and three that take place in and around the village of Tossi (a village in the northern part of Kodi, which was made the administrative center of Kodi during the time of Dutch colonial control). In all cases, two opposing groups of men on horseback engage in a mock battle that involves the mounted horsemen throwing wooden spears at one another. In Wainyapu, the *pahola* takes place on a single day in March. On this day, men from all of the clans in Wainyapu form one team that competes against a team comprised of clans from a neighboring

group of clans (although these clans need not be from the same *kabihu*). There are typically no major injuries and no declared winner or loser at the end of *pahola*, although previously unresolved animosities between clans on opposing teams can make things heated and lead to rock-throwing between members of both clans, spectators, as well as horsemen. In this case, the *rato nale'* (a ritual practitioner with the specific role of beginning, ending, and overseeing the *pahola*), often in conjunction with local authorities who are present in significant numbers, calls an early end to the *pahola* by riding across the *pahola* field four times (Hoskins 1984: 209).

The exact day of *pahola* is scheduled soon after the appearance of sea worms (*nale'*) on the shore of Kodi's west coast. At this time, the worms' tails are bloated either with eggs or sperm on one of only two occasions in which the worms are sexually active during the year. These sea worms are caught in bamboo traps, brought back to ancestral villages and consumed as a condiment mixed with herbs and lime juice. The arrival of these worms coincides with the sprouting of rice crops, which, along with a corresponding period in which young men and women are freer to engage in premarital courtship, is considered to encourage the fertility of the rice crops (Hoskins 1984: 205-207).

On the day preceding the *pahola* itself, every household attached to the various ancestral houses and clans in the village come to the ancestral village and bring chickens to slaughter and eat with fellow ancestral house members. Betel nut is also placed on top of all of the tombs of the ancestors as offerings on this day and the day of *pahola* proper. In addition, several ancestral houses and

branch houses host guests (which includes affinal relations, friends, and local government officials) for whom they will slaughter a pig or water buffalo for a feast. These invited guests are usually from neighboring areas outside of Kodi and do not typically bring anything to the event.

More than any other feasts, the structure of the *pahola* and *padu*, characterized by its uniting of all the people tied to the *kabihu* allied group of clans, appears to serve as a means to enhance the solidarity of all of the clans within the village of Wainyapu (at least for a couple of days). In an overview of Kodi feasts, Janet Hoskins (1984: 209) has referred to the *pahola* as a “feast of unity” that is Kodi’s “...most developed form of regional cooperation...” The *Pahola* could also provide an opportunity for the *kabihu* as a whole to promote its success by slaughtering water buffaloes and pigs and hosting a relatively unique (not all villages in the area perform *pahola*) and large event that can attract hundreds of spectators, enhance claims of political importance in the area, and perhaps serve to arrange *kabihu* alliances (which would have been particularly relevant in the first part of the twentieth century when the Dutch were grouping villages together into larger administrative units). Today, the *pahola*’s can be a main attraction for tourists (which can mean a handful of westerners can often be seen at *pahola* events) coming to the island, and areas that host a *pahola* can get money from the governmental tourism office of West Sumba. In the village of Paronabaroro in the central coast of Kodi, this obvious benefit was cited by informants as the principle reason why Paronabaroro began holding a yearly *pahola* in 2004.

As noted above, individual households also can host guests (e.g., friends, affines) from other areas outside Kodi. A reciprocal obligation on the part of the guests is required that entails an invitation at a later feast. These relations can be particularly important for the more prominent individuals in Kodi who may want to establish affinal or *kabihu* links outside Kodi and solidify their network of supporters in West Sumba. Today, the practical benefits of these associations can be related to political support in the modern political regime and in the past, were particularly important for inter-regional exchange within West Sumba, which was most commonly associated with the exchange of livestock and indigo-dyed cloth from Kodi for rice and other agricultural products from the upland areas of Rara and Weyewa to the immediate east, particularly during the times of hunger that were common during the rice growing season between October and April (Hoskins 1989: 427-428). It is far from coincidental that the largest feasts (tomb building, *woleka*, and ancestral house building) usually occur after rice has been harvested.

#### *Kodi Agricultural Fertility and Childbirth Feasts*

At a much smaller scale are feasts associated with agriculture and childbirth. These feasts are usually simple events that occur within individual households. Any kind of promotional display tends to be very minimal at these events and, from a political ecological perspective, they mainly appear to function as solidarity-enhancing events for individual households and lineages.

The first ritual in the series of Kodi agricultural feasts is known as the *tondo woka pani pagha*. This is a small ritual feast held about a month prior to

the beginning of the rainy season (October). For the feast, two chickens are killed and eaten by about 10-20 individuals tied to a single household. The *tondo woka pani pagha* is held at the ancestral house of the lineage to which the household belongs. The purpose of holding this event is to inform the ancestors that the agricultural planting season is beginning in order to ensure a successful season.

When the rainy season begins in October, a feast known as the *ha barongo wini* takes place within each household (it does not need to be held in the ancestral house). A chicken is killed and a *rato marapu* priest "reads" the liver of the chicken in order to determine whether or not there will be a successful harvest. This practice of examining the liver of a chicken or, in other cases, a pig, to determine whether or not a course of action will be appropriate and/or successful is common at feasts and is a skill that is only possessed by certain ritual specialists. The *ha barongo wini* is attended by all household members as well as friends and ideally the head of the clan. These guests do not bring food to the feast.

After planting and harvesting, a larger feast known as the *oronga ka pena* is held by each landowning household respectively. There can be up to 40 or 50 people attending this feast, which can include other clan members, affines, friends, and the clan head, none of whom bring food to the feast. A pig is typically killed and eaten at this feast and sometimes a gong is played. Although this is not the most lavish of feasts in terms of the amount of animals slaughtered, the fact that a gong is sometimes used is indicative of promotion

within the clan, as gongs are essentially prestige items and traditional signifiers of the nobility throughout Sumba.

The ceremonies held at the time a child is born are of a similar scale to these agricultural feasts. When a child is born, the services of a traditional doctor (*to potunda* if male and *to poketeng* if female) are solicited. On the day of birth, a ceremony known as *paramong limya* (washing hands) takes place. At this time, the umbilical cord is cut with a bamboo knife and a chicken is killed and eaten by close family members. Four days later, the child is given a name in a ceremony known as *kalele loge*. On that day, a *to patunda* or *poketeng* (traditional doctor) is invited to cut the infant's hair. Two chickens are killed, one for the traditional doctor and one for the family and the very limited number of invited guests (which can include prominent clan members, such as the clan head). At this time, the child is given a name, usually the name of his or her father, grandfather, or other relative. In addition, the hair and umbilical cord (which had been stored safely in the house since birth) of the infant are wrapped in a bundle with cloth or bark and placed underneath a rock near a cool water source. This action is intended to ensure that the infant stays cool (i.e., does not become ill easily). Before concluding the ceremony, the traditional doctor typically receives two live chickens, one small pig, and one piece of traditional cloth as compensation for his or her services during the birth process.

#### *Other Kodi Feasts*

There are a variety of other feasts regularly performed in Kodi, including those that take place during the phases of marriage negotiations, which usually

involve one or two pigs (provided by the bride's family) that are slaughtered and eaten by the two parties of the bride and groom. In addition, there are feasts held for dispute resolution (see above section on Disputes), feasts held to solicit permission to adopt a male child (see above section on Adoption), feasts held to receive guests in a household, and a variety of additional feasts associated with building stone tombs (see the following chapter on Megalithic Tombs).

### Feasting in Anakalang

In Anakalang, there are similarities in terms of the clan-focus associated with feasts. For instance, each time there is a feast held within a clan (regardless of what household is the primary sponsor of the event), a special feast must be held in front of the house of the clan head in which a pig or a water buffalo is killed and a rite is performed in order to inform the ancestor that there will be an upcoming feast. There is also a feast performed once a year for the ancestors of all clan members, the *tangu marapu* (giving food to the ancestors). For this feast, representatives from all households gather at the main village of the clan (location of the founding ancestral house of the clan) and slaughter chicken and rice for the ancestors at their affiliated ancestral houses. All households reportedly bring at least one chicken and rice for the event and the clan head may also slaughter large pigs or water buffaloes for the event. There are no special dances performed for the feast, although gongs are played. At the *tangu marapu*, chicken and rice are symbolically presented to the ancestors in the ancestral houses. This ritual feeding is done so that the ancestors will look

after the living and ensure good economic conditions. The *tangu marapu* is reportedly only attended by clan members.

In terms of large-scale promotional feasts in Anakalang, the most elaborate and promotional events appear to be associated with tomb building. Stone tombs in Anakalang are generally considerably larger than in Kodi, and tomb building in Anakalang appears to be much more focused on individual households than in Kodi, although this pattern also occurs to some extent in Kodi. In Anakalang, clans also appear to be less relevant than in Kodi in the current context. This is likely to be at least partially due to the fact that Anakalang as a whole is a more developed area with more resources and more infusions of cash from the outside in comparison to Kodi, creating more socioeconomic independence at the household level. Although Hoskins (1984) did note that the focus of prestige and renown gained in feasting in Kodi appeared to be more on the individual household than on the clans and lineages (ancestral house groups) than in former times, clan and lineage cohesion in Anakalang did not appear as prevalent as that found in Kodi when data for this study was collected. In the following chapter on megalithic tomb building, the process of building tombs, the feasts associated with tombs, and the apparent contrasting patterns associated with tomb building in Kodi and Anakalang will be discussed more extensively.

Funerals in Anakalang and in the rest of West Sumba follow a format identical to those performed in Kodi. Other feasts, such as childbirth feasts, in Anakalang are largely similar to those held in Kodi as well. However, *woleka*

feasts or a thanksgiving feast of a similar scale does not appear or no longer appears to be a part of the traditional feasting system of Anakalang, possibly due to the reduced political and economic importance of clans and associated power structures there. These differences between Kodi and Anakalang provide a good illustration of how feasting reflects sociopolitical structures.

### Summary

When analyzing West Sumbanese feasts in terms of the household, ancestral house group, and clan, there are clearly a variety of factors at work, particularly in Kodi. For the household with enough resources, the potential for promotion is great. Although one can sponsor a *woleka* or build a stone tomb with a great deal of support from fellow clan and lineage members, those attending the event are well aware of who provides what animals. For the aspiring individual with enough resources, much renown can be gained by providing a very large proportion of the livestock that are slaughtered at one of these feasts. By sponsoring all of the three major events and their associated feasts (*woleka*, tomb building, and ancestral house building), one can attain the traditional honorific title of *rato* (currently referred to more often as *tokoh*) and the resultant greater access to clan decision making power that is associated with such a title. At the same time, the location of these large feasts in the ceremonial grounds of the clan and the placement of a monument (i.e., stone tomb) in the ceremonial grounds of the clan (or other clan land when space is limited), confers a certain amount of prestige on the clan as a whole. The solidarity of the ancestral house group, clan and, in the case of the *padu* and *pahola*, the entire

*kabihu* group of clans is clearly reinforced through the communal pooling of labor and resources that is associated with these large undertakings.

There are also consequences that can result from a lack of participation in these events. Aside from the exchange obligations associated with these feasts (e.g., affinal exchange), if one does not provide labour and/or food (particularly for housebuilding and tomb building) for large clan feasts, then individuals or families can be phased out of clan support networks (e.g., labour exchange arrangements) and even phased out of clan rituals altogether (see also Hoskins 1984). In discussing feasts in the nearby upland Weyewa area, Kuipers (1990) also noted that the practical importance of the support networks associated with participating in large feasts prompts people to support the sponsors of these events. According to Kuipers (1990: 158), the ability to host large feasts is indicative of a wide and powerful network of kin and non-kin supporters which makes the host an attractive investment for a poor household wishing to invest livestock with the expectation of some kind of positive return in the future. Other practical consequence can include the following: 1) support with resources necessary for marriage arrangements; 2) support in dispute and litigations; 3) support during sickness and accident; 4) formerly, support in war; 5) potential support in times of food shortages; and 6) participation in clan economic and political support networks.

These themes of promotion of individual and collective interests will be addressed further in the chapters that follow concerning the construction of large megalithic tombs. The interests of individuals and groups intersect at a variety of

levels, especially in Kodi. I feel that understanding how these interests are mediated is one of the keys to understanding why large stone tombs continue to be built in West Sumba.

## **Chapter IV**

### **Megalithic Tomb Construction in West Sumba**

The traditional practice of erecting large stone tombs is still very active in West Sumba, especially in Anakalang and Kodi where the bulk of this data on tomb building was collected. In this chapter, I describe the traditional methods used to build stone tombs, the feasts associated with stone tomb building, and the symbolic properties of stone tombs in West Sumba. In addition, I introduce some of the practical social, political and economic implications of the practice that are dealt with in further detail in the chapters that follow.

#### ***Antiquity of the Megalithic Tradition in Sumba***

It is not clear how long people in Sumba have been building large stone tombs. Many informants insisted that simple tombs made out of large stone slabs were made using stone tools. I was even given drawings of tools that supposedly represented stone tools used to dig and carve large stone slabs for building stone tombs and specifically told that water buffalo mandibles were used to make carvings on stone tombs prior to the introduction of metal tools. The limestone used for making stone tombs in much of West Sumba is certainly not particularly hard (it can almost be flaked with a fingernail). To date, there is no archaeological data on Sumba that either confirms or refutes the proposition that megalithic tombs were built with stone tools. However, the largest and most well known archaeological site in Sumba, the Melolo jar burial site in East Sumba, has been dated to the Metal Phase (500 BC-AD 1000) of Island Southeast Asian

Prehistory (van Heekeren 1956; Bellwood 1997: 303-304). The jar burials at Melolo represent a burial practice that would appear to predate megalith building (at least in the area of East Sumba around Melolo). The age estimates of the oldest stone tombs in the villages I visited ranged from just over 100 years to more than 450 years (based on the estimated genealogical time depth of the oldest tombs identified in villages of West Sumba). Thus, it seems highly unlikely that megalithic tombs were constructed prior to the introduction of metals to the area.

### ***Megalithic Tomb Forms***

There is some variation in tomb form on Sumba that is associated with the region in which the tomb is found and the social standing of the individual interred in the tomb. The most common element in this burial tradition is the stone slab that serves as a capstone for a tomb. In the simplest of forms, these slabs can rest alone above a grave in the earth or a simple stone walled tomb that is built in the ground. These types of tombs can be found throughout West Sumba and East Sumba. In Kodi, a very simple and unmodified (or very simply modified) stone slab resting over a grave is considered to be the oldest form of tomb in the area. In fact, the names of the individuals resting below these simple slabs are not recalled in the oral history, unlike the names of those buried in the stone-tombs built above ground in Kodi. The more advanced stone-walled megalithic tombs are known as *watu hondi* in the Kodi language. With large stone slabs forming the walls and a capstone as the roof, these tombs can be roughly included into the type of stone monument that is referred to as a dolmen,

prehistoric versions of which have been found throughout most of western Europe and the British Isles, northern and central Africa, the Arabian peninsula, Madagascar, India, East Asia (northern China, Korea and Japan), and Columbia (Joussaume 1988: 16-24). Megalithic dolmen tombs in Kodi usually consist of five stone slabs (four walls and one cap or roof) that form a structure or room in which the remains are interred. These tombs are typically about one and a half meters tall, two meters long, and about one and a half meters wide. Each wall slab is about 15 cm wide and the cap is usually about 25-30 cm thick. The more elaborate stone tombs in Kodi are adorned with carvings on the outside walls and on the side of the cap stone. Some tombs have free-standing stones (about one and a half meters in height) at one or both ends of the tomb. The largest tombs in Kodi can consist of six wall slabs and two capstones, while retaining the basic box form of smaller tombs. More recent embellishments to tombs in Kodi include a miniature tomb erected atop the capstone on a tomb in the village of Wainyapu and cement horns protruding from the side of a capstone in the village of Parona Baroro.

Tomb walls are currently sealed together in Kodi with cement (traditionally, they were reportedly sealed with a substance made from water buffalo feces and hearth ashes) and there is usually a small door carved into one of the walls at the end of the tomb where the remains are inserted before the stone slab forming the door is sealed in place with cement. Presently, there are sometimes entire tombs made out of cement or tombs made out of a combination of limestone bricks and cement due to the lower construction and labor costs associated with

using cement and bricks as opposed to transporting large stone slabs (although cement was more expensive and thus offered more prestige value for tomb-building when it was first used in the 1950's). Occasionally, the entire wall structure of the tomb is dug out of one large stone. In this case, the entire tomb consists of two pieces: one cap stone and one stone that forms the walls of the tomb. One particularly prominent stone tomb in Kodi was made in this manner. This tomb, located in the former location of a village about 500 meters to the north of Wainyapu, is three meters tall, two meters wide at the base, and adorned with carvings.

In terms of class restrictions in Kodi, where there were traditionally only two social classes (nobles and slaves), only individuals of the noble class could be interred in stone tombs. Slaves had simple burials in the ground. In addition to class restrictions, there are restrictions on which family members are permitted to enter a tomb in Kodi as well as in Anakalang. Each tomb can house a deceased married couple and their unmarried grandchildren. However, it is forbidden to place the remains of parents and children in the same tomb. This is considered to follow the prohibition against parents and children sleeping in the same room. In Anakalang, it is also possible for the remains of other relations, such as cousins, to enter a tomb temporarily if a tomb has not yet been built for themselves or their grandparents. In terms of tomb construction, a person cannot build a tomb for themselves unless tombs for their parents and grandparents have been built. However, when sponsoring the construction of

tombs for deceased relatives, the primary sponsor is essentially recognized as the tomb owner during the process of its construction.

Miniature versions of the large stone tombs can also be found in Kodi. In the village of Wainyapu, there are miniature (about 40 cm tall) versions of large stone tombs that are reportedly used for snake burials. According to informants snakes were often kept in the roofs of houses in the past and quite revered. There is a stone tomb of a similar size just outside of the village boundary of Wainyapu built for a person from Wainyapu who was notorious for his headhunting exploits. Some time after embarking on a headhunting expedition to a neighboring district his horse returned to Wainyapu, but he never did. Some betel nut and a piece of woven cloth were placed inside the small stone tomb. A tomb for this former headhunter is not permitted to be built inside of the village until a proper *Yaigho* ceremony and feast (see Chapter III) has been held to placate the spirits for the actions he committed while living. A similar tomb is located at the edge of the former location of the village of Ratenggaro and was built for a woman who reportedly drowned in the ocean, but later returned, according to legend, as a crocodile. The crocodile then died and was interred in the small stone tomb.

In Anakalang, there are seven types of burials, which correspond to the different traditional social classes in the area. These tombs are listed below and most of these types can be found in other parts of West Sumba (outside of Kodi).

- 1) *Kuru Tanah*- This is a simple burial in the ground with no special markings. This represents the burial typical for slaves.

- 2) *Korolua*- This is a simple burial in the ground topped with rocks to prevent the body from being dug up accidentally.
- 3) *Rati Mangoba*- *Rati Mangoba* is a simple burial in the ground that is topped with a stone slab that can be about two meters long and one meter wide.
- 4) *Kuru Watu*- *Kuru watu* is the simplest form of stone tomb that is reserved for the noble class in Anakalang. It essentially is a dolmen consisting of an underground stone box with the top extending above the ground. There are six stone slabs (all about two meters long and one and a half meters wide) that make up the walls, floor and roof of a *kuru watu*.
- 5) *Kuru Kata*- This tomb has the same basic design of the *kuru watu*, although it has an additional stone slab placed flat on top of the slab that forms the 'lid' of the stone box (see above). This tomb is also reserved for the noble class, as are the two largest tombs described below, and traditionally would have been for a socially and/or politically more prominent person than the *kuru watu*.
- 6) *Watu Kabang*- The *watu kabang* and the *watu pawisi* mentioned below are later versions of stone tombs than the ones previously described and, according to informants, were first built after the people in Anakalang had attained a certain level of technical advancement. This tomb consists of a four-walled stone room with stone slabs making up the bottom and the top. Unlike the underground stone rooms of the

*kuru kata* and *kuru watu*, the walls of the *watu kabang* are tilted inward (at the top of the walls) at an angle of several degrees. These tombs can be more than two meters long and stand about one and half meters high. The stone slab on top of the tomb is larger (often about two meters wide and three meters long) and hangs over the tomb creating the appearance of a tabletop or dolmen. Along the outer walls of the stone slabs and the edges of the capstone of a *watu kabang*, there are typically traditional motifs, such as water buffalo horns or *mamoli* ear pendants carved in the stone. This type of tomb can also consist of one single large stone that is dug out to make the tomb with one large capstone placed on top. In Wanokaka, a tomb constructed this way is known as a *watu koang*.

- 7) *Watu Pawisi*- A *watu pawisi*, in its basic form, consists of an underground *kuru watu* tomb underneath a large stone table-like structure with four or six legs (about one meter tall and fifty cm wide) and a stone slab top that can be two to three meters long and one to two meters wide. It is common to also find *watu pawisi* that consist of a large stone table-like structure over a *watu kabang* tomb (see above) with a tall carved rectangular stone (often times about three meters high and one meter wide), known as a *kado watu*, standing a couple of meters in front of the tomb (Figure 4.1). This standing stone, as well as the legs and the edge of the slab forming the tabletop are usually elaborately carved.

## ***Symbolism of Stone Tombs***

In Chapter 2, I discussed many of the symbolic associations that have been proposed for prehistoric megaliths. Megalithic tombs in West Sumba are indeed infused with some symbolic significance, although the symbolic associations of these stone tombs do not appear to be as elaborate as some of those that have been imagined for megaliths in prehistoric contexts. As structures, tombs in West Sumba are considered to be the houses of the dead. Informants spoke of a need for the dead, like the living, to be housed in appropriate quarters. In the Kodi language, *alli mate* means “house of the dead” (referring to the stone tomb) and *alli mopir* means “house of the living” (not to be confused with the term *uma*, which refers specifically to ancestral houses). In terms of the stone used to build the tombs, Janet Hoskins (1986) wrote about some of the symbolic properties of megaliths in West Sumba and the symbolic journey the stone goes through when it is quarried. According to Hoskins (1986), when large stones are hauled from quarries to villages, their journey symbolizes the journey of a soul to the world of the ancestors. The same symbolic journey is also associated with stone dragging in Laboya, situated to the southeast of Kodi (Geinaert-Martin 1992: 248). If the person for whom the tomb is being built is still living, the journey is said to represent a sort of preview of the soul’s future journey to the world of the dead. The stone itself also undergoes a transformation from being an object with a female association (when it is quarried and moved to the village) to a one with a male association (when it arrives in the village and becomes part of a tomb). When the tomb is at the village and

assembled, the cap of the tomb is imbued with a male association while the chamber enclosed by the tomb walls has a female association (Hoskins 1986).

The associations between stone and death in the form of tombs as houses of the dead and the hauling of a megalith representing the journey of a soul would, on the surface, appear to coincide with a conception of a symbolic dichotomy between stone as a medium symbolizing the world of the dead and wood as a medium symbolizing the world of the living as discussed by Parker Pearson and Ramilisonina (1999). However, the informants I interviewed did not appear to hold any notion of stone as a metaphor for the dead. As a dwelling of the dead in West Sumba, the use of stone was considered more appropriate than wood due to its permanence; the dead cannot rebuild their houses the way the living can. The use of stone for tombs is also considered to be important due to the fact that stone lasts for generations and can help people remember and point out revered ancestors. In any event, the tombs, like the houses of the living, become very much a part of the world of the living, serving as places for the living to sit, stand, dry textiles, and dry produce. In terms of the lack of stone for the residential dwellings of the living, anyone familiar with the climate in West Sumba (without the modern amenities of a fan or air conditioning) would be able to understand why an airy structure made of bamboo and wood is a much more appropriate structure for the living than a structure made of stone. A similar lack of a strict symbolic dichotomy between stone and wood may also pertain to Tana Toraja in the highlands of Sulawesi, where some standing stones are erected on funerary occasions and represent ancestors, while other erected stones are

associated with fertility and life (Crystal 1974). In Tana Toraja, a fertility rite for giving thanks known as *mabua pare* was a community-wide feast traditionally held at special ceremonial ground known as the *pabuaran*, which was marked by the presence of a “half rice stone” *batu polo barra’* (Crystal 1974: 121). The tradition of erected small *tadoran* standing stones (usually 1 meter tall or shorter) in villages for Torajan *merok* feasts, which are held as thanksgiving feasts and for the conscreation of *tongkonan* kindred group houses (Adams 2001: 173, 174), also occurs in a ritual context related to fertility and life as opposed to death (Nooy-Palm 1986).

Beyond the spiritual orientation of the above symbolic explanations, stone tombs are a symbol of wealth, power and renown for both individuals and groups. *It is these implications that are typically spoken of when informants are asked about how they conceive large stone tombs.* Tomb building entails real costs and practical consequences. These costs and consequences are discussed below and can explain why the erection of stone tombs in West Sumba continues even when, in many cases, the spiritual aspects of their symbolic context has changed from a traditional religion based on animism and ancestor worship to the modern framework dominated by Christianity.

### ***Process and Costs of Erecting Tombs***

Erecting megalithic tombs can be quite costly and take several years from the time a person begins preparing to build a tomb to the time at which it is actually completed. It can take from three years (or less) up to ten years to acquire the necessary water buffaloes and pigs (and to ensure that they grow to

suitable size) as well as build up the necessary feasting debt relationships so that one can call on people to provide animals for the various feasts associated with tomb building. Informants claimed that in the past, people would spend much more time preparing to build tombs by gradually setting aside rice each year and allowing animals to grow to a large size. According to some informants, unlike today, people avoided borrowing and creating debts in the past. This is a claim that is probably impossible to verify, however, considering that feasts, feast contributions, and exchange are such important means of building relations in West Sumba, it seems unlikely that one would be able to accumulate such a large amount of resources over so many years for a single endeavor such as tomb building without heavy reliance on feasting debts.

### Preliminary Measures

In Kodi, the traditional procedures and costs associated with tomb building begin long before the quarrying of stone commences. The first step required by a household intending to build a stone tomb in Kodi is the ceremonial slaughter of a chicken and the performance of a rite (*parupu kaloro*) to inform the ancestors of the plans to build a stone tomb. This small feast can take place at the home of the household wishing to build a megalithic tomb. After the household has accumulated enough animals and has assured the necessary contributions from others (which can be months or years later), a meeting is held at the ancestral house of the founding lineage of the clan to which the household belongs. This meeting is known as the *kaboyo* and is attended by prominent individuals from all four of the lineage houses (*uma*) within the clan of the household planning to

build the tomb. At this meeting, the aspiring tomb builder presents one plate of betel to each of the four lineage houses (*uma*) of the clan. A pig is also killed and eaten by those in attendance (with some meat being taken to the respective households of those in attendance after the feast). At this meeting, people can postpone the construction of the tomb by disapproving of the plan. This can happen if the household has not yet accumulated the necessary resources (e.g., rice, livestock) required for the endeavor, or if there is another household that wishes to block the plan so that clan resources can be used for their own tomb or other clan labour project. A plan to build a tomb can be blocked in cases when the household who plans to build a tomb has already acted as the primary sponsor of a tomb building on a previous occasion. A household's plan to sponsor the construction of a tomb for the second or third time can anger other clan members who may feel that it is their turn. Because of this deliberating, relative influence and power within the clan built through feasting within the clan and supporting clan-sponsored feasts is essential for building a tomb.

### Quarrying the Stones

After permission to build a stone tomb has been granted by the clan, a proper stone quarry must be located (Figure 4.2, 4.3). In Kodi, there is reportedly one single quarry located (which contains coarse limestone) just outside the village of Wainyapu (Figure 4.4). Six (Wainjolo Wawa, Wainjolo Deta, Weingyali, Kaha Malagho, Kaha Katoda, and Weinjoko) of the twelve clans within the village of Wainyapu own different sections of this quarry. If a household that intends to build a tomb is a member of one of the clans within Wainyapu that does not own

a section of the quarry, they must present a chicken, dog, and *parang* (traditional iron knife) to the head of a clan owning space in the quarry in order to obtain permission to use the quarry. An individual from a clan outside Wainyapu who wishes to dig a stone from the Wainyapu quarry must also contract a stone digger from Wainyapu to have the stone dug. This can be more expensive, although the cost depends upon the arrangement and the size of the stones (See Table 4.1 for full summary of quarry costs). A person from the village of Ratenggaro reportedly paid the Weinjoko clan four water buffaloes and four horses to have four stones (for the walls of a tomb) cut from the quarry land owned by the Weinjoko clan. This is similar to what Hoskins (1986: 33) reported concerning this practice of paying livestock for permission to have a stone quarried. According to Hoskins (1986), when a person from a clan that did not own a quarry wished to have a stone quarried, they would need to pay five water buffaloes and five horses (or a down payment and promise to complete the payment at a later date) to a quarry-owning clan for a stone. This essentially parallels a brideprice arrangement (with the stone symbolizing a daughter in the quarry-owning clan), which in Kodi is traditionally set at five horses and five water buffaloes (see Chapter III). In the case of the “brideprice”-like purchase of a stone cited by Hoskins (1986: 33), a return payment of two pigs and ten pieces of traditionally woven cloth was required on the part of the quarry-owning clan. In the above-mentioned case of Ratenggaro and Weinjoko, the same arrangement with a counter-payment from Weinjoko appears to have been made. The same

marriage-like arrangement for stones does not apply to non quarry-owning clans that are located in the village of Wainyapu however.

In Anakalang, clans also own stone quarries (which contain a softer and finer-grained limestone than that found in Kodi). In order to get permission to dig tomb stones out of a quarry in Anakalang, one needs to present a pig, horse, *tombak* (ceremonial spear), *parang* (traditional iron knife), and *mamoli* (gold earring) to the clan owning the quarry. If there are men in the quarry-owning clan who had married women from the clan of the household intending to build a tomb (i.e., the quarry-owning clan has a wife-taker relationship with the clan wishing to build a tomb), then the owner of the future stone tomb only needs to give one pig and one *raabi* (traditional cloth sarong) to obtain permission to use the quarry. Currently, most of these stone quarries are privately owned, and the animals and prestige items that would have been given to the clan in the past are now given to the family that owns the land. If the household owning the quarry is related to the person who intends to build a tomb, a lesser payment can typically be negotiated. When there are plans to include a *kado watu* standing stone in front of the tomb, quarry use expenses can double, as the stone used for the *kado watu* must be dug from a different quarry than that used for the stones making up the tomb. However, some people are able to dig the stone for the *kado watu* from a small quarry located within the land of their own clan.

After a good quarry locale has been arranged, a stone quarry crew is usually contracted to dig the tombstones out of the ground. In Kodi, there are designated stone workers (*tukango*) who lead crews of between about five and

eight individuals in quarrying and shaping the tombstones as well as directing the construction of the stone tombs. In terms of payment for the quarry crew, a lead quarrier (*tukango*) from the Baroro clan in Wainyapu reportedly receives one water buffalo (one horse for small tombs), one pig, and one large piece of traditional cloth when he is contracted to dig stones for a tomb (payment for one capstone or the four walls). This *tukango* divides the payment among his crew of about five individuals (the livestock is sold for cash and then divided), while retaining the largest portion. Those contracting this crew from within the same clan (Baroro) are required to pay the same amount as that which would be required for an individual from another clan. A stone *tukango* from the Weinjoko clan reported receiving a payment of one water buffalo, one pig, one horse, and one large piece of traditional cloth each time he and his crew dug a large capstone or the four wall slabs for a tomb. As is the case with the *tukango* from Baroro, this payment is usually sold and divided among himself and three relatives who assist.

In Anakalang, there traditionally was at least one individual in a clan who was particularly skilled at stone digging. When a person agreed to act as the lead stone quarrier for a household that intended to build a tomb, he attended a meeting at the home of the individual planning to build a tomb, where a pig or water buffalo and some rice for all of those attending the meeting (theoretically, household representatives from the entire village) would have been provided by the household hosting the event. The head stone quarrier would then be given a pig, a large piece of finely woven cloth, a finely woven sarong, *lingis* (iron pick

used to cut stone), and an ironaxe. If related to the wife of the patriarchal household head intending to build the tomb, the person chosen to cut the stone would be given a buffalo. If the opposite were true (i.e., the stone owner is from a wife-giver clan in relation to the stone quarrier), the payment for contracting the stone quarrier would be a pig. It is then be the responsibility of the stone quarrier to gather a work group together (there were usually about 20 to 40 people {not likely to be more than 10-15 people at any one time} that assisted in stone cutting according to informants' estimates).

Presently in Anakalang, one individual, not necessarily related to the individual who owns the stone tomb, reportedly is contracted to gather a work group together. The terms can be in cash, in which case each worker receives between about 5,000 and 7,500 Rupiah per day (between about USD .65 and .90 at the time data was collected for this report). Informants estimated that, on average, it takes about a month to quarry all of the stones needed for a tomb in Anakalang. If the group is paid in animals, the leader is given live horses and live water buffaloes (in one case, five horses and three water buffaloes) to divide among the work group.

In addition to the agreed upon payment for work, the stone digging crews in Kodi and Anakalang must be provided with coffee, tea, meals (e.g., rice with chicken, pig, or dog), and sometimes cigarettes on the days they work. In Kodi, the four wall stones and the capstone are typically dug on separate occasions (the wall stones are dug out all at once and the capstone is dug separately, often years apart). Altogether, it can take from about two weeks to two months to

quarry all of the stones for a tomb in Kodi. These stones are cut from the quarry with steel stakes (essentially rebar) that are about one meter long and have a bamboo shaft to enable an appropriate grip. I was told that in the past, water buffalo mandibles were used to dig the stones out of the ground, although this seems highly unlikely. In Wainyapu, I witnessed several crews essentially working from morning until dusk carving stones out of the ground.

In Anakalang, it can take about one to two months to quarry all of the stones required for a large tomb (a dolmen built in the ground with a stone table structure erected over it), including the *kado watu* stone that stands in front of the tomb. The crews that dig stones for tombs in Anakalang tend to be larger (about 20-50 people) than those in Kodi (see Table 4.1). Pigs and goats are slaughtered each day and eaten with rice by the crews in Anakalang, who also receive cigarettes. In both Kodi and Anakalang, the livestock used to feed the stone cutters usually comes from the stone owner (the individual sponsoring tomb construction), although livestock contributions from others are also used (with the tomb owner typically providing the majority of the animals slaughtered).

In some cases, stones are purchased from a specific locale in East Sumba known as Tarimbang. In Tarimbang, a hard and smooth type of sandstone or siltstone is quarried and distributed to parts of East and West Sumba. In East Sumba, it is used in the creation elaborately *watu penji* monoliths which stand atop old megalithic tombs. Various other decorative statues are made from Tarimbang stones in what has become somewhat of a small-scale commercial industry in East Sumba. In West Sumba, particularly in

Kodi, very refined stone slabs from Tarimbang are sometimes used as capstones for tombs. These stones were traditionally transported by boat and pulled using the methods of transport described below (see section on Transporting the Stones), although they are currently moved by truck for part of their journey from Tarimbang to Kodi. Traditionally, informants claim that it cost 20-30 water buffaloes to have a stone quarried and transported from Tarimbang to Kodi. An individual from Wainyapu told me that he paid 18 horses, 13 water buffaloes, 4 pigs, and 1 goat in 1980 for stone from Tarimbang. Tombstones from Tarimbang were and still are transported by boat from Tarimbang to Rua (in Southwestern, Sumba), a distance of more than 40 km. From Rua, the stone is transported over land (traditionally pulled by a work crew, but now driven in a truck) for a distance of about 15 km to Kodi. The 20-30 buffaloes required for this type of stone considerably exceeds the cost of quarrying a similar capstone (requiring roughly 15-20 small pigs) from the quarry near Wainyapu and having it pulled or driven to a tomb site. The example of the Tarimbang stones illustrates that while the relatively easy access to limestone quarries may facilitate the construction of megalithic tombs as a whole, when particularly desirable materials from a distant locale can be used, the additional expense required to obtain these materials will be paid by those who seek the extra prestige attached to these exotic items. A similar situation may have occurred in the construction of the megalithic monument of La Hougue Bie, a Neolithic megalith in the eastern part of Jersey (Channel Islands), which contains stone from various parts of the island, not all of which represent the closest sources of appropriate stone (Patton 1992: 394).

The bluestones at Stonehenge originating from Wales are also indicative of this pattern (Lewis-Williams and Pearce 2005).

### Transporting the Stones

Large stone slabs for building megalithic tombs were traditionally, and still often are, tied to wooden sledges with ropes or vines and pulled by people (primarily males over 10 years old) to the site where the tomb is to be erected (Figure 4.5). This process is very similar to that observed ethnographically during the process of megalith erection on Nias, an island off of the coast of Sumatra (see Chapter VI), where a large stone (and the sledge it was tied to) would be pulled by hundreds of men (Schröder 1914; Schnitger 1989). Schröder (1914; cited in Bakker 1999) noted that it took 525 men three days to move a 4 m<sup>3</sup> limestone slab a distance of 300 m up a significant slope on Nias. Each day the stone was hauled, fourteen pigs, rice and a yellow cloth were given to those who worked to pull the stone (Bakker 1992; 34). For stone pulling in West Sumba, Janet Hoskins (1986: 39) wrote that it required an estimated 1200 men two or three days to pull a large stone attached to a sledge with vines from the quarry to the tomb site in Kodi. For each day, Hoskins (1986: 39) stated that it would be necessary to slaughter three to five water buffaloes for the stone haulers and six to ten water buffaloes for the final feast when the stone arrived at the tomb site. These estimates are high compared to the majority of recent accounts for stone dragging episodes in West Sumba (especially those recorded for Kodi) that I describe below, although the largest examples are close to this general range.

Due to the high costs associated with transporting a tombstone in West Sumba, it can be months or even years before all of the stones for a tomb are transported to the tomb site (see Table 4.2 for full summary of stone transport costs). As noted above, different parts of the tomb can be dug at different times. In the village of Ratenggaro in Kodi, I witnessed leg stones being pulled from the quarry to the village where the capstone had already been sitting for 27 years! Similarly, stones can be left in the quarry for years after being carved out and shaped.

In Kodi, prior to moving the stones to the tomb site, a rite known as *kelapa watu* must be performed to clean the stones. The *kelapa watu* consists of the ritual cleansing of the stones with coconut milk. A feast takes place at the main ancestral house (*uma*) of the clan at which one pig and one chicken (both provided by the owner of the stones) are killed and eaten with rice. A gong is played on this day to inform everyone that the owner of the stones is ready to have the stones moved to the tomb site. This event is attended by clan members and other relations of the tomb owner. On the evening of the *kelapa watu*, a meeting is held within the main house of the clan at which prominent individuals attached to each of the four ancestral houses of the clan kill and eat a chicken (provided by the tomb owner) and discuss when the stones will be transported to the tomb site.

About one week following the *kelapa watu* and after individuals have been invited to pull and/or watch a stone being pulled (and, in some cases, to contribute livestock), a meeting known as the *weikarabu* is held at the main

ancestral house of the clan where prominent individuals attached to each of the four ancestral houses of the clan gather for a feast at which chickens (the amount depends upon how many people attend) provided by the owner of the tomb are killed and eaten. At this meeting, the tomb owner discusses how many people from the clan will be helping pull the stone and what households will make livestock contributions for the event.

In Kodi, after the *weikarabu*, the wooden sledge (*tena watu*) used to move large stones is prepared. The traditional way of moving large stones for tombs is by tying them to a *tena watu* (which is about three meters long, two meters wide and constructed from vines, wood, and bamboo—Figure 4.6) and pulling the entire vessel with vines over wooden rollers. If a *tena watu* is not available for use by the stone owner, a new *tena watu* must be built. In both Kodi and Anakalang, the *tena watu* is made from the wood of coconut palms. It requires a crew of two to six men led by a *marapu ha'aghu*, a person who specializes in building *tena watu*, to build a *tena watu* in Kodi. In each clan, there is usually one *marapu ha'aghu*, and it takes the *marapu ha'aghu* and his work crew one day to build a wooden sledge. The crew is compensated with the meat (the largest portion of which is given to the *marapu ha'aghu*) of one water buffalo or large pig (usually provided by the tomb owner).

In some cases, the household who intends to build the tomb already is in possession of a *tena watu* that was used previously or is able to borrow one from another household. When borrowed, there is no formal payment required and

the *tena watu* can usually be used at least twice before the wood breaks under pressure or becomes too weak.

Apart from the *tena watu*, it is also necessary to gather the vines used to pull the stones and the wood used for rollers over which the *tena watu* can be dragged. Gathering the wood rollers and vines in both Anakalang and Kodi is typically done by about 10-20 men who are members of the same clan as the tomb owner. It takes about two days to gather all of the necessary wood and vines (typically from clan forest land not far from the village) for the stone dragging. The people who gather the wood and vines are not paid, but on each day they work, a small work feast is given that includes the meat of a small pig, chicken, or goat (usually provided by the stone owner) which is eaten with rice by the workers. In Anakalang, cigarettes are usually provided as well.

In Kodi, after all preparations have been made and the stone(s) are about to be pulled from the quarry, a special dance is performed in the ceremonial area in the middle of the clan (*natara*) to call on all invitees to the quarry where the stone dragging will commence. At the quarry, all those invited to pull the stone(s) and/or contribute livestock for the feast(s) for the stone draggers are received by the owner of the tomb and are given coffee or tea with betel.

The number of people pulling the stone and the duration of the pulling depend upon the size of the stones and the distance from the quarry to the tomb site. Males between the ages of ten and about sixty usually comprise the crew assembled to pull a stone, although in some cases women are involved in the pulling as well. The main stone pulling event in both Kodi and Anakalang is the

dragging of the large capstone. As noted previously, different parts of the tomb can be moved at different times, however, the capstone is usually the first stone moved to the tomb site in both areas. In Kodi, when a truck is used in lieu of human labor to move stones for a tomb, it is often only used to move the stones for the tomb wall, while the capstone is dragged using traditional methods. In short, the hauling of the capstone is usually the main spectacle in the process of tomb construction.

The costs of moving stones can vary considerable. In the erection of the tomb of a prominent individual in Kodi, it reportedly required about 2,000 people (although not all were pulling at one time) one week to move the three stones (each stone weighing about 11.5 tonnes) that collectively made up the tomb cap a distance of five km. People from many different clans contributed to the pulling of these stones and the crew was fed the meat of one water buffalo and four pigs on each of the seven days that were required to move the stones. Four of the water buffaloes and eighteen of the pigs were provided by the owner of the tomb, while his brothers provided the remainder of the livestock. At a much smaller scale, about 150 people (from both the clan of the tomb owner and other allied clans) moved a capstone (weighing about five tonnes) 500 meters from a quarry to a tomb site in the village of Wainyapu in about half a day. When the work was completed, all those who participated in the stone pulling (about 350, including those who were invited to watch) were fed the meat of four pigs. An additional four pigs were slaughtered, the meat of which was divided among those in attendance to take home to their respective households. Four different

households (including the household of the tomb owner) attached to the lineage of the tomb owner each provided one pig, while the other four pigs were provided by four different households respectively from another closely related lineage in the clan.

The disparity in the numbers of people used to move the stones in the above two examples suggest that there is a clear discrepancy between the number of people actually required to move a stone and the often excessively large number of people that are invited to pull to make the spectacle more impressive. Experiments have shown that it can take relatively few able bodied individuals to move large stones. It was documented that a five ton stone attached to a sledge could be moved by six men pulling the sledge over wet loam in the Nile region of Egypt (Chevrier 1959; Sleswyk 1985; cited in Bakker 1992). These seemingly ideal conditions cannot be duplicated on the rough topography of West Sumba. Having participated in the hauling of a five tonne stone (for which there were about 150 stone pullers) in Wainyapu, I can state that large stones could be moved effectively when conditions were just right (i.e., the sledge was moving over rollers in flat terrain). However, snags and ruts in the path can cause progress to slow and make the effort required much greater. Moving the stone slab uphill also seemed to require near maximum effort on the part of participants. Thus, while the size of the crews assembled to haul stones can be unnecessarily inflated for "show," it requires much more than simply a handful of people to pull large stones.

In Anakalang, I observed 300 people (from the clan of the tomb owner along with other relations and friends) move a large capstone (weighing about 10 tonnes) a distance of approximately two km in about half of a day. The people involved in the pulling (which also included those primarily watching) were fed a lunch that consisted of the meat of five large pigs and rice. The meat from five other pigs and one water buffalo was also divided up for those in attendance to take home. One large pig and one large water buffalo was provided by the stone owner, while the other pigs were provided by affines and other relations. One *ngaba wini* (wife-taker relation) provided one water buffalo and one cow (neither of which were slaughtered). There were also at least ten large pieces of woven cloth displayed on the top of the stone as it was being pulled. These cloths were given to the stone owner by affinal relations (in this case, wife-giver relations).

In Kodi, moving the walls for tombs is not nearly as big of an undertaking as moving the capstone(s). Wall stones are usually only about one meter wide and one and a half meters in length (weighing roughly two tonnes). I witnessed roughly 25-30 people move two wall stones (one at a time) a distance of approximately 500 meters in an afternoon. In a case in which four wall stones needed to be moved about one km, including some pulling through a small estuary, more time and labor was required to move the stones. In this case, about 50 people were able to move two of the stones in one day, while the other two were moved on separate days. In total, eight pigs were slaughtered (four to eat at large work feasts and four to take home) for the people involved in the pulling of these wall stones. The tomb owner provided two of the eight pigs

slaughtered for the stone pulling; the remainder were contributions from his brothers and nephew.

A similar range of costs and labor very likely apply to Anakalang for the wall stones of the dolmen tombs and leg stones of the stone table structures that are erected over the tombs. In Anakalang, most people seem to use trucks to move these less impressive parts of the tomb. However, the *kado watu* (a carved stone that usually stands about three meters high in front of the dolmens in Anakalang) is still often transported using human power. In one instance in the village of Kajikobu, it reportedly took 100-200 people one day to move a *kado watu* stone (weighing roughly 13.5 tonnes) a distance of 100 meters. According to informants related to the tomb owner, the people who pulled the stone ate the meat of the three water buffaloes and two pigs, some of which they likely took home to their households. This large amount of meat for the stone haulers seems to be a bit of an exaggeration in light of my own observations and other estimates I have obtained concerning the livestock slaughtered for work crews of a similar size (see above). About 600 people reportedly pulled a *kado watu* of nearly identical size for about the same distance in another village in Anakalang. This undertaking also took one day to complete and according to the tomb owner, two cows and two pigs were slaughtered for the workers to eat.

In addition to the costs associated with hauling the stones, it is usually necessary to compensate people who are called upon to stand on top of the stones with roles as work leaders and/or ritual singers. Throughout West Sumba, there is usually at least one person filling such a role while a stone is

being pulled. In Kodi, there are both male and female ritual singers who lead chants that are repeated by those pulling. In the village of Wainyapu, there is at least one woman who leads chants while standing on top of tombstones while they are being hauled. She usually receives one woven sarong or a water buffalo for particularly large stones from the owner of the tomb as compensation. Similarly, men who stand on top of stones to direct and motivate those who are pulling the stones typically receive a large piece of woven cloth for their services.

Transporting a stone with a truck can entail lower overall costs than those associated with stones hauled in the traditional manner. At least some of the stones that are used to build tombs in West Sumba are currently transported by truck. Loading stones on a truck rented for a single day can be much less costly than having the stone pulled for a few days by a large workforce that must be fed a reasonable amount of meat and rice. A truck can usually be rented for as low as 650,000 Rupiah per day, although higher estimates range from about 2,000,000-3,000,000 Rupiah per day (about USD \$250-\$375 in 2003). It generally only takes about 30-50 people to load the truck and a large pig (with a value of about 1,000,000 Rupiah) is usually sufficient for feeding a crew of this size. This cost can be compared to feeding a crew of 300-500 at least four large pigs per day for an averaged-sized capstone in Anakalang (weighing roughly 10 tonnes). However, if the distance from the quarry to the tomb site is short enough to require only one day of stone pulling, it seems to be common for people to decide to have the stone pulled, despite the extra costs (which can be relatively minor if the stone is pulled for only one day). Informants stated that

when possible, it was usually preferable to have a stone pulled by people as opposed to being hauled with a truck due to a reported desire to follow the ancestral traditions as well as the more impressive display associated with having hundreds of people move a stone rather than having a truck transport the stone.

### Building the Tomb

When all of the stones reach the village of the tomb owner where the tomb will be built, the process of building the tomb commences. In Kodi, the four walls of the tomb are erected first followed by the placement of the capstone on the walls. As noted previously, cement is currently used to seal the walls together, whereas a combination of water buffalo feces and kitchen ashes were used traditionally. The construction of the tomb walls tends to be a relatively modest undertaking that requires about five men (usually close family members of the tomb owner) and roughly five days to complete. Each day, the workers are fed a lunch consisting of a chicken, eggs or fish along with rice together. Coffee and betel are also often provided (see Table 4.3 for full summary of tomb building costs).

Erecting the capstone atop the walls requires about 25-50 men (usually members of the same clan as the tomb owner as well as individuals from closely affiliated clans) and can usually be completed in a day. The capstone is placed on top of the walls by first gradually raising it onto a wooden structure that involves lifting and shifting the stone by pulling different parts of it with vines and wedging small logs underneath it. The logs eventually form a wooden scaffold

structure that reaches a height equal to the height of the walls (Figure 4.6). The capstone is then pulled from the scaffold to the top of the walls. After the stone is pulled onto the walls or after the crew has become reasonably close to completing the task, the meat of a small to medium-sized pig, along with rice coffee and betel, is eaten by the crew and the other family members gathered (a total of about 50-70 people, including the work crew). The meat of a second pig of about the same size is usually also divided up and taken home by those in attendance. Both of these pigs are typically provided by the owner of the tomb, although it is not uncommon for another household in the clan to provide one of the pigs if the tomb owner is not particularly wealthy. For a large tomb in Kodi that consisted of three capstones, a wealthy tomb owner had plans of having a crew of about 200-300 people build the tomb (the tomb was not yet complete at the time data was collected). According to the tomb owner, four large pigs would be slaughtered to feed the crew.

The variability in expenses associated with tomb building reflects the variation in household wealth among those who have sponsored tomb construction. The wealthiest tomb-building household interviewed claimed 12 wives, several tonnes of rice for each harvest, ample livestock, and essentially an entire village for his immediate family. In sharp contrast, the poorest tomb builder interviewed (although landowning) had more limited means in terms of rice harvests (1,000 kg for a year), animal holdings (10 chickens, 1 pig {subsequently slaughtered for a feast to put the cap on a tomb}, and no water buffaloes on hand), and essentially negligible cash income. This variability in the

wealth of tomb owners is reflected in the size of the tomb and the size of the feasts held in the course of tomb building (see Chapter V).

The process of erecting a tomb is a little more elaborate in Anakalang. By whatever means stones were transported, there was traditionally a feast performed to symbolically open the doors of the village when the stones arrived in front of the village entrance (although personal observations indicate that this feast is no longer performed very often). For this feast (known as *Weisa Boalara* in Anakalang), at least one pig or water buffalo is killed (provided by the owner of the stones or his or her supporters) and eaten along with rice by those dragging the stones and others living in the village (likely to have included hundreds of people). A *ratu* (known as *rato* in Kodi) priest performs a rite to obtain permission for the stone to enter the village at this event.

After the stones are in the village, the tomb can be erected. The construction of a *watu pawisi* (a dolmen-type tomb with a standing *kadu watu* stone placed in front of it) encompasses all of the basic elements that appear to be involved in the erection of all Anakalang stone tomb types (see above section on stone tomb forms). The whole process of erecting a *kado watu* can take more than one hundred people about a week and consists of seven basic steps, which contrast from the steps required for tomb building in Kodi (see above), outlined below in the order in which they occur:

- 1) The first step is to place the large capstone that represents the top of the table-top structure that stands over the tomb on top of a one and a half meter high wooden structure (made from about three or four levels

- of logs). This involves pulling the stone off of a *tena watu* (wooden sledge) and upward over logs that form a ramp leading to the top of the wooden structure.
- 2) After the capstone is in place, the six or eight legs that will form the legs of the stone table structure are put underneath it (alongside the logs that hold up the top slab of the tomb about 10 or 20 cm above the top of the legs). In order to secure the legs and “plant” them in the ground, a ditch is dug into the ground about 50 cm deep with a *lingis* (currently made from steel) pick (about one meter long) and the stone legs (which are about a meter tall and 50 cm wide) are pushed into the ditch by a couple of individuals with their hands.
  - 3) After the legs are in place, the logs are removed from underneath the capstone and it falls into place on top of the stone legs.
  - 4) The *kuru watu* that represents the dolmen tomb is then constructed underneath the large table-like structure. In constructing the *kuru watu*, the ground is first dug about one and a half meters deep with a *lingis* pick and the base slab of the tomb is inserted so that it lies flat in the ditch. For this step, there are about three small logs (each one being two meters long) that are wedged underneath the edge of the slab and pushed (two people pushing each log) in order to move the slab forward into the ditch.
  - 5) The walls of the *kuru watu* tomb are then erected by wedging and pushing them, with small logs (about two meters long), into the ditch

alongside the bottom slab.

- 6) To put the top slab of the *kuru watu* tomb in place, the slab is pulled up a ramp structure made from logs with rope or vines by about 100 people or more and placed on top of the wall slabs.
- 7) The last step involved is erecting the *kado watu* standing stone. This step requires a ditch to be dug about 50 cm to one meter deep so that the *kado watu* can be securely erected in the ground. With one end of the *kado watu* in place in the ditch, it is pulled with rope or vines by a group of about 50 people while being pushed up by another group of about 20 people with two logs that are tied together (and to the stone) until the stone is securely erected.

All of the above-mentioned procedures required for constructing a *watu pawisi* tomb can take about a week and require the slaughter of at least one pig or goat per day (usually provided by the owner of the tomb).

After tomb construction has been completed, it is often (but not always) carved with special motifs by a designated stone carver. In Anakalang, it is common for tombs to be carved with motifs, such as water buffalo horns, human figures, or prestige items, on the outside of the tombs. There is typically one primary worker and several assistants who carve a stone tomb. Traditionally, at least one of the assistants was the stone carver's son who would assume the role of a primary stone carver later in life. In Anakalang, the primary stone carver was given one live pig, one dog, one horse, and one traditional sarong (*raabi*) by the owner of the tomb before commencing work. If the stone carver was from a

wife-taker clan in relation to the tomb owner, the carver would receive one pig and one *raabi*. This carving could take a month or longer to complete and upon completion, the head carver received one horse, a gold *mamoli* ornament, and a *parang* knife. If he was from a wife-taker clan in relation to the tomb owner, the stone carver would receive one large piece of traditional woven men's cloth (*reegi*), one finely woven sarong (*raabi*), and one live pig when the work was complete. It was up to the primary stone carver to determine what portion of these animals would be given to his assistant carvers.

Currently, stone carvers are often paid in cash. According to relatives of the owner of a tomb in the village of Kajikobu, the stone carver who carved the tomb about five years ago was given 6,000,000 Rupiah, three water buffaloes and two pigs to carve motifs on the *kado watu* stone and on the outside of the stone table and dolmen tomb underneath the stone table (which, as a whole, took an entire month to complete). When the owner of a tomb has a son who is a stone carver, usually no payment is required as the assistants of the carver are typically close relatives as well.

In all cases, there is a meal provided by the owner of the tomb that can consist of one chicken and some rice (coffee and cigarettes are also usually expected) for everyday in which carving takes place. In Anakalang, there traditionally appears to have been a festive element to stone carving with gongs being played and people singing and dancing at night during the time stone tombs were being carved. It is also a traditional practice (which continues to some degree today) in Anakalang to have the carving activity concealed behind a

cloth. There are reportedly spiritual reasons behind this practice, but it is also said to be done to prevent onlookers from learning the skill of stone carving.

In Kodi, it is less common for the exterior of stone tombs to be carved and there is much less variation in the motifs carved in Kodi in comparison to Anakalang. The most common motif carved on stone tombs in Kodi is water buffalo horns, although depictions of gongs and *mamoli* can be seen on some of the more elaborate tombs. In Kodi, a carved tomb is said to symbolize a rich and influential man. In the village of Wainyapu (which consists of 12 clans), there are six clans that have carvers who carve designs on stone tombs and designs on the four large wooden posts that stand in ancestral houses. Stone carvers traditionally receive one large water buffalo (live), one sarong, and one large piece of woven cloth. A pig is usually killed for a feast when the carving is complete and the stone carver keeps the head of this pig as well (heads of pigs are particularly desirable, as they enable one to display the jaws of the pig).

In one of the few cases in which a stone tomb was carved in Kodi, the owner of the tomb claimed to have paid a stone carver one water buffalo to carve water buffalo horns and geometric designs on the exterior of his stone tomb in 1982. It reportedly took four days for the stone carver and his assistants (about three) to complete the carving. On each day, one pig (provided by the stone owner) was slaughtered and eaten by the stone carver and his assistants. This account of slaughtering one pig per day seems a little excessive for such a small crew (unless there was a larger event with a larger number of attendees associated with the stone carving).

When the stone tomb construction and carving has been completed in Anakalang, there is a large feast held to commemorate the occasion. This feast usually occurs just after the completion of tomb carving. At this feast (known as *kalaralima* in the Anakalang language), there can be hundreds of guests from within and outside the village who attend. All of the people who worked on quarrying and moving the stone also attend. The feast lasts one and a half days and there can be about 10 water buffaloes and many litres of cooked rice provided by the host of the feast (owner of the stone tomb) and his supporters. There can also be a large number of water buffaloes, pigs, cattle, and other animals brought by guests, including those who worked pulling, cutting, and carving the stone. In addition to eating meat at the feast, guests (particularly the workers who helped construct the stone) receive a portion of meat to take home. According to one informant, this consisted of one kg of meat for every worker.

In July of 2003, I attended a *kalaralima* feast in the village of Pada Ngora in Anakalang. The ceremony began in the evening, when one large pig (provided by the tomb owner) was killed and eaten by about 50 people who were in attendance. This feast was followed by drumming and traditional *runggeng* dancing by women in finely woven traditional sarongs adorned with prestige items (e.g., *tabelo* gold headdresses, gold bracelets). This dancing and drumming lasted until dawn. On the following afternoon, invited guests arrived (about 300) and two large pigs were killed and eaten. The meat of one additional slaughtered pig and one slaughtered water buffalo was distributed among all guests in attendance to take home. In total, there were three pigs and one water

buffalo provided by the tomb owner. From wife-taker relations (*ngaba wini*), a total of two water buffaloes and two horses were presented to the tomb owner (not slaughtered for the feast). From a wife-giver relation (*yera*), one pig and one horse were given to the tomb owner, neither of which were slaughtered for the feast.

In Kodi, there is no named consecration-type of feast that is traditionally performed when tomb construction has been completed. However, a particularly large feast is often held when a capstone has been pulled to a village or, if a tomb has been embellished with carved motifs, when the carvings on the tomb have been completed. For a very large capstone (weighing 17 tonnes) that was hauled in the early 1960's, there were reportedly 9 water buffaloes, 2 cows, and 40 pigs slaughtered for a feast attended by 2,000 people when the stone arrived in the village of the tomb owner. On the two occasions recorded in which tombs were carved, both sponsored by the same household, six water buffaloes and ten pigs were slaughtered and more than 1,000 individuals were in attendance at the ancestral house of the sponsor's lineage when the carvings on the exterior of the tomb were complete.

In addition, the *woleka konda to maté* (digging the bones of the dead) is a reburial feast performed in Kodi when the bones of a deceased individual are dug up from a simple burial in the ground, or from an old and weathered stone tomb, and interred in a newly-built stone tomb. The *woleka konda to maté* is a type of *woleka* feast (see Chapter III section on Kodi feasts) that spans two days and can entail a large number of attendees and slaughtered livestock. Because of

this, a consensus among clan members is required to carry out the feast (especially if it is a distant ancestor). In fact, a relatively minor dispute (i.e., a dispute that did not result in violence and/or a payment of fines) recently occurred within a clan when there was reportedly no consensus among clan members concerning the movement of ancestral bones into a newly-built tomb (see Chapter III section on disputes).

According to one account of a *woleka konda to maté* in the village of Wainyapu, four water buffaloes and five pigs were slaughtered at the ancestral house of the deceased person for an event that was reportedly attended by hundreds. The bulk of the animals slaughtered came from the household hosting the event (the son of the deceased person), while one water buffalo and one pig were provided by the host's brother-in-law. Other individuals brought small pigs (not slaughtered), woven cloth, or money. On another occasion, ten water buffaloes and eight pigs were slaughtered for the occasion in which the bones of a long deceased ancestor were moved from an old stone tomb to a new stone tomb. For this event, the remains of the ancestor along with a gold bracelet, ivory bracelet, an iron knife, and woven cloth that accompanied the original burial were removed from the old tomb. The ancestral remains were, in accordance with traditional practice, removed by a male member of the natal clan of the female ancestor whose remains were being transferred (wife-giver in relation to the sponsor's clan). The remains and accompanying items were then moved to the house of the sponsor on the first afternoon of the feast and placed into the new tomb on the following day. This event was sponsored by the owner of the

newly-built tomb and the remains of the deceased ancestor were placed in the tomb before the cap had been closed to complete tomb construction. A *rato marapu* (traditional priest) typically performs a rite before the remains are placed in the new tomb, although in this case, the *rato marapu* who had participated in discussions leading up to the event passed away prior to the commencement of the *woleka konda to maté*. Before the remains of the sponsor's ancestor were placed in the new tomb, they were wrapped in 28 large pieces of traditional cloth (*kain*) provided by each household attached to the primary sponsor's ancestral house (*uma*). Five hundred people were invited to the event. The primary sponsor of the event provided three of the eight pigs and one of the ten water buffaloes slaughtered for the feast. The rest of the livestock came from the primary sponsor's children and other members of his clan. One of the pigs was slaughtered on the first afternoon of the feast and another on the evening of the feast, while the rest of the pigs and water buffaloes were slaughtered after the remains of the ancestor were interred in the new tomb.

### ***Discussion***

The construction of large stone tombs in West Sumba is clearly a substantial undertaking. As these tomb building activities represent such a large investment in time, labor, and resources, it is expected, from a political ecological standpoint, that practical social, political, and economic benefits should be accrued by those involved. Certainly, there is a large degree of promotion involved in the entire process of stone tomb construction with the large feasts and displays of labour mobilization associated with the undertaking. Informants

indicated that stones would often be moved at an unnecessarily slow pace so that the owner of the stone could “show off” their wealth by having the tomb building process, including the feasting, continue for a longer period. Similar prestige displays appear to occur with the number of people pulling the stone. As noted above, the number of people hauling a stone does not always seem to represent the minimum number of individuals required for the task. One informant claimed that it only takes about 200 or 300 people to drag a large stone, although there are often times 1,000 people or more summoned for such a task.

Visually, stone tombs in West Sumba can convey a certain amount of prestige, especially when they are exceptionally large and have ornately carved exteriors. In Kodi, upon entering a village or a clan section within a large village, one's first visual impression is the stone tombs which have been built just behind the cluster of houses. Older stone tombs are located in front of the houses encircling the *natara* ceremonial area of the clan where large feasts are held. It is thus possible to immediately take stock of the number and lavishness of the tombs a clan has built. Further, the size and elaborateness of a tomb is considered to be reflective of the wealth and renown of the individuals interred and, to a lesser extent, their clan as a whole. This visual impression has practical value in a number of ways.

In the traditional economic context of West Sumba, land ownership and the ownership of domesticated animals were the key elements in wealth acquisition. The largest expenditure of rice (land) and animals was for the

feasting system and construction of megalithic stone tombs. In the context of these events, there is an exchange of animals (meat) for labor and animals for other animals. In the case of megalithic stone tomb construction, there is also borrowing that occurs in the support provided by friends and relatives that aid the owner of the stone tomb in the provisioning of large animals for the feasts associated with stone tomb construction. Thus one's ability to sponsor large feasts and construct megalithic tombs is highly dependant upon the relations one has built up over time.

In order to establish such a network of supporters, one needs to establish a good network of affinal relations through marriage arrangements for oneself and one's offspring. In addition, it is essential for a person to have a favorable feasting debt "credit record" in establishing and maintaining good relations, often referred to as "status" in ethnographies. An informant in Waikabubak (West Sumba) stated that when one asks a person to bring a buffalo for a feast he or she is hosting, it is important to assess whether or not the person is "reliable" and can be counted on for such a request. Conversely, it is also necessary for a person providing the animal to assess whether or not they can expect the person to give a return contribution of an animal (or more?) for a feast they host at a later date. Those who are able to establish a support network to assist them in the construction of a stone tomb would presumably already have a very good record of repaying feasting debts. By showing the ability to put together an undertaking as grand as erecting a megalith would also certainly increase the perceived reliability of the person and perhaps enhance one's potential support

network. As the individuals who are able to build stone tombs do not represent the segment of the population traditionally living on the economic margins of society (certainly marginal families are not those who sponsor large tombs), they would therefore most likely not experience frequent times of economic distress for which a support group that acts as an economic “safety net” would be vital. Instead, at this level, these support networks could function as a key element in the traditional acquisition and enhancement of sociopolitical influence and military allies (critical for slaving raids and defense from such raids).

The end result of this network-building can be the erection of a tomb. However, what practical benefits are accrued from this? Many of these benefits are likely associated with the acquisition of sociopolitical clout that can be gained with the title of *rato* or *tokoh*, which is achieved through tomb building, feasting, and overall demonstrations of leadership (see Chapter III). For those who are able to build tombs for themselves (or for their father or grandfather) when they are still relatively young, having built a tomb can have some other benefits for the individual's family. For example, informants in Kodi indicated that having built a tomb can help in cases of their son's or daughter's marriage wealth exchanges (which can be extremely costly). With regards to marriage, it is interesting to note that in the context of a feast held to feed workers who had just pulled a stone in the village of Wainyapu, the head of one of the pigs that was slaughtered was presented by the household who provided it to a household with whom they were interested in entering a marriage negotiation. Because there were a large number of households that reportedly had sponsored stone tomb

construction in the past (18 of the 27 households interviewed for this study), the variation in size (and visual impression) of the tombs as well as the size of the feasts associated with the construction of the tombs are critical variables in determining the practical social, political, and economic implications of the practice. The size of the capstones of these tombs range from about 2 to 35 tonnes (consisting of one capstone divided into three pieces weighing 11.75 tonnes each) (Figure 4.7), while the overall estimated monetary costs (based on the food and other costs associated with the feasts and labour mobilization of tomb building) range from about \$1,000 (US dollars) to nearly \$27,000 (US dollars) (Figure 4.8). It is critical to understand how this variability is related to differential practical benefits and concerns for those sponsoring tomb building. In addition, especially in Kodi, stone tombs confer prestige on the clan as well as the individual. Clans are still very important in Kodi and there are still many disputes (for which support networks and alliances are critical) between clans, indicative of inter-clan competition. Much of the competition between clans for land and livestock in the area may be reflected in the construction of tombs. In the following chapter, profiles of household participation in tomb building as well as other feasting pursuits is analyzed in determining what practical implications tomb building has for individual households and larger social groups.

## Chapter V

### **Analysis of Household Tomb Building in West Sumba**

In the previous chapter, I described the traditional methods of tomb building in West Sumba and introduced some of the social implications. What follows is a presentation and discussion of the results of demographic and socio-economic data and material culture inventories obtained from individual households in West Sumba. The demographic and socioeconomic information collected from households ranged from estimated wealth to brideprice costs and, of course, included descriptive accounts and costs of past household tomb building. Various aspects of this data are analyzed in this chapter to ascertain the various ways in which tomb building, its associated feasts, and other feasts are related to the accumulation of wealth and access to political power. In addition, household material culture is compared to this data to determine whether these overall patterns related to tomb building and wealth are reflected in the material culture of individual households.

#### ***The Households***

The vast majority of the households interviewed (22 out of 27 households) in the course of this study were situated in the village of Wainyapu in Kodi, where I was able to interview all of the households in the village. Wainyapu is made up of individual 12 clan sections that together comprise the *kabihu* (confederated group of clans) of Balaghar. The branch hamlets and household clusters of these clans are situated between 50 meters and 10 km from Wainyapu. In

addition to its designation as a multi-clan village (as opposed to the more common pattern of one clan per village in Kodi—see Chapter III), Wainuapu is also unique due to its close proximity to the main limestone quarry in Kodi.

Apart from the 22 households interviewed in Wainyapu, there was one household in the village of Ratengarro (situated about one km to the north of Wainyapu), three households tied to clans in Wainyapu located outside the main village, and one household in the traditional domain of Umbu Ratu Nggai. Umbu Ratu Nggai is tied to Anakalang socially, culturally, and linguistically. Therefore, the Umbu Ratu Nggai household is considered a representation of Anakalang (following the social characteristics of that area outlined in previous chapters) more generally. It would have been ideal to have obtained a larger sample from the Anakalang area considering the amount of general data on tomb building and social structure collected from Anakalang. However, it was logistically much more feasible to interview households in Kodi for a variety of reasons, including the close proximity of a reasonably large number of households within the village of Wainyapu and the relationship I had established with the villagers at that location. In the end, I feel that the presence of a household in Anakalang provides a nice illustration of the contrast between the two areas, particularly in terms of wealth.

### ***Demographic and Socioeconomic Data***

Various lines of data were collected from individual households in order to gain a better understanding of the overall social system that characterizes West Sumba. This kind of information included the following: 1) estimates of

household wealth; 2) brideprices and return brideprices of household heads and spouses as well as their offspring; 3) the clan affiliation of households as well as the clans with which they have a marriage-exchange relationship; 4) the household's history of feasting both hosted and attended (contributions, costs, supporters, and other details); and 5) any past tomb building undertaken by households with relevant details. Different aspects of the data were compared to one another in order to identify correlations that could explain inter-household variation.

### Household Wealth

Before making any inferences concerning the potential practical benefits linked to activities such as tomb building, it is first necessary to determine how wealth can be identified and measured in West Sumba and how this varies between households. As discussed in Chapter III, traditional wealth is strongly tied to one's access to livestock and land. While attempting to determine household wealth, I combined these traditional measures of wealth with more modern ones, such as salaries and cash crop profits. In household interviews, information was collected concerning the ownership of domesticated animals, yearly rice harvests, yearly maize harvests, yearly harvests of cashews, and income received from salaries and sales of produce or woven cloth. It was possible to collect this data from all of the households interviewed except for one case in which the household head was not willing to divulge clear information on livestock or cash income. In this case, conservative estimates (based on other individuals' accounts) were used to estimate livestock ownership, however, this

was not possible with income data and, therefore, no estimates were made for cash income.

In compiling household economic data, an indicator referred to here as the “Estimated Potential Annual Household Income” of households was created based on the estimated cash values of households’ domesticated animal holdings, yearly rice harvests, yearly cashew harvests, and the estimated income from salaries and sales. These were the items most appropriate for translating into cash amounts and represent the best indicators of traditional wealth (animals and rice) as well as modern (salaries, sales, and cash crop harvests). Among these items, domesticated animals typically represented the highest proportion of a household’s estimated income followed by rice and sales from cloth weaving. All of these values are based on the estimated cash worth of the items, some of which would not be sold for profit in an average year (e.g., rice, animals). It should be noted that among the households in Kodi, only two reported income from salaries, illustrating the degree to which people are still heavily tied to the traditional economy. Moreover, the most significant cash crop (cashews) used in the calculation of household wealth had only been grown for about five years prior to the time data was collected on household wealth (2003 & 2005) and thus did not represent a significant source of income for many households. It is also important to note that these estimates reflect yearly amounts in the case of harvests and animals on hand at the time of interview. Thus, as a combination of income and assets on hand, these numbers are in no way intended to represent a household’s real income in a given year (which is, in all cases, undoubtedly

much lower than what is presented here). In compiling these amounts and creating the criteria for estimating household wealth, the primary goal was to represent the overall variability and the relative wealth (on an ordinal scale) of households and not to generate *exact* measures of wealth.

When compiling all of the numbers for Estimated Potential Annual Income (in US dollars) for the households interviewed, a significant amount of variability came to light with the poorest household (Figure 5.1) having an Estimated Potential Annual Income of roughly \$3 and the wealthiest with one of about \$23,906. In most cases, the poorest households according to these estimates were headed by a widow of advanced age who relied upon basic food contributions from relatives. Overall, more than half of the households interviewed fell at the low end of the income scale, a fact which is aided by the presence of all six of the households headed by widows in the lowest income range (Figure 5.2). In the case of the wealthiest household based on the Estimated Potential Annual Income calculations, the household head was a very prominent individual in the Anakalang area who was a Kepala Desa and was spearheading a campaign to create a new regency (*Kabupaten*) in the central part of Sumba, which would be known as Central Sumba and be the third regency on the island along with West Sumba and East Sumba. While the next richest household in this study had an Estimated Potential Annual Income (\$7,656) considerably lower than that of the wealthiest household, the data on cash income and livestock ownership is incomplete for this household. This household may not be as wealthy as the Anakalang household, although it is

clearly the wealthiest among those interviewed in Kodi and is headed by a man who has gained much renown as the holder of many heads of livestock, a former *Kepala Desa*, the sponsor of many feasts, the builder of a large stone tomb, and the husband of 12 wives.

There are two issues that potentially distort the picture of household wealth presented above: 1) the ownership of livestock and 2) outstanding loans. Because a household's livestock holdings can be quickly depleted at times when the household sponsors or hosts a feast, including livestock as an indicator of wealth is potentially misleading. Thus, the Estimated Potential Income (in US dollars) of households was also calculated by removing the data of the number of buffaloes and pigs that the households owned (Figure 5.3). In comparing household income calculations that include livestock data and household income calculations that do not include livestock data, the relative wealth of households does not change a great deal (Figure 5.4). However, removing livestock ownership data does heavily skew the wealth of household 18, for which it was not possible to gain complete cash income information. In terms of outstanding loans, all households were asked about any debts related to the borrowing of livestock. Most households claimed to be debt-free in addition to claiming that no other households owed them any livestock, although there were a few ( $n=3$ ) for which information was gathered concerning outstanding loans and debts. The income data for these households was adjusted accordingly (i.e., adding or subtracting the value of livestock that the household is either owed by other households or owes to other households) (Figure 5.5). When accounting for

these debts in wealth estimates, the overall impact on inter-household relative wealth ranking is very small (Figure 5.6). Wealth estimates that account for such debts are also inherently misleading due to the fact that there were likely more than three total households who had outstanding loans and debts but chose not to report them. Because of this fact and the problem with omitting livestock data discussed above, the estimates of household wealth in all data analyses that follow are based on those displayed in Figures 5.1 and 5.2, which include livestock ownership data and do not factor in outstanding loans.

#### Household Clan Affiliation and Standing within Clan

As discussed in previous chapters, clans represent very important social units and active clan affiliation is essential for being included in clan socioeconomic support networks. In this study, a total of 13 clans were represented by the households interviewed in West Sumba. The households interviewed in Kodi were affiliated with the following clans: Ratengarro, Weinjolo Deta, Maghamba, Weinjoko, Weinjolo Wawa, Kaha Katoda, Kaha Malagho, Wei Katari, Baroro, Weingyali, and Mahendak. All of the clans except for Ratengarro were located in the village of Wainyapu. The only clan associated with the village of Wainyapu that was not represented by any of the households interviewed was the clan of Wei Hyombo. There were no standing structures (either ancestral houses or branch houses) of the Wei Hyombo clan in the village of Wainyapu when data for this study was collected. Outside of Kodi, the household representing the Anakalang area was affiliated with the clan of Dewakaworong.

Among the households interviewed, the standing of the household heads within their respective clans varied considerably. Three of the household heads interviewed were considered the heads of the clans with which they were affiliated. In spite of the high traditional social standing attributed to clan heads, neither of the two wealthiest households interviewed were considered clan heads of their own clans. Still, clan head households tended to be wealthier than other households, although this variation is not statistically significant according to a t-test (Figure 5.7; Test 1). When the data from widowed households (which tend to be poorer than those with a living patriarchal head) was removed from the wealth comparisons between clan head households and other households, the clan head households tended to actually have a lower estimated potential annual household income (in US dollars) than other, non-clan head households (Figure 5.8).

Taken at face value, the numbers suggest either a diminished role of the clan head or the lack of a correlation between political position within the clan and wealth. The sample size of clan head households ( $n=3$ ) is certainly small and could account for this lack of correlation between clan heads and wealth. However, as noted in Chapter III, real power and influence is wielded by individuals referred to as *tokoh* or *rato* (a different *rato* title than that held by the *rato marapu* traditional priests), who are not necessarily the official heads of clans (as is the case with the wealthiest households interviewed). Among the Kodi household heads interviewed, half were either *tokoh* or were the widow of a *tokoh* (13 of 26 households). All three of the clan heads interviewed were also

included in the category of *tokoh* and as a whole the estimated potential annual incomes of households headed (or previously headed in the case of widowed households) by individuals considered *tokoh* were significantly greater than that of other households (Figure 5.9; Test 2). When data from widowed households was removed from these comparisons, the wealth disparity between households headed by a *tokoh* and households not headed by a *tokoh* was even greater (Figure 5.10; Test 3).

It is clear that *tokoh*'s (or *rato*'s) represent the major players in Kodi not only in social and political affairs, but economic affairs as well. Working in Kodi in the late 1970's and early 1980's, Janet Hoskins (1984) described a situation in which there were few people who had actually achieved the designation of *rato* in the area. Why there are so many people who claim this status currently is not entirely clear. It is possible that more people are sponsoring large feasts and building tombs in Kodi than ever before. However, not all people considered *tokoh* have completed all of the steps necessary to claim the title in the traditional sense. In two such cases, the individuals had a special role as a ritual practitioner. In another case, leadership abilities were cited as a major reason why the person was considered a *tokoh* in spite of not having sponsored a large *woleka* feast. It is possible that there has always been a certain amount of flexibility associated with the title, as other aspects of authority were also not very fixed in pre-colonial times (see Chapter III). However, this is contrary to the situation in Kodi described by Hoskins (1984: 272, 273) where there appears to have been strict adherence to the requirements to achieve *rato* status. In my

own fieldwork, the term *tokoh* (which is used to refer to prominent individuals throughout both West and East Sumba) was used more often when referring to individuals of high renown than *rato*, which was mainly used when referring to traditional ritual practitioners (*rato marapu*). With the ever increasing use of Indonesian, the word *tokoh* may be preferred, in part, because it is freed from the strict requirements associated with the *rato* designation.

Other households that had a special standing within their clan include those headed by ritual practitioners and stone working specialists. Of the two household heads with a special role in rituals, one is the *rato nyale'* who presides over the Wainyapu *pahola*, the main component of which is the ritual battle between two groups of clans on horseback. The *rato nyale'* was not one of the wealthier households interviewed, but was considered to be a *tokoh* by virtue of his position even though he had never built a stone tomb. Another household, inhabited by a widow, was formerly headed by a ritual practitioner (*rato kabalako*) with the special role of presiding over small ceremonies considered to prevent theft within the village. Two household heads interviewed were stone workers (the leader of a small crew that quarries tomb stones). One of these individuals was considered a *tokoh* due to the fact that he had erected a stone tomb and possessed leadership abilities, although he had not sponsored a large *woleka* feast.

### Marriage Expenses and Sponsoring

As has been illustrated in Chapter III, marriage can be a costly process with potentially high brideprice and return brideprice payments. This was

therefore one of the areas explored in household interviews. In general, the expense of a brideprice is considered to represent the relative social standing and wealth of the bride's family. At the same time, high bride prices require a groom from a family with adequate means. Thus, an examination of brideprices within households was considered to be a fair gage of the relative wealth and renown of the household. Reported brideprices paid by the families of male household heads (from 25 of the 27 households interviewed) ranged from 10 heads of livestock (five water buffaloes and five horses) to 60 (30 water buffaloes and 30 horses) in one case. Because some household heads had more than one spouse, numbers for all brideprices were combined for each household interviewed in Kodi (Figure 5.11).

Information on the brideprices associated with the marriage of the household heads' offspring (i.e., the brideprice of the household heads' daughters and daughters-in-law) was also obtained. In the interview process, brideprice information for offspring was considered important due to the fact that it could potentially represent the continued wealth and status of a household. In this regard, the brideprices for marriages of later household members (household heads' offspring) could be considered a better way to gage relative wealth and status due to the fact that it represents the state of the household some years after it has been established. A variability similar to that which characterized the brideprice expenses paid for the marriages of the household head exists when comparing the brideprice expenses for the household head's daughters and daughters-in-law (Figure 5.12) and the combined brideprice expenses of the

household head, household head's daughters and household head's daughters-in-law (Figure 5.13).

These brideprice costs would have limited meaning in a discussion of household wealth if they did not represent the actual wealth of households. For the analyses of household wealth in relation to brideprice as well as tomb building, feasting, and material culture (see below), each household was classified into one of two different wealth categories based on estimated potential annual income: 1) poorer households (household incomes less than \$1,200 US dollars) and 2) wealthier households (household incomes \$1,200 US dollars or greater). With the omission of widowed households, there were 12 households in the poorer household category and 8 households in the wealthier household category. These categories are used for most of the analyses of links between household wealth and other data (e.g., household sociopolitical standing, marriage, feasting, material culture) and best represent the overall variability in wealth by emphasizing a significant gap in income, while creating two categories with comparable numbers of households. This gap appears to be significant enough to obviate any potential problems due to inaccuracies in data collection.

When comparing brideprice costs between household wealth groups, the result is generally an overall pattern of increased costs of brideprices for the marriages of household heads and their offspring that correlates with income (Figure 5.14, 5.15, and 5.16). According to t-tests, the most significant variability in brideprice costs between the two wealth categories was associated with the brideprice costs of household heads' offspring (Test 4, 5, and 6). The fact that

the relationship between household wealth and the brideprices of the household heads' offspring is apparently stronger than the relationship between wealth and the brideprice expenses for the household heads' own marriage(s) would indicate that the current wealth of the household is best reflected in the more recent marriage transactions involving household members as opposed to those that may have taken place when the household was first formed. At the same time, a strong relationship between wealth and brideprice costs very likely represents the value of establishing important affinal relations that develop into relationships of mutual sociopolitical support with their continued renewal at periodic feasts.

Not only are the brideprice costs an important factor in examining marriages from the perspective of social standing and wealth, but also the sponsorship of marriage payments. Gathering the required livestock for brideprices typically requires some support from extended family and friends, and the livestock presented for brideprice can be the result of borrowing from a variety of individuals. In a marriage arrangement, one person is considered to officially be the sponsor, who provides a certain amount of livestock and plays a lead role in the negotiation of the marriage and associated brideprice and return brideprice payments. The sponsor is often the father of the bride or groom, but sometimes is an uncle. When a man has more than one spouse, he usually sponsors his own brideprice for marriages beyond the first. The sponsor does not necessarily provide all of the livestock required for brideprice. Informants claimed that at least 1/3 of all livestock must come from the individual considered to be the sponsor, while the remaining can be the result of borrowing.

Unfortunately, in the course of interviews, I could only obtain information regarding the identity of sponsors and not the amount of borrowing that was necessary for a marriage to occur. Borrowing was consistently denied when the subject of brideprice was being discussed unless it was acknowledged that a father or other relative was the sponsor of a marriage (in which case the amount of livestock provided by the sponsor was not given). Because of this lack of precise information concerning the livestock expenses incurred by sponsors, the best way to quantify the data on marriage sponsoring was to take the sum of the total number of times individuals served as the sponsor for the brideprice or return brideprice payment of a marriage negotiation (Figure 5.17). Analyzing the data for household marriage sponsoring in relation to wealth yields a similar pattern to that found when examining brideprice and income, with the wealthiest households typically sponsoring more marriages than other households (Figure 5.18). A t-test (Test 7) does indicate that this variation in sponsoring between wealthier households and poorer households is statistically significant, although the boxplot (Figure 5.18) appears to reflect a weaker relationship between wealth and sponsoring than that which exists between wealth and brideprice. This weaker relationship is probably attributable to the fact that there are no specific data for the livestock contributions associated with marriage sponsoring (i.e., it is not clear how much livestock was contributed by solely by the sponsors).

### Summary

The data concerning household wealth, clan affiliation, social standing, and marriage expenses and sponsoring together make up the total picture of

household socioeconomic standing. As such, this data is valuable in determining the practical benefits of tomb building in West Sumba. Comparing household sociopolitical standing (e.g., designations of clan head and *tokoh*) and marriage investments to household wealth indicates clear links between social position, wealth, and marriage costs. What follows in the discussion of individual household tomb building and feasting behavior is an attempt to determine whether there are also links between these socioeconomic/demographic indicators and tomb building.

### ***Household Tomb Building and Feasting***

In Chapter IV, I presented a general overview of the process and expenses associated with building megalithic tombs in West Sumba. In the description of this process, tomb building can be viewed as a succession of large feasts (from quarrying to final carving). Therefore, I discuss household feasting behavior together with tomb building in this section. Both feasting (including those associated with tomb building) and tomb building are compared to household demographic and socioeconomic data. In addition, household tomb building is compared with data concerning other household feasting (feasts not associated with tomb building) to ascertain whether there is a significant link between household tomb building and household investment in other kinds of feasts. Establishing such a link is important if we can assess the relative importance of feasts associated with tomb building compared to other large feasts in their social significance.

### Tomb Building among Interviewed Households

In the course of interviews with household heads in West Sumba, information concerning all of their previous sponsorship of tomb building was solicited. This data covered both the times the household head acted as the primary sponsor for the construction of a tomb for himself, his father or his grandfather. In Chapter IV, variability was apparent in comparing tomb size (based on the estimated weight of tomb capstones and the total estimated combined weight in tonnes of all stones that make up the tomb) and total tomb building costs of a variety of cases for which information was collected (Figures 4.1, 4.2, 4.3). However, some of the cases represented in the Chapter IV figures were from households that did not participate in complete household interviews. In this section, information on tomb building from only those households that participated in the complete interviews that included demographic and socioeconomic data is examined.

A total of 16 of the 27 households interviewed had built at least one tomb. For each household, the estimated total combined weight of all tomb stones erected was calculated. Tomb stone weights were calculated by using size estimates gathered in the field to obtain approximate volumes of tomb stones. Weight was calculated from these estimates by using the average weight of limestone per m<sup>3</sup>. Comparing these weight estimates results in a considerable amount of variability (Figure 5.19, 5.20). In some cases, walls were not made from large limestone slabs, but instead were built from a combination of limestone bricks and cement. In these cases, I considered the weight of the

walls to be about half of the weight of similarly sized walls made from single slabs of limestone. This is a judgmental and somewhat inaccurate estimation. However, the significantly lower estimated weight for walls made of bricks and cement probably better describes the lesser amounts of labour required to quarry and move bricks in comparison to large slabs of limestone. In the case of bricks, a large crew is not typically required (it was often done by the tomb owner and a couple of close relatives) nor is a large feast required (with one or more pigs to feed those who would haul the large stone slabs). Because these are imprecise estimates based on size estimates translated into limestone weights (based on the weight of limestone per unit volume), tomb-building households were grouped into two categories based on the combined weight of household tombs: 1) households with lighter combined tomb weights (less than 20 tonnes) and 2) households with heavier combined tomb weights (20 tonnes and heavier). These two categories were used in analyzing the relationship between tomb weights and household socioeconomic and demographic data.

With regards to the total required costs of household tomb building endeavors, estimated costs of the food (rice, livestock) and drink (coffee, tea) were compiled in addition to any special payments made to contract quarry crews, rent trucks capable of hauling large stones, and purchase cement. These costs can be high and at least some of the livestock represents contributions from other households. The differences exhibited among the total costs of tomb building are actually higher than the variability associated with tomb weights (Figure 5.21, 5.22). There are two factors that could account for this: 1) the size

of the feasts associated with stone tomb building do not necessarily closely reflect the size of the crew necessary to built the tomb and 2) exaggerated claims made by informants. As discussed in Chapter IV, unnecessarily large crews and large feasts can be associated with puling stones as a way to promote the success of the sponsor. With regards to exaggerated claims, this appears to be a fairly common practice for stones hauled in the distant past and some of the tomb building data in this study was collected for tombs that had been built more than 10 years ago. Because of these potential inaccuracies associated with tomb building costs, for purposes of analysis, tomb building households were also divided into two categories based on the combined costs of building their tombs: 1) households with low tomb building costs (less than \$5,000 US dollars) and 2) households with high tomb building costs (\$5,000 US dollars and over). When comparing tomb building costs with weights in terms of these cost and weight categories, a strong positive relationship (i.e., higher costs tend to be associated with heavier combined weights) between the two sets of data is revealed (Figure 5.23).

When comparing this data on past tomb building to current household wealth, the goal was to determine whether there was a potential link between household wealth and past tomb building. Establishing such a link would strengthen claims that certain socioeconomic advantages could be accrued through tomb building. The status one can acquire with the title of *tokoh* which is largely achieved as a result of tomb building and other feasting has already been discussed above. If it could be demonstrated that wealth were also part of the

complex associated with tomb building, then practical benefits might be linked to the accumulation and use of wealth for tomb building. Alternatively, such a link between tomb building and wealth could reflect a situation in which tomb building is simply a byproduct of wealth (i.e., tomb building is a way for households to expend surpluses). If other socioeconomic data (e.g., political power) were linked to tomb building as well, this notion would seem less likely however (see Chapter 5 discussion).

In tabulating this data, I purposely excluded cases in which the household head had passed away more than 10 years prior to interview. As mentioned previously, households headed by widows of advanced age are very limited in terms of their wealth potential and tend to be heavily dependent upon younger siblings and married offspring. Thus, the current wealth of these widowed households would not accurately portray potential advantages associated with tombs that were built while the patriarchal household head was still living.

Because of the inherent inaccuracies of determining wealth mentioned in the previous section, tomb building households were grouped into two different wealth categories based on their estimated potential annual income: 1) least wealthy tomb building households (estimated potential annual incomes of \$2,000 US dollars and under) and 2) most wealthy tomb building households (estimated potential annual incomes of more than \$2,000 US dollars). The division of estimated potential income at \$2,000 US dollars is necessarily different from the overall division of household wealth (that includes both tomb building and non-

tomb building households) due to the higher levels of wealth represented among tomb building households.

The wealth data for tomb building households was cross-tabulated with the categories associated with tomb costs (higher vs. lower tomb combined tomb costs) and tomb weights (heavier vs. lighter combined tomb weights). In the case of tomb costs, there was a relationship between the wealth of tomb builders and the costs associated with their tombs (Figure 5.24). This pattern was statistically significant according to a chi-squared test (i.e., wealthy households were represented to a disproportionately high degree in the category of high tomb building costs) (Test 8). The relation between the estimated combined weight of all tombs erected by households and household wealth was even stronger (Figure 5.25; Test 9). In this case, it appears as though size does matter to some extent. Indeed, the largest tomb in Kodi (a total weight of about 60 tonnes) for which data was collected was built by one of the most prominent individuals (now deceased) connected to the village of Wainyapu since the time of Indonesian independence (1949) and the second largest (a total weight of about 50 tonnes) was the tomb built by a person who is arguably his most renowned son.

If building tombs may be advantageous in terms of gaining renown and access to power and wealth, then households that have built tombs should differ from those that have not. In order to evaluate this expectation, households were grouped according to whether they had built a tomb. For this comparison of wealth, households headed by widows of advanced age were omitted from the

analysis resulting in a total of fifteen households that had built a tomb and seven that had not built a tomb. The wealth of households from each of these groups was then compared against each other, with tomb building households having substantially higher potential incomes than non-tomb building households (Figure 5.26). This difference was statistically significant according to a cross-tabulation chi-squared test with two wealth categories (households with estimated potential annual incomes of less than \$1200 US dollars and households with estimated potential annual incomes of \$1200 US dollars or greater) compared against the two categories of tomb building vs. non-tomb building households (Test 10). Because the Anakalang household (a tomb building household) had such a larger potential annual income than other interviewed households, a second comparison of wealth between tomb building households and non-tomb building was made focusing only on Kodi households. In this case, there is a clear difference in wealth between tomb building and non-tomb building households apparent in a boxplot (Figure 5.27), although this was not a significant variation according to a cross-tabulation chi-squared test (Test 11). While the wealthiest households in this sample are tomb building households, the presence of tomb building households at the lower end of the income scale appears to account for this apparent lack of a strong statistical relationship. These exceptions are not easy to explain, but are likely the result of powerful kin relations and in some cases, exceptions are also clearly the result of low tomb building costs that include the use of bricks and cement for tomb walls (a cost-cutting measure that would not have existed in the past). The role of the entire clan and its combined

wealth in building tombs is particularly interesting, as Clarke (1998) noted a similar situation among the Akha, where there was a lack of correlations between feast costs and wealth that appeared to be attributable to the fact that lineages represented the major feasting unit as opposed to households. However, in West Sumba, it is important to note that only one of the non-tomb building households could be included in the category of wealthier households. This particular household was headed by one of the youngest interviewed household heads who had plans to build a tomb within a few years.

As discussed in the previous section, brideprices and marriage sponsoring are important reflections of wealth and social standing. Sponsoring marriages, like sponsoring large feasts and tomb building, is considered to be one of the avenues through which one gains renown in the social realm and can gain political and economic advantages by engaging in wife-giver:wife-taker exchange relationships. Thus if tomb building is associated with practical social, political and economic benefits, one might also expect there to be a link between tomb building and such things as brideprice costs and marriage sponsoring, which play important roles in forming political alliances and accessing wealth and power. If, as argued, tomb building is used to attract potential marital alliances with economically and politically prominent families, then there should be a relation between tomb building and marriage prices.

When comparing marriage costs to tomb building, there was indeed a positive correlation between the combined brideprice costs associated with the marriage of household heads and the household heads' offspring and the

combined weight of all tomb stones erected by households (Figure 5.28). In the case of tomb costs, the link with brideprice costs was even stronger (Figure 5.29). If viewed as another indicator of wealth, these comparisons make sense in light of the other comparisons between household wealth and tomb building discussed above. It was also explicitly stated by informants that a record of past tomb building could be advantageous at times of marriage arrangements. These arrangements would typically be for one's offspring, although some individuals married a second or third spouse after they had built a tomb. In most cases, it is difficult to explore the prospect that tomb building can aid in soliciting future marriage arrangements in the data at hand due to the fact that many who had built a tomb did so within a couple of years prior to being interviewed and not enough time had elapsed to realize potential benefits. However, in some cases it was possible to compare tomb building with the later marriage costs of offspring (Figure 5.30). While the sample of households in this analysis of later marriage costs is necessarily small ( $n=4$ ), the strength of the correlation and informant testimony regarding the benefits of tomb building in relation to securing marriages with other wealthy and influential families would indicate that there are very likely advantages to having built a tomb prior to or when entering a marriage negotiation.

Comparing marriage and marriage sponsoring data between those that have built a tomb and those that have not, the results are similar to the analysis of household wealth. Households that have built a tomb reported significantly higher combined brideprices in marriages of household heads and household

heads' offspring (Figure 5.31). Households that have built a tomb as a whole have also reported much more marriage sponsoring in comparison to households that have not built a tomb (Figure 5.32). The differences in brideprice costs and sponsoring between tomb building and non-tomb building households were found to be statistically significant according to t-tests tests (Test 12, 13). This should not be terribly surprising considering that these same numbers related to marriage and marriage sponsoring also correlate with household wealth. Like tomb building, marriage sponsoring is an important component of achieved status in West Sumba, but also serves as a means of controlling the labour and support of younger generations (through indebtedness) and establishing critical alliances of support (political and economic) with other wealthy and influential families, lineages, and clans. The wife-giver:wife-taker relations established through marriage sponsoring and brideprice negotiations are also helpful in soliciting the support that can be required to build tombs.

### Tomb Building and Feasting

The process of building tombs entails a series of large feasts (see Chapter IV). These feasts can range from relatively low-key events to feed a handful of people quarrying stone to the larger feasts that occur when large stones are dragged and involve hundreds of people who haul the stones or are invited to witness the event. In addition to the data on these tomb building feasts, information concerning households' investments in past large feasts was collected in interviews. These investments were concerned with livestock contributions to large feasts attended and hosted (i.e., feasts for which

households acted as the primary sponsor). For the feasts attended, information on any livestock contributions to feasts in the past 10 years was collected in interviews. This 10 year cut-off was necessary due to variability in the memories and/or the willingness of informants to participate in detailed discussions of past feasts attended. Information on all large feasts hosted (housebuilding, funerals, thanksgiving feasts) by households since the formation of the households was solicited from informants. Because of the importance of these kinds of feasts and the fact that they are infrequently held by individual households, it was not difficult for informants to recall details of the large feasts they had sponsored 20 or 30 years ago. Weddings are excluded from this analysis, as the main aspect of traditional weddings is the exchange of livestock already covered in the previous discussion on marriage and brideprice. While there is usually a feast held at the time of brideprice negotiations, it is typically subsumed in the total return-bride price (e.g., a pig from the bride's family is killed and eaten). More modern wedding feasts have become a part of the marriage process in other parts of Sumba and in Muslim parts of Kodi, although informants in this study reportedly did not hold a special event separate from the traditional marriage negotiations.

Comparing feasting to other socioeconomic data (e.g., household wealth) resulted in a similar overall pattern to that which emerged from the analysis of tomb building and the same socioeconomic information. There was a positive relationship between the total livestock investments (heads of cattle, pigs, and buffaloes) in feasts hosted (including tomb building feasts) and attended and the

estimated potential annual income (in US dollars) of households (Figure 5.33). That is, the wealthier households tended to invest more in feasts hosted and attended than poorer households. According to a t-test (Test 14), this variability is statistically significant. Thus, there is clearly a link between feasting and wealth similar to that which exists between tomb building and wealth. This positive relationship holds up when singling out feasts hosted by households (Figure 5.34; Test 15). Examining feasts attended, there appears to be a weaker relationship between household wealth and feasting investments (Figure 5.35).

The social standing of the households is also worth noting when analyzing feasting behavior. Therefore, comparisons were made between the feasting investments of *tokoh* and clan head households and the feasting investments of other households. Because virtually all of those who were considered either a *tokoh* or a clan head had built a tomb, while the majority of other households had not, feasts held in the process of building tombs were not included in this analysis of feasting. In these comparisons, households headed by either a *tokoh* or a clan head tended, overall, to invest more livestock in feasts than other households (Figures 5.36, 5.37; Test 16). The differences in feasting investments between *tokoh* or clan head households and other households are even more pronounced when looking solely at feasts hosted (Figures 5.38, 5.39; Test 17). This pattern is consistent with the fact that hosting large feasts is considered to be a necessary step to achieving the title of *tokoh* or *rato*, which in this case is also tied to all of those identified as clan heads.

In terms of brideprice and marriage sponsoring, the analysis of feasting yields results similar to those associated with tomb building. The correlation between livestock investments in all feasts and the brideprice expenses (heads of livestock) associated with marriages of household heads and their offspring was unusually strong (Figure 5.40). The relationship between brideprices and feasting investments are not entirely surprising, considering that many feasting investments are a reflection of feasting exchanges between affines. Those households with the highest accumulative brideprice expenses are those that have been associated with either a high number of brideprice negotiations or a smaller number of very high priced marriage arrangements. Indeed, more than half of the total livestock contributed by these households for feasts in other clans were associated with wife-giver:wife-taker exchange relationships.

With these overall similarities in the analyses of both feasting and tomb building with socioeconomic data, a link between feasting (not including those associated with tomb building) and tomb building can be expected. Indeed, there does appear to be a relationship between feasting (all feasts attended and non-tomb building feasts hosted) and tomb weights as well as feasting and tomb costs (Figures 5.41, 5.42). In these cases, households that had higher overall tomb building costs and/or higher overall tomb weights also invested considerably more in feasts than households with lower tomb weights/costs. This variation was found to be statistically significant according to t-test in the case of tomb weights (Test 18), but not tomb costs (Test 19). The apparent relationship between feasting and tomb size/costs is very likely attributable to the

fact that tomb building usually involves livestock contributions from other households. These contributions are either returns on previous feasting contributions on the part of the household building the tomb or contributions that must be reciprocated in kind at a later time. In either case, the result should be reflected in the data on feasting investments of households that have built tombs. When looking solely at livestock contributions for feasts attended by households, a similar relationship between tomb sizes/costs and feasting investments is revealed (Figures 5.43, 5.44). The variation in the livestock investments in these attended feasts between households with higher tomb costs/weights and households with lower tomb costs/weights were not found to be statistically significant according to t-tests however (Tests 20, 21).

When investigating the correlations between household investments in large feasts hosted (not including feasts for households' tomb building) and the costs and weights associated with stone tombs, the relationship is stronger than that between feasts attended and tombs (Figure 5.45, 5.46). This is biased by data from a household head (household 12) who hosted very lavish feasts in the distant past in addition to building the largest tomb in the data sample, but who passed away more than twenty years ago. The widow of this household head was of advanced age at the time of interview and could not recall details of attended feasts from the time when her husband was still living. When this household is removed from the analysis, the investments in feasts hosted by households with high tomb weights is significantly more (statistical significance demonstrated in a t-test test) than those investments by households with lower

tomb weights (Test 22). However, the same statistical significance could not be demonstrated for the comparison of tomb costs and feasts hosted (Test 23). This fits the overall pattern that is evident thus far, namely, the more one hosts feasts and the more lavish one's tomb, the more likely they are to be wealthy and have achieved renown. The fact that the relationship seems to be stronger when comparing tomb weights is probably related to the greater potential today for poorer families to construct small tombs using bricks and cement than was the case in the past as well as inaccuracies associated with estimated tomb costs, since tomb building costs are composed of estimates of items ranging from coffee to livestock. In spite of this, the overall link demonstrated between non-tomb feasts hosted and tomb building only solidifies the previous links between both of these variables with other socioeconomic data discussed above.

While there may be some inaccuracies associated with the estimates of tomb costs and weights that could potentially reduce the correlations between these variables and other household data, the issue of who has built a tomb and who has not built a tomb constitutes fairly reliable and accurate information. In the case of feasting, those who have built a tomb have also invested considerably more in non-tomb building feasts (Figure 5.47). This difference in feasting investments was also clear when comparing the degree to which these same households contributed livestock for large feasts hosted (Figure 5.48). The variation in feasting investments between households that have built a tomb becomes most apparent when comparing tomb building/non-tomb building households with households that have invested more than or less than 5 heads

of livestock in all feasts (Figure 5.49, Figure 5.50). Chi-squared tests (Tests 24, 25) indicate the statistical significance in the variation in feasting investments. The overall pattern displayed in these analyses of tomb building and feasting is very similar to the difference in the wealth of households who have built a tomb and those that have not (Figure 5.26).

Interestingly, when singling out feasts attended by households, the degree to which households invest in feasts lacks significant correlation with tomb building. In the cases of feasts attended, households that have not built a tomb tended to invest a little more in feasts attended than tomb building households, although this relationship is clearly not strong (Figure 5.51). Upon closer examination, the kind of feasts for which households contribute livestock is an important factor to consider. For feasts outside of one's clan, households that have built a tomb do tend to contribute more than households that have not built a tomb (Figure 5.52). In the case of feasts attended within one's clan, households that have not built a tomb tended to contribute more livestock than households that have built a tomb (Figure 5.53). It should be expected that tomb building households would invest more in feasts outside of their clan due to the link between tomb building and marriage sponsoring (i.e., households that have invested more in brideprices should be those that invest more livestock in feasts of affines and likely other relations outside of their clans). Why households that have not built a tomb tend to invest more in feasts within their clans is a little less clear. As noted previously, participation in clan feasts is necessary for maintaining influence in clan affairs and access to clan socioeconomic support

networks. This fact would explain at least some of the investments on the part of households that have not built a tomb in feasts attended within their clan. Also, the possibility that some households interviewed (especially younger households) were in the process of building up a network of debt relationships that could be called upon for future feasts (including tomb building feasts) could explain why households that have not yet built a tomb invested more in attended feasts within their clans than households that have built a tomb. The high degree to which most sponsors of large feasts depend upon contributions from within their own clan bolsters this notion (see Chapter III). This all suggests that tomb builders are more involved in the inter-clan sociopolitics than non-tomb building households. In the current political context, positions of power, influence, and wealth extend far beyond the clan. The close relations between the clans in the village of Wainyapu may also be a factor. Participation in feasts of other clans within the same village does occur perhaps more frequently than in cases when clans occupy separate villages, but in the same *kabihu* confederation of allied clans. This assessment is only preliminary without data from single clan villages.

### Summary

The connection between tomb building and feasting in general is clearly very strong and reflective of the fact that tomb building comprises a series of large feasts that require significant expenses in livestock and rice. Investments in feasts are significantly correlated with wealth and marriage expenses as well as tomb building. These three uses of surplus wealth (marriage sponsoring, tomb building and feasts) are all considered essential for the achievement of

renown and political power in the traditional context of West Sumba. In the current context of accessing power in local and regional politics, making a name for oneself through hosting large feasts and building tombs continues to be very important. The most successful individuals in modern politics (households 12, 18, and 27) represented in household interviews were also among those who had built the largest or most lavish tombs and invested the most in feasting and/or brideprices. One's ability to lead, host large feasts, and build tombs within the traditional context is considered to be an important factor in elections of local officials, as was the case of a recent *kepala desa* elected in Kodi who reportedly won an election, in part, based on these traditional criteria of merit despite lacking the education level of his opponents. Major supporters (who supply feasting contributions and general campaigning labor) of these individuals can be promised administrative posts if campaigns are successful, although it is not always possible to deliver on these promises. In short, the politics of West Sumba are not unlike the politics of most of the rest of Indonesia or the world. However, with limited economic opportunities, these positions of civil service and officialdom represent the major avenues to obtain cash wealth for those who have not relocated to other parts of Indonesia, a fact which undoubtedly helps explain why these traditional means of accessing power (feasting, marriages, and tomb building) remain so prominent.

### ***Household Material Culture***

Household material culture in West Sumba was examined in order to situate the discussion of tomb building and its social, political, and economic

correlates into a framework appropriate for archaeological discussions of site formation processes associated with households (e.g., Horne 1994; Schiffer 1987). The goal was to determine whether tomb building, feasting, and wealth might also be reflected in the overall material culture patterning of households. Particular attention was paid to those items associated with feasts, as feasts are an integral part of the process of building tombs. It was hoped that the patterning associated with these items might be reflected in the degree to which households feast and build tombs. Architectural features, such as benches used for feasts were also seen as potential indicators of this kind of behavior as was the number of buffalo horns and pig mandibles displayed at the houses.

For most of the households interviewed (22 out of 27), it was possible to create house maps and to inventory the material culture within the houses. In collecting material culture data, three primary issues that could bias the inter-household comparisons were identified through the course of household interviews:

- 1) Households often pool plates, spoons and other items together among clan members when holding large feasts (see Chapter III);
- 2) Many people occupying houses in the ancestral village of Wainyapu also own houses adjacent to plots of cultivated land where they spend a good portion of the year and reportedly store plates and other items;
- 3) Structural features of ancestral houses are more reflective of the group of people tied to the house as a whole rather than the individuals who occupy the house; and

#### 4) Different stages in household lifecycles.

The practice of pooling dishes and other utensils for feasts is reportedly common, not unlike the situation of borrowing one finds in the Torajan highlands of Sulawesi (Adams 2001, 2004). In fact, marks of ownership are often put on plates and glasses so they can be retrieved by the owner after a feast (Figure 5.54). This practice was expected to lead to a leveling in the inter-household variability of the ownership of items used for feasts. The situation of multiple houses used by families made accuracy an obvious issue. Unfortunately, informants' second homes were often kilometers away from the ancestral village and time did not permit inventories of both the houses in the ancestral village and the garden houses that the individuals occupied at other times of year. In order to mediate this, I asked informants directly how many plates, bowls, pots, etc. they owned. These numbers were compared to the counts of how many of these items were actually observed in informants' houses. The largest of the two numbers for each item in question was then used in this analysis. In terms of the architectural features of houses, the majority of those interviewed lived in the ancestral houses of their affiliated ancestral house groups. Analyses of the inter-household variability related to architectural features thus had to account for the fact that ancestral houses represent a larger group of households and that their construction is typically a collectively financed endeavor. Moreover, ancestral houses were sometimes inhabited by people who were not considered to be the official guardians of the house (who should be the eldest male descendent of the founding line of the ancestral house group). Thus, the primary sponsor of house

construction in the case of ancestral houses often lived outside of the ancestral village.

Apart from the ancestral houses and main branch houses within the village of Wainyapu, there were two households interviewed that were situated outside of the main village. However, in one case it was not possible to visit the informant's home although it was possible to collect demographic, socioeconomic, tomb building, and feasting data. In another case, the informant owned several houses in a compound, making a serious material culture inventory a monumental task in the time constraints associated with the interview.

### Food Serving Items

The primary items used for serving food at traditional feasts were plates, bowls, spoons, and glasses. The plates (often almost resembling bowls) were usually either made from glass or porcelain, although plastic plates were used at feasts as well, and were used for serving rice with or without meat. Plates were traditionally made of wood and a few households owned wooden plates. Bowls were usually made from plastic and used for serving pork or chicken in broth when rice was served separately on a plate. Spoons were of the standard stainless steel variety, while beverages (coffee, tea) were typically served in glasses. The general expectation was that those who had built tombs and hosted the most feasts would also be the households that owned the largest number of these kinds food serving items.

Because spoons, glasses, bowls and plates are used in combination, households ideally should have equal numbers of these items (i.e., spoons do not have much value without corresponding plates). This was largely the case for plates, spoons, and cups. However, the distribution of plastic bowls tended to correlate less with these other items. This could be explained by the fact that one's stock of utensils was dispersed due to storage in other locations or even loaning. Plastic bowls are also a little more flexible and can be used for separating out meats and greens when preparing meals. In any event, owning large numbers of plastic bowls, like spoons, glasses and plates, does not serve much utility unless they are used for feasts. Thus, in analyzing these items in relation to feasting, tomb building and wealth, I combined the counts of spoons, plates, bowls and glasses into a total food serving item variable. Adding these together also balances out situations where there were, for example, many plastic bowls visibly present in households, while other items (e.g., plates) were not visible and not reported by informants.

Comparing the counts of food serving items to feasting and tomb building yielded results that were a little different from expectations. While there is a positive correlation between feasting and the ownership of spoons, plates, bowls, and glasses, the relationship is extremely weak (Figure 5.55). When separating out large feasts hosted and attended by households, patterning was not very significant. In fact the median number of food serving items owned by households that host fewer large feasts is less than that of households that host more large feasts (Figure 5.56). However, for feasts attended, there appears to

be more of a relationship between feasting and the ownership of food serving items (Figure 5.57).

The lack of particularly strong links between feasting and the ownership of food serving items displayed in these figures is likely attributable to the fact that borrowing and pooling of plates, spoons, bowls and glasses precludes the necessity to have an abundance of these items when hosting a large feast and incomplete data due to non-visible inventories and inaccurate memories/estimates. Also, large feasts were hosted on a relatively infrequent basis among the households interviewed, with no household in the material culture analysis hosting more than five large feasts. These results are very similar to those derived from an analysis of feasting and material culture in Sulawesi, Indonesia, where correlations between feasting behavior and the ownership of food serving items were weak and considered to have reflected a scenario of borrowing as well as the infrequent hosting of large feasts (Adams 2001, 2004). This contrasts to the pattern of material culture ownership documented by Clarke (1998, 2001) among the Akha of northern Thailand where feasts, both large and small, were held on a more frequent basis and greater correlations between the ownership of feasting material culture and feasting behavior were exhibited.

What is more encouraging with regards to food serving items is the fact that households who have built a tomb tend to own more bowls, plates, glasses, and spoons in comparison to households that have not built a tomb (Figure 5.58). The relationship between tomb building and the ownership of food serving items

is particularly apparent when dividing up the ownership of food serving items into two categories: 1) households that own a combined more than 45 food serving items and 2) households that own a combined 45 or fewer food serving items (Figure 5.59). This variation is statistically significant according to a chi-squared test (Test 26) and is consistent with the overall link between feasting and tomb building, illustrating the potential of identifying tomb building households on the basis of material culture. This link is important considering the fact that tombs can be located some distance from the households that sponsored their construction (i.e., tombs are usually situated at ancestral villages, while the sponsors can live some distance from the village). In contrast, identifying variability in the size/lavishness of a household's tomb based on counts of food serving items owned by the household does not hold the same promise (Figures 5.60, 5.61).

The comparison of food serving items to wealth results in what appears to be a negative relationship between the ownership of food serving items and household wealth (Figure 5.62). This relationship appears to call into question any of the positive relationships of those displayed between feasting or tomb building (Figures 5.55-5.59) and the ownership of these same items, considering the positive relationship between feasting/tomb building and wealth. Thus, none of the relationships associated with the ownership of food serving items appear to hold much significance. From the perspective of material correlates for feasting, tomb building, and wealth this is a discouraging result. However, the presence of a relationship between wealth and food serving item ownership very

similar to that displayed between feasting/tomb building and food serving items does serve to reinforce the link between wealth and feasting/tomb building demonstrated above (see Figures 5.23-5.52).

### Pots

In the contexts of both everyday cooking and feast preparations, food is cooked in aluminum, and sometimes ceramic, pots. In fact, pots are the primary elements of cookery used among the households interviewed in Kodi. In inventories of household material cultures, these pots were counted and estimated sizes of pots were noted. As was the case with food serving items, information concerning the number of pots owned by the household was also solicited in interview sessions. Due to their role in feast preparations, it was expected that there would be some kind of positive relationship between feasting and the ownership of these pots, although the same borrowing and pooling associated with the use of food serving utensils also applied to the pots used for feasts.

Counts of pots were summed for each household and analyzed in terms of feasting, household tomb building, and household wealth. Because there is variability in the standard size grades of pots, the ownership of large pots (pots with diameters of 20 cm or greater) was also examined. Those households owning the most large pots were expected to be the most involved in feasting. In addition, the cumulative diameter of all pots was calculated for all households. Creating a lump sum of the estimated diameters of all pots owned by a household gives a reasonably good indicator of the amount of food the

household could prepare at any one time. This was found to be a useful way in which to analyze the ownership of pots among Torajan households in Sulawesi (Adams 2001) and was derived from a method of creating cumulative measurements of the diameters of woks among Akha households of northern Thailand (Clarke 1998, 2001). Logically, households with the largest cumulative diameters of owned pots would be those most involved in feasting.

In terms of the number of pots owned by households, correlations with the number of feasts attended and hosted by households were similar to those associated with food serving items and feasting (Figures 5.63, 5.64, 5.65). The comparisons between the cumulative diameter (in cm) of all pots owned by households and their participation in large feasts also showed no strong connections between feasting and pot ownership (Figure 5.66), particularly in the case of feasts attended (Figure 5.67). However, when singling out large feasts hosted by households, there does appear to be a positive link between pot ownership and large-scale feasting (Figure 5.68). When cross tabulating the hosting of large feasts and the cumulative diameter of pots owned by households, the variability in cumulative diameters in relation to feasts hosted was statistically significant according to a chi-squared test, with all households having cumulative pot diameters of greater than 70 cm hosting two or more large feasts (Figure 5.69; Test 27). However, cross tabulations of the ownership of large pots and participation in large feasts display no significant connection between feasting and the ownership of large pots (Figures 5.70, 5.71, 5.72). Borrowing, pooling, and inaccuracies associated with size estimates are all likely

factors when determining why a stronger link between the ownership of pots and household feasting behavior cannot be demonstrated in this analysis.

Exploring links between tomb building and the ownership of pots also mirrors the analysis of the relationship between tomb building and the ownership of food serving items. Households which had built a tomb did tend to own more pots and have a higher cumulative diameter (in cm) for the pots they owned in comparison to households that had not built tombs (Figures 5.73, 5.74). This variability in the ownership of pots between tomb building households was not statistically significant according to t-tests however (Tests 28, 29). Comparing the ownership of large pots between tomb building and non-tomb building households does show some positive relationship (Figure 5.75), although this was not shown to be statistically significant according to a chi-squared test (Test 30). Strangely, tomb weights associated with tomb building households displayed a negative relationship with the ownership of pots in terms of the number of pots owned and the cumulative diameters of pots owned (Figures 5.76, 5.77), although this relationship was not found to be statistically significant according to t-tests (Tests 31, 32). There was a very weak positive relationship between the ownership of large pots and combined tomb weights (Figure 5.78). Higher cumulative pot diameters did tend to occur among households with higher combined tomb building costs (a variation that was not statistically significant according to a t-test) (Figure 5.79; Test 33), while weaker positive correlations were revealed when comparing tomb building costs with the ownership of pots (Figures 5.80, 5.81).

Comparing household wealth and the ownership of pots does show a weak relationship between the ownership of pots and wealth (Figures 5.82, 5.83), although there was virtually no patterning apparent when comparing the ownership of large pots with wealth (Figure 5.84). In this case, as with spoons, plates, bowls and glasses, wealth is only marginally reflected in the ownership of pots. Thus, the ownership of pots should be considered a relatively poor indicator of feasting behavior of individual households due to the lack of strong correlations between pots and both feasting and wealth (which have been shown to be related in other analyses). As was noted in the above discussion of food serving items, weak correlations between pots and feasting are very likely attributable to borrowing, inaccurate reporting, and the relatively infrequent hosting of large feasts in Kodi. The variability in the ownership of pots between households that have built a tomb and households that have not is more encouraging, although the overall indications with pots in relation to wealth, feasting, tomb costs, and tomb size, do not support the notion that the ownership of pots is a strong indicator of tomb building.

#### Buffalo Horns and Pig Mandibles

It is a traditional practice to display the horns of slaughtered water buffaloes and the mandibles of pigs in the front section of houses in Sumba. This kind of display of animal bones slaughtered for feasts is common in various parts of Southeast Asia, such as the Torajan highlands of Sulawesi (Adams 2004), the Akha of northern Thailand (Clarke 1998: 198; Hayden 2001: 56), western Papua New Guinea (Hampton 1999: 147, 148), and various traditional

societies of northeastern India (the Dafla, Adi, Chin, and Naga) (Simoons 1968). Such displays of pig mandibles also occurred in the Yunnan province of China into historic times (Kim 1994: 121; Song 1964: 201). Prehistorically, skulls of pigs have been found interred in burials of the Neolithic of China, where they are considered to be tied to wealth and power (Kim 1994). In West Sumba, water buffalo horns are commonly displayed on the front outside wall of houses, while pig mandibles are displayed on the interior of the roof above the front veranda or inside the room situated at the front of the house on the left side (looking out from the house). Water buffalo horns can also be found in the same room displayed on interior posts. These remains represent animals slaughtered for feasts at the house, both those provided by the household hosting the event and those contributed by other households.

In comparison to the analyses of feasting and ownership of the material culture used at feasts, the correlation between the display of pig mandibles and water buffalo horns and feasting is encouraging. Because the water buffalo horns and pig mandibles displayed at houses represent not only the household's contribution of livestock for hosted feasts, but also the livestock contributions brought by invited guests (i.e., the host usually keeps the head of all animals brought to the feast), it was considered most appropriate for this analysis to compare the number of these remains to the total number of heads of livestock (not only those provided by host households) slaughtered at feasts hosted by households. In comparing the display of water buffalo horns and pig mandibles among Kodi households, it was necessary to limit the households used in the

analysis, due to the presence of guardians occupying ancestral houses (who did not represent the actual patriarchal descendents of the house founder). The water buffalo horns and pig mandibles displayed were less likely to be the result of the household's own feasting activities in these cases, as the sponsor of the large feasts for which feasting remains are displayed at the house is often the patriarchal head of the *uma*. Thus, only houses in which the residing household head was considered the head of the *uma* ancestral house or the *Karekatena* branch house in which they resided were included in this examination of water buffalo horn and pig mandible display.

The relationship between the display of pig mandibles and the combined number of water buffaloes and pigs slaughtered for hosted feasts is among the strongest associations relating to material culture in this study (statistically significant according to a t-test) (Figure 5.85; Test 34). The correlation between the display of water buffalo horns and animals slaughtered for hosted feasts is a little weaker (Figure 5.86), with a t-test yielding a statistically insignificant result (Test 35). However, combining water buffalo horns and pig mandibles yields a relatively strong correlation with animals slaughtered at hosted feasts (Figure 5.87). This relationship becomes more apparent when cross-tabulating the combined number of water buffalo horns and pig mandibles displayed on houses and the number of heads of livestock slaughtered for hosted feasts (statistically significant according to a chi-squared test) (Figure 5.88; Test 36). When dividing households between those with water buffalo horns displayed (n=5) and those without water buffalo horns displayed (n=6), it is clear that the presence of water

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buffalo horns is a very strong indicator of the level of feasting done at the household, with households displaying water buffalo horns having hosted larger feasts in terms of livestock slaughtered than other households (Figure 5.89). According to a t-test (Test 37), however, there is a lack of statistical significance in this case, an outcome likely due to the small sample size involved

Turning to feasts attended by households, there is a moderate correlation between the combined number of water buffalo horns and pig mandibles displayed at households and the household livestock investments in feasts attended (Figure 5.90). It is possible that the livestock contributions at these feasts attended either were later reciprocated by the households that hosted the events or represented return obligations for previous contributions. In either case, the livestock would be reflected in the water buffalo horns and pig mandibles displayed at the houses.

Considering that the display of water buffalo horns and pig mandibles are remains of past feasts, logic dictates that there should be even stronger correlations than those discussed above between the display of these feasting remains and the total number of livestock slaughtered at feasts. There are a variety of factors that contribute to the fact the results do not live up to these expectations. The pig mandibles and water buffalo horns displayed at houses are often stored when houses are being rebuilt and then re-displayed at the house when it is complete. Thus, the buffalo horns and pig mandibles displayed can be the result of a previous generation's feasting activities. This is not done in all cases however, contributing to further inconsistencies and the small numbers

of pig mandibles associated with some of the houses. Also, according to traditional practice, the buffaloes and pigs slaughtered at large feasts are to be displayed at the host *uma* ancestral house. This means that the feasting remains displayed at ancestral houses may not be reflective of the activities of those occupying the house. However, this practice is not entirely adhered to currently, as some of those who have hosted large feasts will display these remains at the houses in which they reside permanently and not their affiliated *uma*. To lessen the possibility that the counts of pig mandibles and water buffalo horns were not reflective of the activities of the individuals residing in the houses, all of the examples used in this analysis were from houses in which the residing household head was from the descent line of the patriarchal founder of their *uma* or *karekatena* branch house. This unfortunately resulted in a small sample size in comparison to other material culture analyses and may have contributed to biased correlations. Finally, water buffalo horns are no longer always displayed on houses due to theft concerns, which should account for the fact that most households had no more than two sets of water buffalo horns displayed or none displayed at all.

When the display of pig mandibles and water buffalo horns are compared solely to tomb building, the results are similar to the comparison of these remains to feasting. Contrasting the number of pig mandibles displayed by households with high tomb costs and weights with the number of these remains displayed by households with lower tomb costs and weights reveals a positive relationship (although statistically insignificant according to t-tests) (Figures 5.91, 5.92; Tests

38. 39). However, comparing tomb building costs/weights to the number of water buffalo horns displayed reveals a very weak positive relationship between tomb building costs and water buffalo horn display (Figures 5.93) and no real patterning positively or negatively in the examination of tomb weights and water buffalo horn display (Figure 5.94). In terms of distinguishing between tomb building households and non-tomb building households, those who have built a tomb tend to have fewer pig mandibles displayed on their houses than those households that have not built a tomb (a variation not found to be statistically significant according to a t-test) (Figure 5.95; Test 40). Buffalo horns showed more of a positive link with tomb building. Tomb building households tended to have more water buffalo horns displayed than non-tomb building households, although this difference in display between tomb building and non-tomb building households was not found to be statistically significant according to a t-test (Figure 5.96; Test 41).

The same factors mentioned above that can influence the presence or absence of abundant water buffalo horns and pig mandibles on houses certainly also pertain to the analysis of tomb building and the display of these feasting remains. In general, the results in relation to the size and lavishness of tombs are consistent with the analysis of other potential correlates between household material culture and tomb building (i.e., none of the household material culture thus analyzed has correlated well with tomb size and expense). In the case of tomb building households, sample size is also an issue. All but three of the households for which data was obtained on water buffalo and pig mandible

displays were households that had built one or more tombs prior to being interviewed. In spite of this, considering all factors, the relationship between water buffalo horns (presence vs. absence of water buffalo horns) and tomb building households is encouraging and likely no accident, as water buffalo horns are a major symbol of wealth and power throughout the island of Sumba and used as major sacrificial feasting animals in tomb building. These relationships were likely stronger in the past and indicative of clan vs. household wealth and power of *uma*.

Considering their status as wealth indicators and overall symbols of prosperity, the display of pig and water buffalo remains should have a positive relationship with household or clan wealth. Based on a comparison of their numbers in different households, the range and quartile range of pig mandibles does relate positively with wealth among the households sampled (Figure 5.97), although the difference between the number of pig mandibles displayed among poorer households and the number of those displayed among wealthier households is not statistically significant according to a t-test (Test 42). The link between the number of water buffalo horns displayed on households and household wealth is a little weaker (Figure 5.98). More importantly, there is a stronger link between the presence of water buffalo horns on the exterior of houses and household wealth, with households displaying water buffalo horns having, on average, a considerably higher estimated potential annual income (in US dollars) than households without water buffalo horns displayed (Figure 5.99). The relationship between household wealth and the display of water buffalo

horns (presence vs. absence of water buffalo horns) on houses, however, was not statistically significant (Test 43), although this was very likely due to the small sample size considering the much greater mean estimated potential household income (\$2467 US dollars) of households with water buffalo horns displayed compared to those households without water buffalo horns displayed (\$399 US dollars). This link between water buffalo horns and wealth coupled with the relationship between water buffalo horns and feasting/tomb building discussed above suggests that water buffalo horns represent one of the most reliable household material culture indicators of wealth, tomb building, and feasting.

#### Other Potential Household Material Correlates of Feasting, Tomb Building and Wealth

Data collected on other items of household material culture include rice baskets, woven seating mats, gongs, drums, and visible ritual paraphernalia (e.g., bundles of feathers). Gongs were only visible in three households and traditional drums were only visible in one household and therefore were not considered reliable for analysis. Items of ritual paraphernalia were similarly rare in households. Data on the number of other items, woven cloth and any prestige items (e.g., *mamoli* gold ear pendants) was based on what items were visible in households. As prestige items and woven cloth are usually stored away, no meaningful counts are available for the households surveyed. In the case of gold pendants, I decided not to solicit information regarding the ownership of these items due to concerns for theft resulting in unreliable reporting. Information on woven cloth was also not solicited in interviews. In hindsight, it would have been

preferable to at least include these items among those that were a part of interviews, although abundant material culture data of other kinds was accounted for and has been shown to be very useful for analytical purposes.

Rice baskets and woven mats represented, in addition to the pots and food serving items discussed above, two of the most common items found within houses. Baskets, both large and small (Figure 5.100), are used to bring rice to feasts by invited guests. The same baskets can also be seen being used to hold spices for cooking, cotton, and other small items. These baskets are usually made by women and most households reportedly make baskets for their own use. Woven seating mats are also made by individual households and are placed on top of bamboo floors for more comfortable seating and are used to for guests who sit inside the house or on the veranda during feasts. In spite of their use at feasts, neither the ownership of rice baskets nor the ownership of woven mats displayed any correlation with household feasting. Borrowing baskets and mats for feasts or storing these items in houses outside the village (informants were not asked about the number of baskets and mats they owned and stored in other locations) could account for the lack of a correlation between these items and feasting. Also, because of the limited floor space needed to cover with mats during a feast, the ownership of a large number of mats may not be terribly advantageous, even for households that host large feasts.

In terms of household architecture, the most obvious starting point for analysis was house size. There were however some difficulties associated with including house size in this study. As was the case for buffalo horns and pig

mandible, sample sizes were necessarily small due to the fact that many people lived in ancestral houses for which they were not the official guardian of the house representing a direct descent line from the founding ancestor. Another problem lies in the fact that the construction of an ancestral house is a collective effort on the part of the *uma* ancestral house group as a whole and is a reflection of the lineage almost as much as those who occupy the house. This made analysis problematic considering that the vast majority of households mapped were considered ancestral houses (16 out of a total of 22 houses). In spite of this, there were some correlations, although mostly very weak, between house size and feasting/tomb building/wealth. Comparing house size with household feasting investments does not yield significant patterning (Figure 5.101). The relationship between house size and tomb weight are stronger (though not statistically significant according to a t-test) (Figures 5.102; Test 44), while tomb costs do not appear to have a positive relationship with house size (Figure 5.103). Comparing the house size of tomb building households and non-tomb building households also reveals no significant patterning (Figure 5.104). There appears to be a reasonable relationship between household wealth and house size, although the variation in the size of houses between poorer and wealthier households is not statistically significant according to a t-test (Figure 5.105; Test 45). Overall, the relationships between house size and wealth/tomb size are encouraging and, along with bucrania, represent key potential material indicators of wealth and tomb building. However, due to sample sizes and the collective investments associated with ancestral house building, these relationships

concerning house size (at the household level) should be taken with some caution. It is expected that such relationships are much stronger at the lineage and clan/*uma* level.

The one aspect of household interior architecture singled out for analysis with feasting was the presence of benches. In all houses (both ancestral houses and attached houses) in West Sumba, there are benches (Figure 5.106) used for drying dishes, storing dishes or other items, and seating individuals during feasts. Because of their role in feasts and the lack of an absolute necessity to use benches for storage or drying (floors and bedrooms are used for the same purpose), it is a reasonable assumption that households with more benches than others should participate in more feasting than other households. When comparing the number of seating benches in households that have hosted two or more large feasts with those in households that have hosted less than two large feasts, there appears to be no significant relationship positively or negatively (Figure 5.107; Test 46). Correlations were similar for the number of benches in houses and the combined costs and weights of the households' tombs costs (Figures 5.108, 5.109). In terms of wealth, the correlation between the number of benches in houses and estimated potential annual income was also very weak (Figure 5.110).

The overall lack of strong correlations relating to seating benches is, to a certain extent, likely accounted for by the lack of variability in relation to the number of seating benches in houses. Also, the houses containing seating benches were in most cases *uma* ancestral houses, the construction of which, as

noted above, is highly dependent upon contributions from various households and cumulative over a number of generations during which wealth and other characteristics might fluctuate significantly due to unstable demographics and household wealth production. Thus, the size and architectural features of these houses are largely a reflection of a collective interest and investment on the part of the households attached to the *uma* (see Discussion section below for analysis of these aspects of architecture in relation to ancestral house groups and clans).

### Summary

The search for links between household material culture and feasting, tomb building, and wealth yielded mixed results. In terms of the pots, plates, glasses, bowls, and spoons used for feasting, there were positive correlations between household ownership of these items and feasting, tomb building, and household wealth. Despite the major socioeconomic disparities between households, the correlations exhibited at the household level were by and large, unfortunately weak. This was the case for all the objects associated with the preparation and serving of food and was likely due to largely to the reported practice of pooling these items together among related households for feasts. The display of water buffalo horns and pig mandibles on houses is not subject to the same practices of pooling and borrowing. When analyzing the numbers of these items displayed on households other factors bear on the results, such as the successive re-display of pig mandibles and water buffalo horns over many generations and sometimes after subsequent house rebuilding episodes. The

fact that this practice was not always followed undoubtedly reduced the strength of the relationships. However, both water buffalo horns and pig mandibles exhibited stronger relationships with feasting than did the items associated with food serving and food preparation. The presence of water buffalo horns on houses also had stronger associations with tomb building and wealth, making them the single best material indicator of household tomb building, feasting, and wealth. Household architecture (house size and household benches) also showed some of the better associations (in comparison to other material culture indicators) with household feasting, wealth and tomb building. The collective investments within *uma* and clan groups in ancestral house building tend to cloud these results and are discussed further in the following section.

## ***Discussion***

The overall indications from this analysis suggest that there are distinct and measurable material advantages associated with both tomb building and feasting. The link between tomb building and feasting, on the one hand, and the elevated sociopolitical clout associated with the position of *rato* or *tokoh*, on the other hand, was first discussed in Chapter III. From the analysis of data related to marriage, wealth, feasting and tomb building, there appears to be significant link between tomb building/feasting/marriage and wealth. There were relatively strong statistical associations between household wealth and feasting as well as household wealth and brideprice costs/marriage sponsoring. In addition, there was a significant wealth disparity between households that had built tombs and households that had not built tombs.

The analyses discussed in this chapter point to a particularly strong inter-relationship between feasting, tomb building, and marriage. These are all avenues contributing to the acquisition of power and they reflect a situation in which relation-building makes up a key component for augmenting one's local sociopolitical clout. Political power, in turn, enables individuals to expand their access to wealth. Feasting, marriage, and tomb building all entail support from relations both within and outside one's clan. These activities also serve to expand and enhance one's support networks and elevate one's standing within their affiliated clan. Aid in times of dispute, political support for the acquisition of modern administrative power, and access to clan labour networks are all part of the more tangible benefits associated with this networking. The status of a *rato* or *tokoh* acquired through feasting and tomb building entails access to the inner circle of clan power and further enhances one's ability to access the potential benefits of this networking. Specific examples include: 1) preferential access to the first cashew trees planted (a program to encourage cashew production in Kodi was initiated around the year 2000 as a cash crop given to those with good relations with local administrative officials); 2) a no-fault decision regarding a widely acknowledged theft by a very prominent individual of produce from land belonging to another clan; 3) the ability of men of very high renown to borrow livestock without pressure to repay in kind; 4) renown built up through feasting and tomb building factoring in the election of a *Kepala Desa* (township head); and 5) promises of administrative posts for individuals who supported (which included livestock contributions for feasting) a local and successful candidate for

the regency legislature. Access to similar positions of power in the pre-Dutch era probably depended on similar uses of feasting, tomb building, and multiple marriages with powerful families.

While this points to a context with a heavy emphasis on achievement, family history is certainly a factor even where everyone currently claims the same traditional social status (all those interviewed claimed noble social status). Comparing the amount of land inheritance associated with individuals identified as *tokoh* versus inheritance associated with others is indicative of a scenario in which power consolidation is possible within certain descent lines (Figure 5.111). This variability in land inheritance between *tokoh* and non-*tokoh* households was found to be statistically significant according to a t-test (Test 47). For pig and water buffalo inheritance, there were only three households among those interviewed who reportedly inherited animals. Among these, two *tokoh* households reported having inherited a combined number of 40 and 42 water buffaloes and pigs with one non-*tokoh* household reporting an inheritance of 10 animals. With feasting obligations and overall relatively small livestock holdings, this is not surprising. Among the households that claimed to have inherited livestock, the number of heads of livestock they had on hand at the time of interview was nowhere near the number heads they had inherited. As a whole, however, these data suggests that inheritance is undoubtedly important in Kodi. Thus while feasting and tomb building provide competition and potential for gaining sociopolitical power (as also discussed by Hoskins {1984} in relation to Kodi), it is important to recognize that power consolidation beyond one

generation is possible even in this situation. This is perhaps best illustrated by an individual from Wainyapu who achieved legendary status in his lifetime and who passed many advantages onto his sons, the vast majority of whom obtained posts in civil service or business, representing a very rare occurrence in relation to other individuals interviewed who were subsistence farmers.

With regards to the potential material culture indicators of tomb building, feasting, and wealth, the analyses in this chapter has illustrated some of the complications associated with identifying such correlates (see Table 5.1). The ownership of items associated with the preparation and serving of food at feasts (e.g., plates, bowls) did not display much of a link with household wealth and the degree to which households engaged in feasting or built tombs, a result likely attributable to inter-household borrowing and pooling of these items for large feasts. This case contrasts with what Mike Clarke (1998, 2001) found among the Akha of Thailand, where there were strong links between material culture, socioeconomic standing, and feasting behavior. However, the loose correlations between behavioral/socioeconomic variables and material culture in West Sumba are not unlike the results obtained in ethnoarchaeological studies in Tana Toraja, Indonesia (Adams 2004) and among the Maya (Hayden and Cannon 1984). In this case a variety of variables can explain these weak relationships that include: 1) clan-wide sponsorship of large feasts and tomb building; 2) material culture borrowing; 3) dispersal of material culture in field houses; 4) removal of items to avoid theft; 5) inaccuracies in some data; 6) historical events; and 7) different stages in family development. Thus, with some exceptions, it appears as though

loose relationships between material culture and socioeconomic characteristics of households are a general feature of many traditional transegalitarian societies, particularly those with strong lineage, clan or corporate group structures. However, even corporate clan centers (*uma*) display relatively poor relationships between clan demographic/economic characteristics and material expressions of feasting and tomb building. Also to be noted, despite the poor material relations at the household level, is that the full range of materials within the village indicates considerable socioeconomic inequalities (wealth, tomb presence and size, pots, house size, food serving utensils, bucrania, etc...).

However, the display of the remains of the major indicators of traditional wealth in West Sumbanese households (water buffalo bucrania and pig mandibles) still exhibited better associations with feasting and wealth. The display of water buffalo horns at houses exhibited a particularly strong association with tomb building and household wealth in addition to a relatively strong link to feasting. As a paramount symbol of wealth and power traditionally, the correlation between the display of bucrania and tomb building as well as wealth and feasting is perhaps the most significant finding of the material culture analysis.

In terms of applying the data analysis of tomb building, feasting, and socio-economic data to larger clan groups, the large number of clans represented among the interviewed households of the principal village studied makes any meaningful comparisons difficult. Among the clans represented by interviewed households, the distribution of *tokoh* within clans reflects a certain

degree of inter-clan variability with regards to overall relative power and influence (Figure 5.112). Unfortunately, statistical comparisons of wealth, feasting, and tomb building among these clans has limited value due to the fact that there were no more than three households in the village represented by any one clan. No clan in Wainyapu was represented by any more than three standing *uma* ancestral houses (many spaces for *uma* were open and awaiting house rebuild) in the ancestral village and clan members were scattered in neighboring hamlets and household clusters as well as other parts of Sumba and beyond.

Anecdotally, however, it is worth noting that the clan with the highest reported number of *tokoh* (Weinjolo Deta) included the wealthiest interviewed household tied to Wainyapu as well as the largest tombs erected by households interviewed in this study. The clan with the second largest tombs erected by interviewed households was Kaha Malagho, which also had the second highest reported number of *tokoh*. Nevertheless, beyond these very general indicators, a discussion of inter-clan variability can only provide limited insights without taking full stock of the size and weights of tombs built by households in clans as well as a much larger sample of household socioeconomic and material culture data from multi-household clans.

From an architectural perspective, the collective investments in building ancestral houses make them more suitable for analysis at this larger clan level or even the ancestral house group level (*uma*) as opposed to the individual households. At the level of the *uma* ancestral house group, there are only two cases in which there was more than one household attached to the same *uma*

residing in the ancestral village (i.e., the vast majority of *uma* members live in hamlets or household clusters outside of the ancestral villages). This is due to the lack of branch houses attached to the major *uma* within Wainyapu, which is an unusual situation in West Sumba. This and creates obvious problems when comparing these groups to one another. From the standpoint of clans, it was possible to make some very general comparisons in relation to ancestral house size and the number of seating benches in ancestral houses. The expectation being that the largest ancestral houses and ancestral houses with the most seating benches (used for seating during feasts) would be those affiliated with the most prominent clans. Because of the lack of large sample sizes within clans, the number of *tokoh* or *rato* residing within the clan was considered to be the best gage of overall prominence of the clan with the available data considering that this at least provides a general sense as to the degree of influence and surplus wealth of the clan reflected in the number of individuals of high renown. The number of *tokoh* in each clan was solicited in the process of interviews (i.e., not all of the *tokoh* in each clan took part in interviews). At a minimum, there was considered to be one *tokoh* in every *uma* within each clan. Wainyapu clans could be divided into two categories based on the number of *tokoh* in each clan: 1) clans with six or fewer *tokoh* and 2) clans with more than six *tokoh*. The comparison of clan renown, surplus wealth, and power (as determined by the number of *tokoh* affiliated with the clan) to ancestral house size did yield a weak positive correlation between clan power and ancestral house size (Figure 5.113). The variability in house sizes between the group of

more prominent clans and the group of less prominent clans was found to be statistically insignificant according to a t-test (Test 48). While relatively weak, this association does indicate the potential promise of linking clan power to architecture. The lack of a strong or even moderate relationship between house size and clan renown likely reflects a variety of issues, such as inaccurate measurements of house size, the presence of wealthy individuals attached to *uma* in clans with relatively few *tokoh*, the recent extension of *tokoh* status to individuals on the basis of non-wealth criteria, and the lack of special display importance placed on *uma* size in comparison to carvings on the interior posts and other architectural features. More promising results were obtained when comparing the number of benches in *uma* to the relative power of their affiliated clan, although this relationship appears marginal at best (not statistically significant according to a t-test) (Figure 5.114; Test 49). In evaluating both the relationship of house size and seating benches within *uma*, a more accurate determination of relative *uma* and clan power is necessary before firm conclusions can be made regarding the reflection of clan and *uma* power in the architecture of ancestral houses.

While accurately assessing the relative power of clans in terms of tomb building, wealth, and feasting represents a methodological problem at this point, the continued investments in large clan feasts and tomb building on the part of households interviewed attest to the importance of clans as sources of power and support in terms of labour, dispute resolution, marriage, and political support. As discussed in Chapter III, the sociopolitical importance of clans is reflected in

1) the emphasis on clan solidarity at large feasts, which typically require significant contributions from clan members, 2) the traditional location of large feasts in the ceremonial center of the clans, 3) the traditional placement of stone tombs in the clan ceremonial centers, and 4) the fact that megalithic tombs are considered to be, at least to some extent, owned by the clan as a whole and were centered around the clan *uma*.

## Chapter VI

### Conclusion: A Model for Megalithic Cultures

Over the course of this dissertation, megalith building and the larger feasting complex in West Sumba has been shown to be related to such processes as the acquisition of sociopolitical power and inter-group competition. In the analysis of individual households, there are strong indications of a system of tangible benefits on the part of those who build megalithic tombs in West Sumba, which appear to be linked to the overall renown achieved through tomb building and other feasting endeavors through which local political power in the traditional context is achieved. The traditional organization of clans and inter-clan competition provides a framework for these practical concerns of individual households that appears to be reflected in a link between clan power and the size of the tombs and houses within clans. These links with clan power correspond to a system in which people are tied to clans and the networks of labor and sociopolitical support that they provide, access to which requires participatory (e.g., material) obligations in endeavors such as tomb building and feasting. The implications this study provides for archaeological cases and for the development of a model for the social forces behind megalith building prehistorically would be limited if the overall social patterns related to megalith construction in West Sumba were not also representative of megalith building in other cultures. To conclude this study of megaliths, a survey of ethnographically documented 'megalithic' cultures is indispensable to assessing the potential cross-cultural archaeological implications of stone tomb building in West Sumba.

The construction of megalithic stone monuments is prevalent prehistorically in many parts of the world. In addition to West Sumba, this phenomenon has been documented ethnographically in various other parts of Island Southeast Asia, northern India, Oceania, North Africa, and Madagascar. In this concluding chapter, I examine the ethnographic literature of well-documented historic megalithic cultures in an attempt to ascertain common themes in the sociopolitical and economic contexts of these societies. Based on the commonalities derived from this overview, I present a model to account for the sociopolitical and economic forces that can promote megalith building cross-culturally.

### ***Island Southeast Asia***

The megalithic cultures that have been documented ethnographically and archaeologically in present-day Indonesia have long been of interest to those in search of diffusionist explanations for the widespread presence of megalithic monuments. Diffusion has understandable appeal considering other similarities in traditional cultures in the region (e.g., linguistic, material culture, social organization). Perry (1918), one of the pioneers in the investigation of Indonesian megalithic cultures, surveyed various megalithic societies throughout Indonesia and concluded that these monuments were introduced by a group of immigrants who made up a chiefly class that was considered descendent from the “sky world.” Interestingly, Perry (1918: 135-140) correlated the presence of the monuments with wet-rice cultivation and thus suggested that the megalith builders originated somewhere to the west of Indonesia and brought with them

rice cultivation, a conclusion partially in line with the currently accepted notion that Austronesian-speaking people migrated to Indonesia and introduced rice agriculture to the Indo-Malaysian archipelago (Bellwood 1997). In a discussion of megaliths in eastern Indonesia, including Sumba, Sukendar (1985) noted a particular link between the practice of building megaliths and ancestor worship. Sutaba (1998) has argued, based largely on similarities in megalith forms and practices of ancestor worship, that the megalithic traditions in Indonesia are part of a globalization process related to other megalithic cultures world-wide.

In my own assessment, I avoid taking a diffusionist position as an explanation for the widespread presence of megalithic cultures in Indonesia. While the evidence may indicate a common linguistic origin for people living throughout Indonesia and the rest of Island Southeast Asia (Bellwood 1997), a diffusionist explanation for megalith building in particular does not explain why some cultures stopped building megalithic monuments (e.g., Java) and why other societies never adopted the practice at all (e.g., coastal South Sulawesi). Clearly there are other factors at work in the social, political, and economic realms of these societies that facilitates the adoption and persistence of these practices, regardless of whether they represent traditions imbedded in the collective memory of a migrant group. What follows is an overview of traditional megalithic societies in Indonesia outside of Sumba as they are presented in the ethnographic literature, focusing on the social context in which megalith building occurs.

## Nias

Nias is an island situated off of the west coast of Sumatra. The island comprises an area of 5,450 km<sup>2</sup> with forested hills of up to 866 m high in its interior. Population densities on the island averaged 94.5 persons per km<sup>2</sup> in 1985 (Beatty 1992: 2). The people of Nias have a traditional subsistence economy based on the cultivation of sweet potatoes, cassava, and rice grown on swidden plots. Of these crops, cassava and sweet potatoes make up the bulk of the traditional daily Niasan diet, while rice is primarily consumed on ritual occasions (Beatty 1992: 2, 283). Land ownership is based on the clearing and use of swidden plots from virgin forest, which theoretically belongs to no one. Once cleared, swidden plots belong to the patrilineal descendants of the person who first cleared the land. This land theoretically becomes the collective property of the lineage and the households of the lineage collectively decide who will work what plots of land (Beatty 1992: 45). Rice surpluses were very limited in the late part of the twentieth century with Beatty (1992: 284) noting that, "In the months before the harvest, few households have any remaining rice in store." This is considered to be a result of population growth, shorter fallow cycles, and the use of land for cash crops. In spite of this, the traditional elites who own abundant land appear to continue to have significant surpluses (Beatty 1992: 284).

The traditionally domesticated animals of Nias include pigs, dogs, and chickens. Pigs are the most valuable of these and, along with gold and rice, constitute one of the primary objects of traditional exchange in the contexts of feasts and bridewealth and are obtained through inheritance (patrilineal), trade,

and bridewealth. According to Beatty (1992: 221), most households reportedly do not keep more than three or four pigs at one time, as these animals are usually tied up in feasting obligations. It is also considered unwise for most to hold onto a large number of pigs to avoid creditors, the envy of others, and needy relatives. In contrast, the wealthiest households can have fenced compounds with more than 20 pigs. Unlike many other parts of Indonesia, domesticated water buffaloes were not a part of the traditional Nias economy (Beatty 1992: 40, 126, 189, 191).

Socially, there were three traditional divisions in central Nias: chiefs, elders, and slaves (before the Dutch abolished slavery at the beginning of the twentieth century—Beatty 1992: 215). In the accounts of Beatty (1992), it is unclear as to whether the class of chiefs refers to leaders of territories, lineages, or clans or are just simply an elite class of individuals. In terms of sociopolitical organization, central Nias society is based on lineage groups, which, as noted previously, collectively own ancestral land (individual households hold user rights to certain plots of this land) and are associated with communal houses or groups of houses (Beatty 1992: 31, 38, 39). A lineage acts as an independent political group that cooperates when its leaders hold a large feast or in conducting head-hunting raids and appears to have represented the only traditional amalgamated political unit in central Nias (Beatty 1992: 32). However, there is evidently no traditional formal position of lineage head, and lineages could become divided and break up as a result of land disputes between lineage segments. Individuals with the most power and influence within the lineage are male elders with

leadership skills who have achieved a great deal in the traditional feasting system (Beatty 1992: 41, 46).

Above the lineage on the scale of social organization, there are villages and clans. A group of lineages makes up a clan and one or more clans can be represented in a village in central Nias. Leadership of the village was evidently “informal and unstable” until the Dutch implemented the position of village head. However, in southern Nias, the most senior noble was the village head even prior to Dutch administration (Beatty 1992: 266). Clans traditionally lacked formal administration, although individuals belonging to prominent descent groups who could sponsor large feasts, accumulate resources, and act as war leaders could dominate the sociopolitical affairs of clans (Beatty 1992: 267). Geographically, clans can be spread out over large geographic areas and include several hamlets, a pattern similar to that found in West Sumba (see Chapter III). Clan members share a common ancestor and can number in the thousands, and it was traditionally prohibited to take the head of a fellow clan member in a head-hunting raid or marry within one’s clan (Beatty 1992: 30, 31).

The lack of fixed and formal positions of traditional leadership at any level of sociopolitical organization in central Nias appears to coincide with the competitive environment described in early western accounts of Nias (Beatty 1992: 265-266). Much of this competition was played out in the traditional feasting system, through which men could achieve status by hosting extravagant feasts. This competition is particularly evident in the case of challenge feasts (*fahölu*). Challenge feasts were a series of competitive, reciprocal feasts that

ended when one party became unable to continue with the feasting obligations. The winning party of this cycle of feasts, along with his lineage, could dominate the losing party and even pay off his debts in some cases. Not surprisingly, these feasts could also lead to significant shifts in the political order of villages (Beatty 1992: 272). However, in spite of this venue through which status and power could be achieved, wealth and power tended to be consolidated in certain decent groups (Beatty 1992: 266, 267).

It is in the context of competitive feasts that stone monuments were constructed on Nias. The stone monuments erected for the *ovasa* feast stand vertically and can take the form of monoliths, finely carved posts, and human figures. Sometimes, they are simply back supports for the nobles when seated. The more elaborate monuments are large stone pillars topped by *osa'osa* (stone chairs made of a stone disc with four stone legs and a carved tail and head). Individual *osa'osa* standing alone without the support of a pillar also were erected. All of these stone monuments stood in the central plaza of the village in front of the house of the noble who acted as the primary sponsor of the feast for which they were erected (Feldman 1988: 37-39).

Although megalithic stone monuments have not been constructed on Nias for about 100 years, the feast for which they were erected, the *ovasa*, is still held occasionally. Megaliths were traditionally constructed several days prior to the *ovasa* feast and were grand symbols that were typically erected during the lifetime of their owners (Beatty 1992: 229). According to Beatty (1992: 230), the skulls of prominent men were often buried underneath these monuments. Like

the *woleka* in West Sumba (see Chapter III), the *ovasa* feast is a very elaborate feast of merit that is not associated with any occasion, such as a funeral, or related to any specific event in a life-cycle (Beatty 1992: 216, 217). *Ovasa* are attended by hundreds of guests and are associated with speeches, singing, dancing, the display of prestige items, the slaughter of up to more than 100 pigs, distribution of pork along status lines, and the conferring of a prestige title on the host of the feast (Beatty 1992: 231-264).

### The Batak of Northern Sumatra

The Batak inhabit upland areas of northern Sumatra in and around Lake Toba ranging in elevation from about 900 m to over 2,000 m on mountain peaks. In this region, population densities averaged 196 persons per km<sup>2</sup> in 1980, and were 110 persons per km<sup>2</sup> in 1907 (Sherman 1990: 18, 24). The subsistence economy of the Batak groups is largely based on the cultivation of wet and dry rice, although cassava, maize, and sweet potatoes are important components of the daily diet as well (Sherman 1990: 121, 125, 135). Cultivated wet-rice paddy land and dry swidden fields are considered to be collectively owned by the clan or lineage whose founding ancestor first cleared the land, although individual households appear to claim use rights to certain plots that are inherited through the male line. With regards to rice surpluses, Sherman (1990: 138, 139) surveyed 112 Batak households and found that about 24% had substantial surpluses (representing both rice grown on household plots and rice received from sharecropping), while 12.5% had minimal surpluses. Interestingly, about 47% of households in the same survey reported not receiving enough rice from

their own fields or from sharecropping to cover their own daily needs for a year (includes subsistence needs as well as extra rice for sale and feasting obligations). Batak households can augment shortages in their harvests by purchasing rice with money obtained largely through sale of cash crops and by growing maize (Sherman 1990: 140).

As is typical of traditional societies in Indonesia, domesticated pigs, water buffaloes, goats, cattle, horses, and chickens are all major components of the traditional economy, with water buffalo and cattle being the most valued animals in ritual sacrifice (Sherman 1990: 137, 235-237). This livestock can be owned by individual households or can be owned by two or more households in an arrangement in which households that share ownership of a herd of cattle, for example, take turns in caring for the herd (Sherman 1990: 226-227). The vast majority of households surveyed by Sherman owned pigs at a given time. In addition, more than half of the households were at least part owners of cattle or water buffalo, although there was an unequal distribution of cattle or water buffaloes among these households (Sherman 1990: 227).

Traditionally, the Batak were divided into noble, commoner, and slave classes (Barbier 1988: 54). According to Barbier (1988: 54), the population of the region inhabited by the Batak was organized in a number of "chiefdoms" that were essentially villages ruled by a chief, with no higher levels of formal political organization or leadership. Although Barbier referred to these configurations as chiefdoms, it is not clear whether chiefs had authority beyond the local village level based on his account. The village chief was typically a descendant of the

village founder, although this position was not solely based on relation to the founding ancestor as leadership skills and hosting lavish feasts were also considered important. Sherman (1990: 74, 75) describes a similar situation by stating that the descendents of those who founded a "hamlet" had ritual authority and resolved conflicts within "hamlets," whereas there does not appear to have been any formal organization above the level of the "hamlet" or village. This lack of organization above the village level implies that, contrary to Barbier's assertion, these were not chiefdoms in the classic sense, as the designation of simple chiefdom typically requires a 2-tiered political (i.e., one level of political organization above the local village level) organizational scheme (see Beck 2003; Earle 1978, 1991; Johnson and Earle 1987; Wright 1984).

Other aspects of traditional sociopolitical organization among the Batak do suggest the presence of at least a form of proto-chiefdom. Apart from local village organization, Sherman (1990: 76-82) describes groups known as *bius*. *Bius* correspond to a specific territory, which can include a number of villages and there is a hierarchy of *bius* groups in this regard. Some *bius* represent single lineage groups. These smaller *bius* are subsumed within larger *bius* which can represent several clan groups. As groups defined by territories with multiple villages and an apparent administrative hierarchy, the organization of *bius* display a framework similar to that of simple chiefdoms and at the highest level is similar to the *kabihu* confederations of clans (which have characteristics of proto-complex chiefdoms) that exist in Kodi (see Chapter III). The members of a *bius* collectively participate in certain rituals, mainly those associated with ensuring

agricultural fertility (Ypes 1932: 164-173; c.f. Sherman 1990: 84). The *bius* feasts were traditionally of different sizes depending upon the size of the *bius* segment that was involved, with those involving the entire group requiring the slaughter of a cow, horse, or buffalo (Sherman 1990: 80). There is also a hierarchical structure and priestly order associated with *bius*, although the membership criteria or requirements for being a *bius* priest are not clear based on Sherman's (1990) account. In addition, *bius* have a certain degree of authority as many ceremonies, including those required for the commencement of agricultural work, which require the presence of *bius* priests.

There were also secular administrative aspects of *bius* groups. *Bius* traditionally performed a function in the political and economic interactions between communities, such as organizing the construction of waterworks and resolving disputes within *bius* groups (Ypes 1932: 161; c.f. Sherman 1990: 84). However, they were evidently governed by a committee of prominent individuals, who were ultimately subordinate to local hamlet heads. This pattern of sociopolitical structures (in this case *bius* and hamlet organization) existing in parallel also occurs in Tana Toraja in South Sulawesi (see below). In Tana Toraja, *saroan* groups function as labour exchange networks that traditionally played a key role in the organization of agricultural labour and the labour required for feasts. A *saroan* can encompass individuals from many communities and is sometimes associated with a clearly defined territory, although, like *bius*, small villages centered around kin-based groups (*tongkonan*), often forming chiefdoms, constituted the dominant framework of social organization and political action

(Adams 2001, 2004).

The megalithic monuments of the Batak are large stone sarcophagi located in the center of villages and decorated with carved stone heads in which the bones of prominent lineage members are interred (Barbier 1988: 58, 78). According to Sherman (1990: 78), the stone sarcophagi of the Batak were erected for prominent members of *bius* groups and that there was one single stone tomb for an entire *bius* group (representing a lineage) in the past. These tombs were secondary burials for prominent *bius* ancestors and their erection was accompanied by a large feast which, according to Warneck (1909: 85 from Barbier 1988: 58), was often held solely to display the wealth of the organizers. Indeed, erecting these tombs and underwriting these large feasts could increase the prestige of lineages and the individuals that organized the event (Barbier 1988: 58). Currently, stone sarcophagi are no longer constructed among the Batak and have been replaced by cement tombs (Barbier 1988: 78).

In addition to tombs, standing stone statues of a man on horseback were traditionally erected in some Batak regions (Barbier 1988: 61). Accounts in the early twentieth century indicate that these stone riders represented a “chief” or wealthy man and were erected as part of the feast for which the individual’s bones were interred in stone tombs (Tichelman and Voorhoeve 1939: 19 from Barbier 1988: 61).

### Tana Toraja

Tana Toraja is situated in the uplands of the southwestern part of the Indonesian island of Sulawesi in a plateau region with an elevation of about 700

meters at the base and mountain ridges extending to heights of more than 1500 meters. The overall population density of the Torajan area was 120/km<sup>2</sup> in 1998, representing a sharp increase in population since 1930, when there were roughly 60 individuals per km<sup>2</sup> living in Tana Toraja (Badan Pusat Statistik Kabupaten Tana Toraja 1998; Nooy-Palm 1979:20). The traditional economy of Tana Toraja is based on the cultivation of wet and dry rice, cassava, sweet potatoes, and taro in addition to domesticated water buffaloes, pigs, and chickens. Prior to the advent of new and highly productive varieties of hybrid rice, the production of rice surpluses appears to have traditionally been confined to wealthy members of the noble class (see below) and severe rice shortages occurred periodically in historic times. Even in the contemporary context, poorer households have rice harvest yields that fall short of annual subsistence needs.

Among the domesticated animals of Tana Toraja, water buffaloes are the most highly valued (Adams 2001: 16-20). The particular importance of water buffaloes can be seen in the existence of a variety of special breeds of water buffalo associated with an array of different values (primarily according to their color and markings) and their emphasis at large feasts. Ownership of these large bovines is generally confined to wealthier households in Tana Toraja, while the ownership of small numbers of pigs is fairly widespread in central Tana Toraja. In a survey of households in the Simbuang area of southwestern Tana Toraja, only about 1/3 (11 out of 30 households) of the households interviewed reported ownership of water buffaloes, while just over half the households owned at least one pig (17 out of 30 households) (Adams 2001). This represents a

lower frequency of pig ownership in comparison to the sample from West Sumba in this study, in which 22 out of 27 households owned at least one pig. However, the ownership of water buffaloes in West Sumba appears to follow a similar pattern to that in Tana Toraja, with 11 out of 27 households owning at least one water buffalo.

Ownership of paddy land and livestock is inherited, and, in addition to household ownership, corporate ownership of land by *tongkonan* kindred groups (see below) exists as well. Furthermore, all land may have traditionally been owned by *tongkonan* groups, which were limited to the commoner and noble classes (or possibly only the noble class) in the past (Adams 2001: 15, 26; Ames 1998: 67; Nooy-Palm 1979: 231). Today, with hybrid varieties, fertilizers, and machines, Rice surpluses from *tongkonan* land can be substantial in the central part of Tana Toraja with single *tongkonan* structures often having several rice granaries (each of which can house between 1,000 and 4,000 kg of rice).

Socially, there is some local variation in the degree of traditional sociopolitical complexity present in different areas within Tana Toraja. Central Tana Toraja, where megaliths were erected, probably represents the most productive paddy rice region and socially complex area among the Island Southeast Asian megalithic cultures dealt with in this chapter. In central Tana Toraja, there were traditionally four social classes: high nobles, lower nobles, commoners, and slaves (Adams 2001: 20; Ames 1998: 87; Hayden 2000, nd.; Nooy-Palm 1979: 44; Volkman 1985: 60, 61). This class affiliation was inherited matrilineally. In the rural parts of central Tana Toraja, population densities today

range from about 60-150 persons/km<sup>2</sup> (Badan Pusat Statistik Tana Toraja 1998).

An extended kindred group known as a *tongkonan* represents the base unit of sociopolitical organization above the household. *Tongkonan* groups are centered around a single house structure that is more elaborate than an ordinary structure and is marked by its steep saddle-shaped roof and the adornment of special carvings and buffalo horns on its exterior. Membership in *tongkonan* groups is inherited bilaterally and individuals can claim membership in several *tongkonan*, although they may only be active members of three or four *tongkonan*'s on a regular basis. The official head of a *tongkonan* is the *ambe' tondok* (father of the *tondok*), who is theoretically the senior male descendent of the founding ancestor of a *tongkonan*. The *ambe' tondok* played a lead role in dispute resolution within the *tongkonan*, organizing major rituals, and coordinating the cultivation of *tongkonan* lands (Adams 2001: 26-30). The *ambe' tondok*, along with members who are most active in the construction and maintenance of a *tongkonan* structure and in *tongkonan* feasts decide how *tongkonan* lands are to be used (Hayden 2000 n.d.).

With a membership based on descent from a founding ancestor and individuals claiming membership in several *tongkonan*, *tongkonan* members can be spread out in many different small hamlets that dot the Torajan landscape. These hamlets typically contain several related *tongkonan* (i.e., one main *tongkonan* and several branch *tongkonan* established by descendents of the original *tongkonan* founder) and private houses inhabited by *tongkonan* members. There also appear to have been local rulers (*puang*) that presided

over chiefdoms that encompassed villages led by *ambe' tondok* (traditional village or hamlet head) and possibly subdistricts (*lembang*) administered by *ambe' lembang* (*lembang* head). In addition, there were *saroan* groups through which labor for agricultural work and other tasks, such as setting up temporary structures for feasts, was organized. Membership in *saroan*'s could crosscut the boundaries of villages and *tongkonan* groups, sometimes forming territories with an administrative structure separate from the *tongkonan*-based polities. Within these *saroan* was a hierarchy of positions, each attached to differing degrees of political and economic clout (Adams 2001: 30-48).

Sponsoring large feasts in Tana Toraja is one of the keys to enhancing one's wealth and political power within *tongkonan* and *saroan* groups (Adams 2001). It is in the context of the largest funeral feasts in central Tana Toraja, which represent the most lavish of all Torajan feasts, that megalithic stone monuments were constructed. Standing monolithic stone funerary monuments (*simbuang batu*), which generally stand between about one and five meters above the ground, were traditionally (and on rare occasions are still) erected as a part of these large funeral feasts. In most parts of central Tana Toraja, erecting megaliths requires the slaughter of at least 24 water buffaloes.

The desired shape of *simbuang batu* megaliths is that of a menhir with the top narrower than the base. Some examples of these stones are quite rough and appear to have been shaped very little or not at all, while others are cut into an almost prismatic shape. The labor force required for moving the stone can consist of more than 1,000 people and is made up of individuals from various

*tongkonan* and *saroan* groups, including individuals related and individuals unrelated to the deceased. As the location from which the stone is moved can be a considerable distance (up to five to ten kilometers in some instances) from the *rante'* (feasting plaza) it can take more than one month for the workers to drag the stone. When the stone is moved, it is tied with rope while being pushed and pulled. To facilitate the movement of the stone, the stone is dragged over fronds of the arenga palm. The fronds are placed on the ground in front of the stone and continuously moved in front of the stone after the stone has been pulled/pushed over the fronds. Each day that the stone is moved across the landscape, one or more small water buffaloes and some pigs are slaughtered and eaten by the workers along with rice and *tuak* (palm wine).

The final destination of the stone is the *rante'* (feasting plaza) (Figure 6.1), typically located just outside the household cluster or hamlet of the deceased. At the *rante'*, there are typically several *simbuang batu* standing. According to Crystal (1974), there must be at least five *simbuang batu* standing in the feasting plaza and thus up to five stones can be erected as a part of a single funeral. Groups of *simbuang batu* throughout Tana Toraja, are arranged in various configurations. Some stones in *rante'* are arranged in a circular formation and others are arranged in straight lines. Some *rante'* have stones that do not appear to follow any orderly pattern at all. However, according to informant testimony, there is no differential symbolic meaning attached to *rante'* with contrasting layouts of stones or between stones of different sizes.

The largest funeral feasts traditionally associated with megalith

construction in Tana Toraja can entail the slaughter of more than 100 water buffaloes and even greater numbers of pigs. Furthermore, the underwriting of the funeral feast and the organization and feeding (one water buffalo per day for up to one month for the largest stones) of the hundreds of people that could be required to move a stone monument to the *rante'* (feasting plaza) was an undertaking that could require support from several *tongkonan* and *saroan* groups. Not surprisingly many years could pass before enough surpluses could be accumulated to honor a deceased person with a proper funeral and burial (Adams 2001: 181; Hayden 1999: 47, 48).

### Central Flores

In the central part of the island of Flores in eastern Indonesia, directly north of Sumba, there are groups that traditionally practiced megalith building. Descriptions of the various types of stone monuments (many of which are piles of rocks for which the designation of "megalithic monument" may stretch the definition) found in central Flores have been made by Arndt (1932) and more recently by Kusumawati (2002). Arndt (1932) listed various types of stone monuments in his study of the Ngad'a in central Flores, the most notable of which are stone slab covered graves with monoliths (up to 4 m tall) at one end of the grave. These were located in front of the houses of prominent Ngad'a elders in the center of villages, where major feasts were held. The graves served as the burial places for prominent clan ancestors and the monoliths were named after prominent ancestors (Arndt 1932: 12, 40). Similar slab graves designated for prominent ancestors were described in the Ende region of east-central Flores by

Kusumawati (2002). Other slab grave structures, with only one standing stone on top of the grave, are found in villages of the Lio, in east-central Flores (Howell 1989). Slab graves without a standing stone erected on their top have been documented among the Keo in central Flores (Forth 2001).

In addition to the megaliths, groups in central Flores share many similarities in terms of social structure. The Ngad'a, Lio, and other societies in the upland areas of central Flores generally appear to be clan and lineage-based (see Forth 2001; Howell 1989; Schröter 1998), with ancestral houses playing a prominent role in the organization of social groups, especially among the Lio (Howell 1995). Corporate ownership of land on the part of clan groups in the case of the Keo and Ngad'a and the house-based groups among the Lio was also a common feature of these societies (Forth 2001; Howell 1995; Schröter 1998). Warfare between groups appears to have been common among these central Flores groups as well. A concern for warfare between villages, usually stemming from land disputes, has resulted in the location of Lio villages on easily defensible hilltops or hillsides (Howell 1989: 423). Armed conflicts between clans that were the result of land disputes occurred in the past among the Ngad'a (Schröter 1998). Warfare between clans occurred in the past among the Keo and was a way in which clans could expand their landholdings (Forth 2001: 76, 77).

The ethnographic data from Forth's (2001) ethnography of the Keo is one of the most complete among those dealing with central Flores for purposes of this chapter. The Keo people inhabit an area in the south-central part of the

island of Flores. On this land which consists of a coastal plain and rugged upland terrain, dry rice was traditionally grown along with millet, maize, and Job's tears. Currently, millet and Job's tears are rarely grown and rice is cultivated on irrigated plots (Forth 2001: 1, 16). The population density of one of the primary areas (the subdistrict of Mauponggo) in which the Keo inhabit was about 167 persons per km<sup>2</sup> in 1996 (Forth 2001: 15). The traditional pattern of land tenure consists of the corporate ownership of land by clans and clan segments, while individually-owned land constituted land that was purchased through a system of barter (through which animals and other items could evidently be traded for land—Forth 2001: 73, 74). Domesticated animals include pigs, goats, water buffalo, and chickens. Water buffaloes are the most valued animals of the traditional feasting system and system of affinal exchange followed by pigs (Forth 2001: 17). Water buffaloes, along with gold, also represent the major forms of traditional wealth among the Keo (Forth 2001: 66).

Traditionally, the Keo appear to have been socially divided into a noble and slave class (Forth 2001: 70). The Keo are organized into clans, hamlets and villages. There are typically multiple clans that make up a village, and clans and divisions of clans, known as *ngapi*, corporately hold land (Forth 2001: 44). Hamlets are derived from villages and they have no political or ceremonial independence from villages (Forth 2001: 47). Hamlets consist of households that claim membership in clans that are represented by clan houses in the larger villages. The clan houses within these villages constitute social groups known as *sa'o* that are associated with at least two habitation structures (Forth 2001: 47).

This organizational scheme of clans, villages, hamlets and house groups appears to be very similar to the pattern of clans, *uma* ancestral house groups, villages, and hamlets in West Sumba (see Chapter III). In cases in which there was only one clan in a village, the clan head acted as a village head to a certain degree, although there does not appear to have been any one head authority figure in villages with more than one clan. Political and economic leadership in traditional Keo society does not appear to be very formalized at any level and was exercised by a group of wealthy and respected elders, whose wealth was largely based on the ownership of livestock, namely water buffaloes and pigs (Forth 2001: 70).

In terms of the megalithic aspect of the Keo, there are standing stone pillars (known as *peo watu*), about 1.5-2 meters high, erected in certain villages. *Peo watu* essentially have the same function as two other types of *peo*, those represented by trees and those that take the form of wooden posts. Within each village, there is one *peo*, which is considered to be the ceremonial focus of the village and affiliated hamlets (Forth 2001: 43). All three types of *peo* are associated with different rituals and customs and there is no consensus as to which type of *peo* is the most prestigious, although stone *peo* have been erected to replace *peo* that take the form of trees. Regardless of their form, *peo* stand in the middle of the village plaza on a 1-meter high platform of stone slabs (Forth 2001: 58, 59). *Peo* represent the corporately controlled clan lands and are usually considered to be the possession of the first clan to inhabit a village, although it is also possible for more than one clan to share ownership of a *peo*

(Forth 2001: 86). *Peo* are also the foci of collective sacrifices of water buffaloes on the part of clan members and those claiming ownership of land must contribute buffaloes to these sacrifices or else risk losing their claim to someone with a competing claim who is sacrificing buffalo instead (Forth 2001: 71, 72).

Stone tombs (not as large or elaborate as those found on Sumba) can also be found in the central plazas of Keo villages. These graves can consist of a pile of rocks stacked about one meter high capped by one or more stone slabs, each about one to two meters in length (Forth 2001: 182). Like the stone tombs of the Nad'a described by Arndt (1932) and those from Ende described by Kusumawati (2002), these stone tombs were reserved for prominent individuals within villages.

In terms of the methods and costs associated with building monuments such as *Peo Watu* among the Keo or monuments found in other groups of central Flores, there is a lack of descriptive accounts of the subject in the anthropological literature and the monuments themselves are currently no longer being constructed. In an early ethnographic account, Arndt (1932) provides descriptions of various stone monuments and myths behind their origin in the Ngada area of central Flores. He notes their position within the center of villages surrounded by the houses of prominent elders, their role as ritual foci involving the slaughter of pigs and buffaloes, and their link to named ancestors as stone slab tombs and monoliths named after prominent ancestors. However, there is no account of the details of how these monuments (outside of mythical origins that include a brief mentioning of people quarrying limestone on a beach to build

a stone monument and a boat carrying a large stone from Sumba) were built and in what context. Throughout Arndt's (1932) discussion it is also not clear as to whether stone monuments were still being erected during the time period (early twentieth century) when he collected data.

### ***The Naga of Northeastern India***

There are several Naga groups that occupy upland areas of northeastern India and parts of northwestern Burma reaching heights of up to 3,000 meters on mountain tops. Population densities in the context of early ethnographies of the Naga are not clear, although Von Fürer-Haimendorf (1969) did note that in his work among the Konyak Naga in 1937, there were approximately 1,300 people living in the largest village within a 10-mile radius area that consisted of several smaller villages. For the most part, the Naga subsist on swidden crops of dry rice (the principal subsistence crop among most Naga groups), Job's tears, millet, taro, and maize, while terraced wet-rice cultivation is practiced in some areas. With the right conditions and enough land, surpluses of dry rice could be produced from swiddens, although shortages were not uncommon (Hutton 1968: 59, 60; Jacobs 1990: 9, 30). Domesticated animals kept by the Naga include *mithan*, cattle, goats, chickens, pigs and dogs. *Mithan*, bovines with a similar size and appearance to water buffaloes, represent the most important sacrificial animal in large feasts (Mills 1922: 59-63; Mills 1937: 91-95). Among Chin groups in the same mountainous region of the Naga, average livestock numbers in villages ranged from .4 *mithan* for each household and just over one pig per household to nearly one *mithan* per household and almost two pigs per

household (Stevenson 1943: 47; Simoons 1968: 12). *Mithan* and common cattle ownership tended to be concentrated in relatively few households, less than 1/3 of households in one village (Stevenson 1943: 47). The pattern of traditional livestock ownership among the Naga appears to fall in a similar range as the Chin, as pigs were considered to be owned by all but the most impoverished households while *mithan* were less abundant (Hutton 1969[1921]: 79, 81).

Land tenure is variable throughout the various Naga groups. There is land owned by individual households, clans, and villages among the Ao Naga, while land is controlled by powerful chiefs who attracted and indentured dependants through gifts of land among the Sema Nagas. Additionally, some land is corporately owned by *morung* groups (see below) among the Lhota Naga (Jacobs 1990: 35), and livestock (pigs and *mithan*) can also be under shared ownership (Mills 1922: 60).

In addition to variable patterns of land tenure, there are also some differences in the sociopolitical organization of Naga groups. Traditionally, there were generally three social classes among the Naga: commoner, intermediate, and chiefly *Ang* class. However, in many groups these distinctions were only expressed in ritual. In terms of village organization, there were two primary patterns: one of which was characterized by the rule of an autocratic chief (implying more than just a ritually-based status), while the other was more egalitarian, with decisions made by a council of elders in which the leader of the chiefly *Ang* clan of the village shared power with leaders of the *morung* groups (see below) in such matters as resolving disputes and deciding which fields

should be cultivated in a given year (Jacobs 1990: 69, 70). Among the Lhota Naga, the village chief was traditionally assisted by a council of elders and was a position based on heredity within the family of the village founder, although not always passed from father to son (Simoons 1968: 118). In all cases, villages were autonomous from any larger form of political organization (i.e., chiefdom), although Mills (1922: 96) noted that among the Lhota Naga, village confederations were traditionally formed for defensive purposes. These confederations were led by the most prominent village of the confederation and probably involved feasting.

Within each traditional Naga village, there can be a number of different lineages, and clans. A group of related lineages makes up an exogamous clan, and each lineage within a clan is represented by a lineage house, with the most senior lineage house being the theoretical origin of the entire clan (Jacobs 1990: 69, 70). A number of clans are included in an exogamous phratry, which contain between 8 and 10 clans among the Lhota Naga (Mills 1922: 88).

There can also be one or more *morung* groups in Naga villages. The *morung* was traditionally a men's house and social institution for warriors (Mills 1922: 24). The houses were usually the largest and most elaborately decorated houses in villages, which could have more than one *morung*, with carvings on the main post. The *morung* was also the house where heads were first brought following a headhunting raid (Mills 1922: 24, 25; Simoons 1968: 110). *Morung* membership was usually based on clan affiliation, and the link between the *morung* and clan could serve to enhance the cohesion of both groups (Simoons

1968: 108). However, it is not clear from ethnographic accounts what the membership requirements of *morung*'s were or whether there was typically one *morung* for each clan. In the late twentieth century, *morung* houses served as sleeping places for young unmarried men, who cooperated in constructing new *morung* and working each other's land. The *morung* house is also the center of certain ritual occasions, and the council of elders in a *morung* in many Naga groups assists the village chief in administrative matters. As noted above, among the Lhota Naga, *morung* groups also collectively own some cultivated land (Jacobs 1990: 27-29).

Among several Naga groups, the erection of stone monuments was traditionally often part of the last stage of a group of "feasts of merit" performed by individuals and not related to events connected to the agricultural cycle or life cycle (e.g., funerals). Sponsoring these feasts of merit, along with headhunting and certain death feasts, were considered to greatly enhance one's life-force and status (Simoons 1968: 110). At each stage, the feasts involve greater expenditures of cattle, *mithan*, and rice beer at each stage and the completion of each stage was associated with the conferring of privileges of special household adornment and decoration, such as displaying cattle horns on the front of a house, placing wooden horns on the top of the peaked roof of a house and erecting wooden commemorative posts in front of a house (Mills 1922; Jacobs 1990). Mills (1922: 136) noted that the feast host was also given the right to wear distinctive cloths after each of the feasts among the Lhota Naga. The megaliths erected at the last stage of these feasts are monoliths about 1.5-2 m in

height and 1 m wide standing alone or in a group representing a male-female pair or a man, woman, and child (Jacobs 1990: 117; Mills 1937: 196). Hundreds of people were summoned to move one of these stones, which could weigh up to one and a half tons (Jacobs 1990: 117). The stone was fastened to a large sledge and carried among the southern Lhota Naga, while the northern Lhota Naga dragged the stone attached to a wooden sledge. Among the Lhota Naga, all of the stone draggers, primarily comprised of individuals from the stone-owner's village, ate a pig at a feast one day prior to dragging the stone from the quarry to the home of the stone's owner (which could be a distance of up to about three kilometers). The stone dragging culminated in a feast at which a bull was slaughtered and eaten with rice beer at the stone owner's house. However, the sponsor of the stone dragging and members of his clan were not permitted to take any of the meat (Mills 1922: 141-143). Hutton (Hutton 1969[1921]: 232-233) described a stone pulling process that, in total, required twelve bulls, eight pigs, 480 pounds of rice and sometimes several hundred stone pullers among the Angami Nagas. The individual sponsoring the stone dragging was also required to brew enough rice beer to provision all those in his village with rice beer for a month prior to pulling the stone and enough rice beer to give to those who pulled his stone before and after moving the stone to the village (which could take one or two days) (Hutton 1969[1921]: 345, 346).

The final resting place of the stone was in the middle of the path that ran through the village in front of the stone owner's house (Mills 1922: 23).

According to Mills (1922: 136-137), an individual could sponsor a stone-dragging

on more than one occasion and there were limits put on the number of times this could be done. Mills (1922: 137) recorded one instance in which a man had dragged 25 stones in his lifetime, the maximum number allowed in his village. Thus, while the size of the stones and the feasts associated with them may not represent the most lavish example of megalithic erection when compared to megalith building in West Sumba (see Chapter IV), the cumulative amount of labour and animals required to erect several megaliths could be quite substantial among the Naga. After performing all four feasts of merit and erecting a monolithic monument, the sponsor was accorded the title of *puthi* (village priest) and other religious posts (Simoons 1968: 128). This appears to be similar to the title of *rato* conferred upon those who sponsor tomb constructions and perform other large feasts in Kodi, West Sumba, although in Kodi, this title is more related to political roles than those associated with ritual practitioners (*rato marapu*—see Chapter III). The Naga feasts of merit culminating in the pulling of a large stone seem to have been associated with the attainment of secular power as well. When writing of the Naga in general, Jacobs (1990: 69) noted that hosting large feasts was one of the means through which chiefs ascended to power

In addition to large monoliths, the erection of large Y-shaped wooden monuments could also be a part of the last stage of the feasts of merit (Jacobs 1990: 77). These could be between 2 and 3 meters tall and were sometimes erected in lieu of stones (when stones were not available) among the Lhota Naga (Mills 1922: 144).

## ***Madagascar***

There can be considerable variability in the traditional economic and socio-political contexts of traditional societies on Madagascar, although all groups represent Malayo-Polynesian speakers linguistically related to Indonesia. In spite of this variability, reverence for the ancestors expressed in large funerals and the construction of megalithic tombs are associated with societies throughout the island (Mack 1986; Parker Pearson and Ramilisonina 1998: 311). Two groups that provide good examples of the contrasting contexts in which megaliths are built on Madagascar are the Merina and the Tandroy.

### The Merina

The Merina occupy areas of central Madagascar. The territory of the Merina (referred to as Imerina) is mountainous, with average elevations being about 1300 m above sea level (Hatzfield 1960: 9). Population density in the district of Ambatomoina in the northern part of Imerina was 19.2/km<sup>2</sup> in 1971 (Bloch 1971: 74). The traditional economy of the Merina is dominated by wet-rice agriculture. Other crops include taro, sweet potatoes, bananas, and manioc (Bloch 1971: 92). As in the rest of Madagascar, cattle were also very important for their use as draught animals and their meat. Among the other traditionally domesticated animals were sheep, pigs, geese, chickens and turkey (Bloch 1981: 138; Bloch 1971: 7). All rice paddy land was traditionally controlled by various endogamous kinship groups that Bloch (1981) refers to as demes (see below). This land was divided up among the individual deme households and inherited bilaterally (Bloch 1981: 138).

In terms of agricultural productivity, there is variability in the rice surpluses produced in local areas of the region. In a survey of villages of the Betsileo, an area just south of Imerina with very similar cultural traditions, ecological conditions, and subsistence economy, Kottak (1983) found that only one of the three villages surveyed produced rice surpluses in average years. The villages which yielded yearly deficits were located in areas more arid and less socially stratified than the village of Ivato, where significant rice surpluses were produced (Kottak 1980: 133-154).

Socially, the Merina were divided into slave and free classes along with an apparent royal class of rulers during the period of the Kingdom of Imerina (17<sup>th</sup>-19<sup>th</sup> century AD). Before the 17<sup>th</sup> century, the Merina were organized into various chiefdoms each consisting of a few villages (Bloch 1971: 40). State development within the area occupied by the Merina occurred in the 17<sup>th</sup> century, and by the 19<sup>th</sup> century, the kingdom of Imerina controlled much of Madagascar (Bloch 1971: 17). Throughout this period of transition, Merina social organization appears to have always been centered on the deme or *karazana* (the Malagasy word used to describe demes) groups, which are endogamous kinship groups that corporately owned land. Each deme is made up of one or more ancestral villages and, in the past, they also represented territorial subdivisions of districts within kingdoms (Bloch 1971: 46, 47, 107, 108). Demes were ranked in a hierarchy determined by closeness to the monarch and a person's rank was determined by the rank of their deme (Bloch 1971: 107).

Apparently, all deceased members of a deme were interred in large megalithic tombs. In each ancestral village, there were several tombs, although only demes of higher status could locate tombs within the villages (Bloch 1971: 11; Bloch 1981: 139). Currently, these tombs are built from cement and they are generally more expensive to build than houses (Bloch 1971: 113; 1981: 139). Upon death, a person can either go to their mother's or father's tomb, while wives can also be interred in their husband's tomb (Bloch 1971: 115). When a person lives outside of the ancestral village in which their tomb is located, they often are temporarily buried in the ground and moved to the tomb at a later time due to transport costs (Bloch 1971: 139, 140). The individuals that are to be buried in a tomb make up a group that collectively must contribute to the upkeep of the tomb (e.g., repairing the tomb walls with new cement or building a new tomb when it is full), which is required regularly (Bloch 1971: 117). Among the Betsileo of south central Madagascar, the membership requirements for similar tomb groups also included participation in funeral ceremonies (Kottak 1986: 229). The tomb group is ultimately tied to ancestral lands of the deme and there are apparently several tomb groups in a single deme (Bloch 1971: 127). The group is typically headed by the oldest male member of the group, although age is not the only criterion for being the head of a tomb group as wealth, political power, and being the head of the core local family of the tomb group are also considered to be important criteria for membership (Bloch 1971: 117, 118). A member could be excluded from burial in tombs if they did not contribute to the upkeep of the tomb or if they were ostracized by their family (Bloch 1971: 119).

Traditionally, tombs were semi-subterranean structures that consisted of 5 beds, 4 walls, a cover, and a door (Callet 1908: 269-271; from Kus and Raharijaona 1998: 58). Tombs of high status demes were often built with a small model of a house (presumably made of stone) on top of the tomb (Bloch 1981: 140). New tombs were built when old tombs were full. The group that was to be buried in the new tomb financed its construction, although the degree to which one contributed depended upon financial ability (Bloch 1971: 116). The construction could be quite costly, and specialists were required for quarrying the proper granite and to ensure that the stone was constructed in the correct manner. The workforce required to drag the stones from the quarry to the construction site as well as to construct the tomb itself included communal labor that was made up of members of the tomb group as well as others, often including individuals from other villages (Kus and Raharijaona 1998: 58). Among the Betsileo, a large tomb construction could traditionally cost 40 cattle, indicating a substantial use of surplus livestock, and two slave women which were paid to two Merina masons who directed the tomb building (Kottak 1980: 253). In the late twentieth century, in cases when cement was used to build tombs, a Betsileo tomb construction could cost \$50 US dollars (1972) for each of the 15 families (i.e., \$750 in total) in a descent group cooperatively financing the tomb building. This expense included the cost of cement and hiring a mason (Kottak 1980: 235).

In addition to tombs, standing monoliths were erected by the Merina for a variety of purposes. They can stand up to at least about two meters high and were often erected to mark the territorial boundaries of demes (Kus and

Raharijaona 1998: 57; Parker Pearson and Ramilisonina 1998: 311-312).

Standing stones also served as memorials for individuals who could not be buried in tombs or were erected on top of the tombs of village founders (Kus and Raharijaona 1998: 55, 57). Additionally, between the royal palace and royal residences of the Imerina kingdom, there were standing stones placed at intervals to serve as stations at which runners were posted to relay messages and as memorials to commemorate significant events (Parker Pearson and Ramilisonina 1998: 312).

### The Tandroy

The Tandroy live in an area at the southern end of Madagascar known as Androy. This region is quite arid in relation to the lands of the Merina with low overall traditional population densities (4.9 persons per km<sup>2</sup> in 1963—Thompson and Adloff 1965: 280). The traditional economy of the Tandroy appears to have been largely based on cattle herding, while beans, manioc, and other vegetables were cultivated. Other domesticated animals include sheep and goats. The settlements of the Tandroy were, according to Parker Pearson (1992: 942), relatively impermanent, although the archaeological record of the area indicates that there were large stone-enclosed settlements, which were larger than other contemporary non-defended settlements, dating from the 10<sup>th</sup> century on (Parker Pearson 1992: 942, 944-946). Tandroy society appears to have been fairly egalitarian and centered on patrilineages in which individual rank was based on seniority (Parker Pearson 1992: 943). However, the large defensive settlements imply a settlement hierarchy and the potential existence of chiefdoms in Androy

in earlier times. The entire area was ruled by a royal dynasty in the 18<sup>th</sup> and 19<sup>th</sup> century (Parker Pearson 1992: 943).

The construction of megalithic tombs by the Tandroy did not occur until the latter half of the 19<sup>th</sup> century. Members of the ruling royal clan of the Tandroy appear to have been the first to construct these tombs at the time when their power was in decline and generally, monumental stone tombs seem to have been traditionally reserved for those of high status, while lower status people were buried in forest cemeteries (Parker Pearson 1992: 946, 947). However, the practice of interring individuals in stone tombs is currently more widespread (Parker Pearson 1992: 944).

Stone tombs are constructed outside of villages on the ancestral land of the deceased person's clan, although never on cultivated land, and typically in areas where stone is plentiful. The construction of a tomb can take months or years as it requires the labor of work-parties that come together infrequently (Parker Pearson 1992: 944, 945). The tombs seem to be largely reserved for individuals (not groups), and it is traditional practice for the west wall of a man's tomb to be constructed by the family of the man's first wife, while the descendants of his second and third wives construct the north and south walls. It is presently becoming common for a stone tomb to also be topped with an oval stone cairn, which is put in place at the time of burial, and surrounded by a stone wall covered with water buffalo horns. The horns being from the water buffaloes slaughtered at the funeral for the deceased as well as those slaughtered during the construction of the tomb. The combined total of these water buffaloes

slaughtered for the funeral and the construction of the stone tomb can be well over 100 (Parker Pearson 1992: 944).

### ***Common Themes and Building a Model***

This overview of megalithic cultures has revealed many similar patterns in terms of the social, political, and economic contexts in which megaliths have been constructed traditionally. In all such respects, these cultures bear significant similarities to West Sumba. Socially, there are apparent inequalities associated with each of these groups, which are generally divided into classes of nobles, commoners, and slaves (or just nobles and slaves in the case of Kodi). There are however contrasting degrees of social stratification among these societies as well as contrasting systems of political organization, ranging from chiefdoms in Tana Toraja to transegalitarian societies among the Keo to kingdoms in Madagascar. However, in the case of Madagascar, the context in which the megaliths of the Imerina kingdom were constructed appears to be more reflective of a social order, especially in the countryside that has persisted from a previous chiefdom context in spite of the emergence of the Imerina state (Bloch 1971: 18).

Despite these overall similarities in social organization, population densities within these societies differ to some degree. The megalithic societies of Madagascar exist in areas of low population densities (19.2/km<sup>2</sup> among the Merina {1971: 74} and 4.9 persons per km<sup>2</sup> among the Tandroy {Thompson and Adloff 1965}) in comparison to all other groups included here. There are some issues with population density, however, as many of these areas have seen a

marked increase in population since the twentieth century (which corresponds to the last time megalith building occurred to any significant degree among many of these groups). This population increase is due to such factors as government aid programs, modern transport of staples, availability of fertilizers, new varieties of productive hybrid rice, farm machinery, and the increased availability of modern medicine. For example, the population of Tana Toraja more than doubled between 1930 and 1998, from 186,269 to about 380,000 (Badan Pusat Statistik Kabupaten Tana Toraja 1998; Nooy-Palm 1979: 20). Similar increases are associated with Batak population densities which increased from about 110/km<sup>2</sup> in 1907 to 196/km<sup>2</sup> in 1980 (Sherman 1990: 18, 24). The population of the Keo in Flores reflected a density of 167/km<sup>2</sup> in 1996, which was undoubtedly the result of similar increases in population that have characterized Indonesia (Forth 2001: 15). The overall population density of West Sumba was about 88.16 per km<sup>2</sup> in 2000, with a range of variability in which 142.77 people per square km live in Kodi and about 26.47 per square km live in Anakalang (Badan Pusat Statistik Kabupaten Sumba Barat 2001: 29). Interestingly, the higher population densities in Kodi do not correspond to higher degrees of social stratification in comparison to Anakalang, where there are large tracts of paddy land controlled by powerful households in a society traditionally made up of nobles, commoners and slaves. The reported population densities of Nias were about 94.5/km<sup>2</sup> in 1985 (Beatty 1992:2). As noted above, the population densities among the Naga groups are not clear, but the presence of large villages with populations of more than 1,000 individuals dominating areas of

many smaller villages in an area of about 100 square miles (Von Fürer-Haimendorf 1965) seem to reflect a scenario in which population densities are somewhere in the range of 50 people per square kilometer. Overall, it would appear that there is a wide range of traditional population densities represented among these societies with the high end (represented by the Batak, Kodi, and Keo) being more than 100/km<sup>2</sup> and the low end less than 20/km.<sup>2</sup> The numbers at the highest end of the scale (Kodi, Keo) should also be considered to reflect significant population increases throughout the 20<sup>th</sup> century and most of these societies very likely fell within the range of about 50-100 individuals per square kilometer prior to the 20<sup>th</sup> century.

Economically, cereal cultivation is a common theme of many of the megalithic groups covered here, although this should be expected considering that most of these cultures inhabit areas of Southeast or South Asia or are partially descendant from groups originating in Southeast Asia (e.g., the Malagasy of Madagascar). Economies largely based on rice certainly do not occur in other well-known areas of megalithic construction, such as Neolithic Europe, and there is no reason to assume that any particular aspect of rice would favor megaliths (unless they were displays of labour control and/or could be used to attract labour for the production of wet rice surpluses as is the case in Tana Toraja and West Sumba—see below). Furthermore, the subsistence regime of Oceania, where ritual centers, such as *marae*, were sometimes megalithic (e.g., Rapa Nui), did not include cereal crops of any kind (Kirch and Green 2001).

In spite of these differences in staple plant foods, the surplus levels produced in these societies is worth examining. In most cases, as in West Sumba, surpluses of desirable plant foods appear to have been limited traditionally. Systems of swidden rice cultivation are common (e.g., Kodi, Naga, Batak, Keo, Nias, and some parts of Tana Toraja) with periodic shortages and a substantial number of households having regular rice shortfalls (e.g., Tana Toraja, Battak, Kodi, Madagascar). In these contexts, there is typically an elite stratum with substantially higher surpluses than others. This can be seen among the Battak, where 24% of households reported substantial surpluses, in Tana Toraja, where there is considerable variability in rice harvests between wealthy and poor households and where only wealthy people reportedly ate rice on a regular basis traditionally (Adams 2001), and in Kodi, West Sumba, where the wealthiest household interviewed for this study owned at least three times as much land as any other interviewed household connected to the village of Wainyapu. Not surprisingly, among these societies is the widespread use of rice at large feasts as in West Sumba, where rice is a required component of feasts. Due to the shortages associated with this most highly valued plant food, the cultivation of other crops, such as maize, manioc, and sweet potatoes, is common and, in the case of Tana Toraja, these “alternate” plant foods are sometimes eaten as staples even by wealthy households in order to save rice for use in large feasts (Adams 2001).

The ritual and economic importance of large bovines as draught animals, source of meat, and high-valued exchange item is a uniting characteristic in most

of these societies as well. The ownership of these animals follows a pattern similar to that associated with the production of significant rice surpluses in that their ownership, especially large numbers of these animals, typically appears to have been limited to the wealthier households among ethnographically documented megalithic societies. The ultimate use of these animals is for slaughter at large feasts, including those associated with megalith building, where relatively large numbers can be slaughtered. Among groups in Nias, large bovines (i.e., cattle, *mithan*, or water buffaloes) were apparently not a part of the traditional economy. However, as is the case with other megalithic societies, pigs were very important in the traditional economy and feasts on Nias, where very large numbers of pigs are slaughtered for the largest feasts (with 100 or more pigs) and the wealthiest households keep upwards of 20 or more pigs in large corrals (Beatty 1992: 221). Thus, as can also be seen in the patterns of rice surpluses, the control of highly valued feasting foods (domesticated animals and rice) appear to be critical components of the traditional economy in all of these cases.

The control of highly valued land (for rice) and livestock resources is, in varying degrees, connected to corporate decent groups in all of the areas outlined in this chapter. This corporate control of resources was primarily concerned with land tenure among the Batak, although some livestock was traditionally owned by multiple households (not by entire descent groups) (1990: 226-227). Among the Batak, ancestral land was tied to lineages and could be traced back to the original land cleared by the founding ancestor of the lineage.

However, this land was divided up and owned by individual households (Sherman 1990: 240; 241). Nias lineages corporately owned swidden land and collectively decided who worked each plot of land (Beatty 1992: 45). Ownership of cultivated land by clans and clan segments also occurs among the Keo (Forth 2001: 73, 74). Collective ownership of land occurs at the village, clan, lineage, and *morung* level traditionally among the Naga groups (Jacobs 1990: 35). Deme kinship groups controlled land among the Merina and there was ancestral land tied to clans among the Tandroy (Bloch 1981: 138; Parker Pearson 1992: 945). Corporate control of land and resources by *tongkonan* kindred groups appears to have been prevalent traditionally in Tana Toraja as well (Adams 2001: 26; Ames 1998: 67; Nooy-Palm 1979: 231). In West Sumba, as has been discussed throughout, cultivated land is under the traditional ownership of corporate clan groups, while households hold use-rights to individual plots.

As corporate land tenure is generally common, the question becomes to what degree, if any, is the construction of megalithic monuments connected to corporate groups and the corporate control of resources? Megalithic monuments in western Europe have been linked to corporate groups as monuments to mark corporately owned resources by Chapman (1981). In many respects, the data from West Sumba and this survey of other megalithic cultures lends substantial support to this notion. Competition that can lead to violence between these groups should be associated with a need for display in promoting corporate group success to attract allies and political support. In many of these societies, the elaborate architecture of the houses that are associated with corporate

groups (e.g., *tongkonan*'s in Tana Toraja, *morung* houses among the Naga groups, *jabu* lineage houses among the Batak, Keo *sa'o* houses, Nias lineage houses, the *uma* ancestral lineage houses in West Sumba) could arguably be a reflection of the need to display the success of corporate groups. It seems reasonable that megalithic monuments could have a similar role in these areas.

In many of the megalithic cultures of Island Southeast Asia, the monuments themselves do indeed appear to be associated with the display of corporate group success. The megalithic tombs erected by the Batak contained the bones of prominent lineage members and their erection was associated with a large feast marked by a display of economic success and prestige enhancement of the lineage (Barbier 1988). The standing stone pillars (*peo watu*) of the Keo were clearly associated with clans and corporately controlled clan lands (Forth 2001: 86). Although the standing monolithic *simbuang batu* of Toraja were erected in honor of prominent deceased nobles, their erection was part of a feast that enhanced the prestige of its organizers (the deceased person's kin), which claimed membership in the same *tongkonan* group. Furthermore, several *simbuang batu* associated with a *tongkonan* or group of *tongkonan*'s were placed on the *rante'* (feasting plaza) of the *tongkonan*, indicating that these megaliths were associated with enhancing the prestige and power of *tongkonan* groups (Adams 2001: 181). The indications from these societies appear very much like the situation in West Sumba, where tombs are considered the collective property of clan groups and reflect the prominence of the clan as well as the individual who sponsored their construction.

A similar pattern occurs to some extent in Madagascar as well. The tombs constructed for deme members among the Merina show a link between megalithic construction and corporate landholding groups (Bloch 1971; 1981). This link between the tombs of the Merina and corporate landholdings was used by Chapman (1981) in support of his proposed link between prehistoric megaliths and corporate groups. In southern Madagascar, the megalithic tombs constructed among the Tandroy were first erected by the ruling royal clan. However, the Tandroy tombs were later built by other clans and may have been connected to raising the status of the clan as they were erected after the deceased person had died, associated with very large feasts, and always placed on the ancestral land of clans (Parker Pearson 1992: 944, 945).

While the stone monuments erected traditionally in Nias are associated with feasts of merit through which much prestige is conferred upon the primary sponsoring household, the large *ovasa* feasts associated with the erection of megaliths on Nias are performed with the support of fellow lineage members (Beatty 1992: 32). As noted previously, the stone monuments of the *ovasa* feasts are placed in front of the house of the noble person who served as the primary sponsor for the feast. Importantly, these houses are located within a row of houses of the same lineage in a designated section of the village (Beatty 1992: 37, 38). Thus, the promotion and status elevation attached to megaliths in Nias appears to extend to the lineage as whole.

In spite of these indications of a widespread connection between corporate groups and megaliths, the erection of megaliths among the Naga are

probably the most concerned with the promotion of the individual household as opposed to the lineage or clan as a whole. The monoliths erected by the Naga represent the last stage of a cycle of feasts of merit through which the prestige of individual households is enhanced (Jacobs 1990: 77, 117; Mills 1922: 136). However, fellow clan members and other relations assist in the construction of these monuments (Mills 1922: 137-144). There also appears to be a strong connection between the *morung* (men's group—see above) and Naga feasts of merit. For example, the horns of the *mithan* slaughtered in the last feast of the feast of merit cycle (prior to pulling and erecting a stone monument) must be placed inside the *morung* house affiliated with the feast's primary sponsor until the stone was actually pulled and erected, after which point the stone could be placed in front of the sponsors house and the sponsor attains a special ritual title (Mills 1922: 141-144; Simoons 1968: 128). Unfortunately, the literature on the erection of stone monuments (the primary accounts of which were mainly written in the early twentieth century) and the degree to which they are associated with *morung's* or other groups in terms of collective sponsorship is incomplete and unclear.

In West Sumba, the construction of megalithic tombs is similarly associated with the elevation of individual social standing with tomb builders attaining special titles (*rato* or *tokoh*) associated with accessing traditional power within clan groups. This is an obvious driving force behind their erection that Hoskins (1986) noted is part of a complex in which individual power achieved through competitive feasting and tomb building is concerned with the ascension

of one's individual standing in the living world that is retained after death by descendants and other corporate members who contributed to its erection. Examining the implications this status has for political and economic power (see Chapter III), it seems clear that there are practical benefits associated with this activity that are conferred by tomb builders. Hoskins contrasted this pattern with the case of the Merina in Madagascar, who Bloch (1971, 1981) viewed as being very oriented to the collectivity of kin groups which was reflected in burials and funerary traditions in which the individual was de-emphasized and new bones were mixed with bones of ancestors in tombs without any regard for the individuality of the deceased. While this focus on individual achievement is certainly prominent in Kodi and the rest of West Sumba, the clan connection with tombs, both spatially and in terms of people's perceptions of the tombs, is indicative of competition and power extending to these larger clan groups as is the presence of descendants who can also be interred in the tombs.

What is then perhaps the most uniting theme of these megaliths is not merely a particular connection between tombs and corporate groups (although this connection between megaliths and corporate groups is strong in most cases and cannot be ignored), but a correlation with competition between these groups as a whole as well as competition between individuals within the groups. The indications of this are clear in the case of the Naga and central Nias groups. In both environments, competition appears to have been expressed through large feasts and warfare traditionally (Beatty 1992; Jacobs 1990). Certainly the large funerals associated with the erection of *simbuang batu* represent classic

examples of large competitive feasts with over displays of wealth, surpluses, and labour support (Adams 2001). There are also competitive aspects of the feasts accompanying the erection of megaliths among the Batak and the Tandroy (Barbier 1988: 58; Parker Pearson 1992: 944). The water buffalo sacrifices conducted by clan groups at their respective *peo watu* (stone pillar) may also be a way in which inter-clan competition is expressed among the Keo (Forth 2001: 88). Additionally, the megaliths that appear to be linked to corporate groups and resources among the Merina, Batak, Toraja, Sumbanese, and Keo all seem to have been erected in areas where inter-group competition expressed through warfare and political instability occurred in the past (Adams 2001; Bloch 1971: 40; Forth 2001; Barbier 1988: 57, 58). These factors all suggest a general pattern similar to that found in Kodi, where traditionally and up into the current context, clans have been engaged in periodic disputes (primarily over land) that were traditionally linked to inter-clan warfare and headhunting and tomb building is associated with a competition between individuals for greater renown within and outside their clan.

In light of this discussion of the commonalities that exist among these megalithic cultures, the construction of megalithic stone monuments would appear to most likely occur among groups with the following characteristics: 1) competition between corporate groups and/or individuals for resources and/or political power; 2) at least some degree of social and economic inequalities (ranging from what one would find in more complex transegalitarian societies, proto-chiefdoms, and chiefdoms); 3) economic and/or political power that is

linked to descent groups with decision making and economic power vested in corporate heads (*rato's*, lineage heads, clan elders, etc...); 4) competitive feasts; and 5) considerable but unstable production of surpluses leading to intensified competition and conflict. All of these megalithic societies exhibit social and economic inequalities. As noted previously, competition for resources and/or political power are clearly associated with the erection of megaliths. This competition is expressed in the elaborate feasts associated with the erection of megaliths in these societies, up to over 100 water buffaloes and over 100 pigs in some cases (see overview of megalithic cultures in this chapter). The competition can exist between groups or individuals, although the link between megaliths and societies in which corporate descent groups play a key economic and political role should not be ignored. Even in societies where the erection of megaliths appears to be clearly associated with competition between individuals, such as the Naga, the fact that these monuments are constructed of stone and remain standing long after the person who erected them has deceased suggests that the monuments do indeed confer a certain amount of prestige or status upon a person's descendants and descent group who, in all well documented cases, help underwrite these feasts and the building of monuments. Thus, although the erection of megalithic monuments may be linked to individuals more than groups, the relative permanency of these monuments and the particular importance of descent groups and lines of descent among megalithic cultures undoubtedly indicates that there is a strong connection between the monuments and descent groups as well. Even as the stone crumbles over a few generations, as has been

noted for the Naga (Kirsch 1973), the persistent practice of erecting these monuments ensures this connection is maintained.

The issue of why other groups sharing these same characteristics never took up megalith building is deserving of explanation. For example, the Chin groups of northwestern Burma (very close to the location of the Naga) share very similar ecological conditions and patterns of social organization with the Naga. The Chin traditionally did not erect stone monuments, but competition was similarly expressed in large feasts of merit and displayed in the erection of large wooden Y-shaped posts (Stevenson 1968[1943]). Some of the more stratified societies of Borneo, such as the Kenyah and Kayan, represent another example. In this case, while there are no traditional megalithic monuments, large and elaborately decorated longhouses were built for corporate groups of these societies. In addition, elaborately decorated wooden mortuary structures were also built by these groups (Waterson 1990). Elaborately carved wooden corporate coffins in Tana Toraja may have replaced stone megaliths in some cases and the overall elaboration (in terms of carved designs and roof size) of wooden corporate *tongkonan* houses in the latter half of the twentieth century in Tana Toraja coincides with an overall decline in megalith building. In the British Neolithic, some monumental tombs were made of large oak slabs rather than stone (e.g. Haddenham). Hence, there may be a definite association between competitive displays (e.g., megaliths, household architecture, wooden monuments) and contexts of competition between individuals and groups in areas with sufficient, yet unreliable surpluses and political instability. This pattern

is similar to what Randsborg (1982: 135) discussed concerning greater displays of wealth occurring during periods of uncertain or rapidly changing status roles and inheritance, while lower displays occur when roles are fixed and rigid. Certainly, economic surpluses and political instability is a defining characteristic of transegalitarian and chiefdom societies in general. However, the focus of this dissertation is on explaining why megalith building has occurred in various areas and not necessarily on why it has not occurred in many other areas with apparently similar conditions.

According to design theory, there are always several options or good solutions for any given problem (McGuire and Schiffer 1983). Materials commonly differ from place to place for environmental, availability, and cultural value reasons. Materials used for prestige items in different areas vary widely and include prestige serving vessels in clay, stone, carved wood, and basketry. Why should materials chosen for the greatest ostentatious displays of corporate groups be any different? The essential step in achieving this goal is to identify the magnitude of need for competitive display and the resources available (labour and surplus amounts). Then look at material solutions, such as houses, monumental wood sculptures, megaliths, burial mounds, temples, totem poles, and other large display-oriented edifices, and assess the role of environment, available materials, and cultural choices. Even among groups with similar ecological conditions, it should be expected that there will be variability in the ways in which groups display power (Chapman 1995: 33, 34). The key expectation is that under certain resource conditions of unstable surplus

production where corporate groups articulate economic and political competition, one should expect some form of lavish promotional display whether in terms of burials, corporate houses, defenses, feasts, temples, or other forms of expression.

Bringing the discussion back to the context of prehistoric societies, it should be emphasized that this model should not be viewed as an attempt to lay down absolute laws for megalith building in all societies and all places. The variability in contexts (temporally and spatially) in which these monuments occur is enough of a reason to caution against an assertion of universals. At the same time, one cannot ignore the commonalities that exist in many of the prehistoric megalithic contexts which prompted the past theories that set out to explain the phenomenon of erected large stone monuments. This study has greatly expanded the discussion not only by illuminating the commonalities present in more recent megalithic traditions, but also by providing a detailed overview of a living megalithic tradition in West Sumba. This analysis does support claims of a connection between the corporate control of resources and the megaliths which served as material manifestations of corporate power in the context of the European Neolithic and late Mesolithic (in some areas) (Chapman 1981, 1995; Lidén 1995; Madsen 1982). It is worth noting that the monuments for the living populations in most cases appear as symbols of power and renown rather than signifying use-rights. However, it is the competition between corporate groups over critical resources (e.g., land) that makes such displays so important. From this, it is clear that while megalith building does tend to occur in a context of

competing corporate groups similar to what Chapman (1981) envisioned for the megaliths in the Neolithic of western Europe, the monuments are also very much a part of a competitive environment between individuals within these groups.

As a part of strategies for attaining power on the part of individuals (e.g., Nias, Naga, West Sumba, Tana Toraja, Batak), the large stone monuments of ethnographically documented megalithic cultures have some intriguing similarities with those in prehistory. The megalithic dolmen building tradition of Korea dating to the second millennium BC and extending to the mid-first millennium BC (Nelson 1999: 147) is of particular interest for comparison due to a similar agricultural base (i.e., rice, domesticated pigs, domesticated water buffaloes). In Korea, as is the case with megaliths in West Sumba, Tana Toraja, Nias, among the Batak, and among the Naga, these tombs are considered to have signified the power of an elite segment of the population and often were associated with single interments (Nelson 1999). There are indications that this megalith building tradition also occurred within a context of corporate descent groups as evidenced from intra-village household clusters with shared storage facilities (Lim 1985) as well as dwellings that could have housed extended families (Nelson 1993: 142). Similar emphasis on individual power expressed in burials associated with megalithic tombs has also been observed among the megaliths of northern Europe. The earliest temporal levels of megalithic tombs in Denmark contain evidence suggesting that the monuments were intended for the burial of one or very few individuals (Madsen 1991). In other parts of western Europe, there are indications of a similar pattern (Lidén 1994; Sherratt 1990; Price 2000: 313).

The competitive feasting of “living” megalithic groups is more difficult to identify from household material remains, as illustrated in the overall lack of good material correlates (with some exceptions) for feasting in West Sumba in Chapter V. However, the presence of large domesticated animals, which are slaughtered primarily on feasting occasions, are at least obvious and clear indications of large-scale feasting among these societies. In addition, the mere presence of large monuments would indicate a mobilization of labour for which large feasts would be necessary. This is the situation in *all* of the ethnographically documented megalithic cultures discussed above and the mobilization of labour to build these tombs can be useful when a significant amount of labour (a level beyond what can be provided by the individual household) is needed for other endeavors as well. In the Anakalang area of West Sumba, megalith building can be a context in which prominent households recruit labour that is also used for agricultural work, tending livestock and other endeavors (e.g., housebuilding). In Anakalang, it is necessary for those with large paddy fields and large herds of livestock to attract non-kin labour who become dependent upon wealthy households for food and shelter in exchange for labour (Keane 1997: 57, 58). Large feasts in Tana Toraja, most typically the funerals at which megaliths were traditionally built, are contexts in which labour exchange groups (*saroan*) recruit new members and make commitments to each other for mutual support (Adams 2001). *Saroan* labour pools were traditionally used for agricultural work and feasting preparations. The leaders (i.e., most prominent feast sponsorers in the group) of these organisations are able to decide how *saroan* labour is used and

ensure that their own labour needs have a priority over those of other group members. In Kodi, while the labour force for agricultural work is largely tied to a system of obligations on the part of fellow clan members which form a basis for clan membership, megalith building and other feasts in Kodi can be used to build a following that can be called upon for housebuilding and agricultural work (Hoskins 1984: 396). Those who choose to join this labour pool do so with the expectation that they will be well fed and gain access to an attractive and hopefully powerful support network. Thus, while it is not clear in most of the ethnographic examples of megalithic societies discussed above, in some cases, it would appear that tomb building and associated feasts are a means of attracting labour similar to what Sherratt (1995) envisioned for the megaliths of Neolithic western Europe.

There are various indications in prehistoric megalithic contexts that point to a connection between megaliths and feasts similar to that found among the ethnographic examples. The large feasts in most of the prehistoric societies discussed above were held adjacent to megalithic monuments. Scarre (2001) suggested that the megalithic menhirs and chamber tombs of Brittany were situated in locales of important rituals, while Flemming (1973) proposed that large rituals were held in front of megalithic tombs throughout western Europe. With regards to overall patterns of feasting during the time of European megaliths, early farming in Denmark has been considered to be at least partially driven by competitive feasting (Fischer 2002). Direct evidence for feasting associated with megaliths in Neolithic Europe comes in the form of skeletons

placed in tombs in association with ceremonial feasts (Cauwe 2001: 156; Hedges 1984: 135), ceramic pot fragments and food refuse found in front of tombs (Hayden 2003: 232, 233; Sheratt 1991: 56), feasting refuse (ceramics and animal bone) associated with Stonehenge (Parker Pearson and Ramilisonina 1998: 316), and special food offerings, such as those of animals with spiritual qualities, as well as very unusual food remains inside tombs (Hedges 1984: 145). This overall pattern of feasting remains outside tombs and within tombs has prompted Hayden (2003: 233) to suggest that feasts of a public nature were held outside tombs, while the unusual food remains found inside tombs were indicative of special ceremonies.

In Korea, several megalithic cist tombs from the site of Xituanshan were found with grave goods that included pig mandibles and pig-toothed pendants (Dong 1964; Nelson 1993: 159). As noted previously (Chapter V), the display of pig mandibles from feasts is common in traditional societies throughout Southeast Asia and into China, with evidence of prehistoric display of pig mandibles dating back to the Chinese Neolithic (see Kim 1994). Other potential feasting evidence associated with Korean megaliths includes ceramic jars that have been considered potential vessels for the consumption of rice wine on ritual occasions (Nelson 1999: 162).

The competition that historically led to violence (e.g., headhunting) among the ethnographic megalithic societies also seems to be apparent in prehistoric megalithic contexts. Megalithic grave goods and art motifs of the European Neolithic consisting of axes, maces, and shields reflect a concern for warfare

(Cauwe 2001: 100-102; Hutton 1991: 18-19; Joussaume 1988: 29, 60, 64).

There is skeletal evidence for violence in the early to middle Neolithic from Denmark, where over 20 individuals appear to have had a violent death, and in the British Isles, where 60 individuals (5-10 percent of all analyzed skeletons) have evidence for violent deaths (Schulting 1998: 277-286). In the Neolithic of Germany and Austria, there is also evidence for mass graves likely to represent massacres of villages (Cauwe 2001a: 102; Hoffmann 1971). At the Swedish megalithic site of Fosie, evidence suggests that 22 individuals were cannibalized (Bradley 1993: 95). In Korea as well, there is evidence for inter-group competition and conflict in the increased construction of hill forts among megalithic cultures by the late Bronze age (Ahn 1992; Kim 2001: 460).

To conclude, a detailed examination of megalith building from an ethnoarchaeological perspective can advance our understanding of the social, political, and economic contexts that can foster the erection of large monuments. The political ecological framework undertaken in this study of megalith building in West Sumba has focused on how megalith construction and its associated feasts can reflect everyday practical concerns for the individuals and groups taking part in the practice and how the mobilization of surpluses for these endeavors can be related to sociopolitical goals (e.g., accessing power, establishing marriage alliances, calling in debts, creating debts, maintaining important relations, recruiting labour for agricultural or other work). Broadening the scope to other ethnographic examples of megalithic societies has resulted in the illumination of several very significant similarities that, taken together, have the potential to

develop a more comprehensive understanding of the social contexts that could have existed in megalithic cultures prehistorically. While not striving to explain the symbolic rationale behind the contextual variability in the forms and symbolic significance of megaliths, the model presented here does provide a focused direction that should benefit future studies of the social forces that can account for the presence of these monuments.

## **Appendix I: Tables and Figures**

**Table 4.1: West Sumba Stone Quarrying Data**

	Place	Size of Stone(s)	Size of Quarry Crew	Time to Quarry	Cost (estimates)
Case 1	Waiha, Kodi	<u>Tomb Capstone</u> (n=3) 3 m long, 2 m wide and .75 m thick. (11.75 tonnes) <u>Tomb Walls</u> (n=8) 2 m long, 1.5 m wide and .25 m thick (2 tonnes each)	<u>Tomb Capstone and Tomb Walls</u> 10 people (capstone and walls quarried at same time)	<u>Tomb Capstone and Tomb Walls</u> 1 month (capstone and walls quarried at same time)	<u>Tomb Capstone and Tomb Walls</u> 30 chickens, 75 kg rice, Rp 1,200,000 for quarry crew, 100 kg of coffee, tea and betel.  <u>Total Estimated Cost (USD):</u> \$295
Case 2	Wainyapu, Kodi	<u>Tomb Capstone</u> (n=1): 2.5 m long, 1.5 m wide and .5 m thick. (4.9 tonnes) <u>Tomb Walls</u> Cement and Bricks	6 people	3 days	<u>Tomb Capstone</u> 3 Chickens, 4½ kg rice, and coffee.  <u>Total Estimated Cost (USD):</u> \$14
Case 3	Wainyapu, Kodi	<u>Tomb capstone</u> (sandstone) 2.5 m long, 1.5 m wide, and .2 m thick. (2 tonnes) <u>Tomb Walls</u> (n=4) 2 m long, 1.5 m wide and .25 m thick. (2 tonnes each)	<u>Tomb Capstone</u> ? (stone was purchased from East Sumba) <u>Tomb Walls</u> 8 people	<u>Tomb Capstone</u> ? <u>Tomb Walls</u> 2 days	<u>Tomb Capstone</u> 12 water buffaloes, 18 horses, 4 pigs and 1 goat (contract cost for quarrying and transport from E. Sumba). <u>Tomb Walls</u> 2 pigs, 2 chickens, 2 dogs, 4 kg of rice and 5 kg of coffee.  <u>Total Estimated Cost (USD):</u> \$17,296

	Place	Size of Stone(s)	Size of Quarry Crew	Time to Quarry	Cost (estimates)
<i>Case 4</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 1.5 m wide and .5 m thick. (4.9 tonnes) <u>Tomb Walls (n=4)</u> 2 m long, 1.5 m wide and .25 m thick. (2 tonnes each) <u>End Stones (n=2):</u> 2 m tall, .75 m wide and .2 m thick. (.78 tonnes each)	<u>Tomb Capstone, Walls and End Stones</u> 4 people (all stones quarried at same time)	2 weeks	<u>Tomb Capstone, Walls and End Stones</u> Quarry payment: 1 large pig, 3 water buffaloes, 2 horses, 2 large pieces of woven cloth and 2 sarongs Costs to feed stone quarriers: 10 pigs, 10 chickens, 10 dogs, 14 kg of rice and coffee  <u>Total Estimated Cost (USD):</u> \$4,405
<i>Case 5</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 1.5 m wide and .5 m thick. (4.9 tonnes) <u>Tomb Walls (n=4)</u> 2 m long, 1.5 m wide and .25 m thick. (2 tonnes each)	<u>Tomb Capstone</u> 8 people <u>Tomb Walls</u> 6 people	<u>Tomb Capstone</u> 1 week <u>Tomb Walls</u> 1 week	<u>Tomb Capstone</u> 2 pigs, 2 chickens, 2 dogs, 9 kg of rice and coffee. <u>Tomb Walls</u> 3 chickens, 3 dogs, 9 kg of rice and coffee.  <u>Total Estimated Cost (USD):</u> \$286
<i>Case 6</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 1.5 m wide and .5 m thick. (4.9 tonnes) <u>Tomb Walls (n=4)</u> 2 m long, 1.5 m wide and .25 m thick. (2 tonnes each)	<u>Tomb Capstone</u> 8 people <u>Tomb Walls</u> 6 people	<u>Tomb Capstone</u> 1 week <u>Tomb Walls</u> 1 week	<u>Tomb Capstone</u> 2 pigs, 2 chickens, 2 dogs, 9 kg of rice and coffee <u>Tomb Walls</u> 3 chickens, 3 dogs, 9 kg of rice and coffee  <u>Total Estimated Cost (USD):</u> \$286
<i>Case 7</i>	Ratenggaro, Kodi	<u>Tomb Capstone</u> 7 m long, 2 m wide and .75 m thick. (27.4 tonnes) <u>Tomb Walls (n=4)</u> 2.5 m long, 1.5 m wide and .5 m thick. (4.9 tonnes)	<u>Tomb Capstone</u> Stone was quarried in 1976 (data not available) <u>Tomb Walls</u> 8 people	<u>Tomb Walls</u> ? (stone was already cut when purchased by stone	<u>Tomb Walls</u> 4 water buffaloes and 4 horses (as payment for stones that were already cut)

	Place	Size of Stone(s)	Size of Quarry Crew	Time to Quarry	Cost (estimates)
				owner)	<u>Total Estimated Cost (USD):</u> \$4,500
<i>Case 8</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 1.5 m wide and .5 m thick. (4.9 tonnes) <u>Tomb Walls (n=4)</u> 2 m long, 1.5 m wide and .25 m thick. (2 tonnes each)	<u>Tomb Capstone</u> 6 people <u>Tomb Walls</u> 6 people	<u>Tomb Capstone</u> 6 days <u>Tomb Walls</u> 8 days	<u>Tomb Capstone</u> 6 chickens and 9 kg of rice <u>Tomb Walls</u> 8 chickens and 12 kg of rice  <u>Total Estimated Cost (USD):</u> \$83
<i>Case 9</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 1.5 m wide and .5 m thick. (4.9 tonnes) <u>Tomb Walls (n=4)</u> 2 m long, 1.5 m wide and .25 m thick. (2 tonnes each)	<u>Tomb Capstone</u> 3 people <u>Tomb Walls</u> 3 people	<u>Tomb Capstone</u> 1 week <u>Tomb Walls</u> 1 week	<u>Tomb Capstone</u> 6 chickens, 6 kg of rice and coffee. <u>Tomb Walls</u> 6 chickens, 6 kg of rice and coffee. Cost paid to stone quarry crew for both tomb capstone and walls: 1 water buffalo  <u>Total Estimated Cost (USD):</u> \$675
<i>Case 10</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 1.5 m wide and .5 m thick (4.9 tonnes) <u>Tomb walls and Floor (one large stone hollowed out form a single stone)</u> 2.5 m long, 1.5 m wide and .5 m thick walls and floor. (14 tonnes)	<u>Tomb Capstone</u> 5 people <u>Tomb Walls and Floor</u> 5 people	<u>Tomb Capstone</u> 1 week <u>Tomb Walls and Floor</u> 1 week	<u>Tomb Capstone, Tomb Walls and Tomb Floor</u> 14 kg of rice, fish, vegetables and eggs (n=10 total)?—all foods reportedly provided by stone owner)  <u>Total Estimated Cost (USD):</u> \$6
<i>Case 11</i>	Anajiaka, Anakalang	<u>Dolmen Capstone</u> 3 m long, 2 m wide and .6 m thick. (9.4 tonnes) <u>Legs for Capstone (n=6)</u> 1 m long, .3 m wide and .3 m thick (1.4 tonnes total) <u>Tomb Walls, Floor</u>	<u>Dolmen Capstone, Tomb Walls, Tomb Floor and Tomb Roof</u> 10-20 people (all stones quarried at same time)	1 month	<u>Dolmen Capstone, Tomb Walls, Tomb Floor, Tomb Roof, and Kado Watu</u> 30 small pigs, 30 dogs, 120 kg of rice, coffee, cigarettes and

	Place	Size of Stone(s)	Size of Quarry Crew	Time to Quarry	Cost (estimates)
		and Roof (n=6) 2 m long, 1 m wide and .5 m thick. (1.3 tonnes each) <u>Kado Watu</u> 3 m tall, 2 m wide and .7 m thick (11 tonnes)	<u>Kado Watu</u> Data incomplete		betel nut Cost to obtain permission to use quarry: 3 horses, 1 water buffalo  <u>Total Estimated Cost (USD):</u> \$4,995
Case 12	Wailawa, Anakalang	<u>Dolmen Capstone</u> 3.5 m long, 2.5 m wide and .6 m thick. (13.7 tonnes) <u>Legs for Capstone (n=6)</u> 1 m long, .3 m wide and .3 m thick (1.4 tonnes total) <u>Tomb Walls, Floor and Roof (n=6)</u> 1.5 m long, 1 m wide and .5 m thick. (2 tonnes each) <u>Kado Watu (standing stone in front of dolmen)</u> 3.5 m tall, 1.5 m wide and .75 m thick. (10.3 tonnes)	<u>Dolmen Capstone, Tomb Walls, Tomb Floor and Tomb Roof</u> 50 people (about 20 people at any given time—all stones quarried at same time) <u>Kado Watu</u> 50 people (about 20 people at any given time)	<u>Dolmen Capstone, Tomb Walls, Tomb Floor and Tomb Roof</u> 1 month <u>Kado Watu</u> 2 weeks	<u>Dolmen Capstone, Tomb Walls, Tomb Floor and Tomb Roof</u> 30 pigs, 150 kg of rice, cigarettes, betel and coffee. <u>Kado Watu</u> 14 pigs, 75 kg of rice, cigarettes, betel and coffee.  <u>Total Estimated Cost (USD):</u> \$5,584
Case 13	Pogu Adung, Anakalang	<u>Dolmen Capstone</u> 4 m long, 2 m wide and .5 m thick (10.4 tonnes)	30 people	4 days	2 pigs, 2 goats, 8 kg of rice, coffee, tea and betel nut  <u>Total Estimated Cost (USD):</u> \$330
Case 15	Wainyapu, Kodi	<u>Tomb Capstone</u> 2 m long, 2 m wide and .5 m thick (5.2 tonnes) <u>Tomb Walls (n=4)</u> 1.75 m long, 1.5 m wide and .5 m thick. (3.4 tonnes each)	<u>Tomb Capstone</u> 6 people <u>Tomb Walls</u> 6 people	<u>Tomb Capstone</u> 1 week <u>Tomb Walls</u> 1 week	<u>Tomb Capstone</u> Payment to contract quarry crew: 1 pig, 1 piece of men's cloth ( <i>kain</i> ), 1 dog, 6 chickens, 9 kg of rice and coffee <u>Tomb walls</u> Payment to contract quarry crew: 1 pig, 1 piece of men's cloth ( <i>kain</i> ), 1 dog, 6 chickens, 9 kg of rice and

	Place	Size of Stone(s)	Size of Quarry Crew	Time to Quarry	Cost (estimates)
					coffee  <u>Total Estimated Cost (USD):</u> \$433
<i>Case 16</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.8 m long, 2.4 m wide and .5 m thick. (8.8 tonnes) <u>Tomb Walls (n=4)</u> 1.75 m long, 1.5 m wide and .5 m thick. (3.4 tonnes each)	<u>Tomb Capstone</u> 10 people <u>Tomb Walls</u> 10 people	<u>Tomb Capstone</u> 1 month <u>Tomb Walls</u> 1 month	<u>Tomb Capstone</u> Payment to contract quarry crew: 1 dog, 1 chicken, 2 pigs, 1 piece of men's cloth ( <i>kain</i> ) Food for quarrying crew: 30 chickens, 90 kg of rice, coffee <u>Tomb Walls</u> Payment to contract quarry crew: 1 dog, 1 chicken, 2 pigs, 1 piece of men's cloth ( <i>kain</i> ) Food for quarrying crew: 30 chickens, 90 kg of rice, coffee  <u>Total Estimated Cost (USD):</u> \$920
<i>Case 17</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2 m long, 2 m wide and .5 m thick (5.2 tonnes)	7 people	1 week	7 chickens, 14 kg of rice, coffee  <u>Total Estimated Cost (USD):</u> \$33
<i>Case 18</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2 m long, 2 m wide and .5 m thick. (5.2 tonnes)	7 people	1 week	7 chickens, 14 kg of rice and coffee  <u>Total Estimated Cost (USD):</u> \$33
<i>Case 19</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.2 m long, 2 m wide and .5 m thick. (5.7 tonnes) <u>Miniature Tomb on Top of Capstone</u> 1.7 m long, .7 m wide and .6 m thick. (1.9 tonnes) <u>Tomb Walls (n=4)</u>	<u>Tomb Capstone and Tomb Walls</u> 12 people (tomb capstone and tomb walls quarried at same time) <u>Miniature Tomb</u>	<u>Tomb Capstone and Tomb Walls</u> 2 days <u>Miniature Tomb</u> 1 day	<u>Tomb Capstone and Tomb Walls</u> Payment to contract stone digger: 1 piece of traditional men's cloth ( <i>kain</i> ) and 1 small pig Food for work

	Place	Size of Stone(s)	Size of Quarry Crew	Time to Quarry	Cost (estimates)
		1.43 m long, 1.4 m wide and .25 m thick. (1.3 tonnes)	30 people		crew: 1 pig, 2 goats, 1 dog, 4 kg of rice, coffee <u>Miniature Tomb</u> Payment to contract stone quarrier: 1 small pig and 1 piece of traditional men's cloth ( <i>kain</i> ) Food for work crew: 2 small pigs, 7 kg of rice, coffee  <u>Total Estimated Cost (USD):</u> \$452
<i>Case 20</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 2 m wide and .5 m thick. (6.5 tonnes) <u>Tomb walls (n=4)</u> Bricks and cement	<u>Tomb Capstone</u> 6 people <u>Tomb Walls</u> 6 people	<u>Tomb Capstone</u> 1 week <u>Tomb Walls</u> 3 days	<u>Tomb Capstone</u> 150,000 Rupiah to pay workers, 7 chickens, 7 kg. of rice, coffee <u>Tomb Walls</u> Payment to contract stone digger: 1 pig, 1 piece of traditional men's cloth ( <i>kain</i> ) Food to feed workers: 3 chickens, 3 kg of rice and coffee  <u>Total Estimated Cost (USD):</u> \$266
<i>Case 21</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 2.2. m wide and .5 m thick. (7.2 tonnes) <u>Tomb walls (n=4)</u> 2m long, 1.5 m wide and .25 m thick. (2 tonnes)	<u>Tomb Capstone</u> 10 people <u>Tomb Walls</u> 5 people	<u>Tomb Capstone</u> 2 weeks <u>Tomb Walls</u> Duration Not Clear (quarried by tomb owner).	<u>Tomb Capstone</u> 1 dog, 21 chickens, 24 kg of rice and coffee. <u>Tomb Walls</u> Quarried by tomb owner (no extra expense).  <u>Total Estimated Cost (USD):</u> \$88

	Place	Size of Stone(s)	Size of Quarry Crew	Time to Quarry	Cost (estimates)
<i>Case</i> 22	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 2 m wide and .5 m thick. (6.5 tonnes) <u>Tomb Walls (n=4)</u> Bricks and Cement.	<u>Tomb Capstone</u> N/A (Stone purchased from another clan with one payment—not clear large quarry crew was) <u>Tomb Walls</u> 8 people to dig bricks.	<u>Tomb Capstone</u> N/A <u>Tomb Walls</u> 1 week	<u>Tomb Capstone</u> Purchase payment for stone: 1 water buffalo, 1 horse, 1 pig and one piece of traditional men's cloth ( <i>kain</i> ). <u>Tomb Walls</u> 14 chickens, 12 kg of rice and coffee.  <u>Total Estimated Cost (USD):</u> \$964
<i>Case</i> 23	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 2 m wide and .5 m thick. (6.5 tonnes) <u>Tomb Walls (n=4)</u> 2 m long, 1.5 m wide and .25 m thick. (2 tonnes)	<u>Tomb Capstone</u> 10 people <u>Tomb Walls</u> 10 people	<u>Tomb Capstone</u> 1 week <u>Tomb Walls</u> 1 week	<u>Tomb Capstone</u> 7 chickens, 14 g of rice and coffee. <u>Tomb Walls</u> 7 chickens, 14 g of rice and coffee.  <u>Total Estimated Cost (USD):</u> \$59
<i>Case</i> 24	Wainyapu, Kodi	<u>Tomb Capstone</u> 3.5 m long, 2.5 m wide and .75 m thick. (17.1 tonnes) <u>Tomb Walls (n=4)</u> 3.2 m long, 2.4 m wide and .5 m thick. (11 tonnes)	<u>Tomb Capstone</u> 10 people <u>Tomb Walls</u> 10 people	<u>Tomb Capstone</u> 6 days <u>Tomb Walls</u> 2 weeks	<u>Tomb Capstone</u> Payment to contract stone worker: 1 pig and 1 piece of traditional men's cloth ( <i>kain</i> ) Food to feed workers: 1 dog, 5 chickens, 12 kg of rice and coffee. <u>Tomb Walls</u> Payment to contract stone worker: 1 pig and 1 piece of traditional men's cloth ( <i>kain</i> ) Food to feed workers: 1 dog, 13 chickens, 28 kg of rice and coffee

	Place	Size of Stone(s)	Size of Quarry Crew	Time to Quarry	Cost (estimates)
					<u>Total Estimated Cost (USD): \$89</u>
<i>Case 25</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.25 m long, 2 m wide and .5 m thick. (5.9 tonnes) <u>Tomb Walls</u> Bricks and Cement.	<u>Tomb Capstone</u> 6 people <u>Tomb Walls</u> 8 people	<u>Tomb Capstone</u> 10 days <u>Tomb Walls</u> 4 days	<u>Tomb Capstone</u> 10 chickens, 12 kg of rice and coffee. <u>Tomb Walls</u> 4 chickens, 7 kg of rice and coffee.  <u>Total Estimated Cost (USD): \$60</u>

Table 4.2: West Sumba Stone Moving Data

	Place	Size of Stone(s)	Size of Crew	Distance from Quarry to Tomb Site	Time Required to Move Stone	Cost (estimates)
<i>Case 1</i>	Waiha, Kodi	<p><u>Tomb Capstones (n=3)</u> 3 m long, 2 m wide and .75 m thick. (11.5 tonnes each)</p> <p><u>Tomb Walls (n=8)</u> 2 m long, 1.5 m wide and .25 m thick . (2 tonnes each)</p>	<p><u>Tomb capstones (n=3)</u> 5000 people invited to pull (or watch pulling) 3 stones (probably only 600-1000 people pulling at any given time).</p> <p><u>Tomb walls (n=8)</u> 50 people to load onto truck.</p>	5 km	<p><u>Tomb Capstones (n=3)</u> 1 week</p> <p><u>Tomb walls</u> 1 day (transported by a truck)</p>	<p><u>Tomb Capstones</u> 7 water buffaloes, 28 pigs, 1000 kg of rice, coffee, betel nut and tea for those invited (not all of whom pulled). 1 large piece of woven cloth for a work leader standing on top of the stone and 1 woven sarong for a female ritual singer chanting on top of the stone.</p> <p><u>Tomb Walls</u> 3 pigs, 1 goat, 12 kg of rice, coffee, betel nut and tea for workers who moved stone onto and off of the truck. Truck rental payment: 1 large water buffalo.</p> <p><u>Total Estimated Cost (USD):</u> \$16,854</p>
<i>Case 2</i>	Wainyapu, Kodi	<p><u>Tomb Capstone</u> 2.5 m long, 1.5 m wide and .5 m thick. (4.9 tonnes)</p>	<p><u>Tomb Capstone</u> 370 people invited to pull and/or watch (about 150 pulling stone at any given time).</p>	500 m	1 day	<p><u>Tomb Capstone</u> 8 pigs, 100 kg of rice, coffee, tea, and betel for those invited (not all of whom pulled). 1 woven sarong for female</p>

	Place	Size of Stone(s)	Size of Crew	Distance from Quarry to Tomb Site	Time Required to Move Stone	Cost (estimates)
						ritual singer chanting on top of the stone.  <u>Total Estimated Cost (USD):</u> \$1,063
<i>Case 3</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 1.5 m wide, and .2 cm thick. (2 tonnes) <u>Tomb Walls (n=4)</u> 2 m long, 1.5 m wide and .25 m thick. (2 tonnes each)	<u>Tomb Capstone</u> 30 people to load the stone onto truck (transported from East Sumba). <u>Tomb Walls</u> 50 people pulled from quarry to tomb site.	<u>Tomb Capstone</u> More than 50 km. <u>Tomb walls</u> 500 m	1 hour	<u>Tomb Capstone</u> 1 large water buffalo to rent truck and to have the stone loaded and unloaded. <u>Tomb Walls</u> 6 pigs, 12 kg of rice, tea, coffee and betel nut.  <u>Total Estimated Cost (USD):</u> \$1,380
<i>Case 4</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 1.5 m wide and .5 m thick. (4.9 tonnes) <u>Tomb Walls (n=4)</u> 2 m long, 1.5 m wide and .25 m thick. (2 tonnes each) <u>End Stones (n=2)</u> 2 m tall, .75 m wide and .2 m thick. (.78 tonnes each)	<u>Tomb Capstone</u> 150 people invited to pull. <u>End Stones</u> 100 people invited to pull. <u>Tomb Walls</u> 50 people invited to pull stones.	500 m	<u>Tomb Capstone</u> 1 day <u>End Stones</u> 1 day <u>Tomb Walls</u> 1 day	<u>Tomb Capstone</u> 8 pigs, 40 kg of rice, coffee, tea and betel nut for those who pulled the stone. 1 woven sarong for female singer chanting on top of the stone. <u>Tomb End Stones</u> 4 pigs, 25 kg of rice, coffee, tea and betel nut for those who pulled the stones. <u>Tomb Walls</u> 4 pigs, 12 kg of rice, coffee, tea and betel nut for those who pulled the stones.

	Place	Size of Stone(s)	Size of Crew	Distance from Quarry to Tomb Site	Time Required to Move Stone	Cost (estimates)
						<u>Total Estimated Cost (USD):</u> \$2,054
<i>Case 5</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 1.5 m wide and .5 m thick. (4.9 tonnes) <u>Tomb Walls</u> (n=4) 2 m long, 1.5 m wide and .25 m thick. (2 tonnes each)	<u>Tomb Capstone</u> 300 people invited to pull and/or watch stone pulling. <u>Tomb Walls</u> 300 people invited to pull and/or watch stone pulling.	500 m	<u>Tomb Capstone</u> 1 day <u>Tomb Walls</u> 1 day	<u>Tomb Capstone</u> 12 pigs, 80 kg of rice, coffee, tea and betel nut. 1 woven sarong for female ritual singer chanting on top of the stone. <u>Tomb Walls</u> 10 pigs, 80 kg of rice, coffee, tea and betel nut.  <u>Total Estimated Cost (USD):</u> \$2,835
<i>Case 6</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 1.5 m wide and .5 m thick. (4.9 tonnes) <u>Tomb Walls</u> (n=4) 2 m long, 1.5 m wide and .25 m thick. (2 tonnes each)	<u>Tomb Capstone</u> 1.700 invited to pull and/or watch stone pulling. <u>Tomb Walls</u> 30 people pulled.	500 m	<u>Tomb Capstone</u> 1 day <u>Tomb Walls</u> 1 day	<u>Tomb Capstone</u> 25 large pigs, 425 kg of rice, coffee, tea and betel nut for those invited to pull and/or watch. 1 woven sarong for female ritual singer chanting on top of stone. <u>Tomb Walls</u> 1 pig, 2 dogs, 7 kg of rice, coffee, tea and betel nut for those invited to pull.  <u>Total Estimated Cost (USD):</u> \$3,437

	Place	Size of Stone(s)	Size of Crew	Distance from Quarry to Tomb Site	Time Required to Move Stone	Cost (estimates)
<i>Case 7</i>	Ratenggaro, Kodi	<u>Tomb Capstone</u> 7 m long, 2 m wide and .75 m thick. (27.4 tonnes) <u>Tomb Walls</u> (n=4) 2.5 m long, 1.5 m wide and .5 m thick. (4.9 tonnes)	<u>Tomb Capstone</u> 3,000 people invited to pull and/or watch. <u>Tomb Walls</u> 200 people invited to pull and/or watch.	<u>Tomb Capstone</u> 800 m (100 m of which an estuary 1976) <u>Tomb Walls</u> 800 m (10 m of which was an estuary in 2003)	<u>Tomb Capstone</u> 1 week <u>Tomb Walls</u> 3 days	<u>Tomb Capstone</u> 74 water buffaloes, 102 pigs, 750 kg of rice, tea, coffee and betel nut. <u>Tomb Walls</u> 12 pigs, 50 kg of rice, coffee, tea and betel nut for those invited to pull and/or watch. Cost to borrow <i>Tena Watu</i> (wooden sledge) for pulling wall stones: 50,000 Rupiah.  <u>Total Estimated Cost (USD):</u> \$51,554
<i>Case 8</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 1.5 m wide and .5 m thick. (4.9 tonnes) <u>Tomb Walls</u> (n=4) 2 m long, 1.5 m wide and .25 m thick. (2 tonnes each)	<u>Tomb Capstone</u> 500 people invited to pull and/or watch. <u>Tomb Walls</u> 60 people invited to pull stone	500 m	<u>Tomb Capstone</u> 1 day <u>Tomb Walls</u> 1 day	<u>Tomb Capstone</u> 5 pigs, 125 kg of rice, coffee, tea and betel nut. <u>Tomb Walls</u> 2 pigs 15 kg of rice, coffee, tea and betel.  <u>Total Estimated Cost (USD):</u> \$928
<i>Case 9</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 1.5 m wide and .5 m thick. (4.9 tonnes) <u>Tomb Walls</u> (n=4) 2 m long, 1.5 m wide and .25 m thick. (2 tonnes each)	<u>Tomb Capstone</u> 200 people invited to pull stone. <u>Tomb Walls</u> 100 people invited to pull stone.	500 m	<u>Tomb Capstone</u> 1 day <u>Tomb Walls</u> 1 day	<u>Tomb Capstone</u> 10 pigs, 50 kg of rice, coffee, tea and betel nut. <u>Tomb Walls</u> 10 pigs, 25 kg of rice, coffee, tea and betel.  <u>Total Estimated Cost (USD):</u> \$2,528

	Place	Size of Stone(s)	Size of Crew	Distance from Quarry to Tomb Site	Time Required to Move Stone	Cost (estimates)
<b>Case 10</b>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 1.5 m wide and .5 m thick (4.9 tonnes) <u>Tomb walls and Floor (one large stone hollowed out form a single stone)</u> 2.5 m long, 1.5 m wide and .5 m thick walls and floor. (14 tonnes)	<u>Tomb Capstone and Tomb Walls</u> (pulled on same day) 700 people invited to pull and/or watch (about 150 people pulling stones at any one time).	500 m	1 day	<u>Tomb Capstone and Tomb Walls</u> 14 pigs, 175 kg of rice, coffee, tea and betel nut.  <u>Total Estimated Cost (USD):</u> \$1,816
<b>Case 11</b>	Anajiaka, Anakalang	<u>Dolmen Capstone</u> 3 m long, 2 m wide and .6 m thick. (9.4 tonnes) <u>Legs for Capstone (n=6)</u> 1 m long, .3 m wide and .3 m thick (1.4 tonnes total) <u>Tomb Walls, Floor and Roof (n=6)</u> 2 m long, 1 m wide and .5 m thick. (1.3 tonnes each) <u>Kado Watu</u> 3 m tall, 2 m wide and .7 m thick (11 tonnes)	<u>Dolmen Capstone</u> 800 people invited to pull and/or watch. <u>Kado Watu</u> 800 people invited to pull and/or watch.	<u>Dolmen Capstone, Tomb Walls, Floor and Roof</u> 7 km (pulled for 1 km by people from quarry to truck and then transported 6 km by truck to tomb site) <u>Kado Watu</u> 5 km	<u>Dolmen Capstone, Tomb Walls, Floor and Roof</u> 1 day <u>Kado Watu</u> 2 days	<u>Dolmen Capstone, Tomb Walls, Floor and Roof</u> 4 pigs, 3 cows, 200 kg of rice, coffee, tea, betel nut and cigarettes for those invited to pull and/or watch. Truck rental payment: 2,000,000 Rupiah.  <u>Kado Watu</u> 8 pigs, 2 cows, 400 kg of rice coffee, tea, betel nut and cigarettes for those invited to pull and/or watch.  <u>Total Estimated Cost (USD):</u> \$3,850

	Place	Size of Stone(s)	Size of Crew	Distance from Quarry to Tomb Site	Time Required to Move Stone	Cost (estimates)
Case 12	Wailawa, Anakalang	<p><u>Dolmen Capstone</u> 3.5 m long, 2.5 m wide and .6 m thick. (13.7 tonnes) <u>Legs for Capstone (n=6)</u> 1 m long, .3 m wide and .3 m thick (1.4 tonnes total) <u>Tomb Walls, Floor and Roof (n=6)</u> 1.5 m long, 1 m wide and .5 m thick. (2 tonnes each) <u>Kado Watu (standing stone in front of dolmen)</u> 3.5 m tall, 1.5 m wide and .75 m thick. (10.3 tonnes)</p>	<p><u>Dolmen Capstone, Tomb Walls, Tomb Floor, and Tomb Roof</u> 2,000 people invited to pull and/or watch (all stones pulled at same time). <u>Kado Watu (standing stone in front of dolmen)</u> 600 people invited to pull and/or watch.</p>	<p><u>Dolmen Capstone, Tomb Walls, Tomb Floor and Tomb Roof</u> 2 km <u>Kado Watu (standing stone in front of dolmen)</u> 15 m</p>	<p><u>Dolmen Capstone, Tomb Walls, Tomb Floor and Tomb Roof</u> 1 day <u>Kado Watu (standing stone in front of dolmen)</u> 1 day</p>	<p><u>Dolmen Capstone, Tomb Walls, Tomb Floor and Tomb Roof</u> 4 large pigs, 4 cows, 500 kg of rice, coffee, tea, betel nut and cigarettes. <u>Kado Watu (standing stone in front of dolmen)</u> 2 large pigs, 2 cows, 150 kg of rice, coffee, tea, betel nut and cigarettes.</p> <p><u>Total Estimated Cost (USD):</u> \$3,994</p>
Case 13	Pogu Adung, Anakalang	<p><u>Dolmen Capstone</u> 4 m long, 2 m wide and .5 m thick (10.4 tonnes)</p>	<p><u>Dolmen Capstone</u> 1,000 people invited to pull and/or watch (about 300 people pulling at a given time)</p>	1.5 km.	1 day	<p>11 pigs, 1 water buffalo, 250 kg of rice, 50 kg of betel nut, coffee, tea and cigarettes.</p> <p><u>Total Estimated Cost (USD):</u> \$2,230</p>
Case 14†	Anakalang	<p><u>Dolmen Capstone</u> 3 m long, 2 m wide and .75 m thick. (11.75 tonnes)</p>	<p>500 people invited to pull and/or watch (about 250 people pulling stone at a given time).</p>	1 km	1 day	<p>1 pig, 1 horse, 1 chicken (for Muslim person present), 125 kg of rice, coffee, tea, betel nut and cigarettes.</p> <p><u>Total Estimated Cost (USD):</u> \$677</p>

	Place	Size of Stone(s)	Size of Crew	Distance from Quarry to Tomb Site	Time Required to Move Stone	Cost (estimates)
<i>Case 15</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2 m long, 2 m wide and .5 m thick (5.2 tonnes) <u>Tomb Walls</u> (n=4) 1.75 m long, 1.5 m wide and .5 m thick. (3.4 tonnes each)	<u>Tomb Capstone</u> 1,000 people invited to pull and/or watch (500 actually pulled) <u>Tomb Walls</u> 300 people	500 m	<u>Tomb Capstone</u> 1 day <u>Tomb Walls</u> 1 day	<u>Tomb Capstone</u> 80 pigs (50 taken home, 30 eaten), 250 kg of rice, coffee, tea, betel nut and cigarettes. <u>Tomb Walls</u> 10 pigs, 80 kg of rice, coffee, tea, betel nut and cigarettes.  <u>Total Estimated Cost (USD):</u> \$6,720
<i>Case 16</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.8 m long, 2.4 m wide and ½ m thick. (8.8 tonnes) <u>Tomb Walls</u> (n=4) 1.5 m long, 1.75 m wide and .5 m thick. (3.4 tonnes each)	<u>Tomb Capstone</u> 1300 people invited to pull and/or watch (500 pull actually pulled). <u>Tomb Walls</u> 300 people	500 m	<u>Tomb Capstone</u> 1 day <u>Tomb Walls</u> 1 day	<u>Tomb Capstone</u> 15 pigs, 325 kg of rice, coffee, tea and betel nut. <u>Tomb Walls</u> 6 pigs, 75 kg of rice, coffee, tea, betel nut and cigarettes.  <u>Total Estimated Cost (USD):</u> \$2,900
<i>Case 17</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2 m long, 2 m wide and .5 m thick (5.2 tonnes)	430 people	500 m	1 day	7 pigs, 108 kg of rice, coffee, tea, betel nut and cigarettes  <u>Estimated Total Cost (USD):</u> \$900

	Place	Size of Stone(s)	Size of Crew	Distance from Quarry to Tomb Site	Time Required to Move Stone	Cost (estimates)
<i>Case 18</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2 m long, 2 m wide and .5 m thick. (5.2 tonnes)	430 people	500 m	1 day	8 pigs, 108 kg of rice, coffee, tea, betel and cigarettes.  <u>Total Estimated Cost (USD):</u> \$1025
<i>Case 19</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.2 m long, 2 m wide and .5 m thick. (5.7 tonnes) <u>Miniature Tomb on Top of Capstone</u> 1.7 m long, .7 m wide and .6 m thick. (1.9 tonnes) <u>Tomb Walls (n=4)</u> 1.43 m long, 1.4 m wide and .25 m thick. (1.3 tonnes)	<u>Tomb Capstone and Tomb Walls</u> 1,000 people invited to pull and/or watch (about 200 pulled capstone and 100 people pulled tomb walls— walls and capstone pulled at same time)	500 m	<u>Tomb Capstone and Tomb Walls</u> 1 day	<u>Tomb Capstone and Tomb Walls</u> 3 pigs for those who pulled capstone, 2 pigs for those who pulled wall stones, 200 kg of rice, coffee, tea and betel.  <u>Total Estimated Cost (USD):</u> \$788
<i>Case 20</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 2 m wide and .5 m thick. (6.5 tonnes) <u>Tomb walls (n=4)</u> Bricks and cement	<u>Tomb Capstone:</u> 1,000 people invited to pull and/or watch (500 people pulled)	700 m	1 day	<u>Tomb Capstone</u> 22 pigs, 200 kg of rice, coffee, tea and betel.  <u>Total Estimated Cost (USD):</u> \$2,910
<i>Case 21</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 2.2 m wide and .5 m thick. (7.2 tonnes) <u>Tomb Walls (n=4)</u> 2m long, 1.5 m wide and .25 m thick. (2 tonnes)	<u>Tomb Capstone</u> 1,500 people attended (800 people pulled) <u>Tomb Walls</u> 200 people attended (40 people pulled)	500 m	<u>Tomb Capstone</u> 1 day <u>Tomb Walls</u> 1 day	<u>Tomb Capstone</u> 1 water buffalo, 20 pigs, 300 kg of rice, coffee, tea and betel. <u>Tomb Walls</u> 4 Pigs, 40 kg of rice, coffee, tea and betel.  <u>Total Estimated Cost: (USD):</u> \$3,900

	Place	Size of Stone(s)	Size of Crew	Distance from Quarry to Tomb Site	Time Required to Move Stone	Cost (estimates)
<i>Case 22</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 2 m wide and .5 m thick. (6.5 tonnes) <u>Tomb Walls</u> (n=4) Bricks and Cement.	<u>Tomb Capstone</u> Transported with truck. 1,400 people invited to pull and/or watch (500 people pulled).	500 m	<u>Tomb Capstone</u> 1 day	<u>Tomb Capstone</u> Truck Rental: 650,000 Rupiah Food for workers and attendees: 1 water buffalo, 20 pigs, 28 kg of rice, coffee, tea and betel.  <u>Total Estimated Cost (USD):</u> \$3,300
<i>Case 23</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 2 m wide and .5 m thick. <u>Tomb Walls</u> 2 m long, 1.5 m wide and .25 m thick.	<u>Tomb Capstone</u> 900 people attended (400 people pulled stone) <u>Tomb Walls</u> 80 people attended (40 people pulled stone)	500 m	<u>Tomb Capstone</u> 1 day <u>Tomb Walls</u> 1 day	<u>Tomb Capstone</u> 20 pigs (10 to eat on site, 10 divided and taken home by attendees), 175 kg of rice, coffee, tea and betel. <u>Tomb Walls</u> 4 pigs (2 to eat on site, 2 divided and taken home by attendees), 16 kg of rice, coffee, tea and betel.  <u>Total Estimated Cost (USD):</u> \$3,160
<i>Case 24</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 3.5 m long, 2.5 m wide and .75 m thick. (17.1 tonnes) <u>Tomb Walls</u> 3.2 m long, 2.4 m wide and .5 m thick. (11 tonnes)	<u>Tomb Capstone</u> 2000 people attended (500 people pulled stone) <u>Tomb Walls</u> 150 people	500 m	<u>Tomb Capstone</u> 5 days <u>Tomb Walls</u> 1 day	<u>Tomb Capstone</u> 9 water buffaloes, 2 cows 130 pigs, 1000 kg of rice, coffee, tea and betel.  <u>Total Estimated Cost (USD):</u> \$24,000

	Place	Size of Stone(s)	Size of Crew	Distance from Quarry to Tomb Site	Time Required to Move Stone	Cost (estimates)
<i>Case 25</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.25 m long, 2 m wide and .5 m thick. (5.9 tonnes) <u>Tomb Walls</u> Bricks and Cement.	<u>Tomb Capstone</u> 1000 people attended (400 people pulled stone) <u>Tomb Walls</u> Moving bricks for tomb walls is not done on a special day.	500 m	<u>Tomb Capstone</u> 1 day	<u>Tomb Capstone</u> 15 pigs (7 to eat on site, 8 divided up and taken home by attendees), 250 kg of rice, coffee, tea and betel.  <u>Total Estimated Cost (USD):</u> \$2,045

† Data limited to stone moving

**Table 4.3: West Sumba Tomb Building Cost Summary**

	Place	Size of Stone	Labor Requirements (People)	Labor Requirements (Time)	Total Estimated Costs (USD)*
<i>Case 2</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 1.5 m wide and .5 m thick. (4.9 tonnes)	406 People	5 Days	\$1,208
<i>Case 3</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 1.5 m wide, and 20 cm thick. (1.75 tonnes) <u>Tomb Walls (n=4)</u> 2 m long, 1.5 m wide and .25 m thick. (2 tonnes each)	N/A	7 Days	\$23,584
<i>Case 4</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 1.5 m wide, and .5 m thick. (4.9 tonnes) <u>Tomb Walls (n=4)</u> 2 m long, 1.5 m wide and .25 m thick. (2 tonnes each) <u>End stones (n=2)</u> 2 m tall, .75 m wide, and .2 m thick. (.78 tonnes each)	358 People	18 Days	\$12,555
<i>Case 5</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 1.5 m wide and .5 m thick. (4.9 tonnes) <u>Tomb Walls (n=4)</u> 2 m long, 1.5 m wide and .25 m	664 People	16 Days	\$3,505

	Place	Size of Stone	Labor Requirements (People)	Labor Requirements (Time)	Total Estimated Costs (USD)*
		thick. (2 tonnes each)			
<i>Case 6</i>	Wainyapu, Kodi	Tomb Capstone 2.5 m long, 1.5 m wide and .5 m thick. (4.9 tonnes) <u>Tomb Walls</u> (n=4) 2 m long, 1.5 m wide and .25 m thick. (2 tonnes each)	1774 People	17 Days	\$3,979
<i>Case 8</i>	Wainyapu, Kodi	Tomb Capstone 2.5 m long, 1.5 m wide and .5 m thick. (4.9 tonnes) <u>Tomb Walls</u> (n=4) 2 m long, 1.5 m wide and .25 m thick. (2 tonnes each)	612 People	17 Days	\$1,269
<i>Case 9</i>	Wainyapu, Kodi	Tomb Capstone 2.5 m long, 1.5 m wide and .5 m thick. (4.9 tonnes) <u>Tomb Walls</u> (n=4) 2 m long, 1.5 m wide and .25 m thick. (2 tonnes each)	346 People	17 Days	\$2,975
<i>Case 10</i>	Wainyapu, Kodi	Tomb Capstone 2.5 m long, 1.5 m wide and .5 m thick (4.9 tonnes) <u>Tomb walls and Floor (one large stone hollowed out form a single stone)</u>	750 People	16 Days	\$1,953

	Place	Size of Stone	Labor Requirements (People)	Labor Requirements (Time)	Total Estimated Costs (USD)*
		2.5 m long, 1.5 m wide and .5 m thick walls and floor. (14 tonnes)			
<i>Case 11</i>	Anajiaka, Anakalang	<u>Dolmen</u> <u>Capstone</u> 3 m long, 2 m wide and .6 m thick. (9.4 tonnes) <u>Legs for Capstone (n=6)</u> 1 m long, .3 m wide and .3 m thick (1.4 tonnes total) <u>Tomb Walls, Floor and Roof (n=6)</u> 2 m long, 1 m wide and .5 m thick. (1.3 tonnes each) <u>Kado Watu</u> 3 m tall, 2 m wide and .7 m thick (11 tonnes)	830 People	39 Days	\$11,398
<i>Case 15</i>	Wainyapu, Kodi	<u>Dolmen</u> <u>Capstone</u> 2 m long, 2 m wide and .5 m thick. (5.2 tonnes) <u>Tomb Walls (n=4)</u> 1.5 m long, 1.75 m wide and .5 m thick. (3.4 tonnes each).	812 People	16 Days	\$7,153
<i>Case 16</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.8 m long, 2.4 m wide and .5 m thick. (8.8 tonnes) <u>Tomb Walls (n=4)</u> 1.75 m long, 1.5 m	1028 People	46 Days	\$4,839

	Place	Size of Stone	Labor Requirements (People)	Labor Requirements (Time)	Total Estimated Costs (USD)*
		wide and .5 m thick. (3.4 tonnes each)			
<i>Case 17</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2 m long, 2 m wide and .5 m thick (5.2 tonnes)	462 People	9 Days	\$1,061
<i>Case 18</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2 m long, 2 m wide and .5 m thick. (5.2 tonnes)	462 People	9 Days	\$1,186
<i>Case 19</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.2 m long, 2 m wide and .5 m thick. (5.7 tonnes) <u>Miniature Tomb on Top of Capstone</u> 1.7 m long, .7 m wide and .6 m thick. (1.9 tonnes) <u>Tomb Walls (n=4)</u> 1.43 m long, 1.4 m wide and .25 m thick. (1.3 tonnes)	842 People	6 Days	\$10,402
<i>Case 20</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 2 m wide and .5 m thick. (6.5 tonnes) <u>Tomb walls (n=4)</u> Bricks and cement	522 People	19 Days	\$3,251
<i>Case 21</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 2.2 m wide and .5 m thick. (7.2 tonnes) <u>Tomb walls (n=4)</u> 2m long, 1.5 m wide and .25 m	1025 People	24 Days	\$6,388

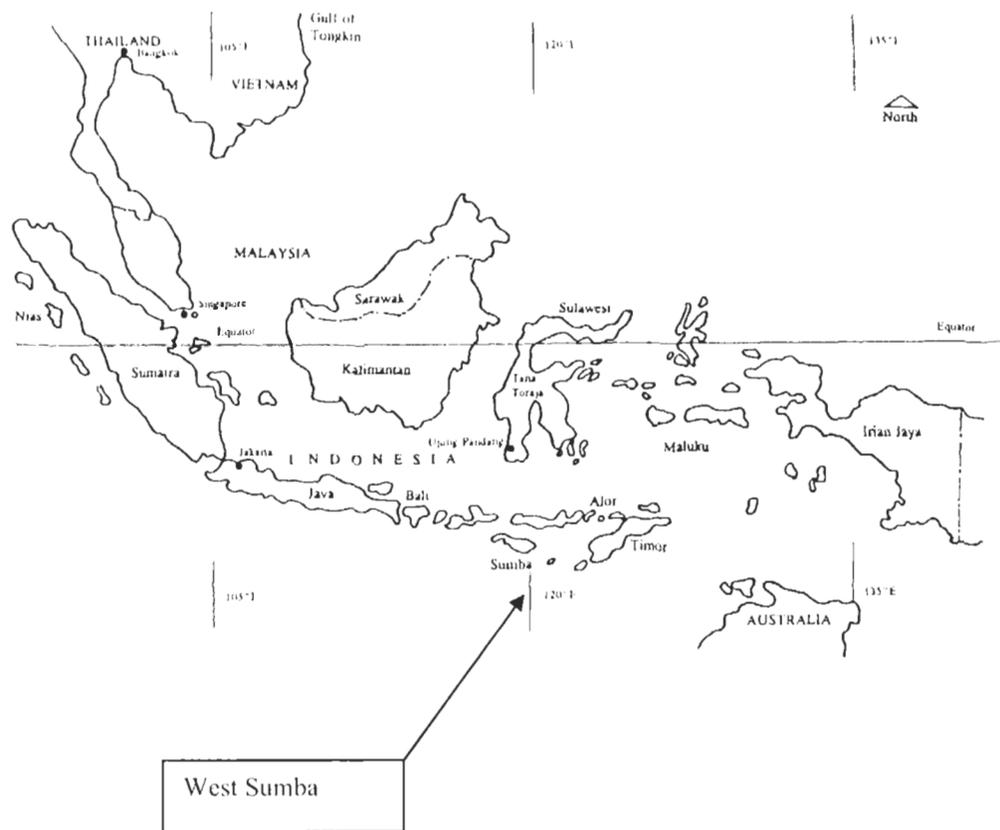
	Place	Size of Stone	Labor Requirements (People)	Labor Requirements (Time)	Total Estimated Costs (USD)*
		thick. (2 tonnes)			
<i>Case 22</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.5 m long, 2 m wide and .5 m thick. (6.5 tonnes) <u>Tomb Walls</u> (n=4) Bricks and Cement.	516 People	12 Days	\$4,288
<i>Case 24</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 3.5 m long, 2.5 m wide and .75 m thick. (17.1 tonnes) <u>Tomb Walls</u> 3.2 m long, 2.4 m wide and .5 m thick. (11 tonnes)	950 People	31 Days	\$26,989
<i>Case 25</i>	Wainyapu, Kodi	<u>Tomb Capstone</u> 2.25 m long, 2 m wide and .5 m thick. (5.9 tonnes) <u>Tomb Walls</u> Bricks and Cement.	424 People	19 Days	\$2,700

**Table 5.1: Summary of Household Material Culture Analyses**

<i>Material Indicator</i>	<i>Relation to Feasting?</i>	<i>Relation to Tomb Building?</i>	<i>Relation to Tomb Size?</i>	<i>Relation to Wealth?</i>
<u>Food Serving Items Owned</u>	A weak positive relationship with household feasting.	A weak relationship favoring tomb-building households vs. non-tomb building households.	No relationship with tomb size (tomb costs and weights).	A very weak positive relationship with wealth.
<u>Number of Pots Owned</u>	A weak positive relationship with household feasting.	A weak relationship favoring tomb-building households vs. non-tomb building households.	A weak negative relationship with tomb weights and weak positive relationship with tomb costs.	A very weak positive relationship with wealth.
<u>Cumulative Diameter of Pots Owned</u>	A weak positive relationship with household feasting.	A weak relationship favoring tomb-building households vs. non-tomb building households.	A weak negative relationship with tomb weights and weak positive relationship with tomb costs.	A very weak positive relationship with wealth.
<u>Large Pots Owned</u>	A weak positive relationship with household feasting.	A very weak relationship favoring tomb-building households vs. non-tomb building households.	A very weak positive relationship with tomb weights and weak positive relationship with tomb costs.	A very weak positive relationship with wealth.
<u>Seating Benches</u>	A weak positive relationship with household feasting.	Sample of non-tomb building households not large enough.	Weak positive relationships with tomb weights and costs.	A very weak positive relationship with wealth.
<u>House Size</u>	No significant patterning.	No significant patterning.	Weak positive relationships with tomb weights and no significant relationship with tomb costs.	Weak positive relationship with wealth.
<u>Pig Mandibles</u>	A moderate positive relationship with household feasting.	A weak relationship favoring non-tomb building households vs. tomb building households.	Moderate positive relationships with tomb weights and costs.	Weak positive relationship with wealth.
<u>Bucrania</u>	A moderate positive relationship with household feasting.	A very weak positive relationship favoring tomb building households vs. non-tomb building households.	Moderate positive relationship with tomb costs and not significant relationship with tomb weights.	Moderate-strong relationship with wealth.

<i>Material Indicator</i>	<i>Relation to Feasting?</i>	<i>Relation to Tomb Building?</i>	<i>Relation to Tomb Size?</i>	<i>Relation to Wealth?</i>
<u>Tomb (presence/absence)</u>	Weak-moderate relationship with household feasting favoring tomb building households vs. non-tomb building households.	N/A	N/A	Moderate relationship with household wealth favoring tomb building households vs. non-tomb building households.
<u>Tomb (small vs. large)</u>	Moderate positive relationship between tomb cost/weight and household feasting.	N/A	N/A	Moderate positive relationship between tomb costs and wealth. Strong positive relationship between tomb weights and wealth

**Figure 3.1: Map of Indonesia showing location of West Sumba.**  
 Reprinted by permission from Todd T. Ames, *Feasting on Change: The Impacts of Modernization and Development Upon the Toraya Traditional Roles, Rituals, And Statuses*, Figure 1. (Ph.D. dissertation), 1998, Simon Fraser University.



**Figure 3.2: Wet-Rice Field in Anakalang, West Sumba (photo by R. Adams)**



**Figure 3.3: Dry Rice Field in Kodi, West Sumba (photo by R. Adams)**



**Figure 3.4: Garden Plot in Kodi, West Sumba (photo by R. Adams)**



**Figure 3.5: Water Buffaloes in Kodi, West Sumba (photo by R. Adams)**



**Figure 3.6: Man in Wainyapu, West Sumba Spinning Cotton**  
(photo by R. Adams)



**Figure 3.7: Noble Tomb with Slave Tomb Built Below  
(Anakalang, West Sumba) (photo by R. Adams)**

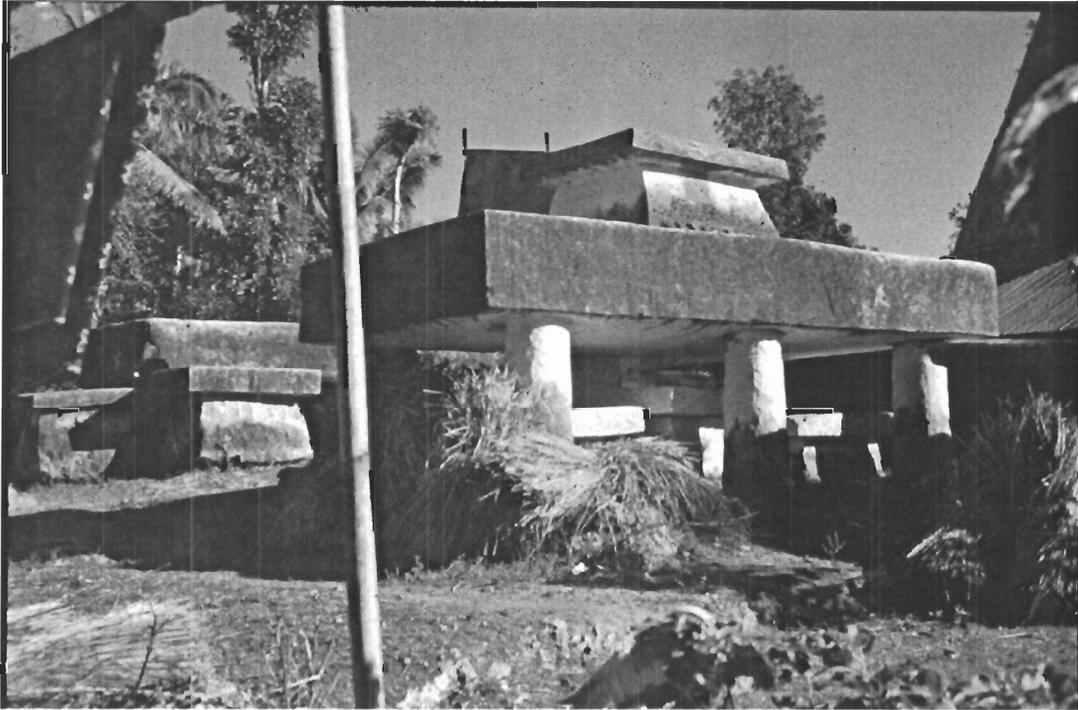
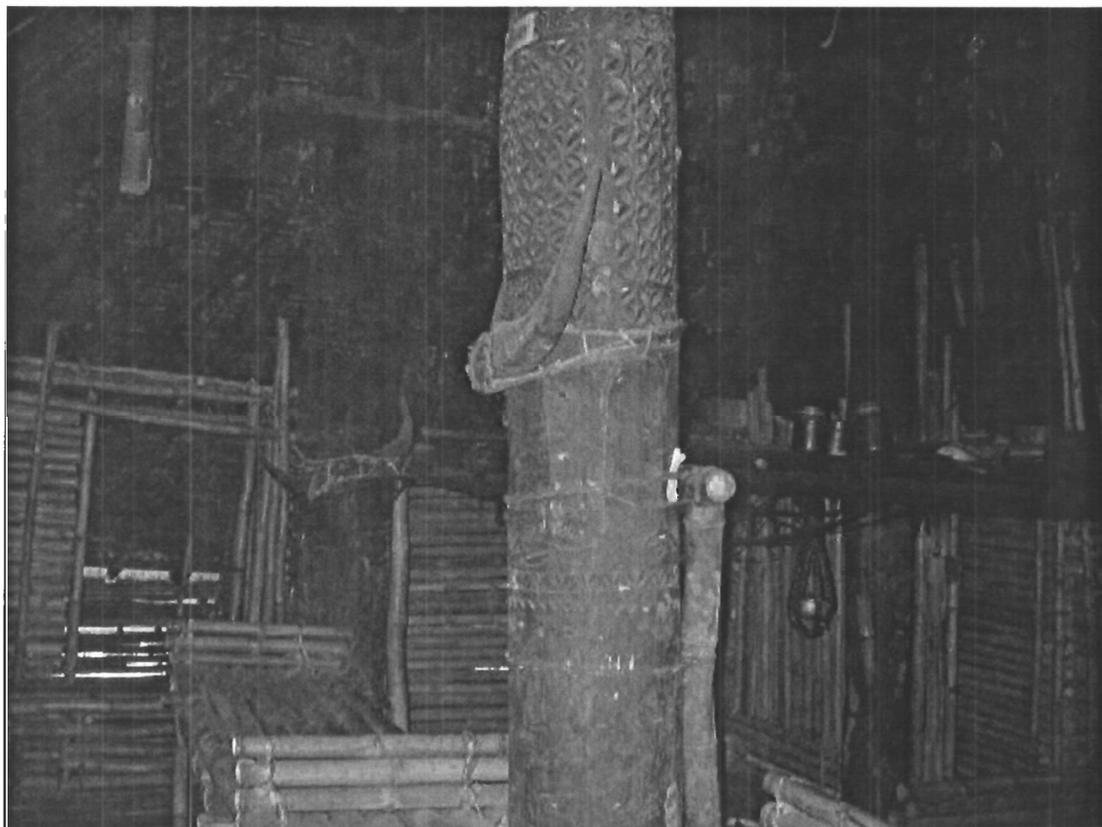


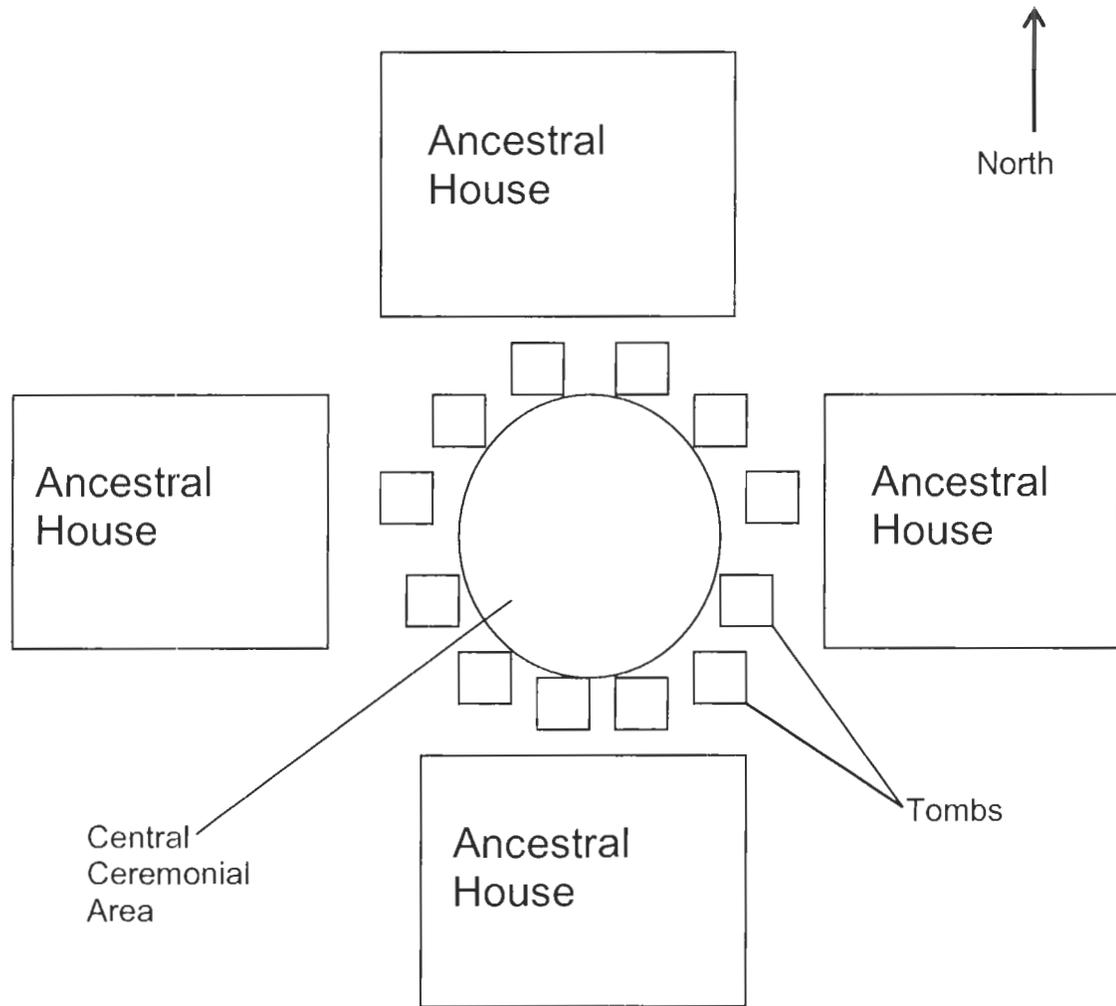
Figure 3.8: *Uma* Ancestral House in Wainyapu, West Sumba  
(photo by S. Villeneuve)



Figure 3.9: Interior of an *Uma* Ancestral House in Wainyapu, West Sumba (photo by S. Villeneuve)



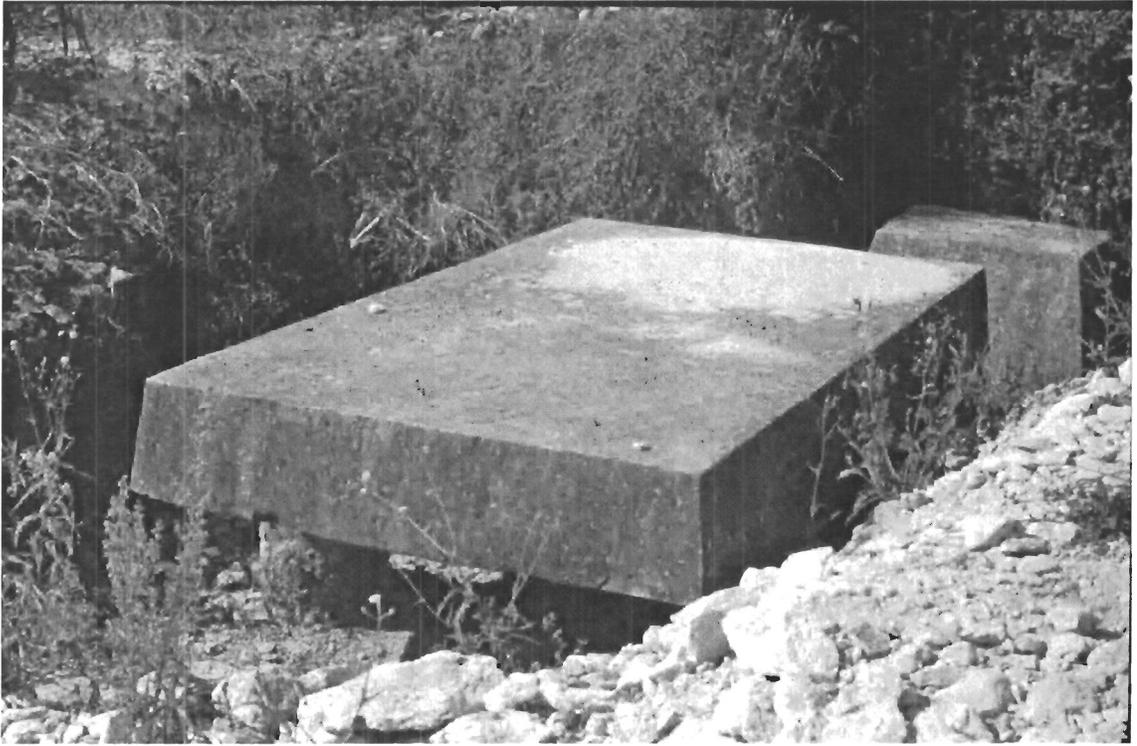
**Figure 3.10: Traditional Layout of Clan Ceremonial Area (*Natara*) in Kodi Surrounded by Ancestral Houses and Tombs**



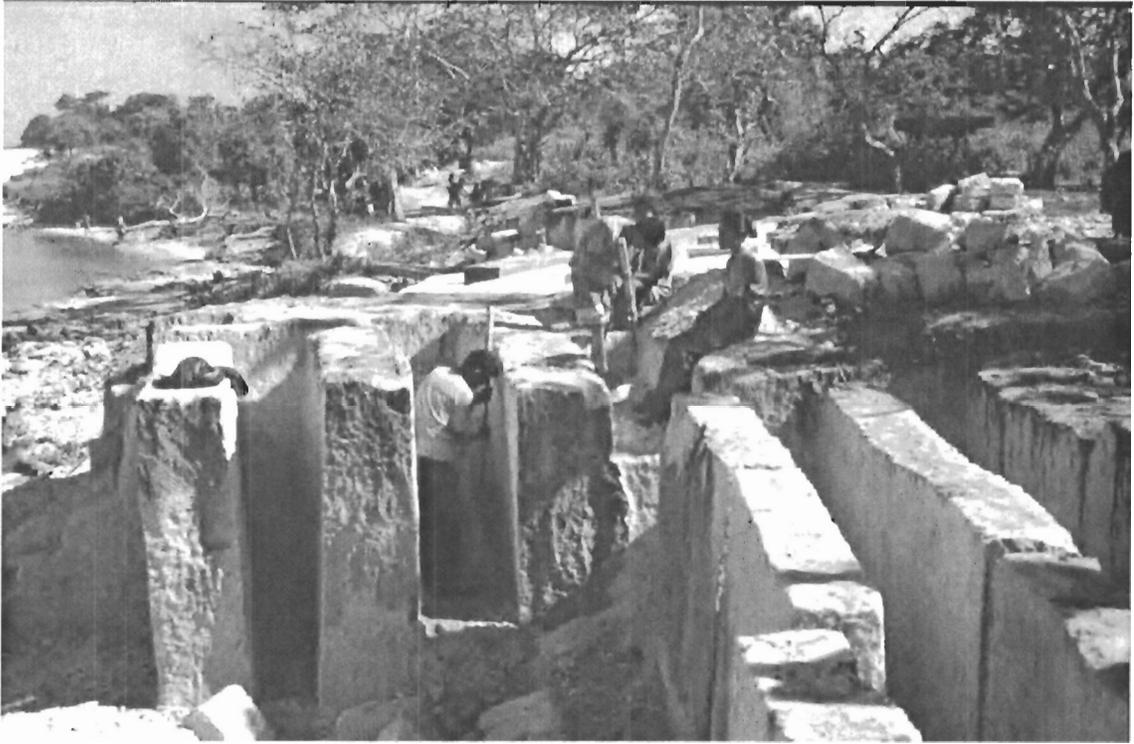
**Figure 4.1: Tomb in Anakalang, West Sumba with Standing *Kado Watu* Stone in Front (photo by R. Adams)**



**Figure 4.2: Stone Quarry in Anakalang, West Sumba (photo by R. Adams)**



**Figure 4.3: Quarrying Stone in Kodi, West Sumba (photo by R. Adams)**



**Figure 4.4: Main Quarry Outside of Wainyapu, West Sumba  
(photo by R. Adams)**



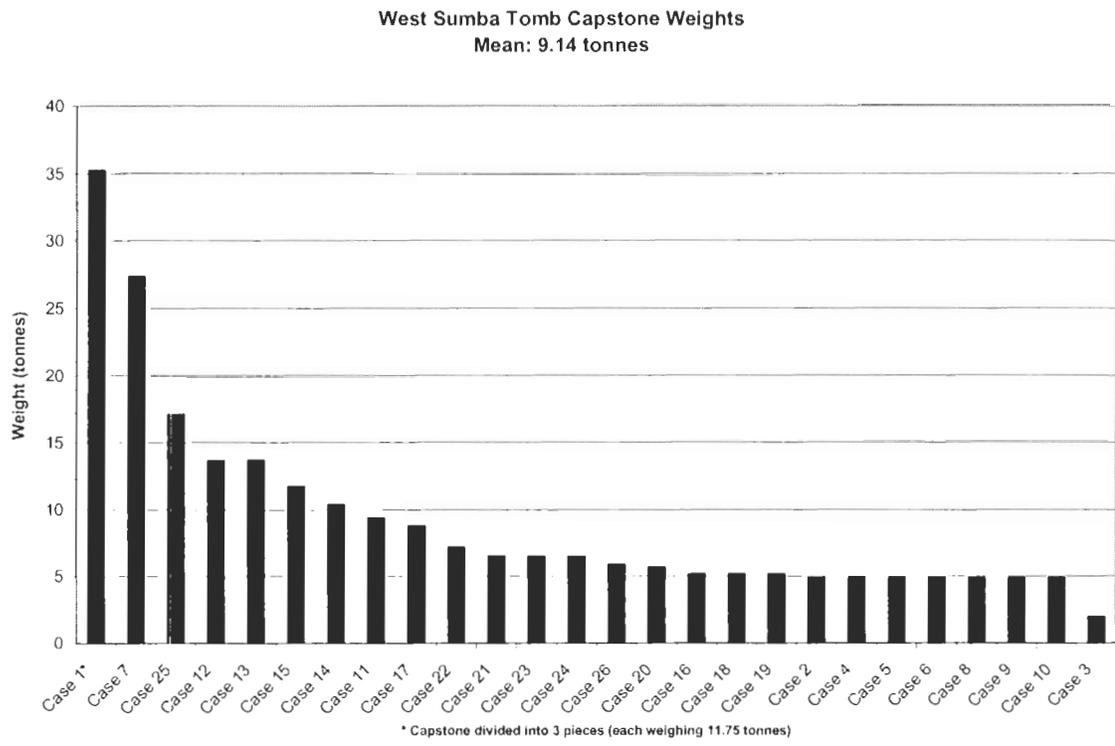
**Figure 4.5: Hauling a Tombstone in Anakalang, West Sumba  
(photo by R. Adams)**



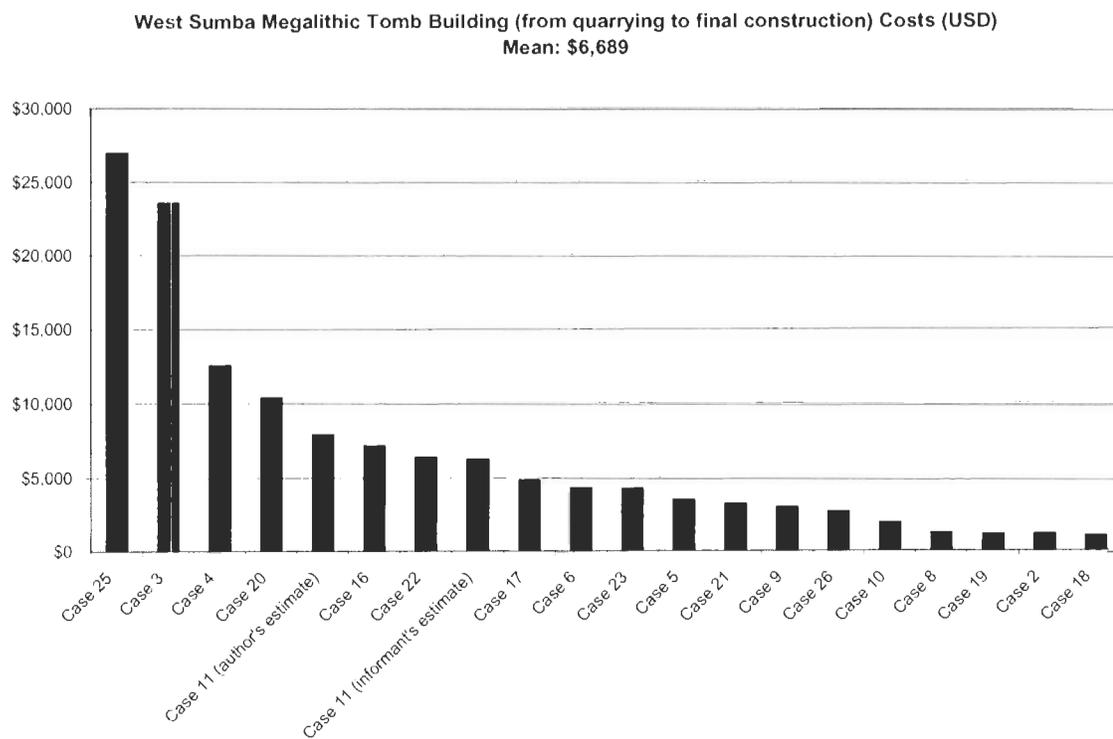
**Figure 4.6: Sliding Capstone onto Tomb in Wainyapu, West Sumba (photo by R. Adams)**



**Figure 4.7: West Sumba Tomb Capstone Weights**



**Figure 4.8: West Sumba Megalithic Tomb Building Total Costs**



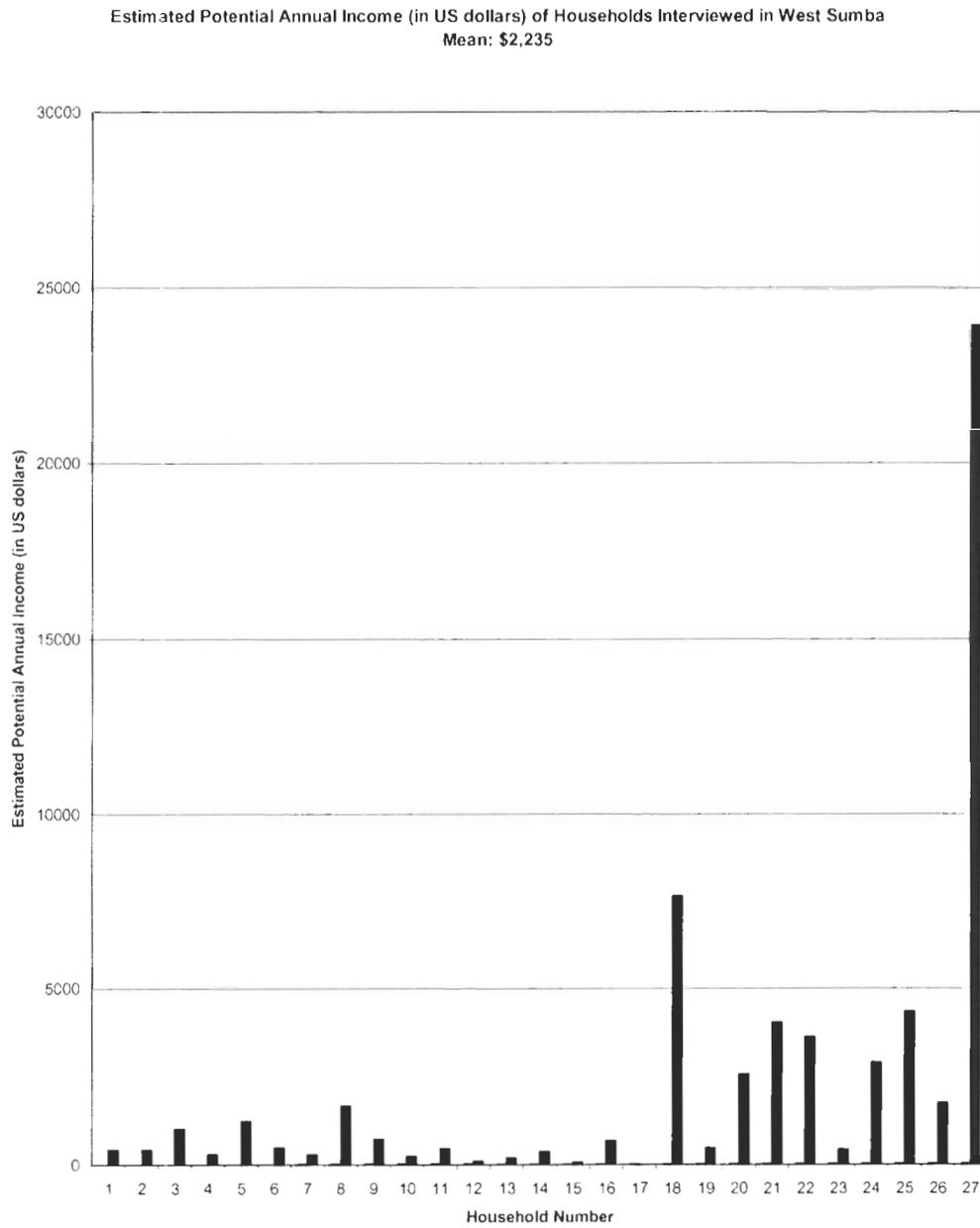
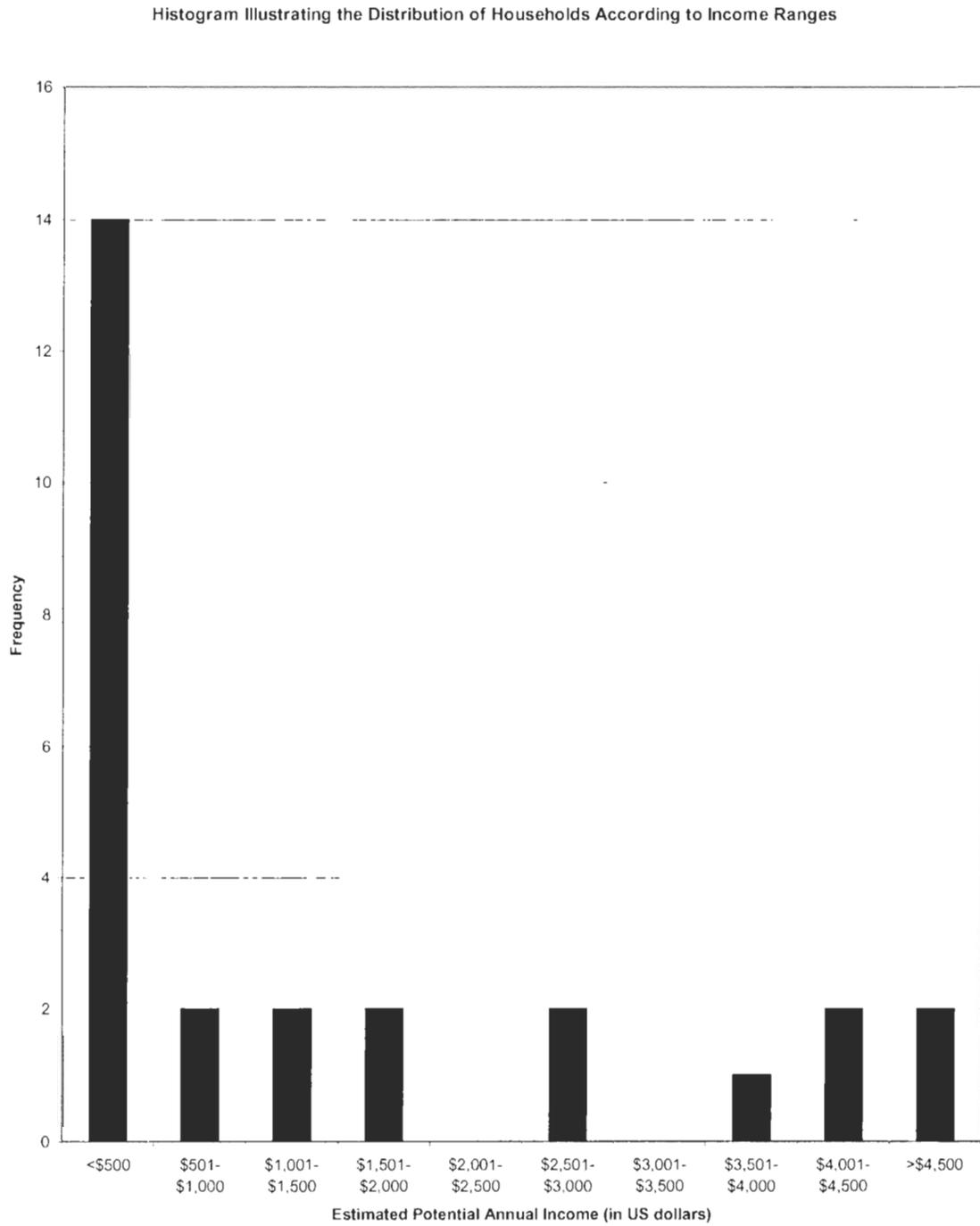
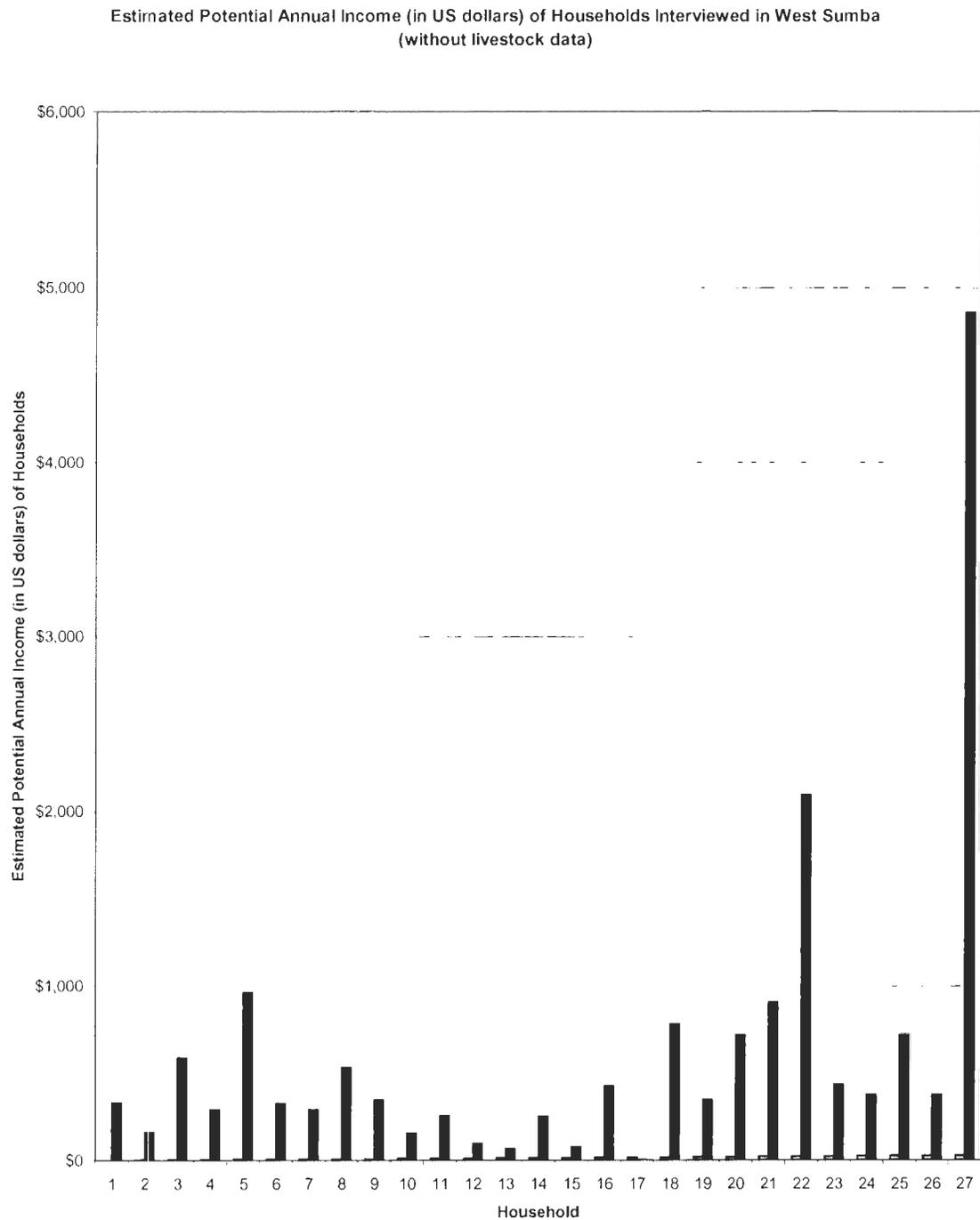
**Figure 5.1: Wealth of Interviewed Households**

Figure 5.2: Histogram Illustrating Household Income Ranges

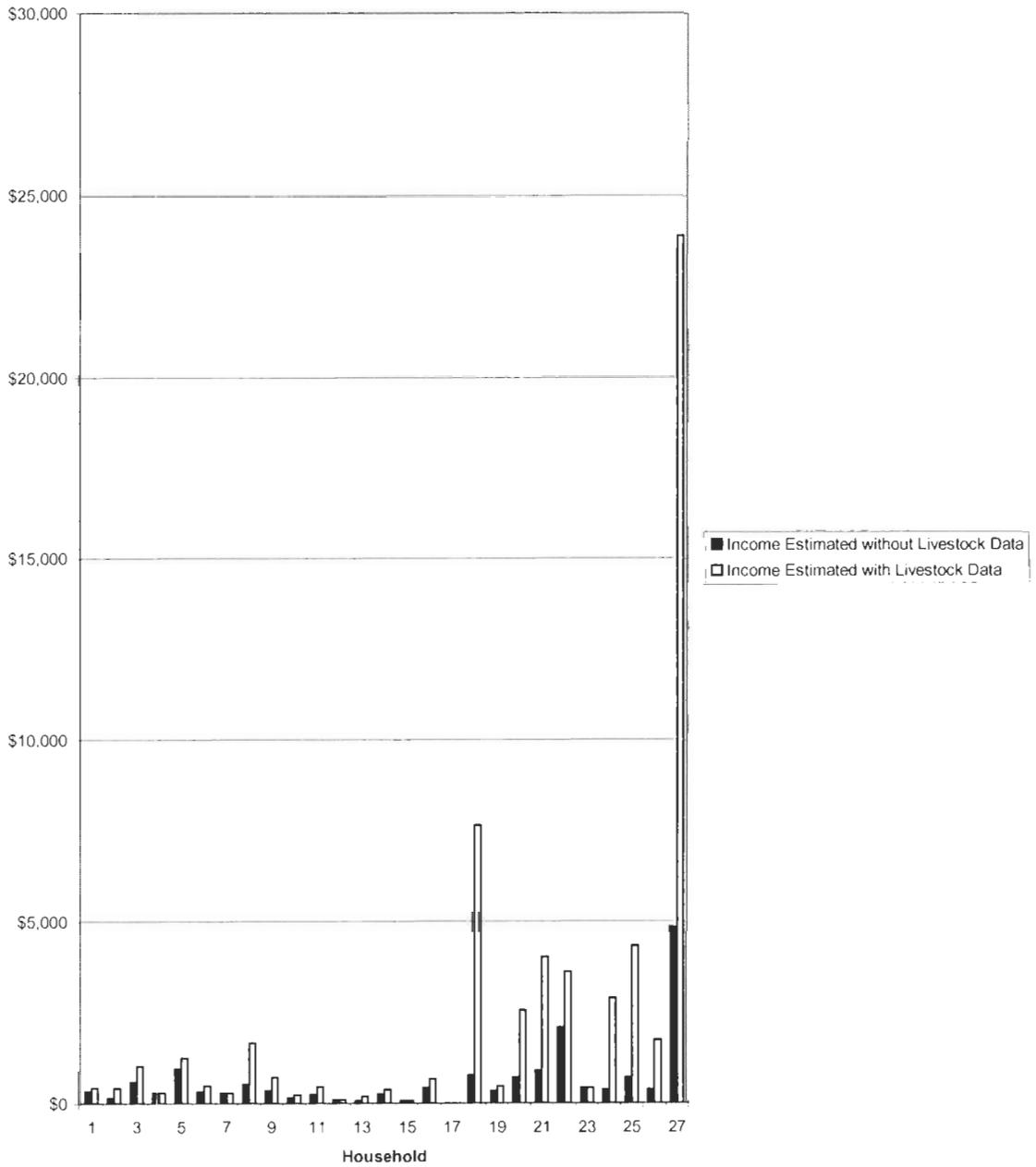


**Figure 5.3: Wealth of Interviewed Households (without livestock data)**

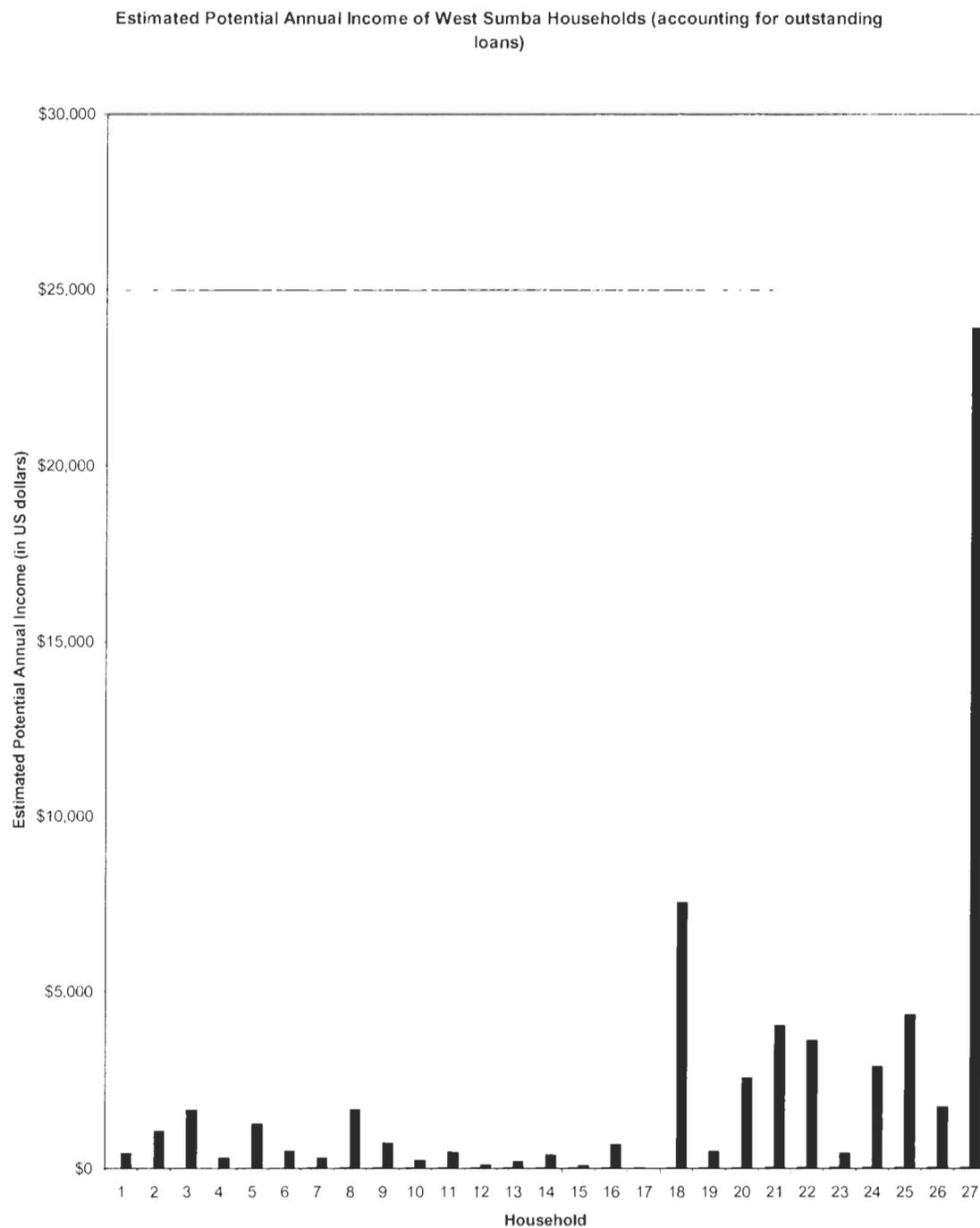


**Figure 5.4: Comparison of Wealth of Households both with and without Data on Livestock Ownership**

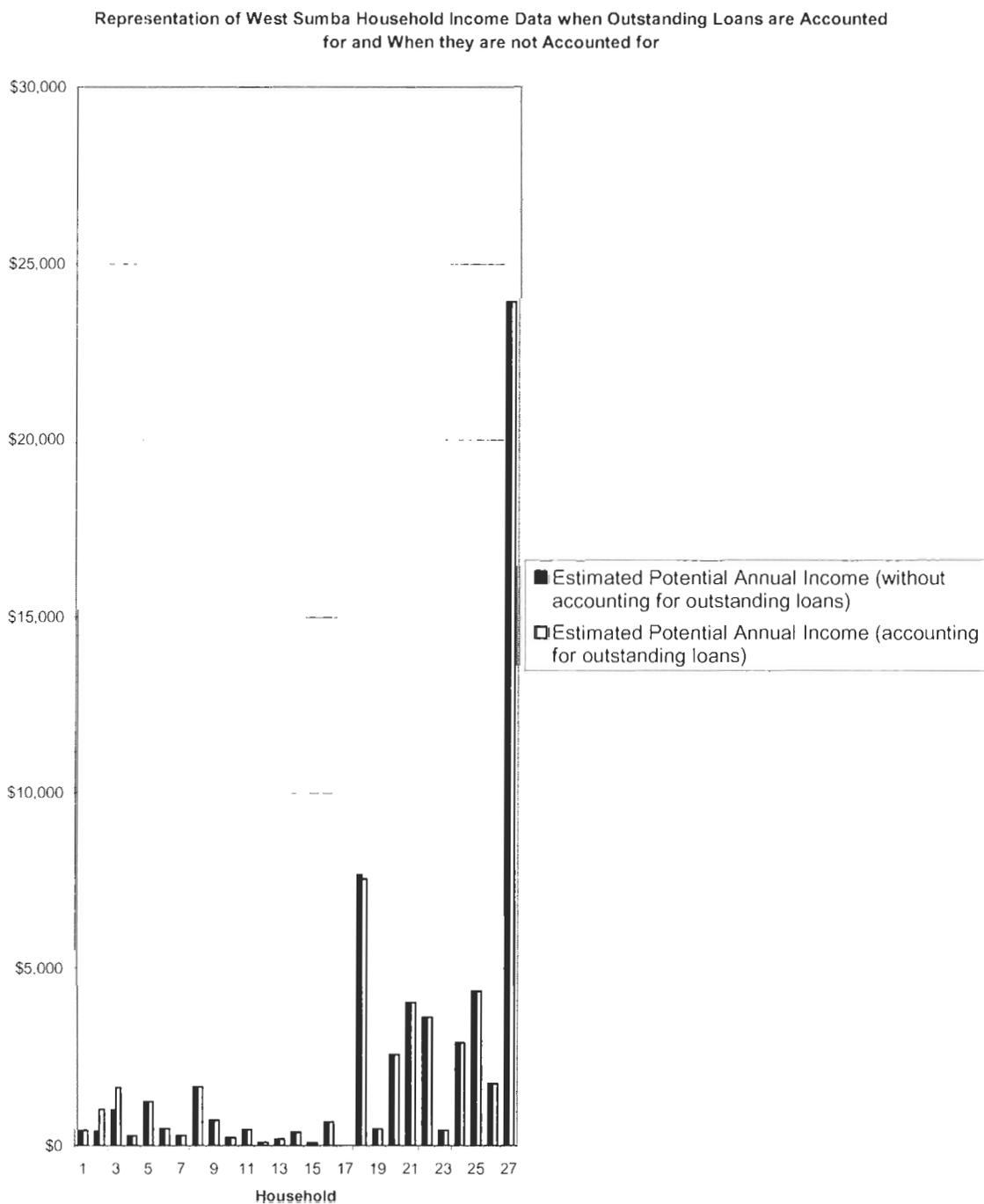
Representation of Estimated Potential Household Annual Household Income (in US dollars) with Livestock Ownership Data and Without Livestock Ownership Data



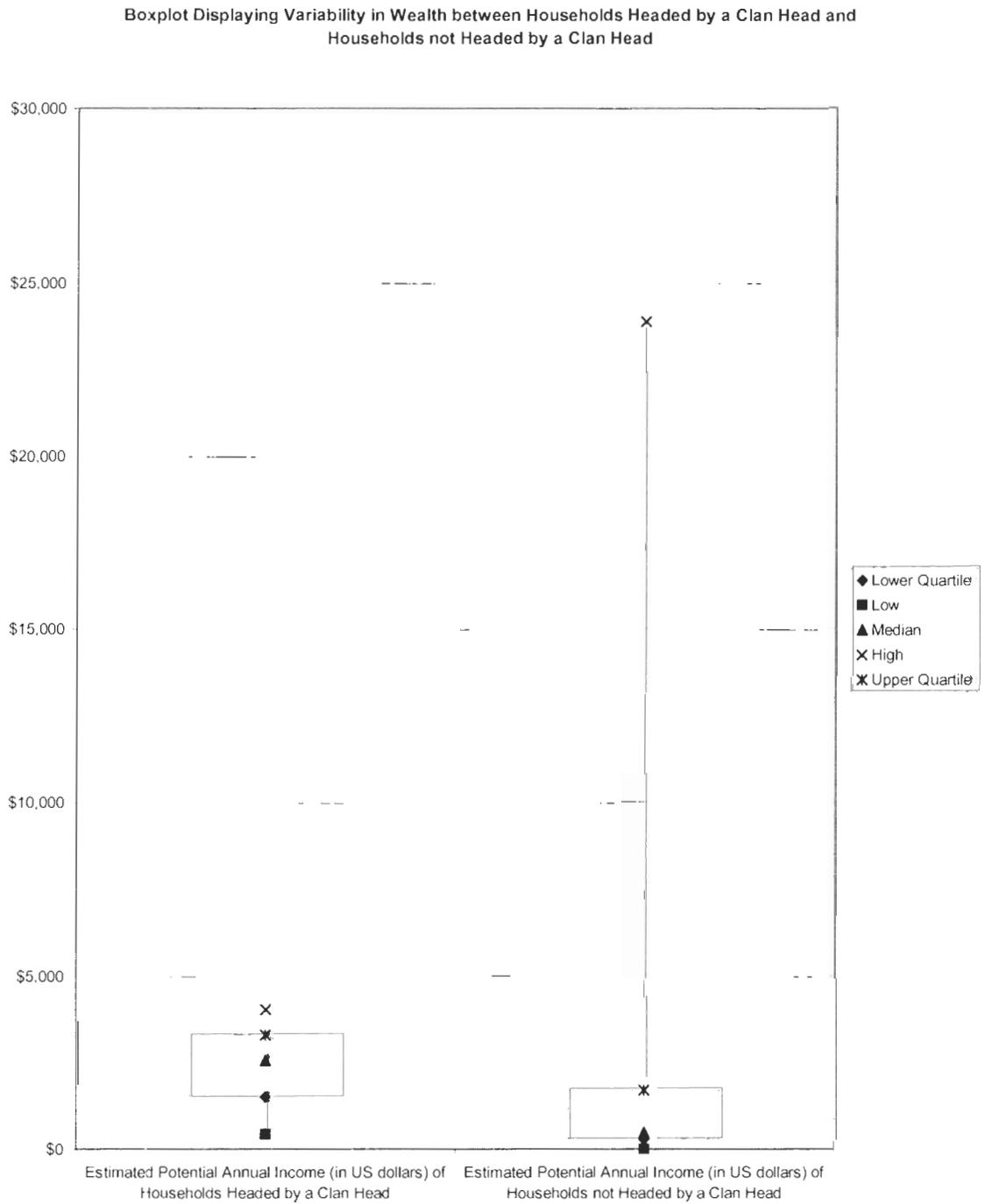
**Figure 5.5: Wealth of Households (accounting for outstanding loans)**



**Figure 5.6: Comparison of Wealth (accounting for outstanding loans vs. not accounting for outstanding loans)**

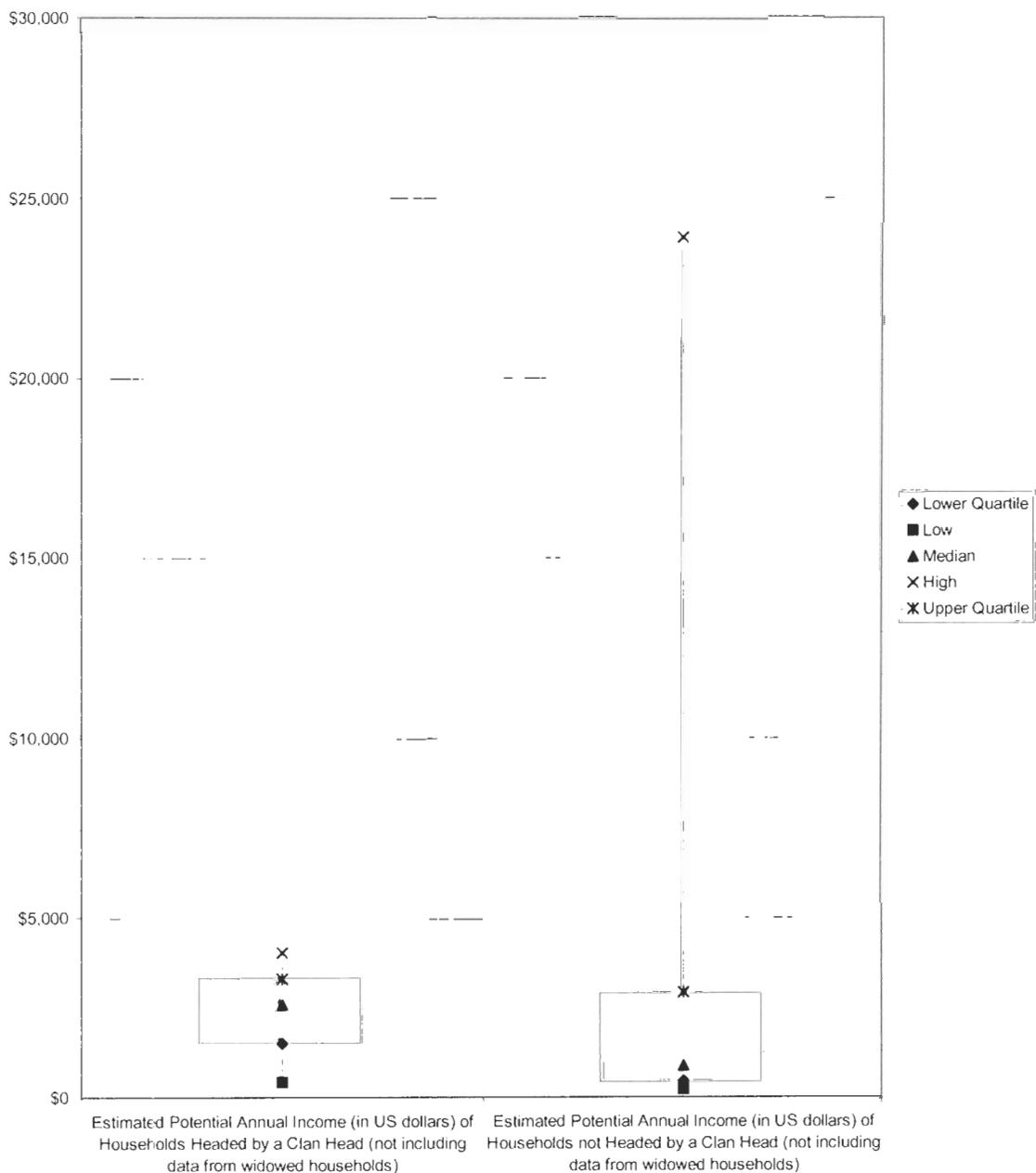


**Figure 5.7: Comparison of Wealth between Clan Head Households and non-Clan Head Households**



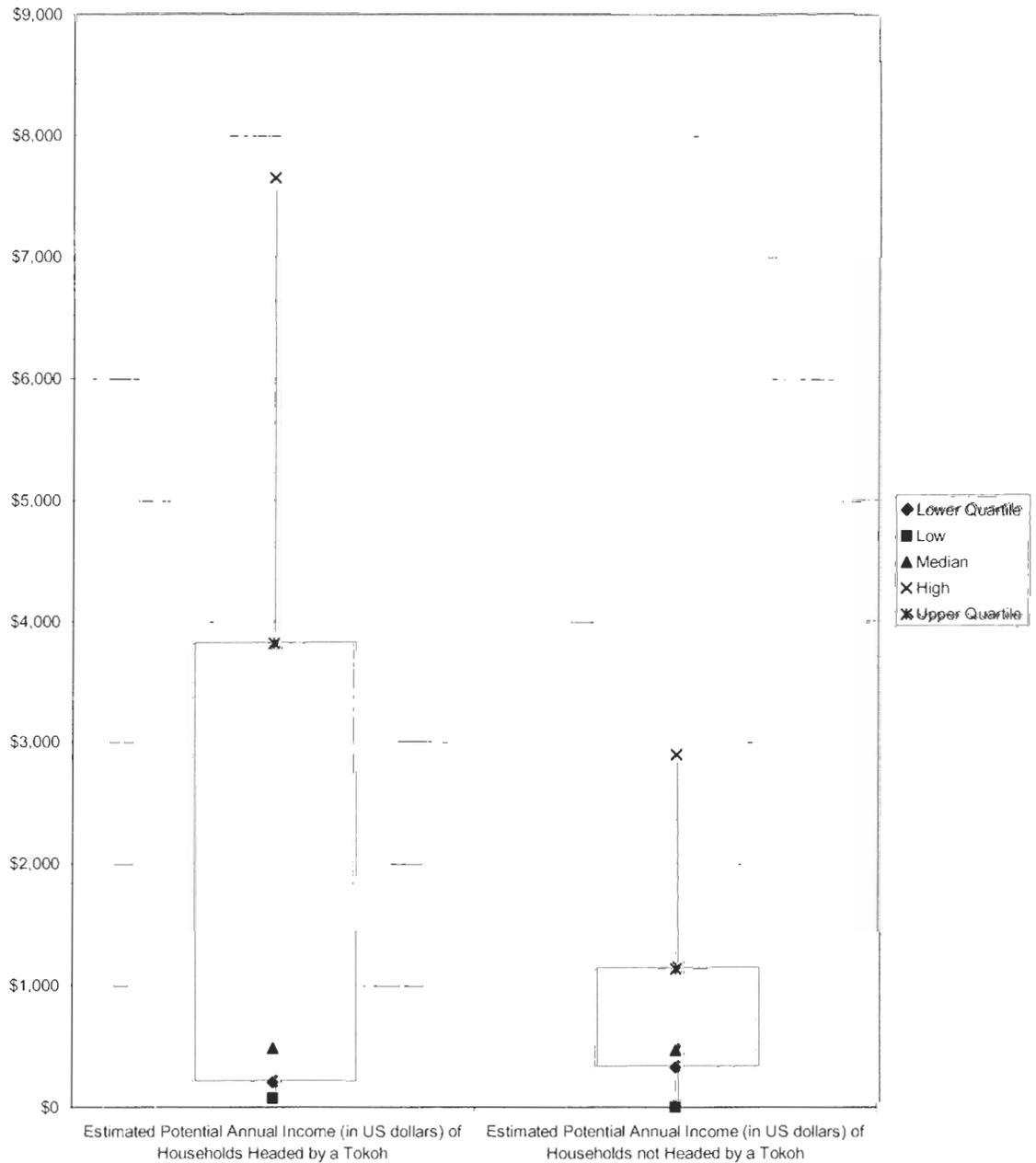
**Figure 5.8: Comparison of Wealth between Clan Head Households and non-Clan Head Households (without income data from widowed households)**

Boxplot Displaying Variability in Income Between Households Headed by a Clan Head and Households not Headed by a Clan Head (without income data from widowed households)



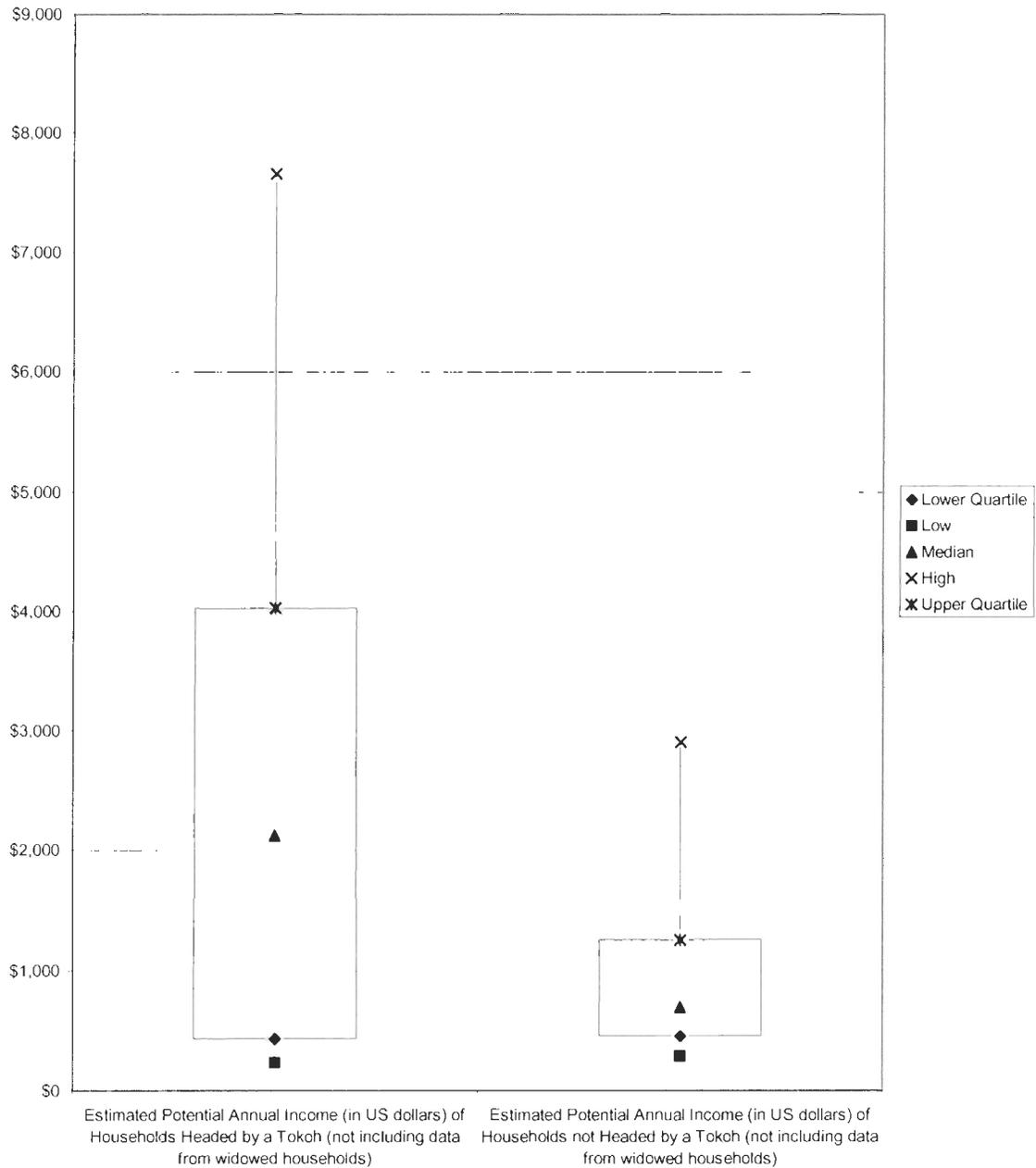
**Figure 5.9: Comparison of Wealth between Households Headed by a *Tokoh* and those not Headed by a *Tokoh***

Boxplot Illustrating the Variability between the Wealth of Households Headed by a *Tokoh* and Households not Headed by a *Tokoh*

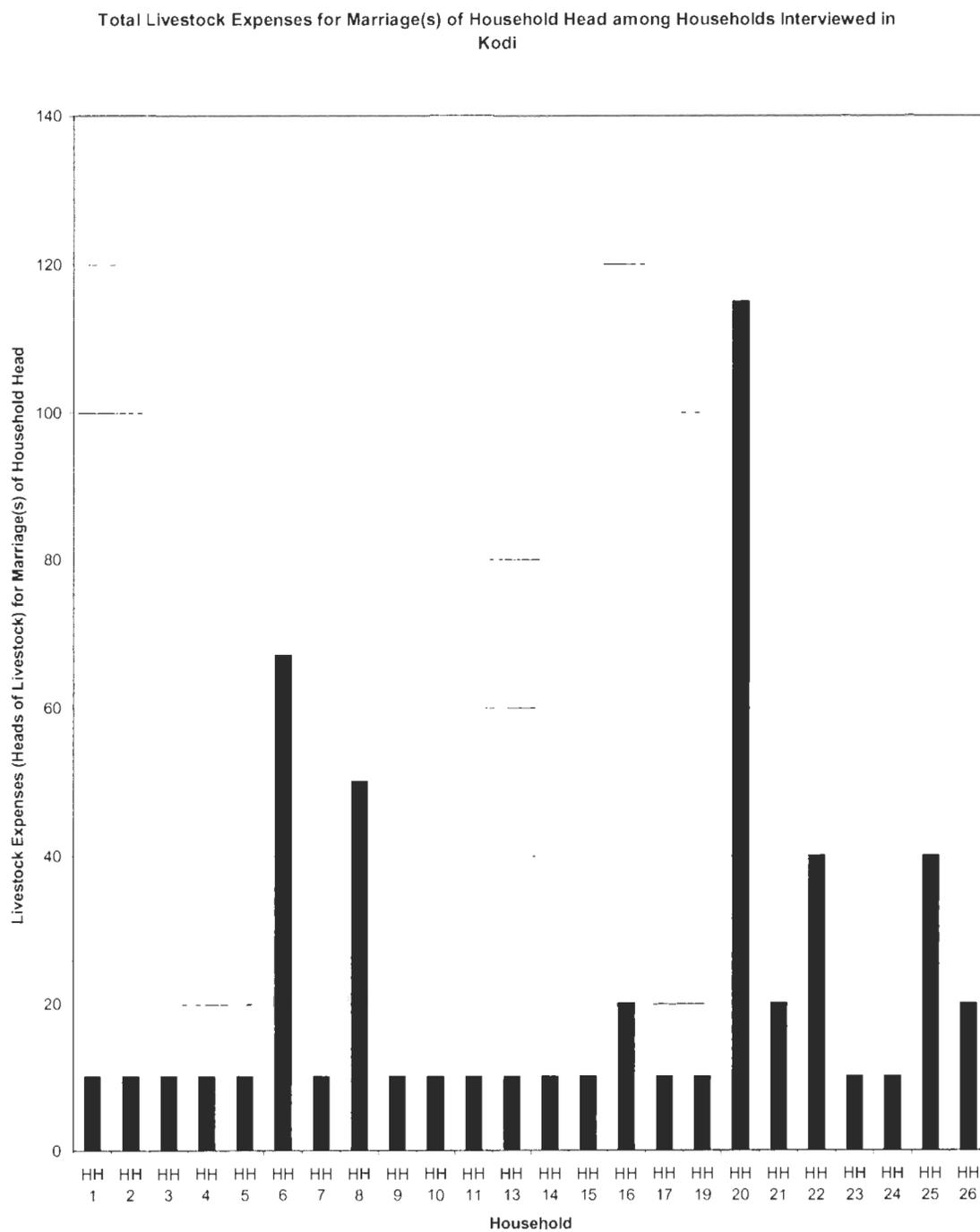


**Figure 5.10: Comparison of Wealth between Households Headed by a *Tokoh* and those not Headed by a *Tokoh* (without data from widowed households)**

Boxplot Displaying the Variability in Wealth between Households Headed by a *Tokoh* and Households not Headed by a *Tokoh* (not including wealth data from widowed households)

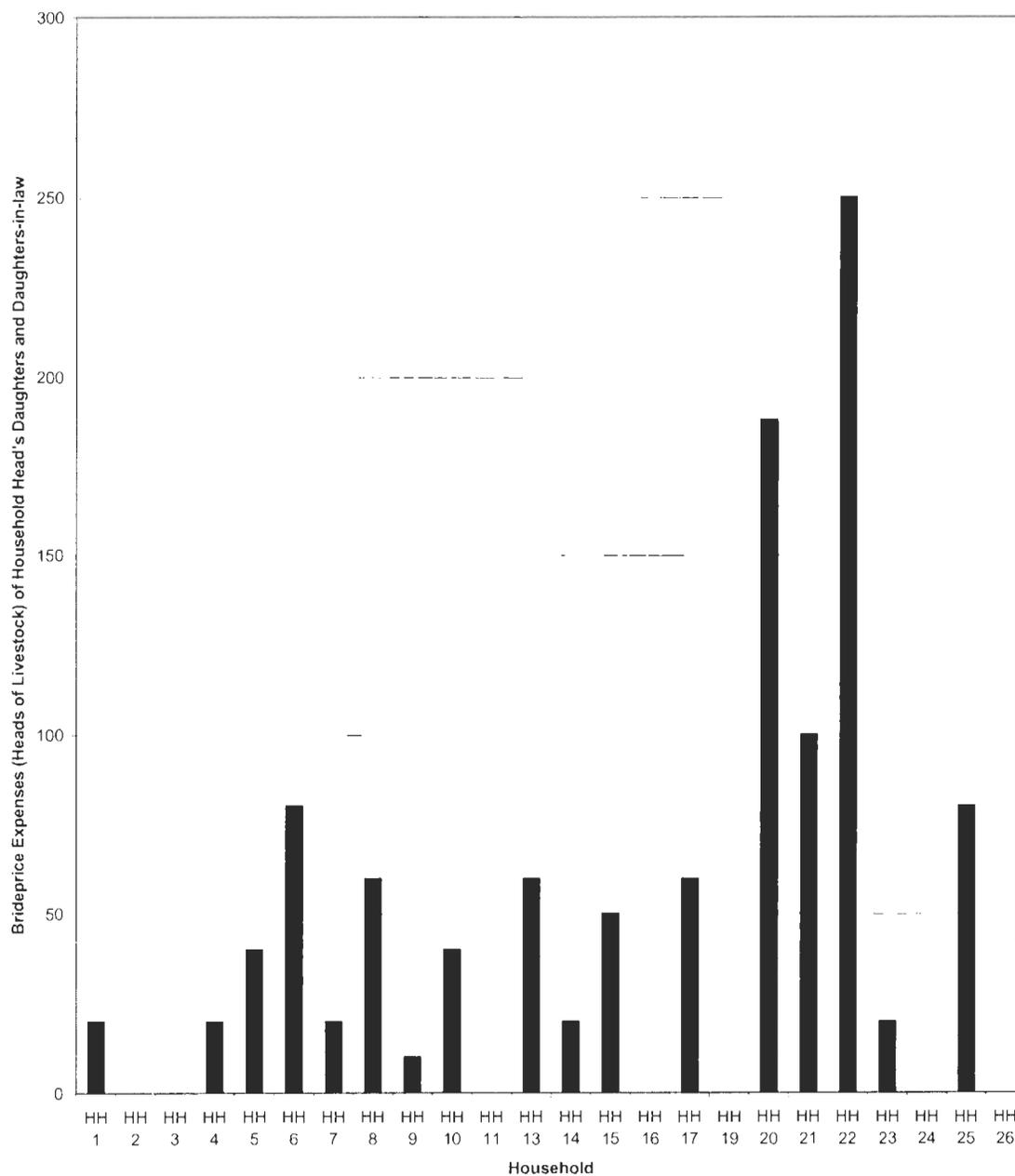


**Figure 5.11: Livestock Expenses for Marriages of Household Heads in Kodi**

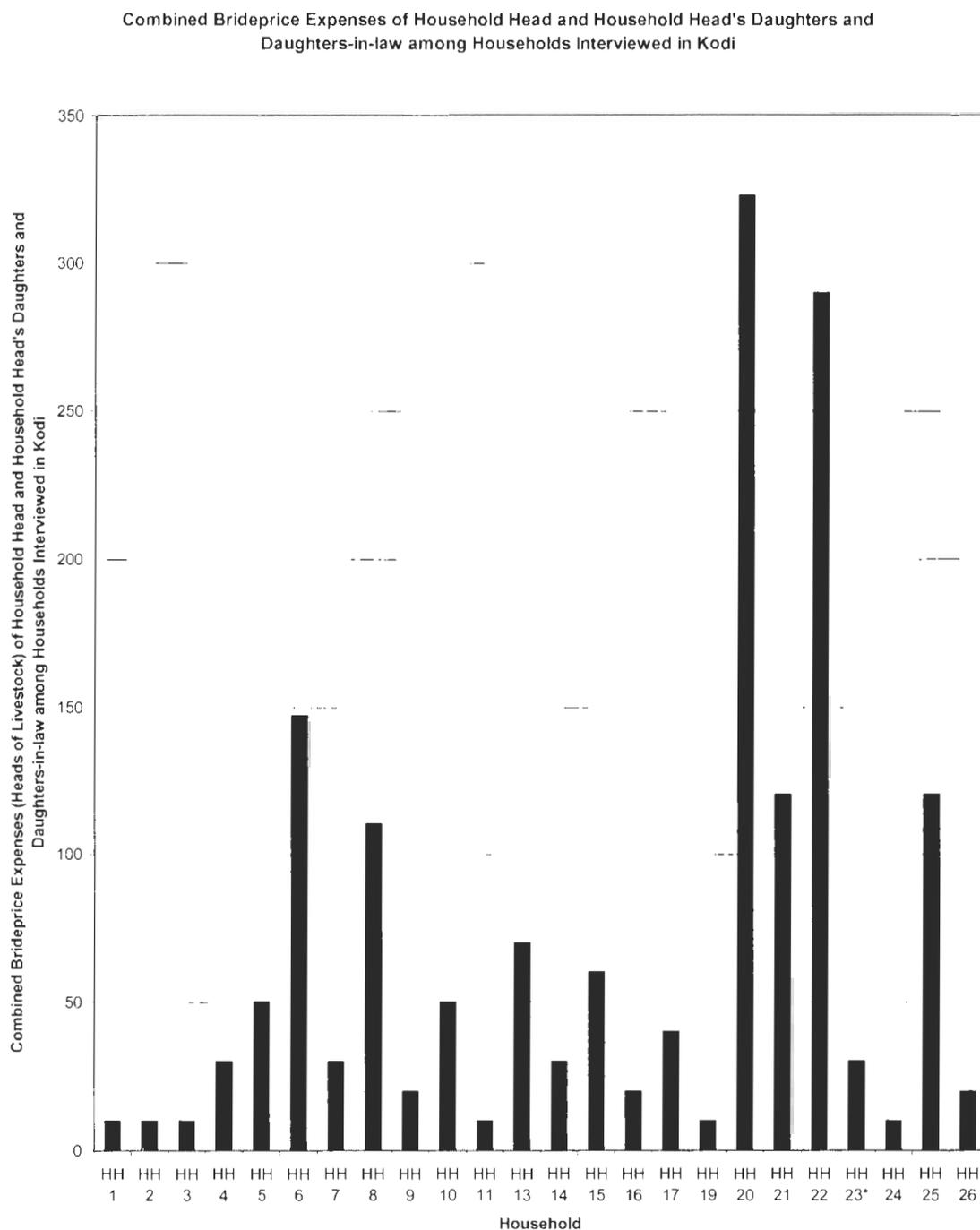


**Figure 5.12: Brideprice Expenses for Marriage of Household Heads' Daughters and Daughters-in-law in Kodi**

Brideprice Expenses of Household Head's Daughters and Daughters-in-law among Households Interviewed in Kodi

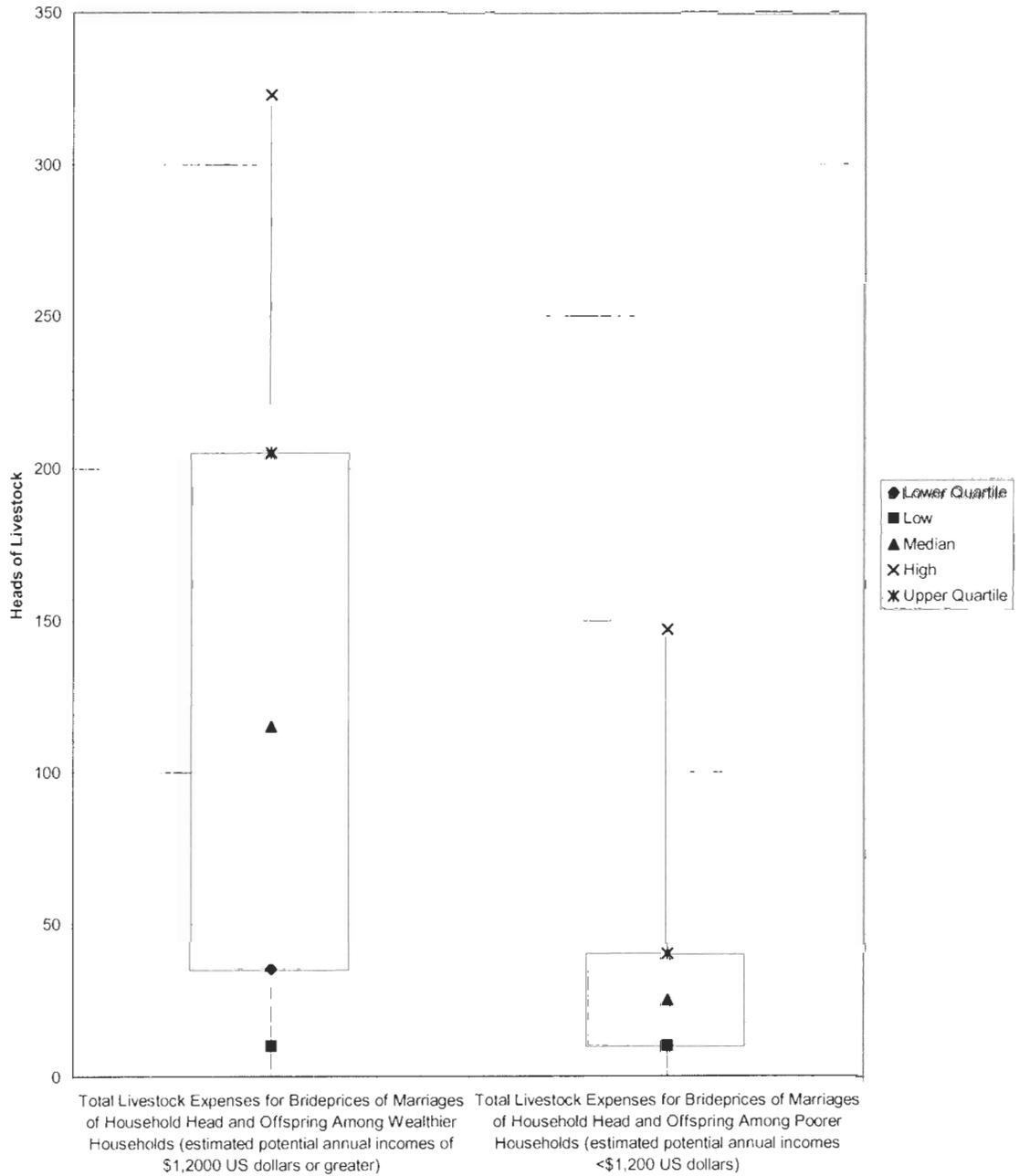


**Figure 5.13: Combined Brideprice Expenses of Household Head and Household Head's Daughters and Daughters-in-law in Kodi**



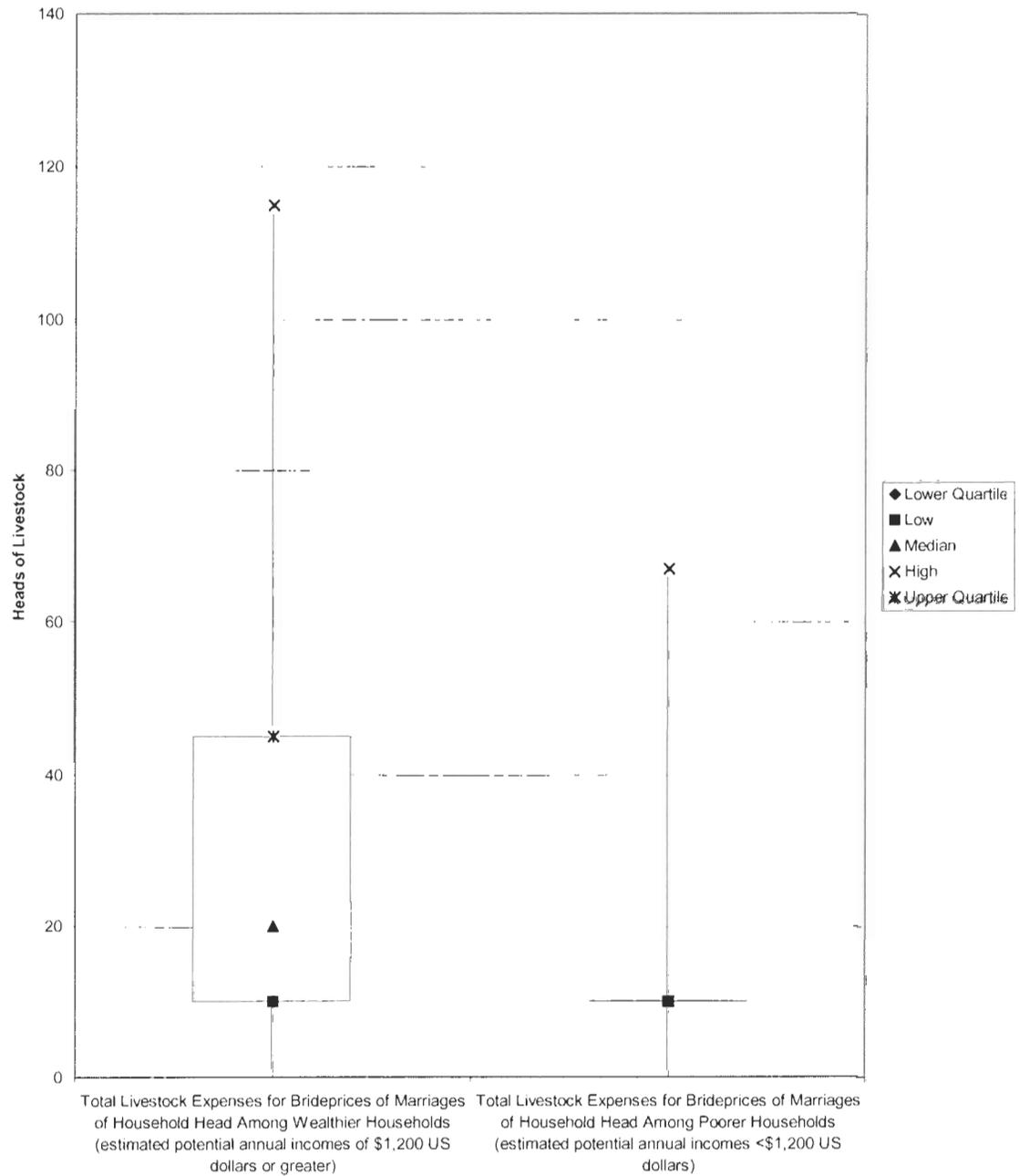
**Figure 5.14: Comparison of Household Wealth and Brideprice Expenses (household head and offspring) in Kodi**

Boxplot Comparing the Brideprice Expenses of Marriages of Household Heads and their Offspring between Wealthier and Poorer Households



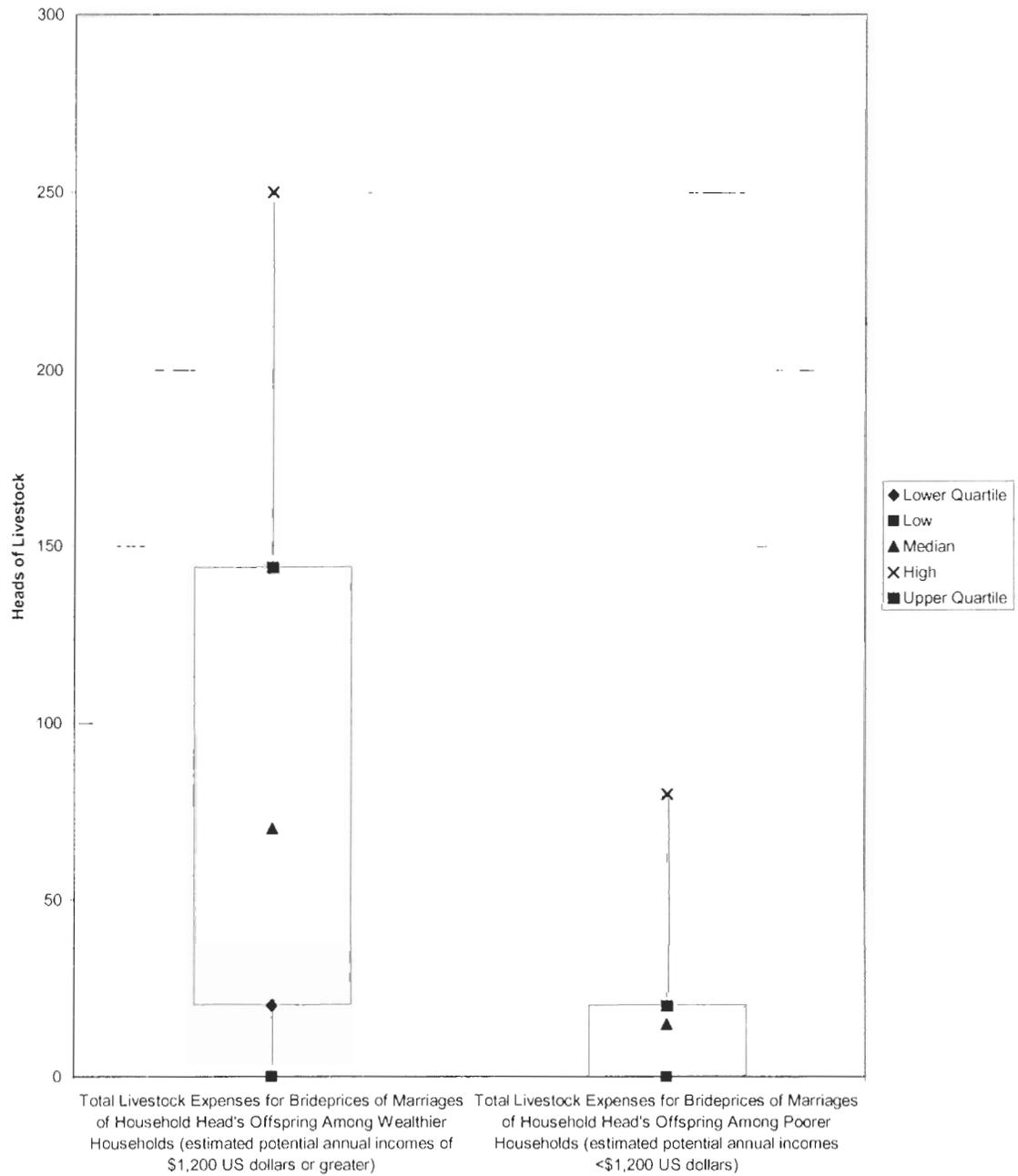
**Figure 5.15: Comparison of Household Wealth and Brideprice Expenses (household head only) in Kodi**

Boxplot Comparing the Brideprice Expenses of Marriages of Household Heads Between Wealthier and Poorer Households

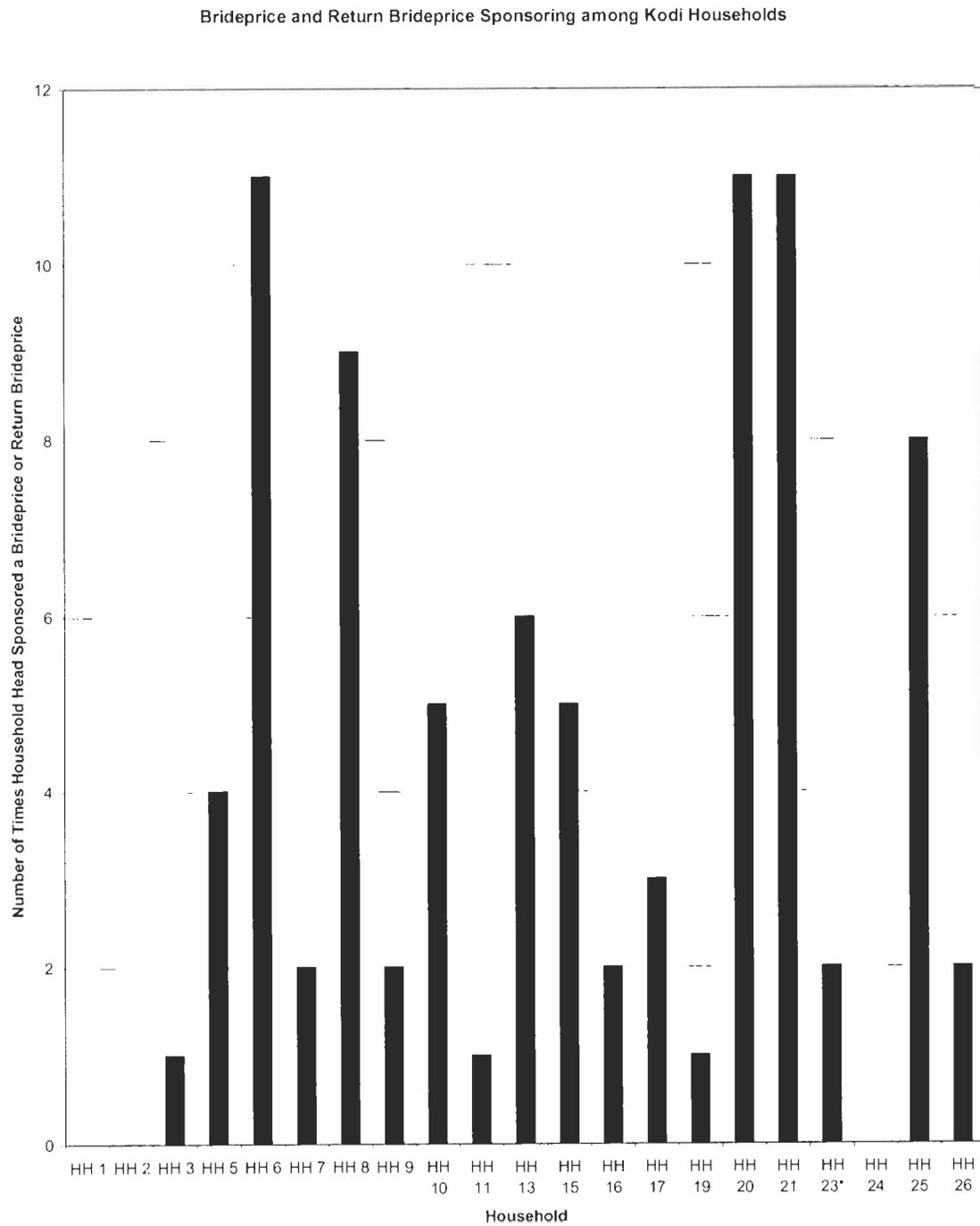


**Figure 5.16: Comparison of Household Wealth and Brideprice Expenses (household head's offspring only) in Kodi**

Boxplot Comparing the Livestock Expenses for Brideprices of Marriages of Household Head's Offspring between Wealthier Households and Poorer Households

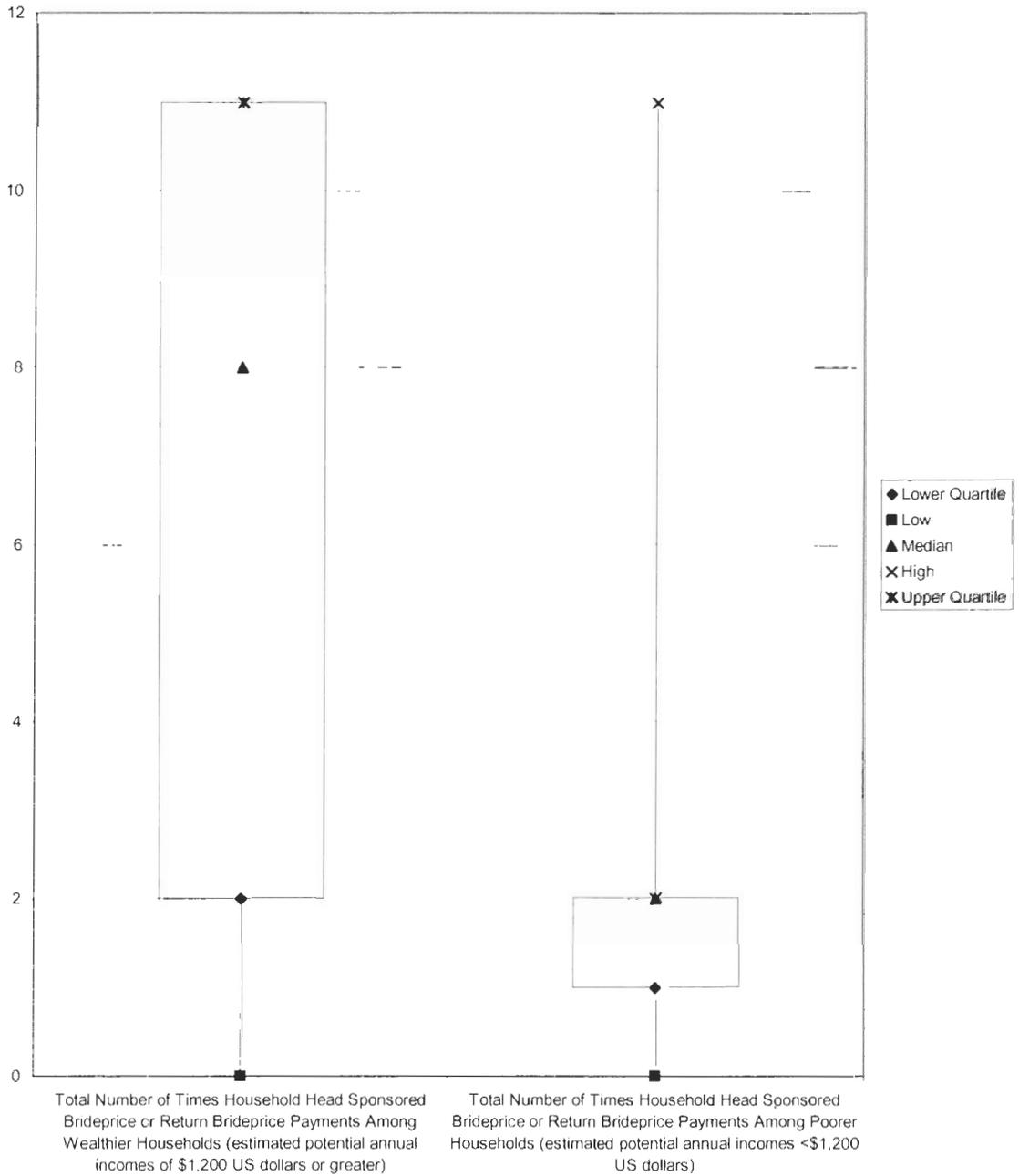


**Figure 5.17: Brideprice and Return Brideprice Sponsoring among Kodi Households**



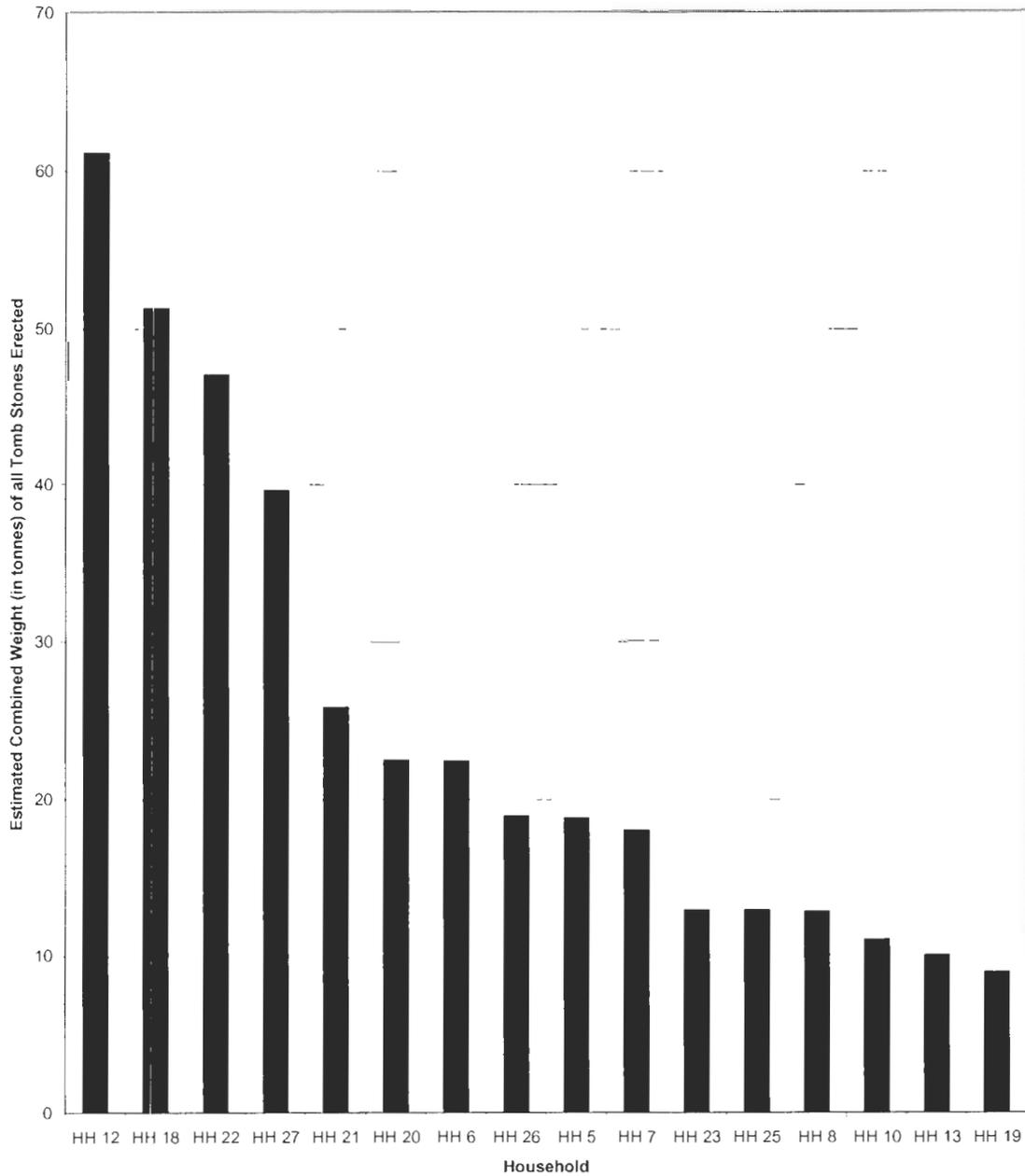
**Figure 5.18: Comparison of Brideprice/Return Brideprice Sponsoring and Household Wealth**

Boxplot Comparing the Number of Times Household Heads Sponsored Brideprice and Return Brideprice Payments between Wealthier and Poorer Households

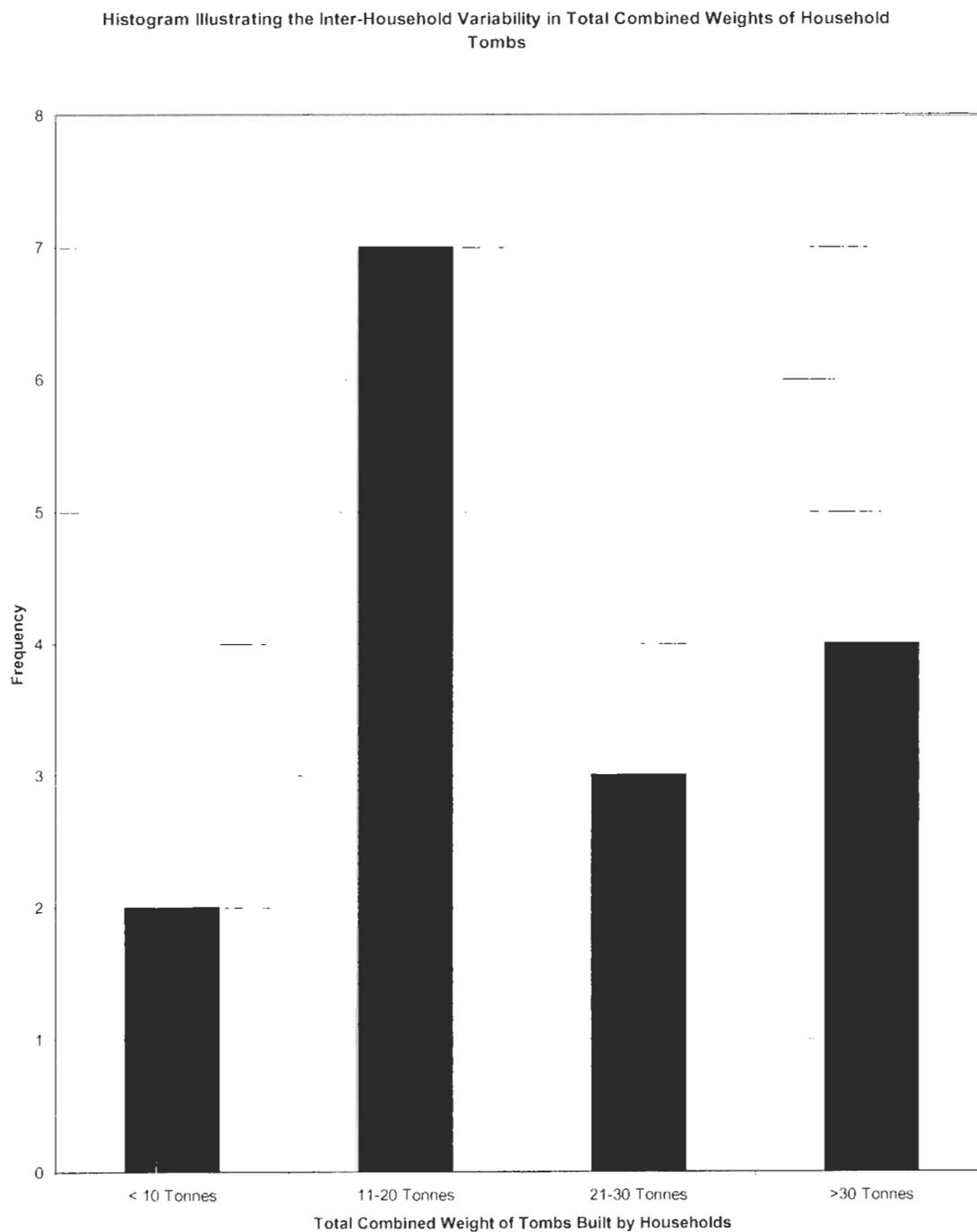


### Figure 5.19: Total Combined Weight of Tombs Built by Households

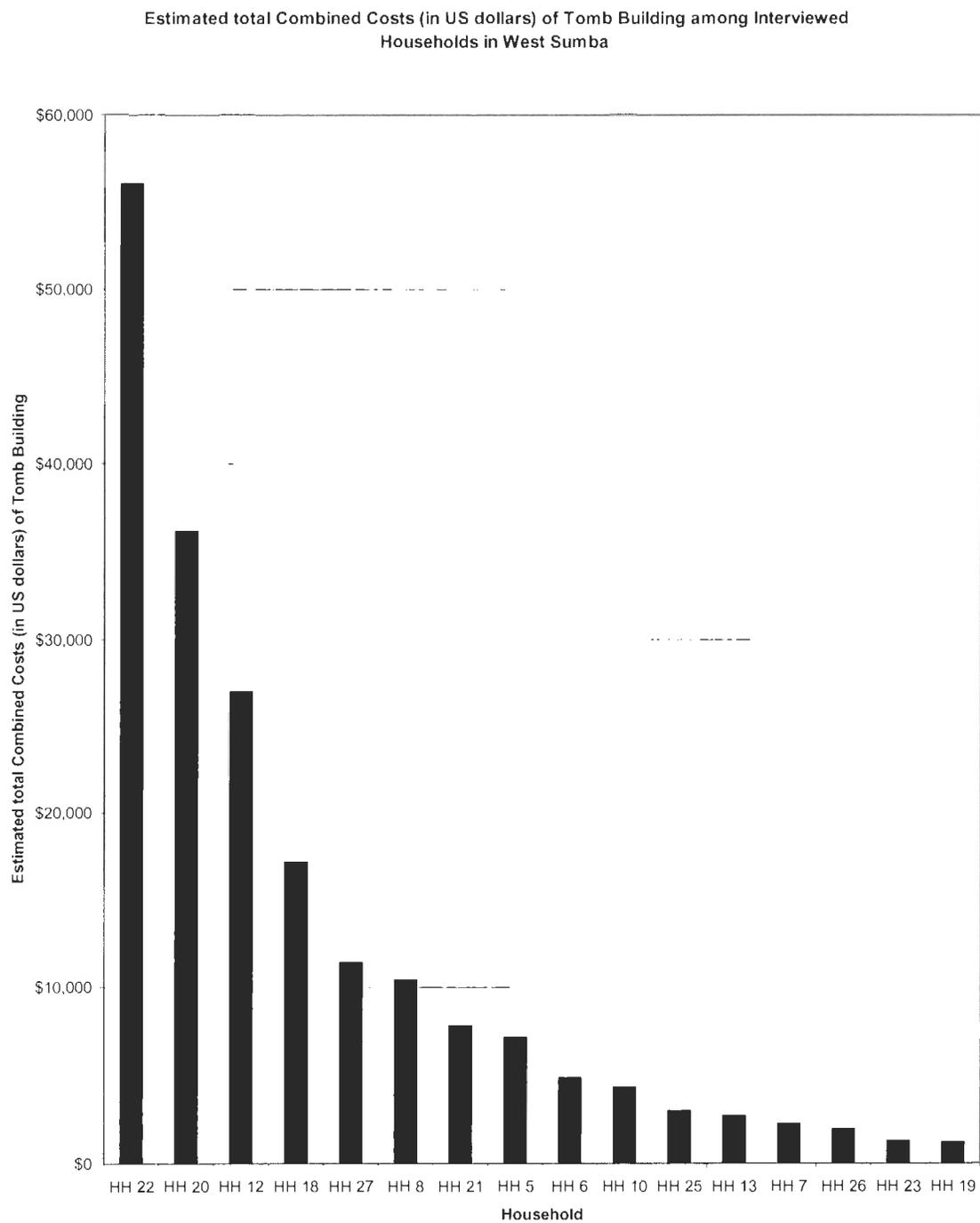
Estimated Combined Weight (in tonnes) of all Tomb Stones Erected by Interviewed Households  
Mean: 24.6 Tonnes



**Figure 5.20: Variability in Combined Weights of Household Tombs**

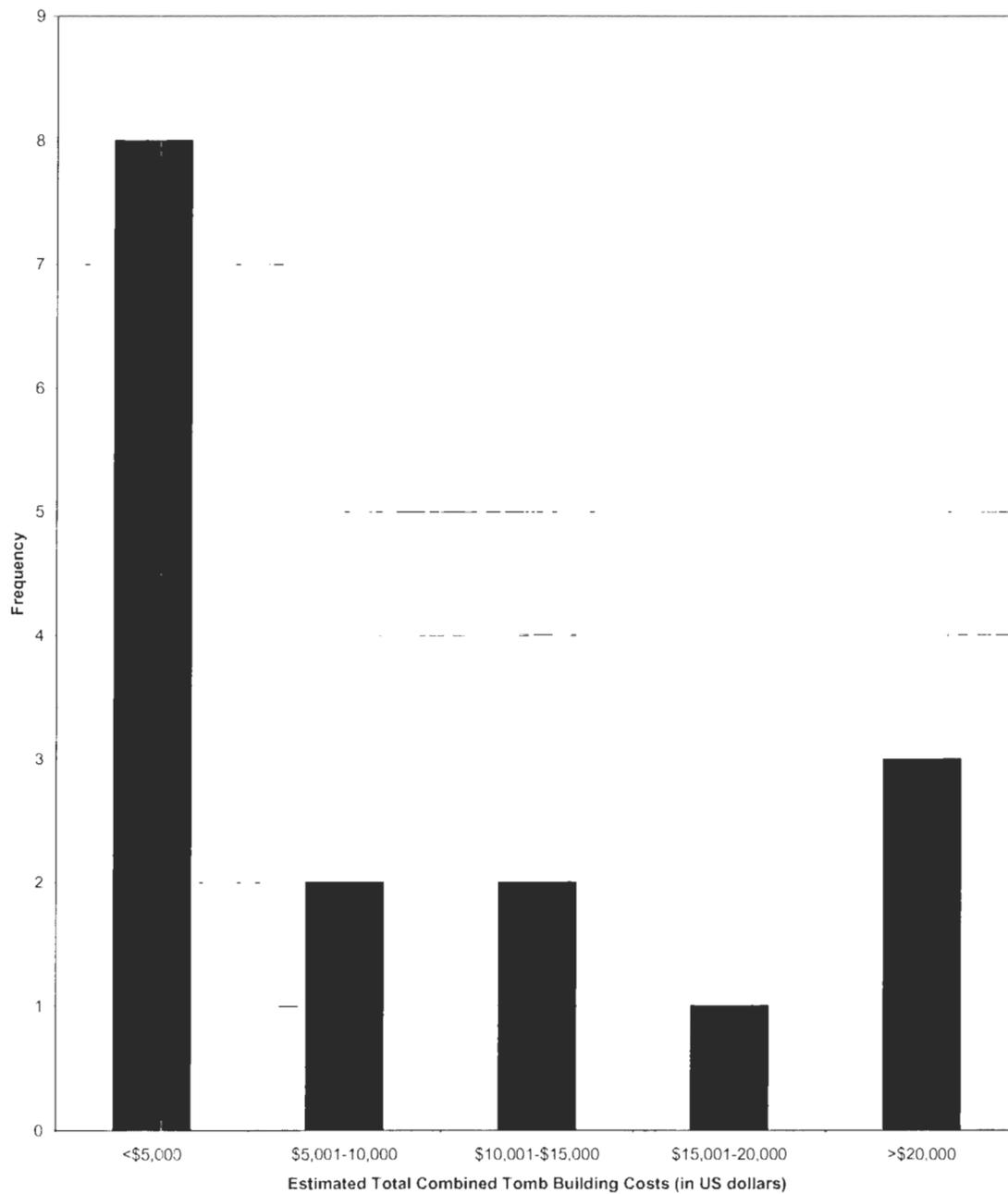


**Figure 5.21: Combined Household Tomb Building Costs**



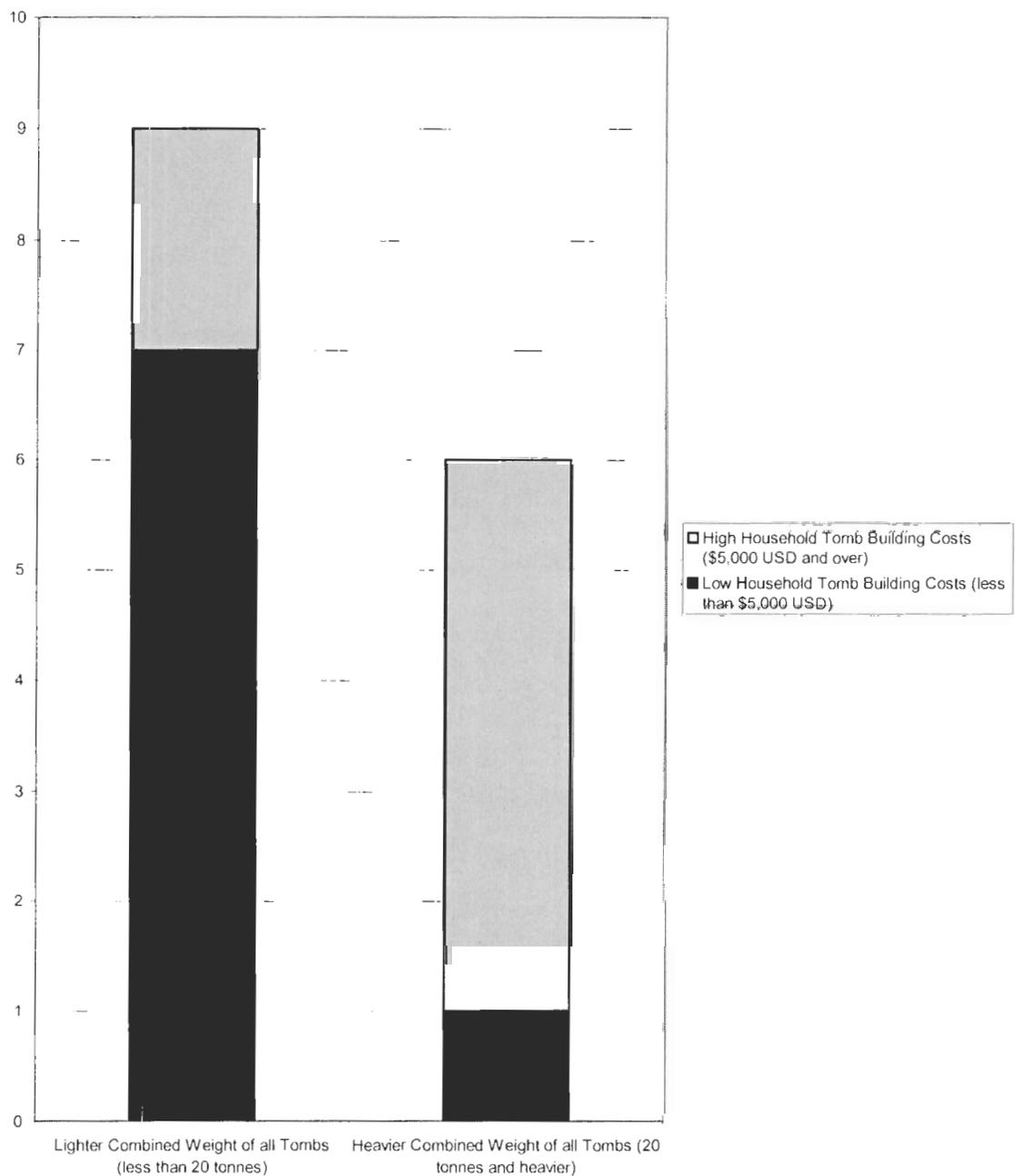
**Figure 5.22: Variability in Total Household Tomb Building Costs**

Histogram Displaying the Inter-Household Variability in Total Tomb Building Costs



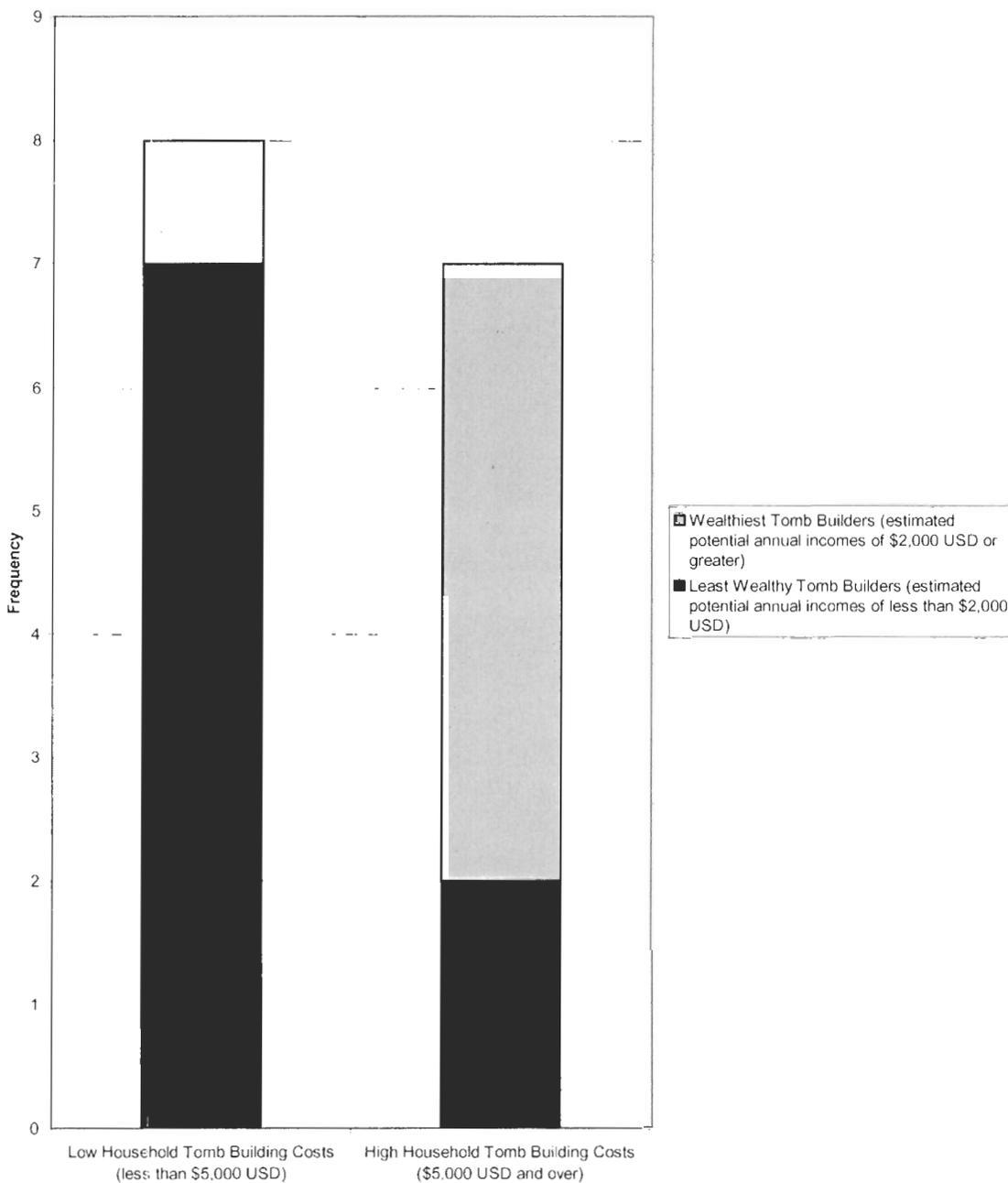
**Figure 5.23: Relationship between Combined Household Tomb Building Costs and Combined Household Tomb Weights**

Bar Chart Displaying the Relationship Between Estimated Combined Household Tomb Building Costs (in US dollars) and Estimated Combined Household Tomb Weights (in tonnes)



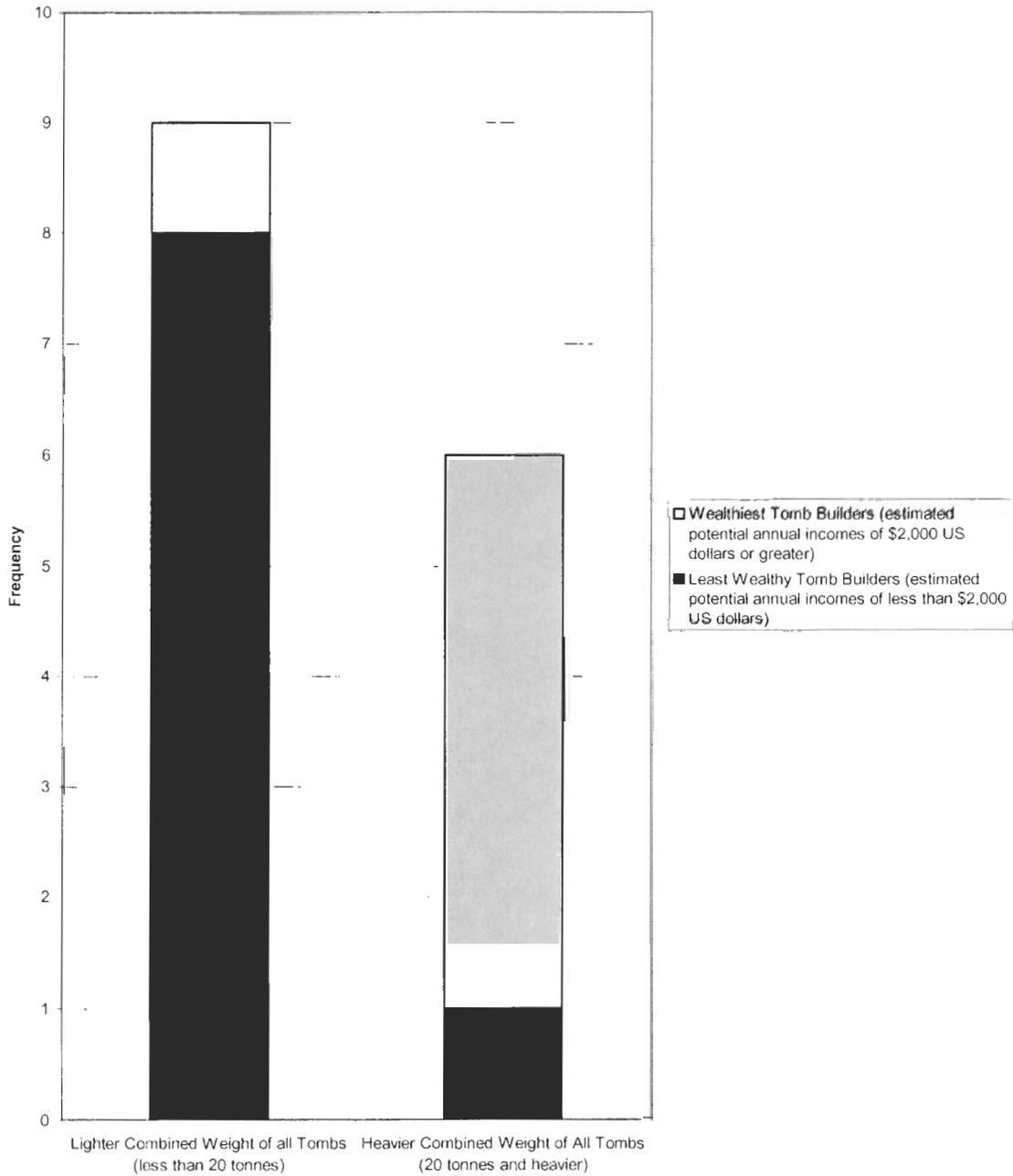
**Figure 5.24: Comparison of Household Tomb Building Costs and Household Wealth**

Comparison of the Overall Expenses of Tombs Built by Wealthier Tomb Building Households and Poorer Tomb Building Households

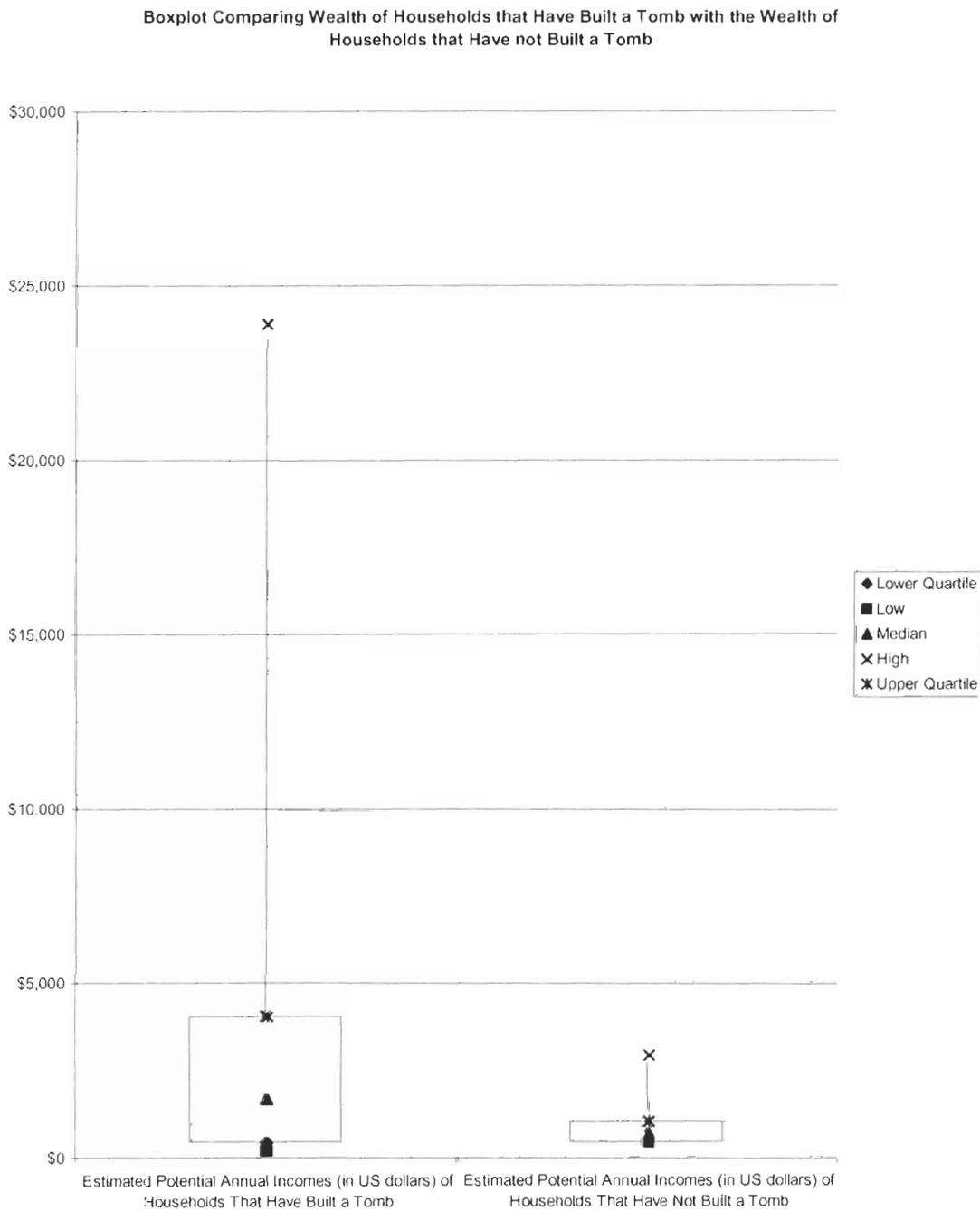


**Figure 5.25: Comparison of Combined Household Tomb Weights and Household Wealth**

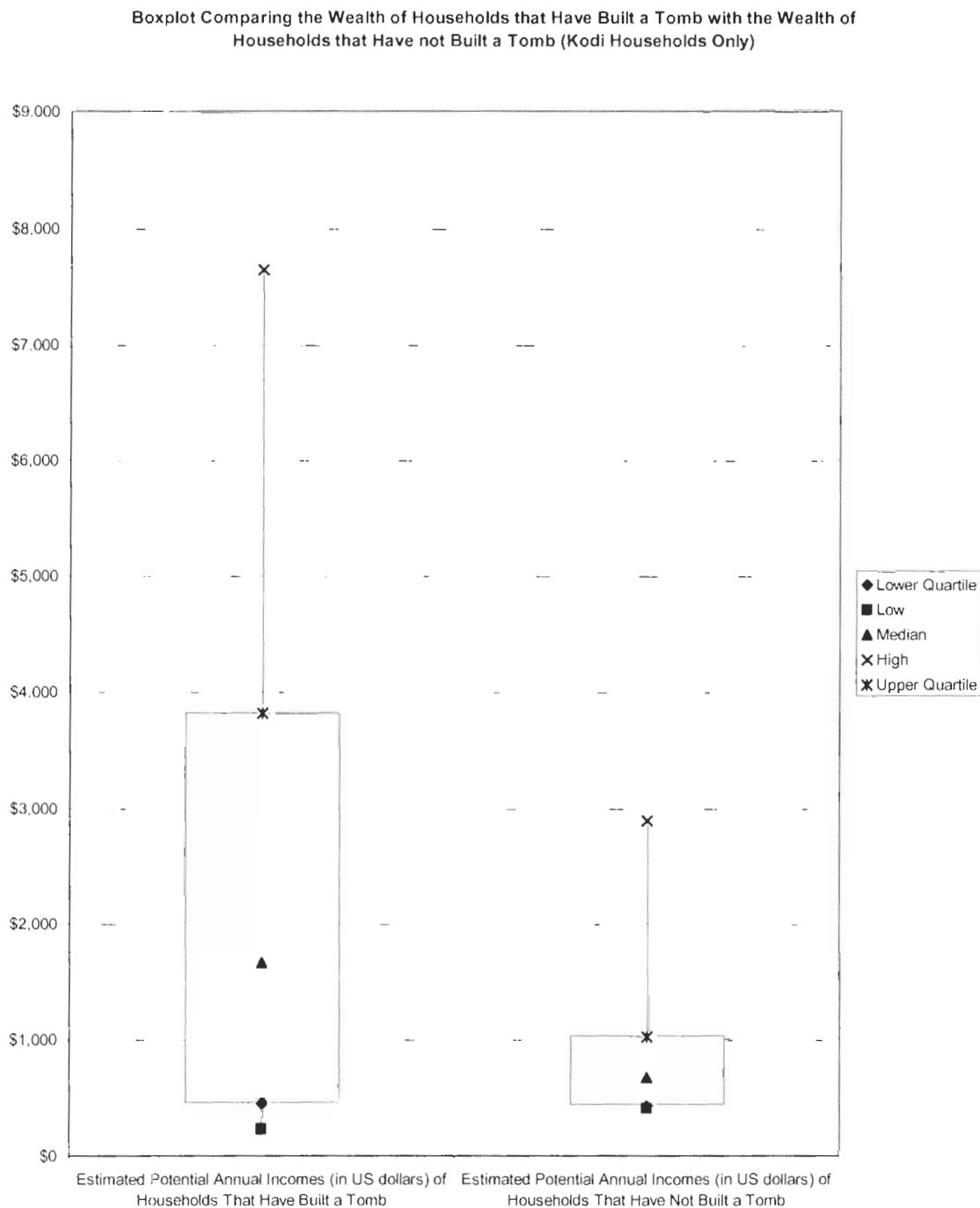
Comparison of the Combined Weight of all Tombs Built by Wealthier Tomb Building Households and Poorer Tomb Building Households



**Figure 5.26: Comparison of Household Wealth between Tomb Building Households and non-Tomb Building Households (N=22)**

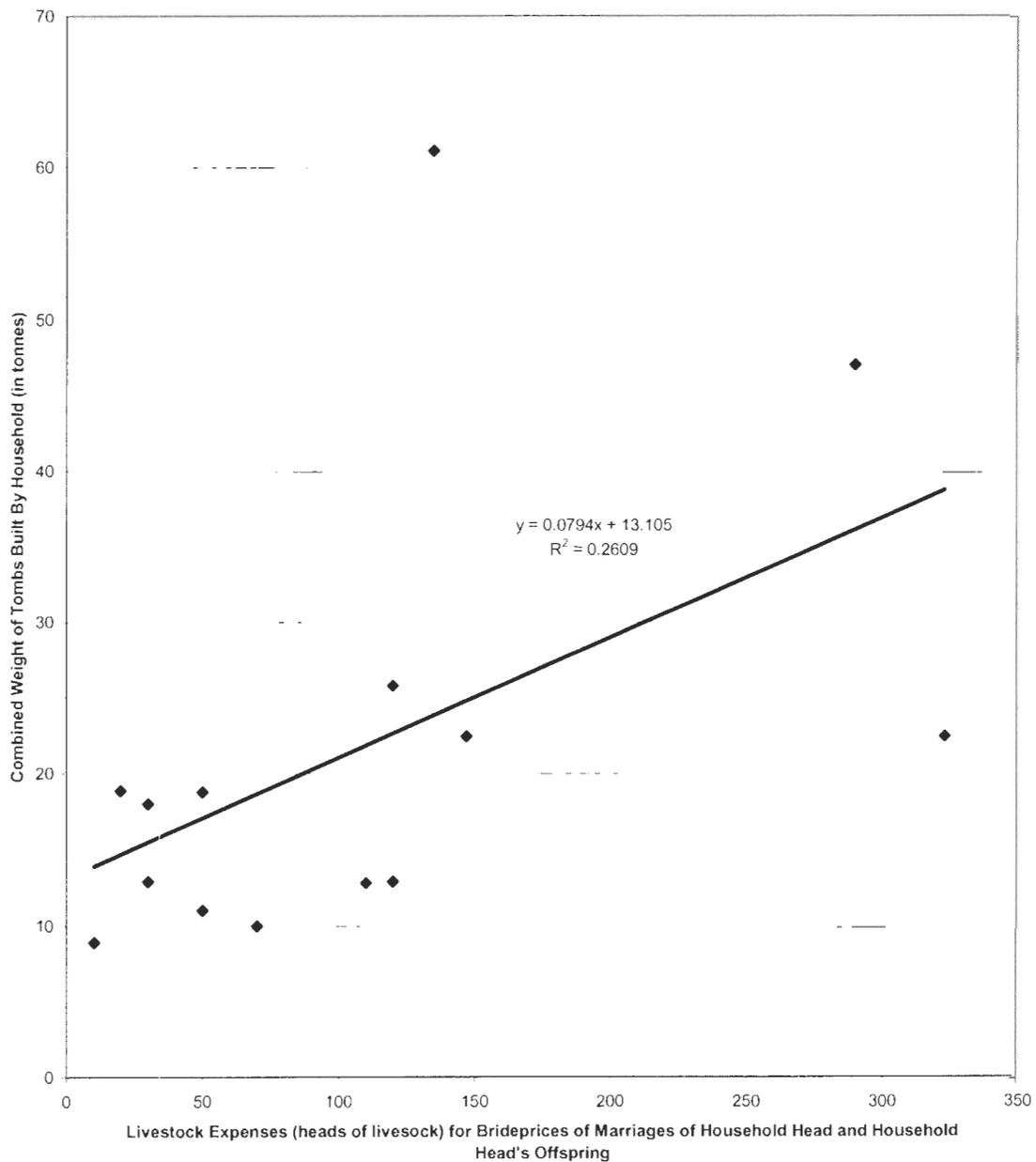


**Figure 5.27: Comparison of Household Wealth between Tomb Building Households and non-Tomb Building Households (Kodi households only) (N=21)**



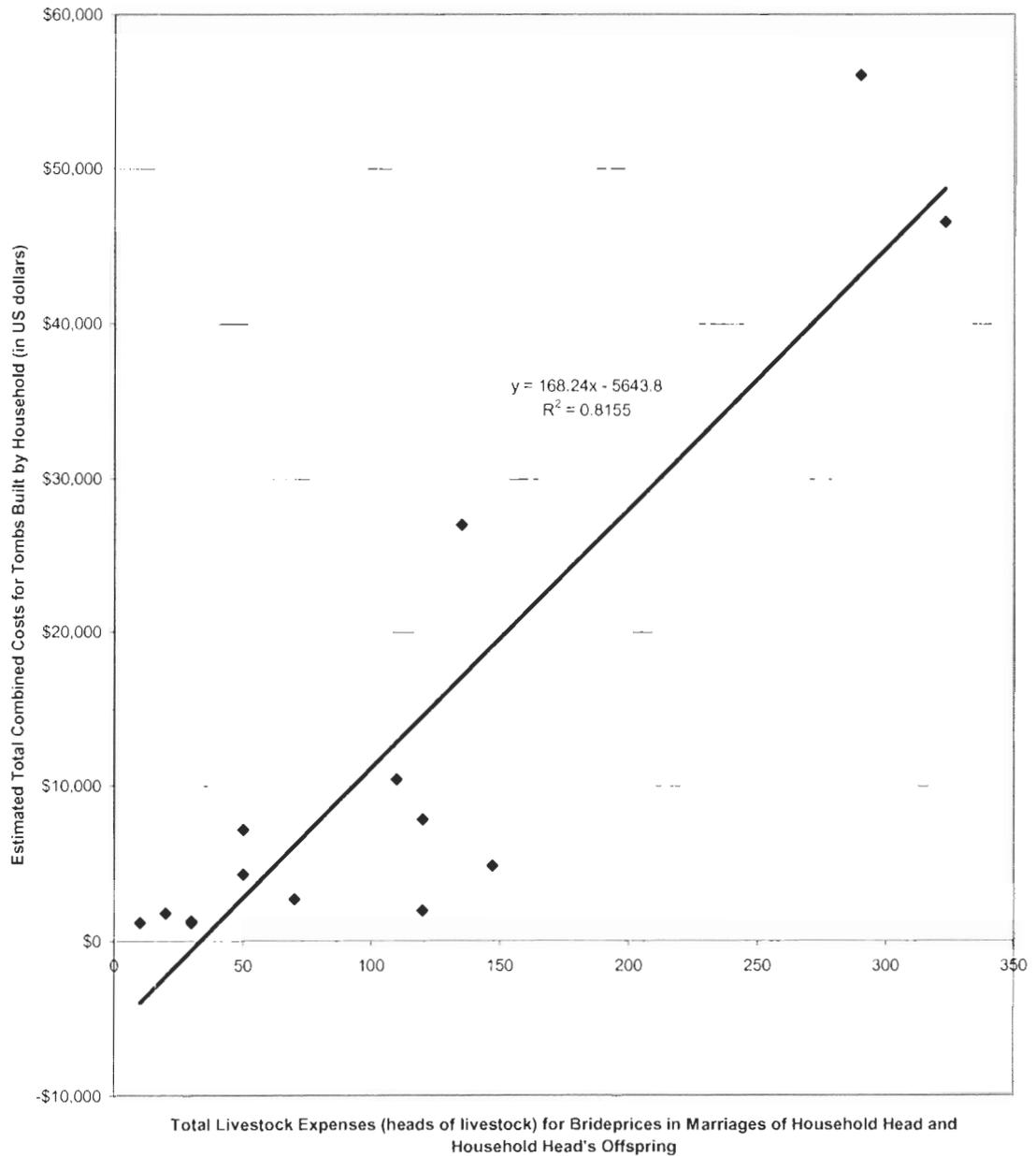
**Figure 5.28: Comparison of Household Brideprice Expenses and Combined Household Tomb Weights**

Correlation Between the Total Livestock Expenses for Brideprice of Marriages of Household Head and Household Head's Offspring and the Total Estimated Combined Weight of All Tombs Built by Household (in tonnes)



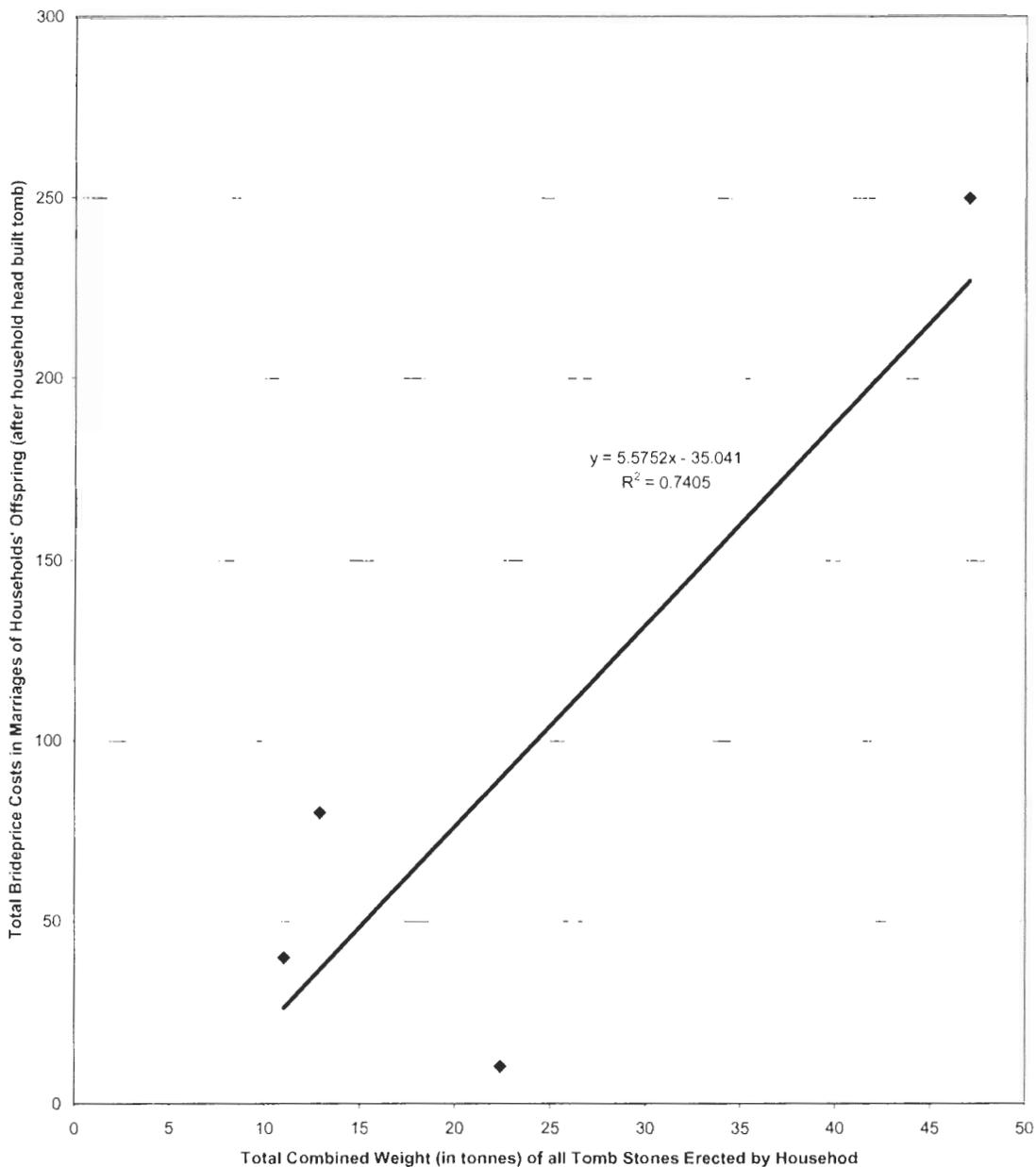
**Figure 5.29: Comparison of Household Brideprice Expenses and Combined Household Tomb Building Costs**

Correlation Between the Total Livestock Expenses for Brideprices in Marriage of Household Head and Household Head's Offspring and the Estimated Total Combined Costs of Tombs Built by Household (in US dollars)

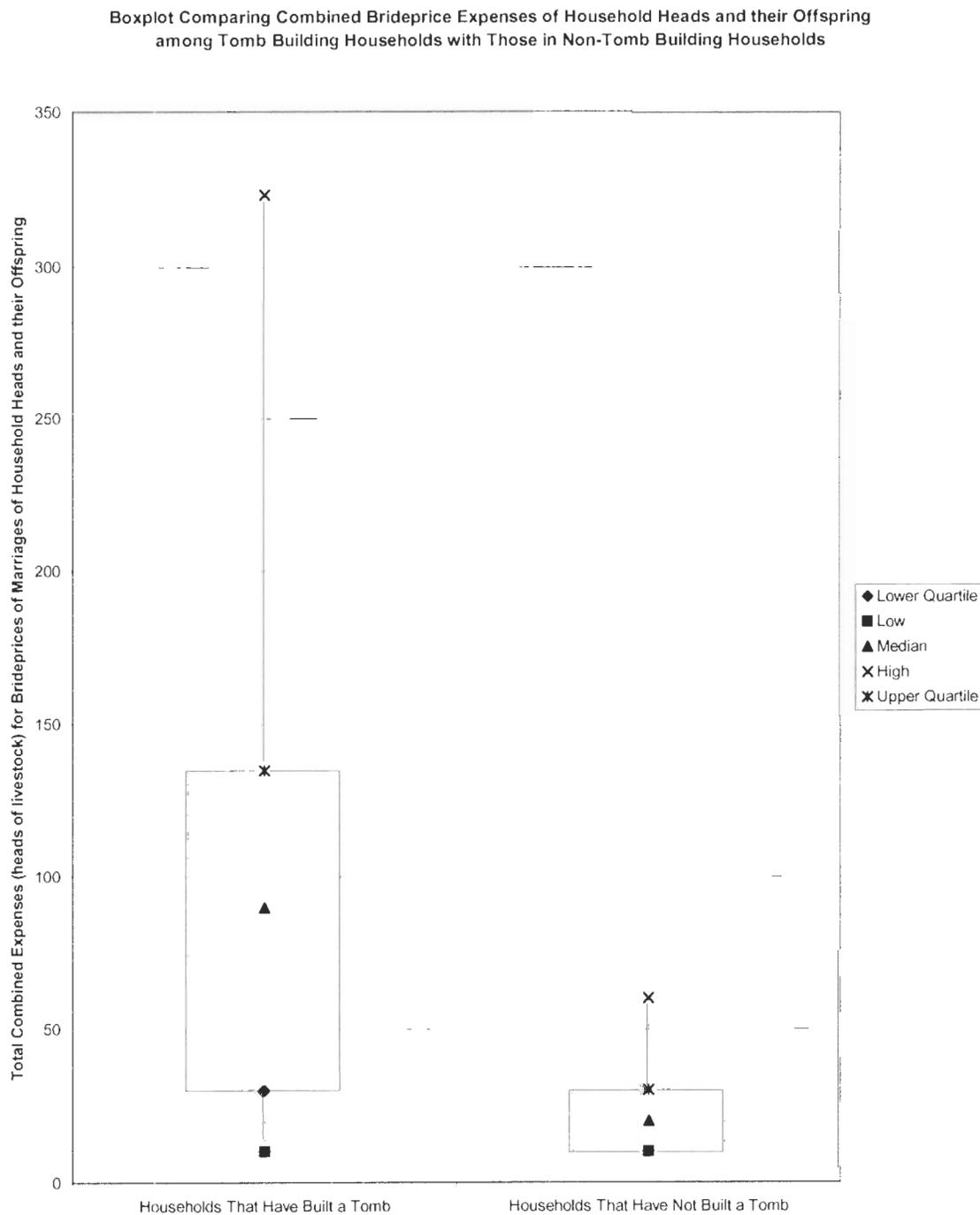


**Figure 5.30: Comparison of Combined Household Tomb Weights and Total Household Brideprice Costs (after household head built tomb)**

Correlation between the Combined Weight (in tonnes) of all Tomb Stones Erected by Households and the total Brideprice Costs in Marriages of Households' Offspring (after household head built tomb)

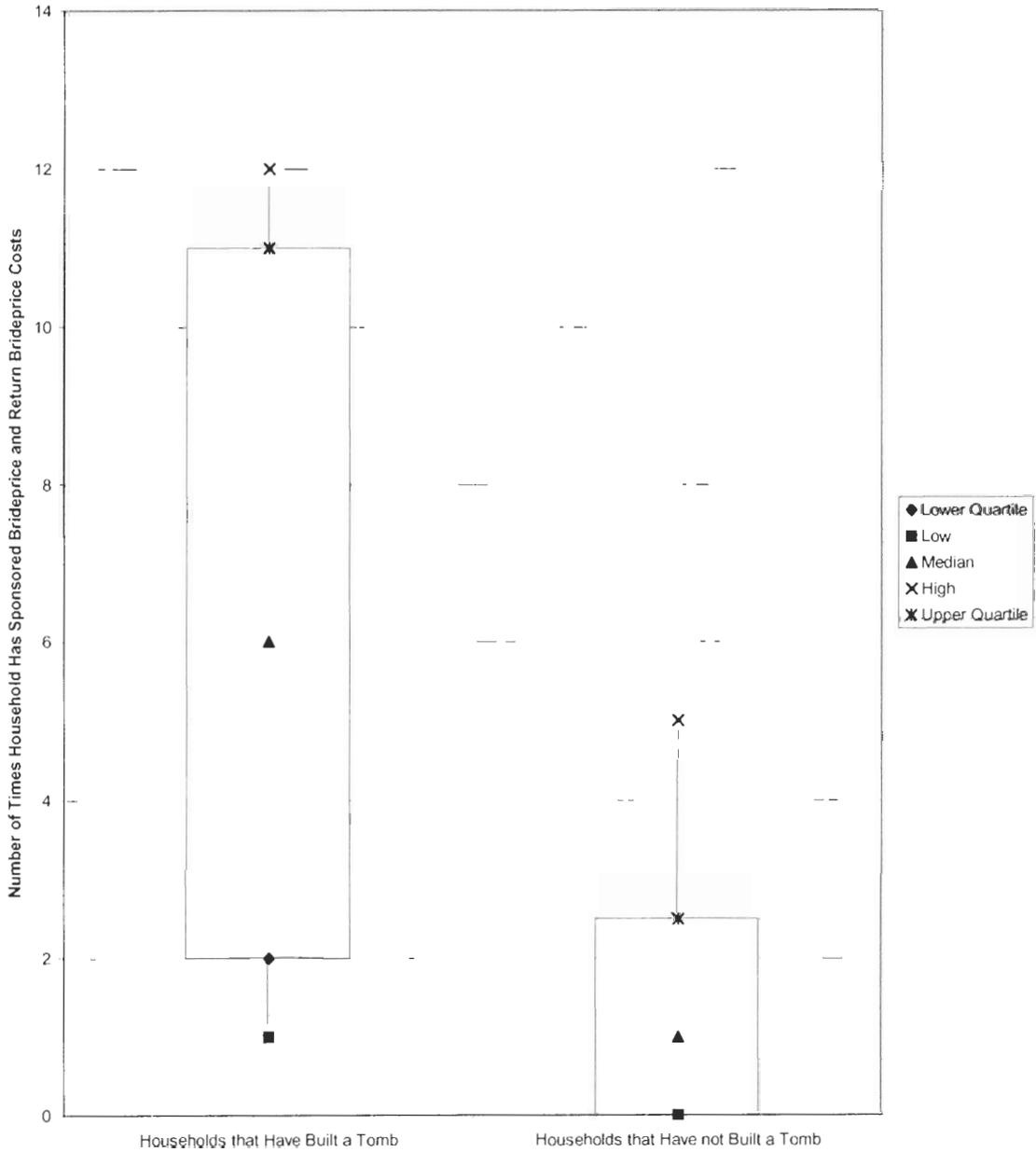


**Figure 5.31: Comparison of Household Brideprice Expenses between Tomb Building Households and non-Tomb Building Households**



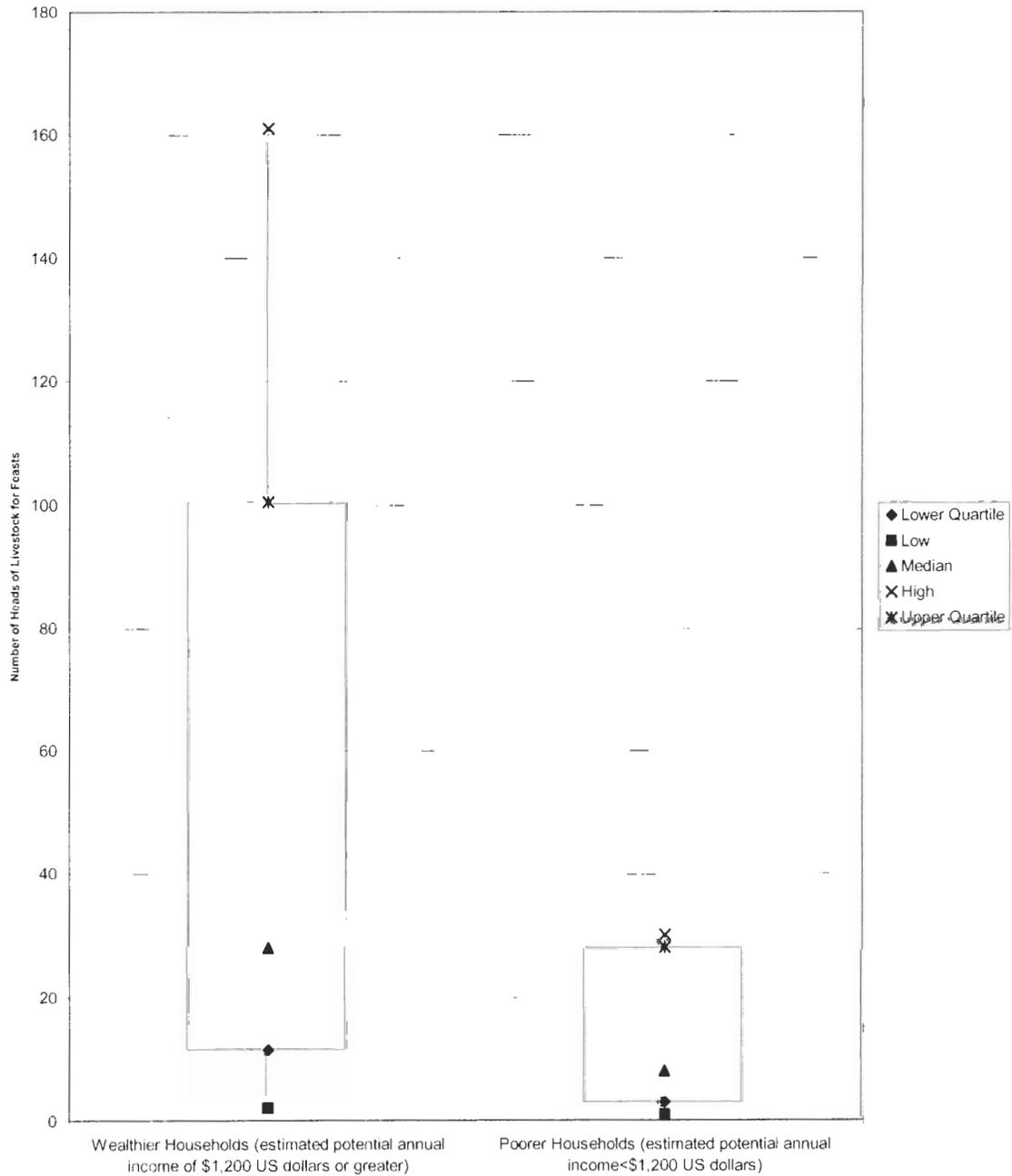
**Figure 5.32: Comparison of Household Brideprice/Return  
Bridprice Sponsoring between Tomb Building Households and  
non-Tomb Building Households**

Boxplot Comparing Number of Times Household has Sponsored Brideprice and Return  
Brideprice Costs Among Tomb Building Households with Those among Households that Have  
not Built a Tomb

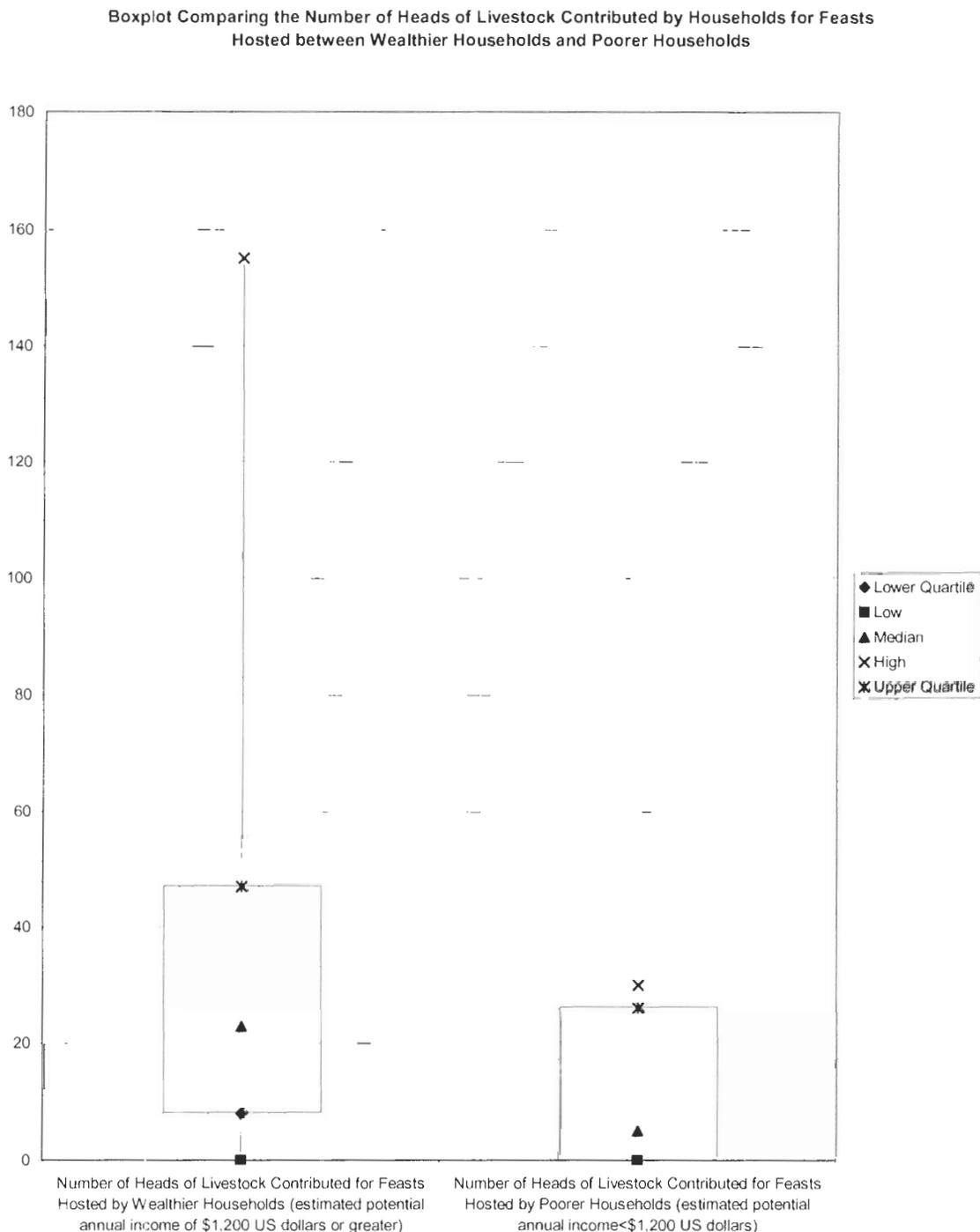


**Figure 5.33: Comparison of Household Livestock Investments in all Feasts and Household Wealth**

Boxplot Comparing Household Livestock Investments in Feasts Hosted and Feasts Attended in past 10 Years between Poorer and Wealthier Households

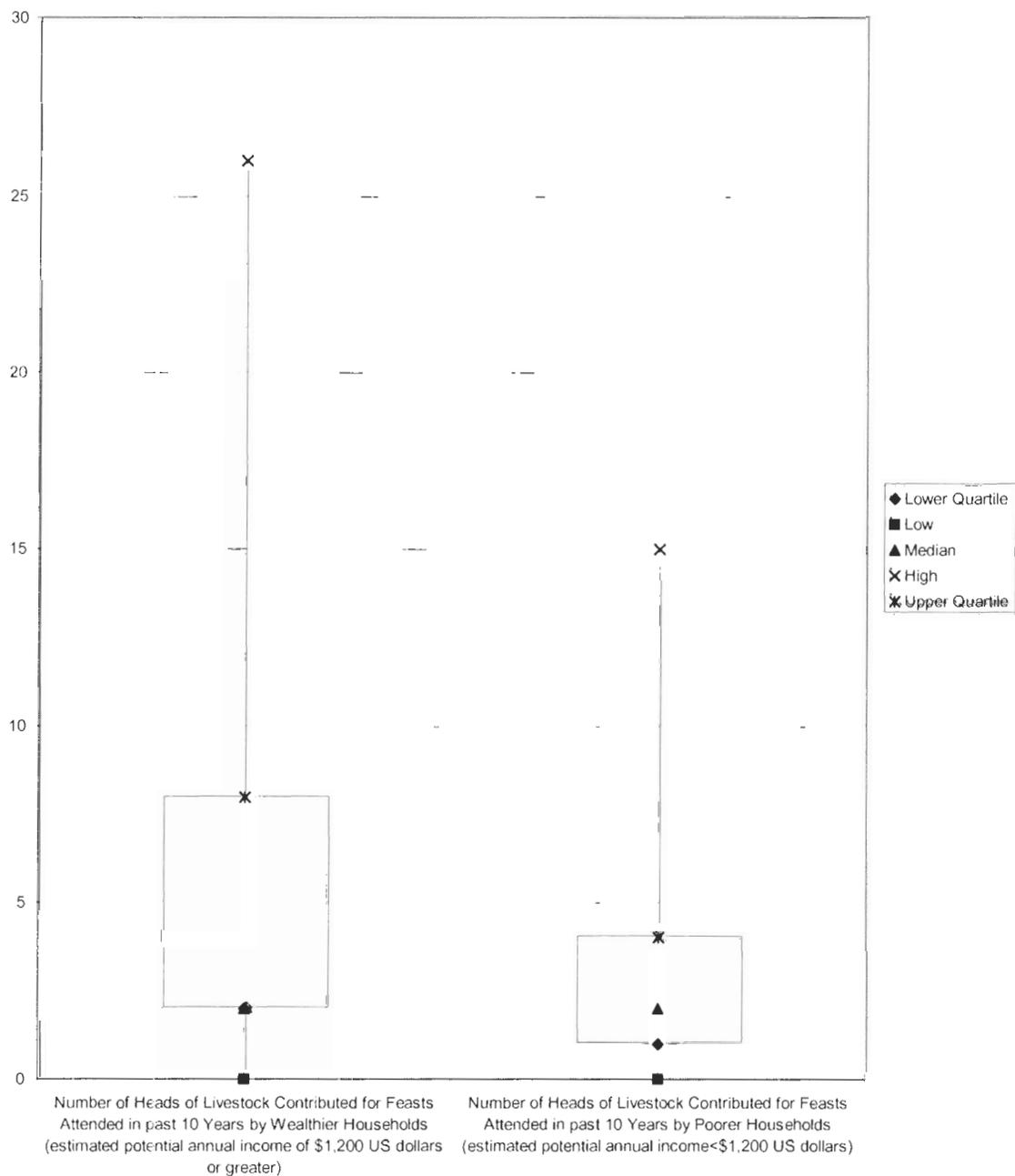


**Figure 5.34: Comparison of Household Livestock Investments in all Feasts Hosted and Household Wealth**



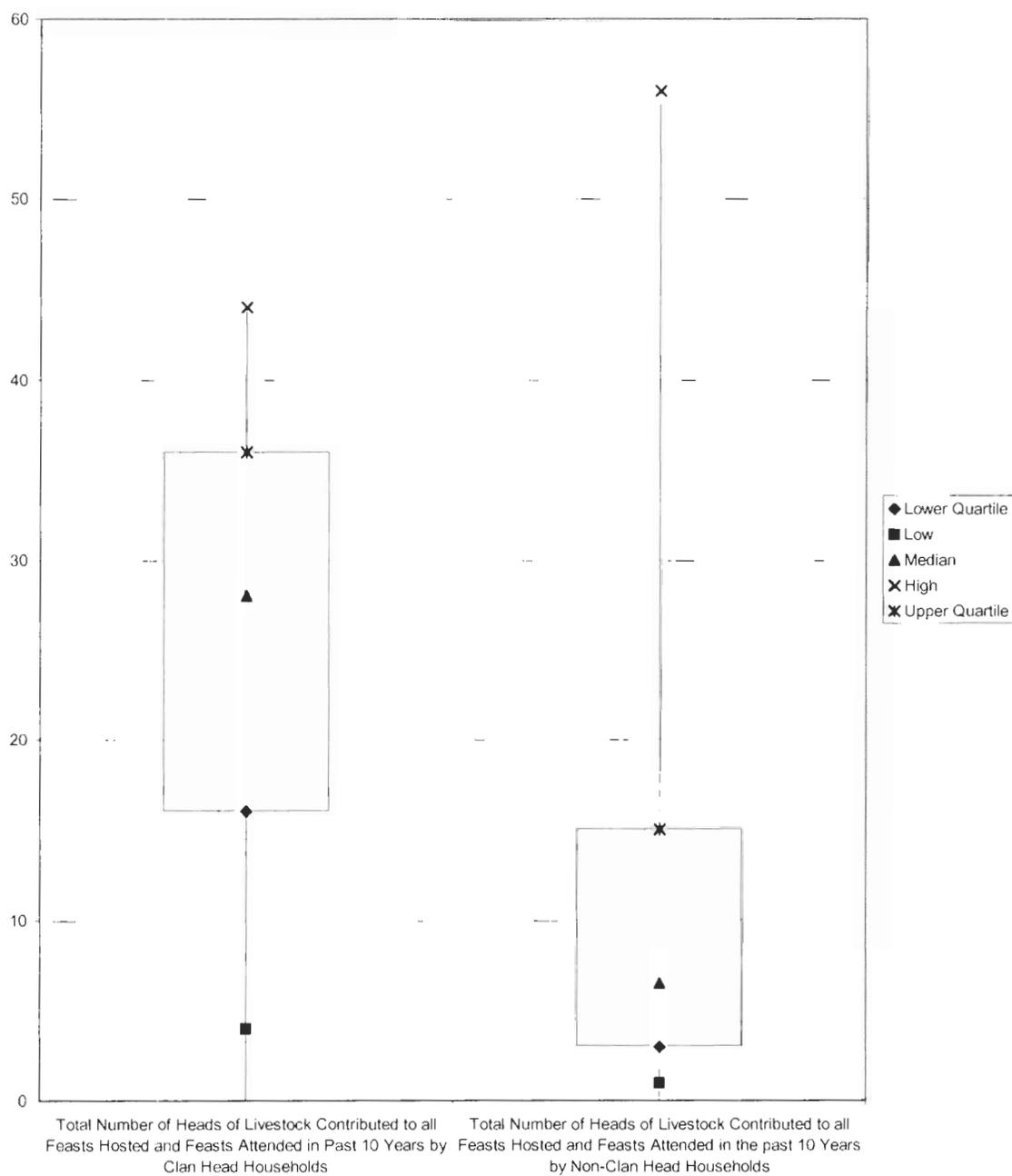
**Figure 5.35: Comparison of Household Livestock Investments in Feasts Attended and Household Wealth**

Boxplot Comparing Household Livestock Investments in Feasts Attended in past 10 Years between Wealthier Households and Poorer Households



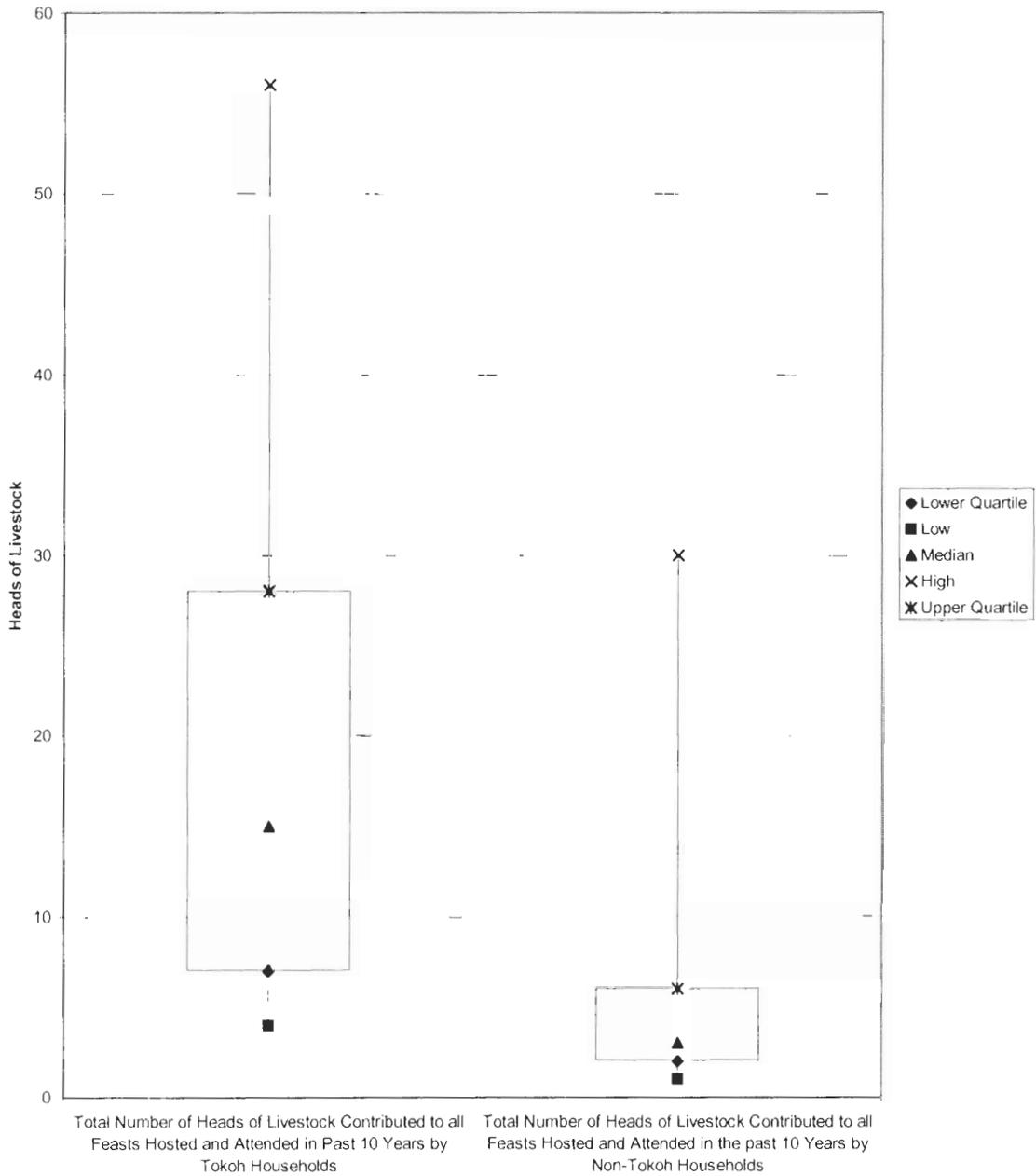
**Figure 5.36: Comparison of Livestock Investments in all Feasts between Clan Head and non-Clan Head Households**

Boxplot Comparing Household Livestock Investments for all Feasts (excluding feasts for household's own tomb) between Clan Head and non-Clan Head Households

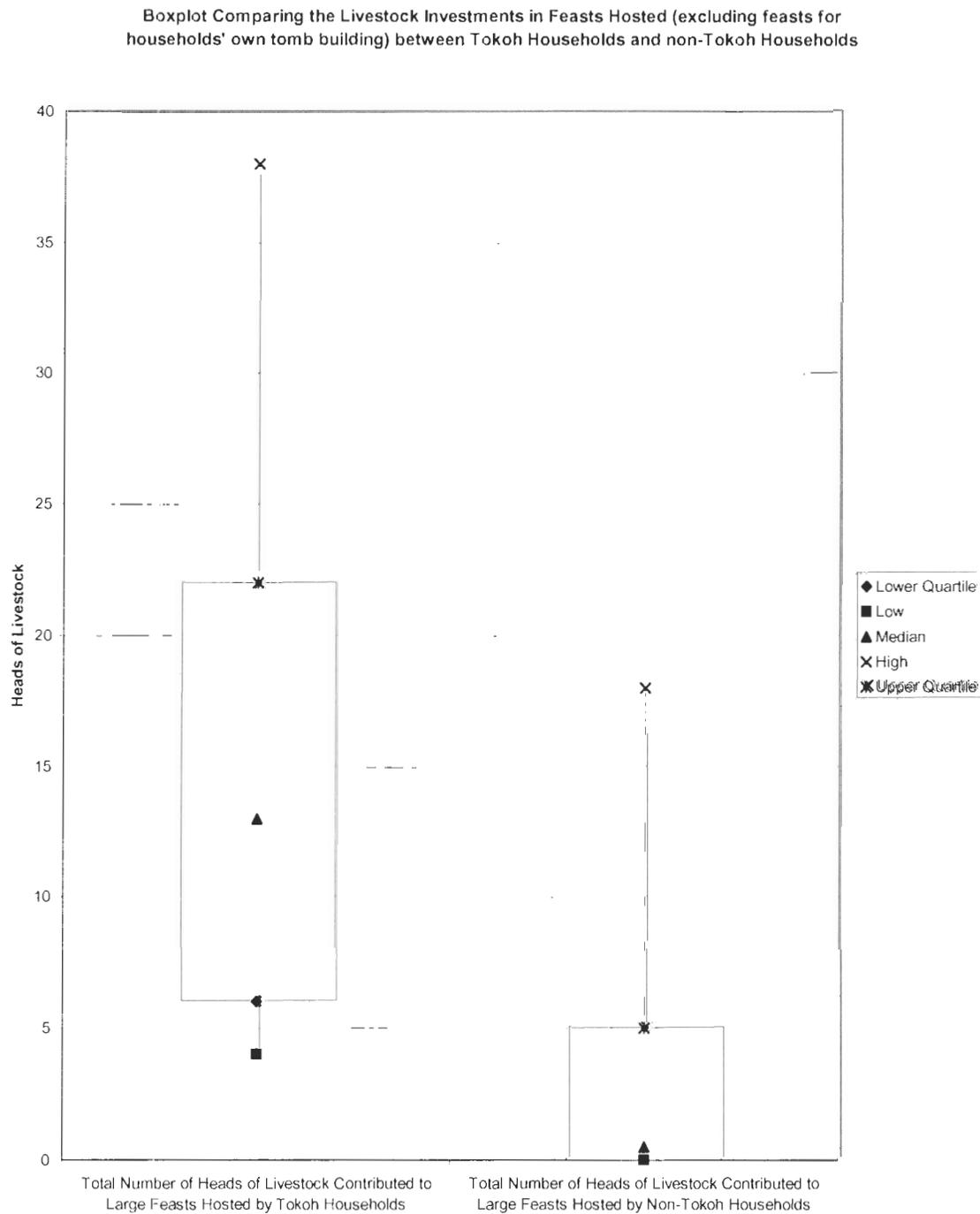


**Figure 5.37: Comparison of Household Contributions to all Feasts (excluding feasts for households' own tomb building) between *Tokoh* Households and non-*Tokoh* Households**

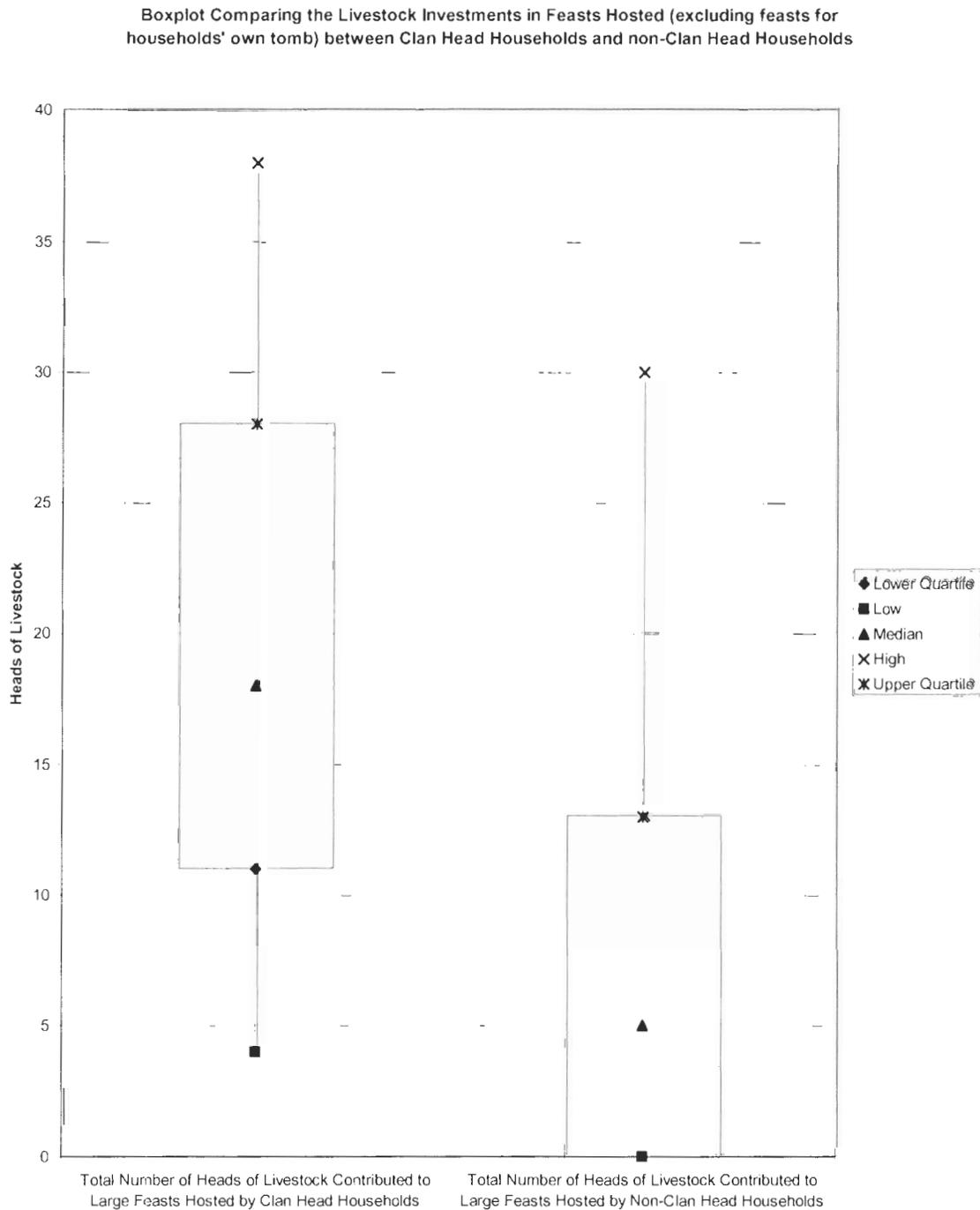
Boxplot Comparing Household Contributions to all Feasts (excluding feasts for households' own tomb building) between Tokoh Households and non-Tokoh Households



**Figure 5.38: Comparison of Livestock Investments in Feasts Hosted (excluding feasts for households' own tomb building) between *Tokoh* Households and non-*Tokoh* Households**

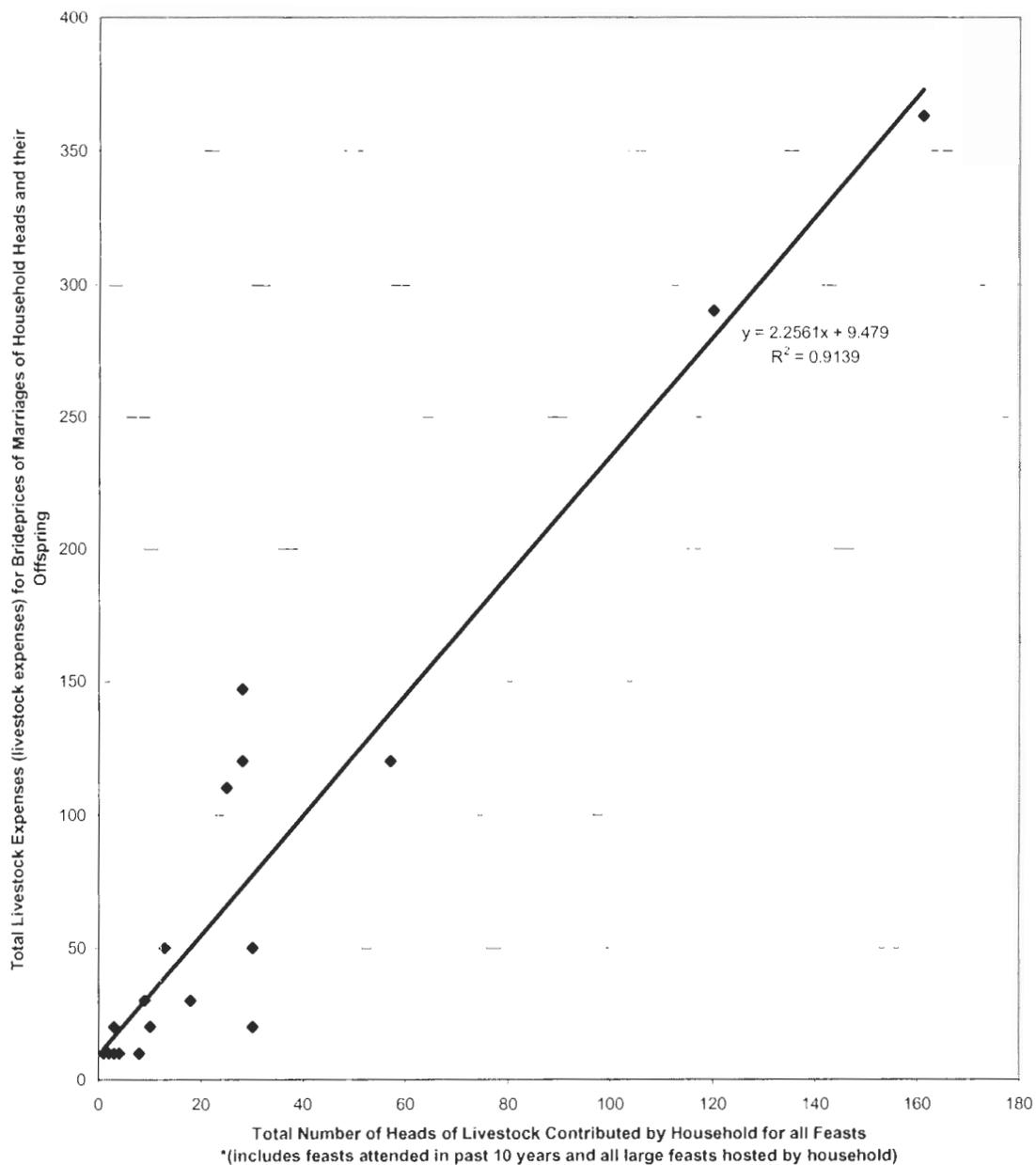


**Figure 5.39: Comparison of Livestock Investments in Feasts Hosted (excluding feasts for households' own tomb) between Clan Head Households and non-Clan Head Households**



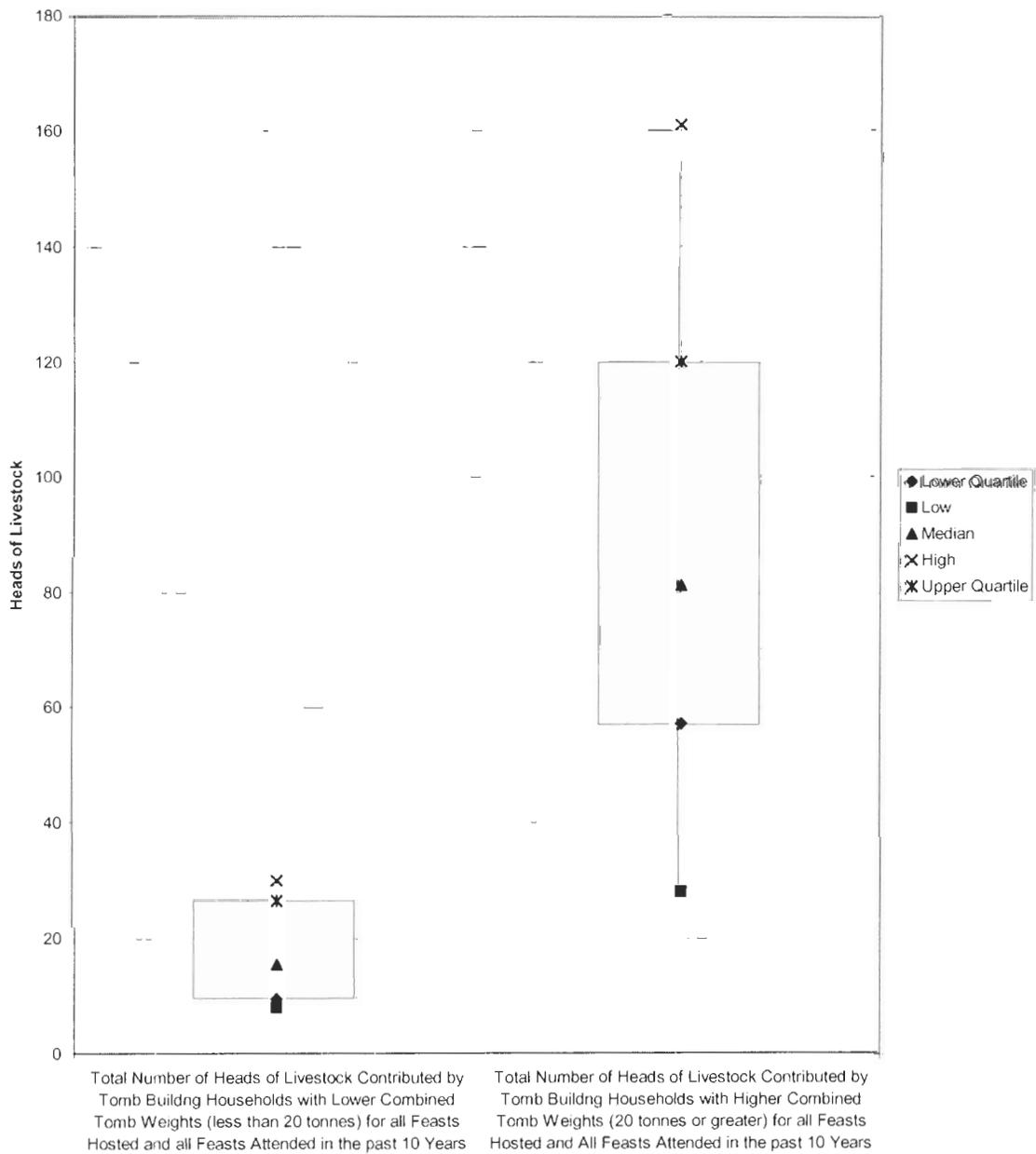
**Figure 5.40: Comparison of the Number of Heads of Livestock Contributed by Household for all Feasts and the Livestock Expenses for Brideprices of Marriages of Household Heads and their Offspring**

Correlation Between the Number of Heads of Livestock Contributed by Household for all Feasts\* and the Livestock Expenses (heads of livestock) for Brideprices of Marriages of Household Heads and their Offspring



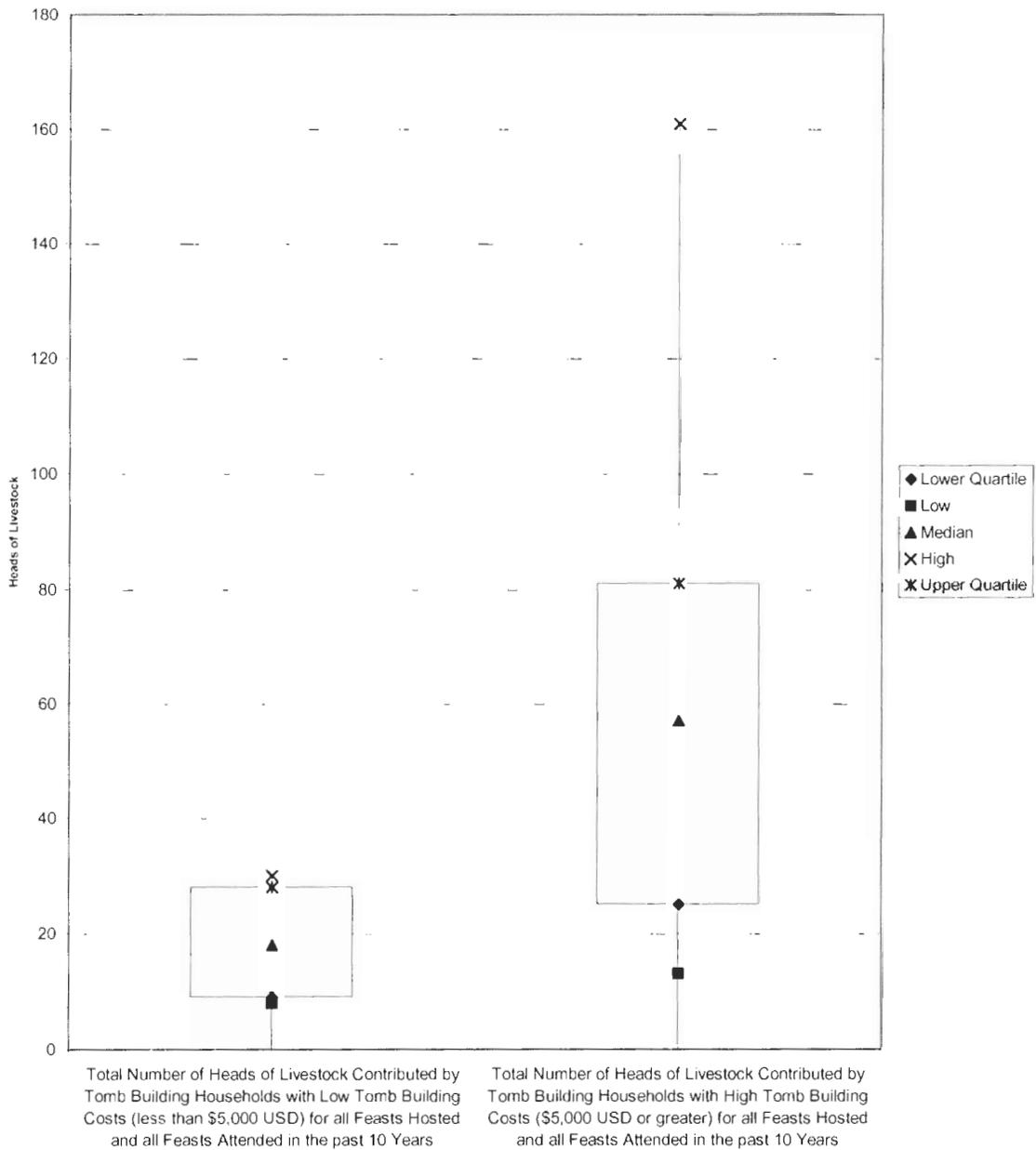
**Figure 5.41: Comparison of Livestock Investments in All Feasts between Tomb Building Households with Lower Combined Tomb Weights and Tomb Building Households with Higher Combined Tomb Weights**

Boxplot Comparing Livestock Investments in All Feasts Between Tomb Building Households with Lower Combined Tomb Weights and Tomb Building Households with Higher Combined Tomb Weights

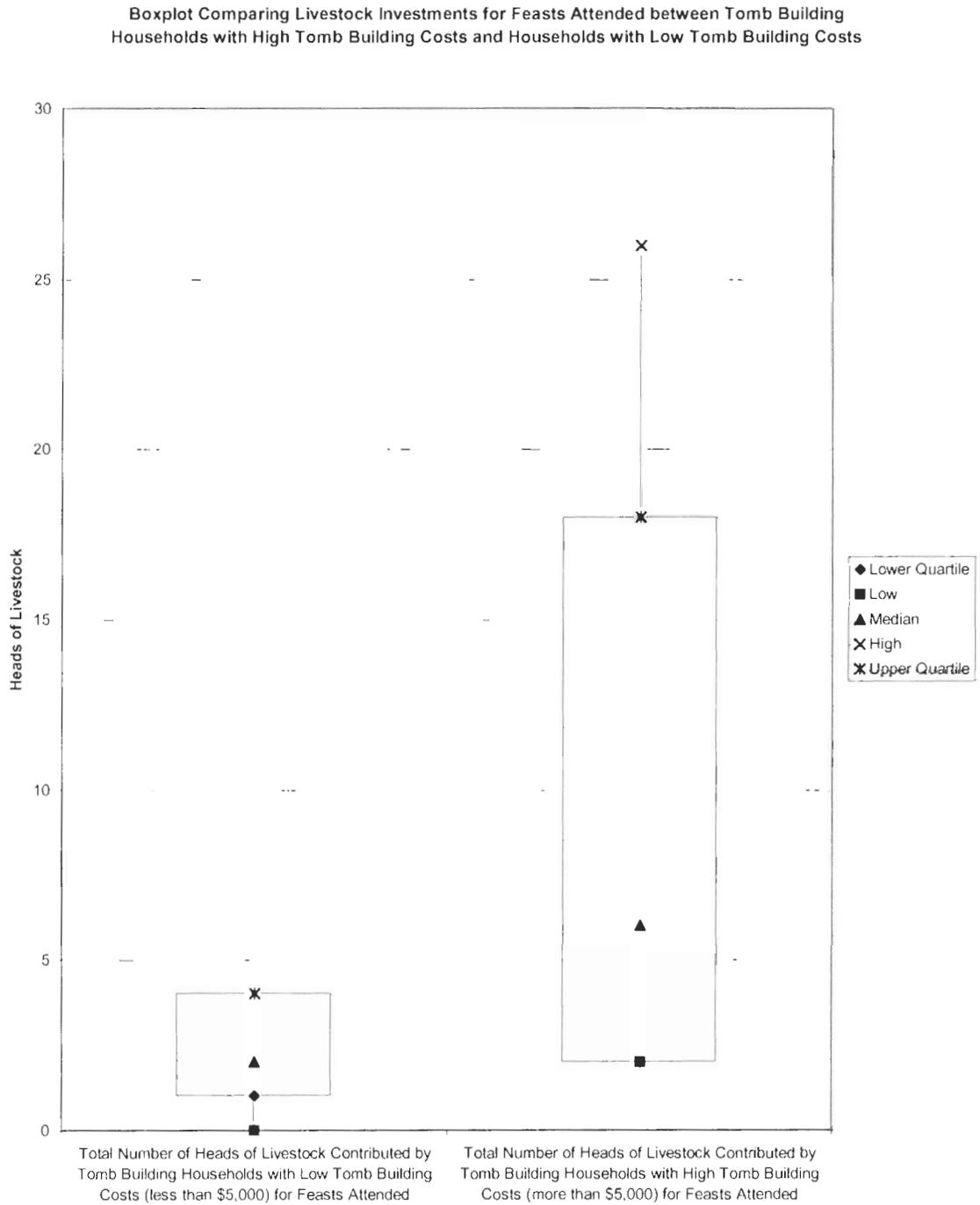


**Figure 5.42: Comparison of Household Investments in all Feasts between Tomb Building Households with Low Combined Tomb Building Costs and Tomb Building Households with High Combined Tomb Building Costs**

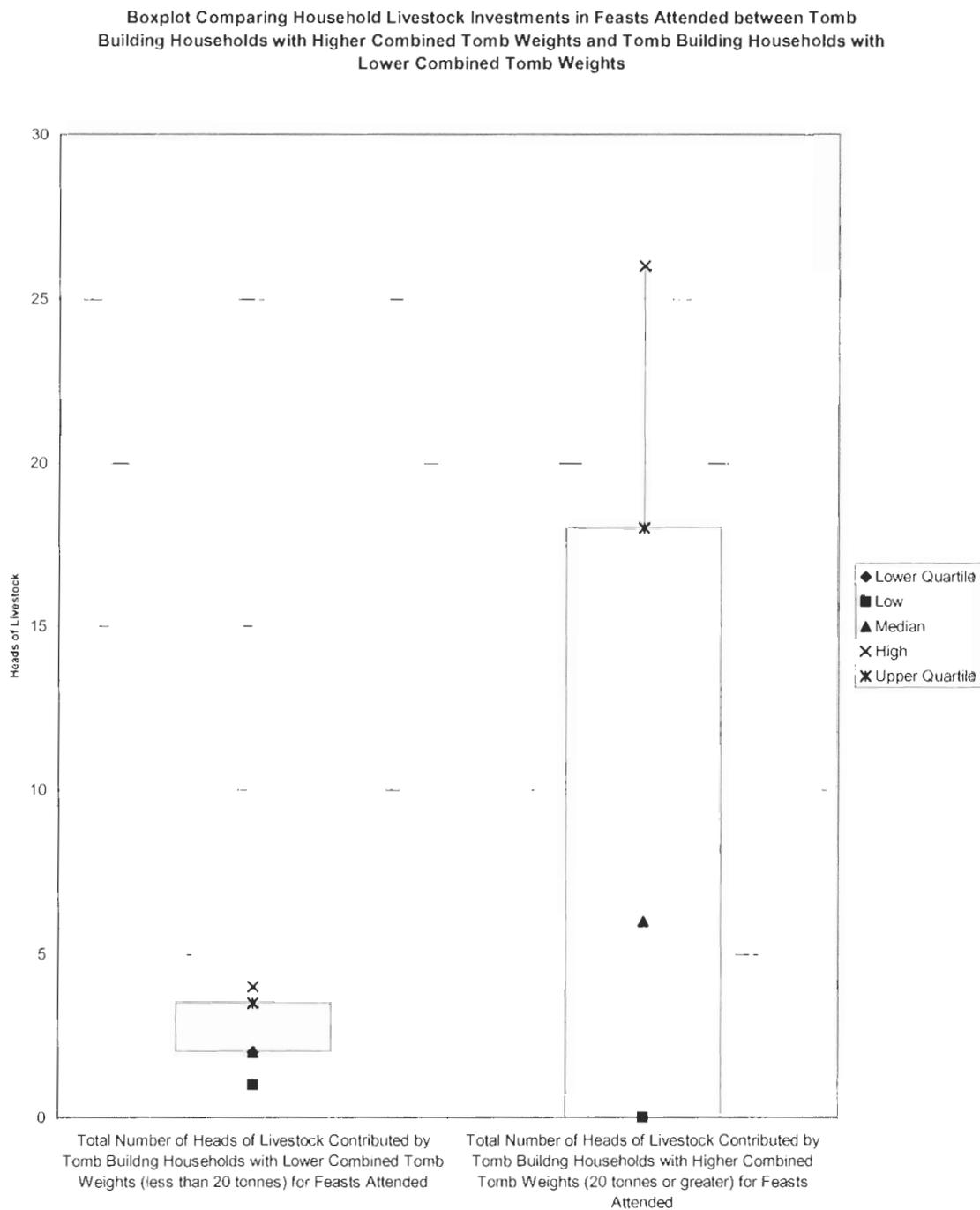
Boxplot Comparing Household Investments in All Feasts Between Tomb Building Households with Low Combined Tomb Building Costs and Tomb Building Households with High Combined Tomb Building Costs



**Figure 5.43: Comparison of Livestock Investments for Feasts Attended between Tomb Building Households with Low Tomb Building Costs and Households with High Tomb Building Costs**

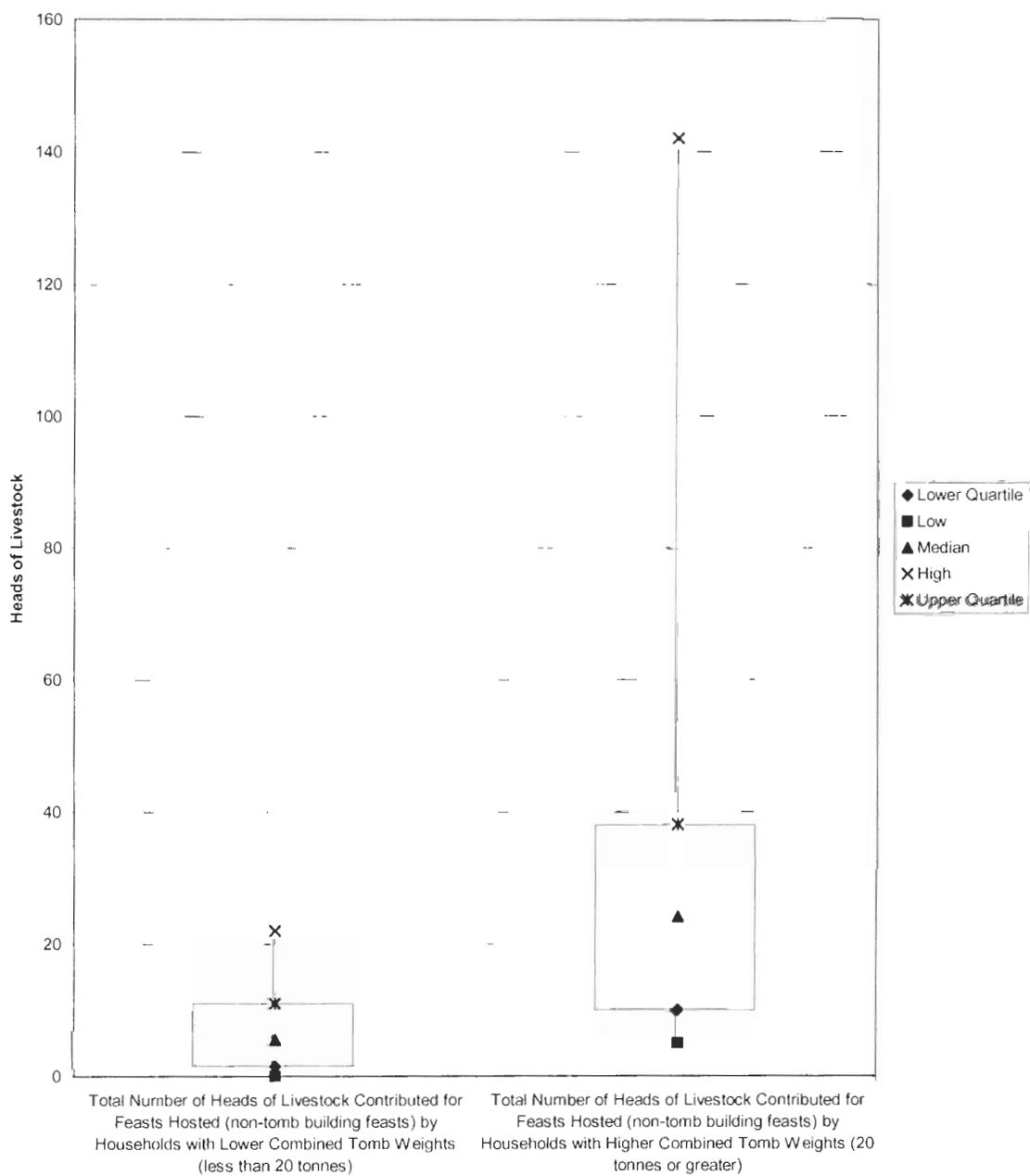


**Figure 5.44: Comparison of Household Livestock Investments in Feasts Attended between Tomb Building Households with Higher Combined Tomb Weights and Tomb Building Households with Lower Combined Tomb Weights**



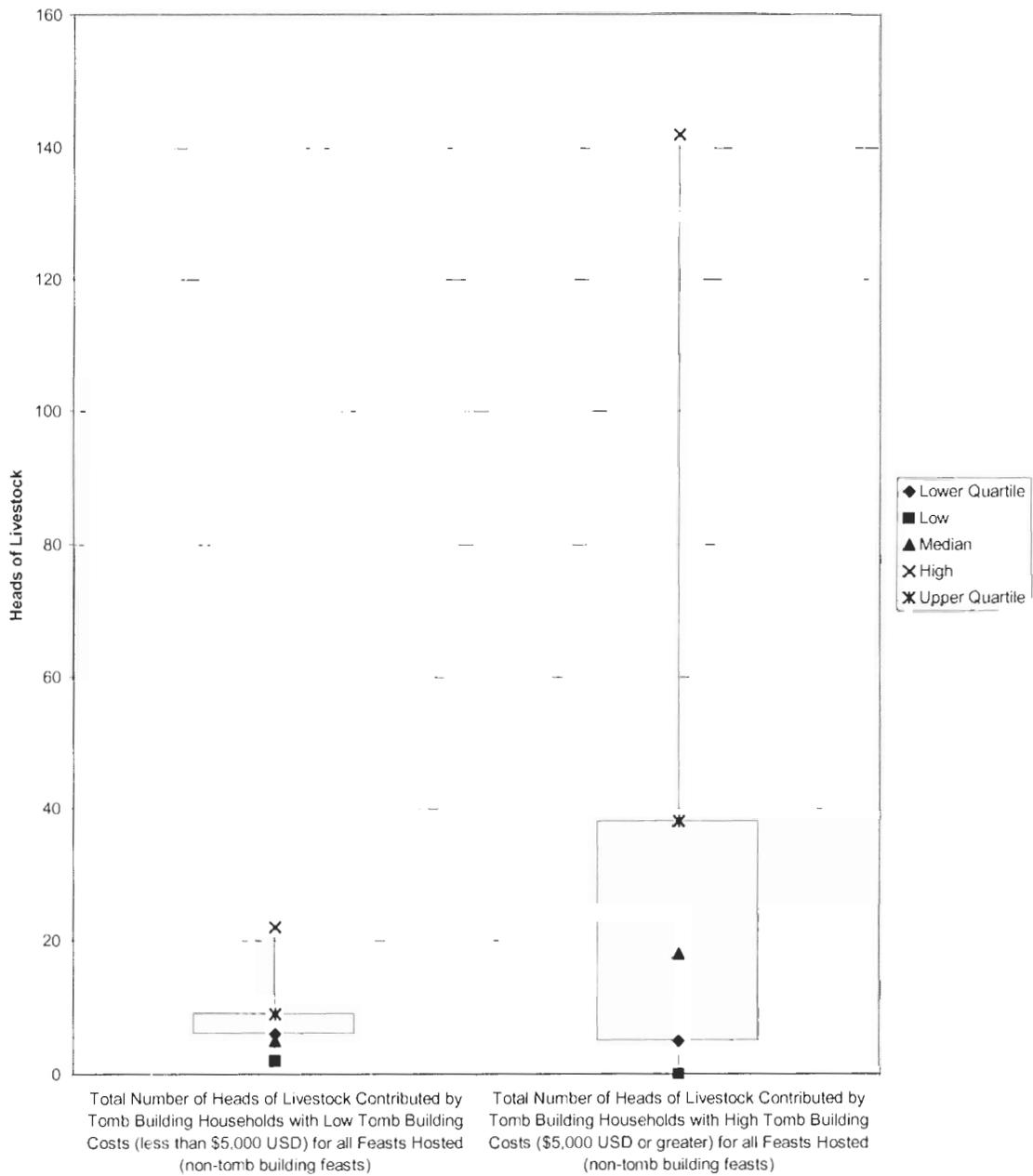
**Figure 5.45: Comparison of Investments in Feasts Hosted (non-tomb building feasts) between Households with Lower Combined Tomb Weights and Households with Higher Combined Tomb Weights**

Boxplot Comparing Investments in Feasts Hosted (non-tomb building feasts) Between Households with Lower Combined Tomb Weights and Households with Higher Combined Tomb Weights

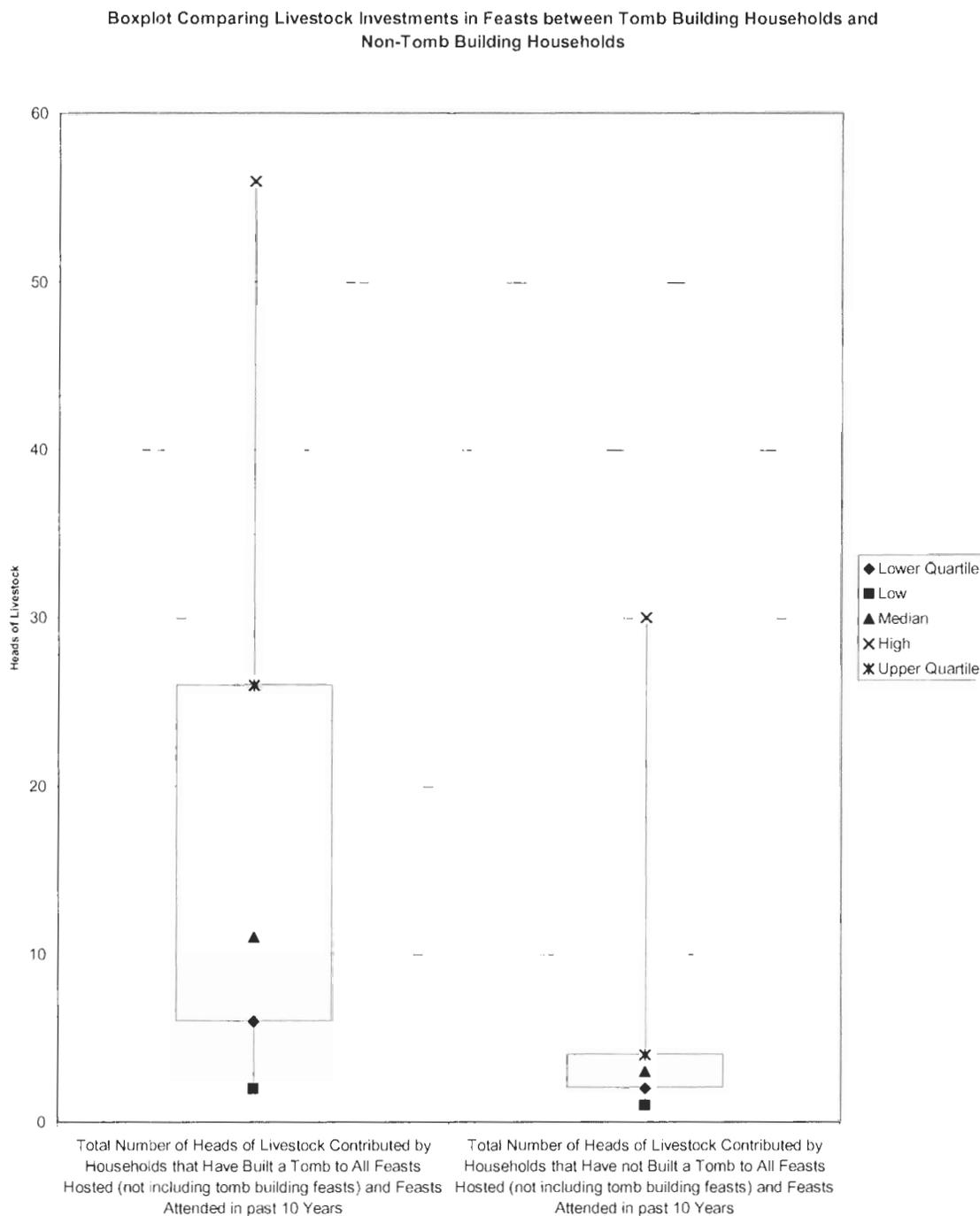


**Figure 5.46: Comparison of Investments in Feasts Hosted (non-tomb building feasts) between Households with Low Tomb Building Costs and Households with High Tomb Building Costs**

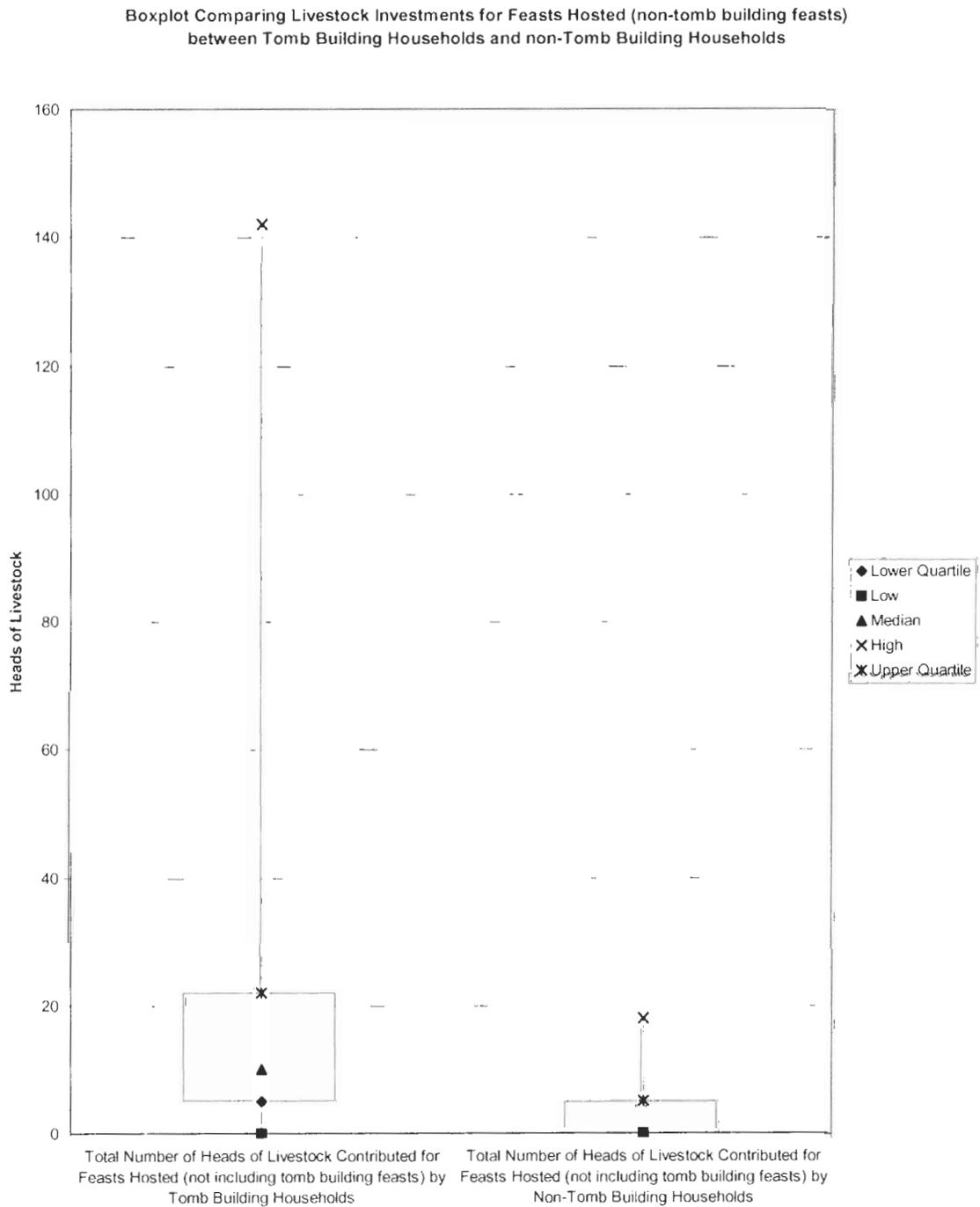
Boxplot Comparing the Investment in Feasts Hosted (non-tomb buiding feasts) between Households with Low Tomb Building Costs and Households with High Tomb Building Costs



**Figure 5.47: Comparison of Livestock Investments in Feasts between Tomb Building Households and non-Tomb Building Households**

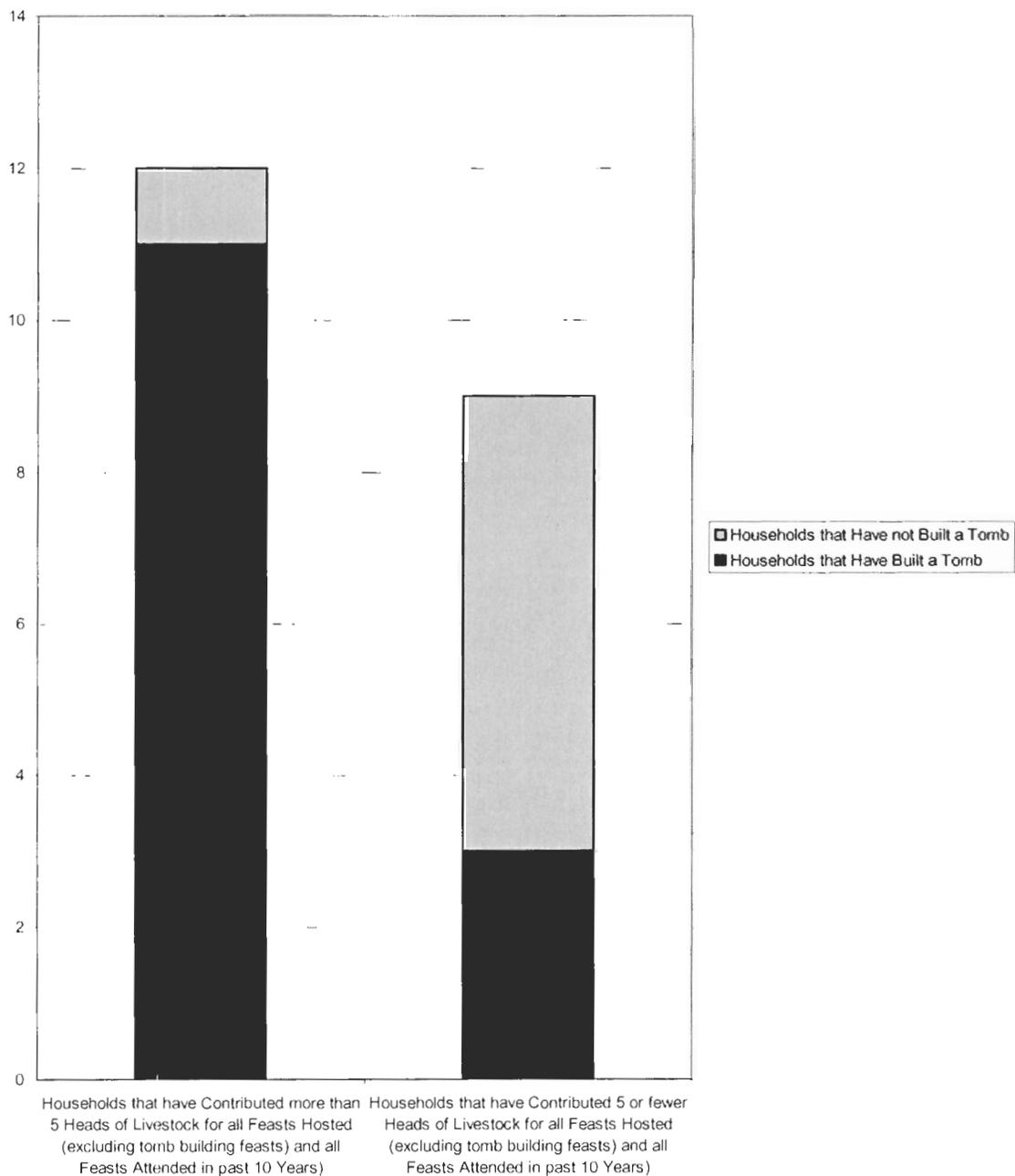


**Figure 5.48: Comparison of Livestock Investments for Feasts Hosted (non-tomb building feasts) between Tomb Building Households and non-Tomb Building Households**



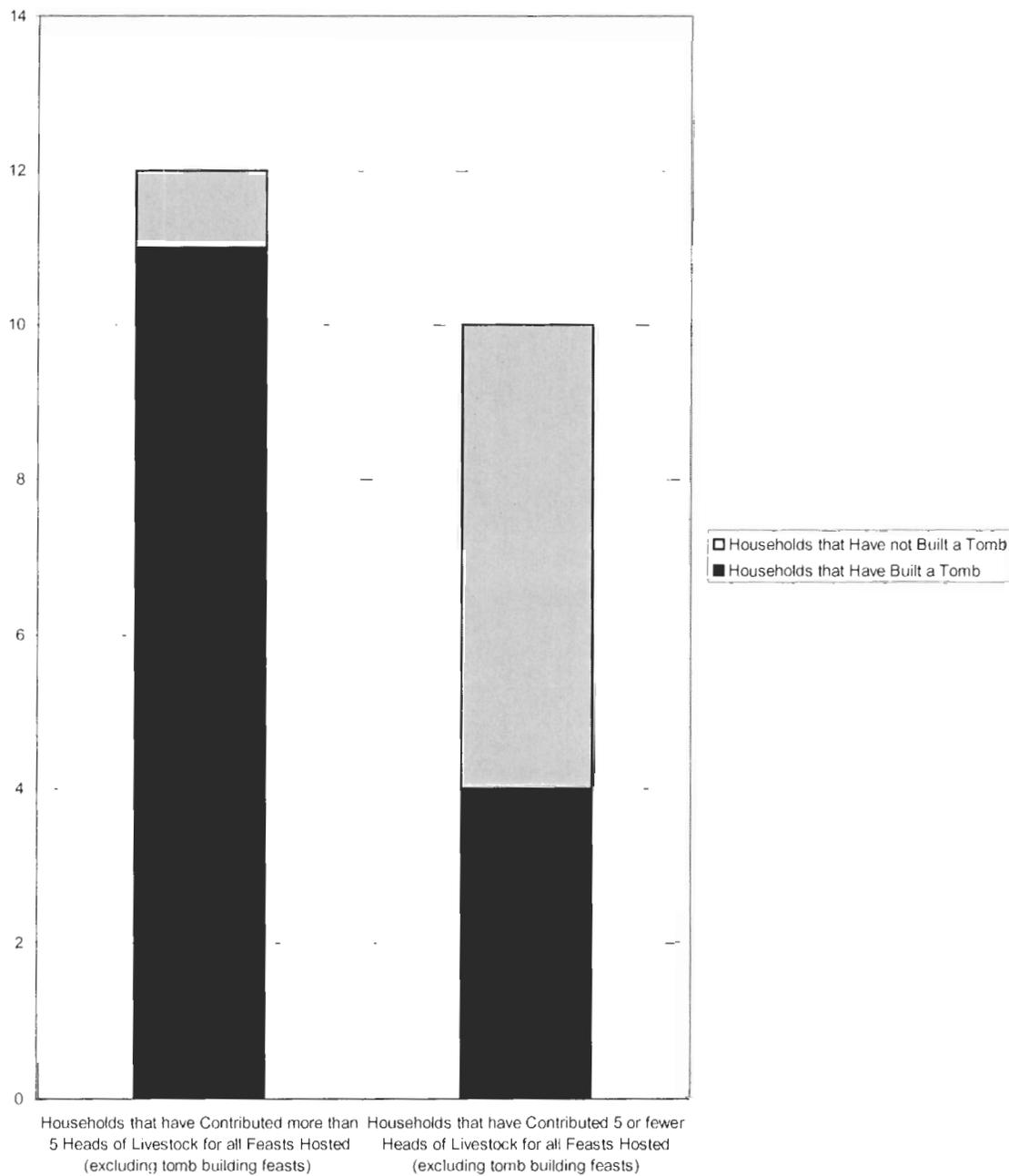
**Figure 5.49: Comparison of Tomb Building and Investments in Feasts**

Bar Chart Comparing Livestock Investments in Feasts Hosted and Attended between Tomb Building and non-Tomb Building Households

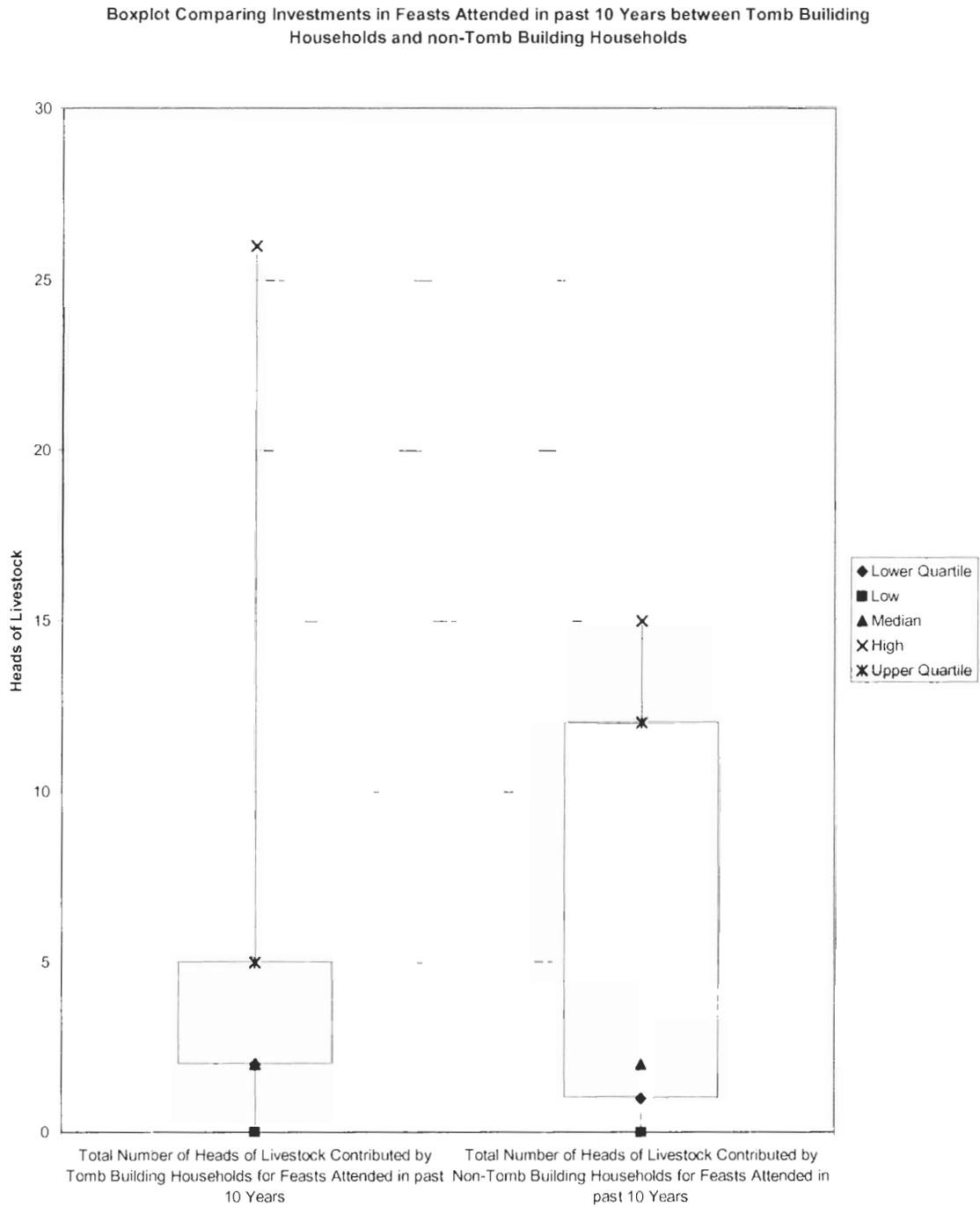


**Figure 5.50 Comparison of Tomb Building and Investments in Feasts Hosted**

Bar Chart Comparing Livestock Investments in Feasts Hosted between Tomb Building and non-Tomb Building Households

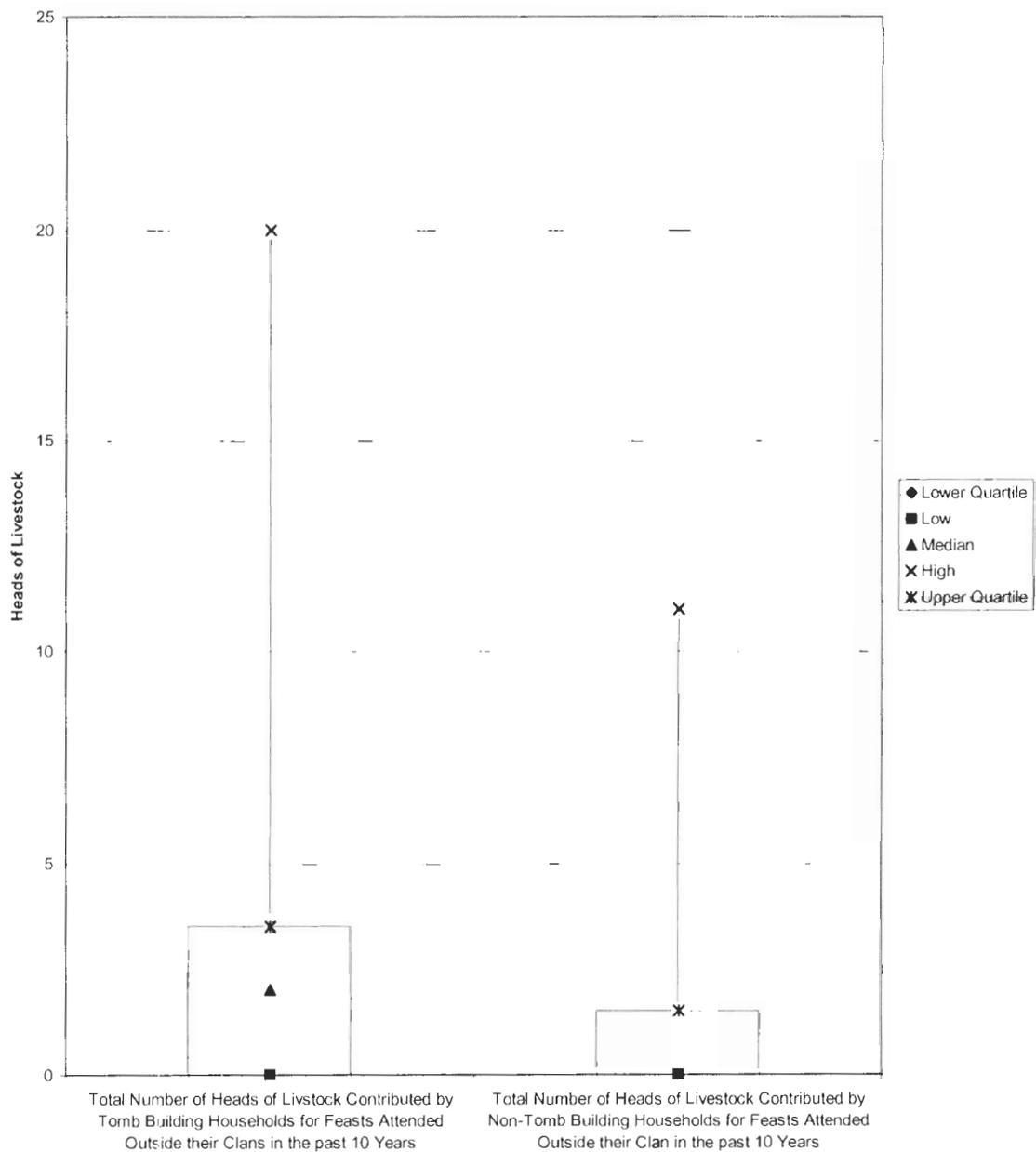


**Figure 5.51: Comparison of Tomb Building and Investments in Feasts Attended**

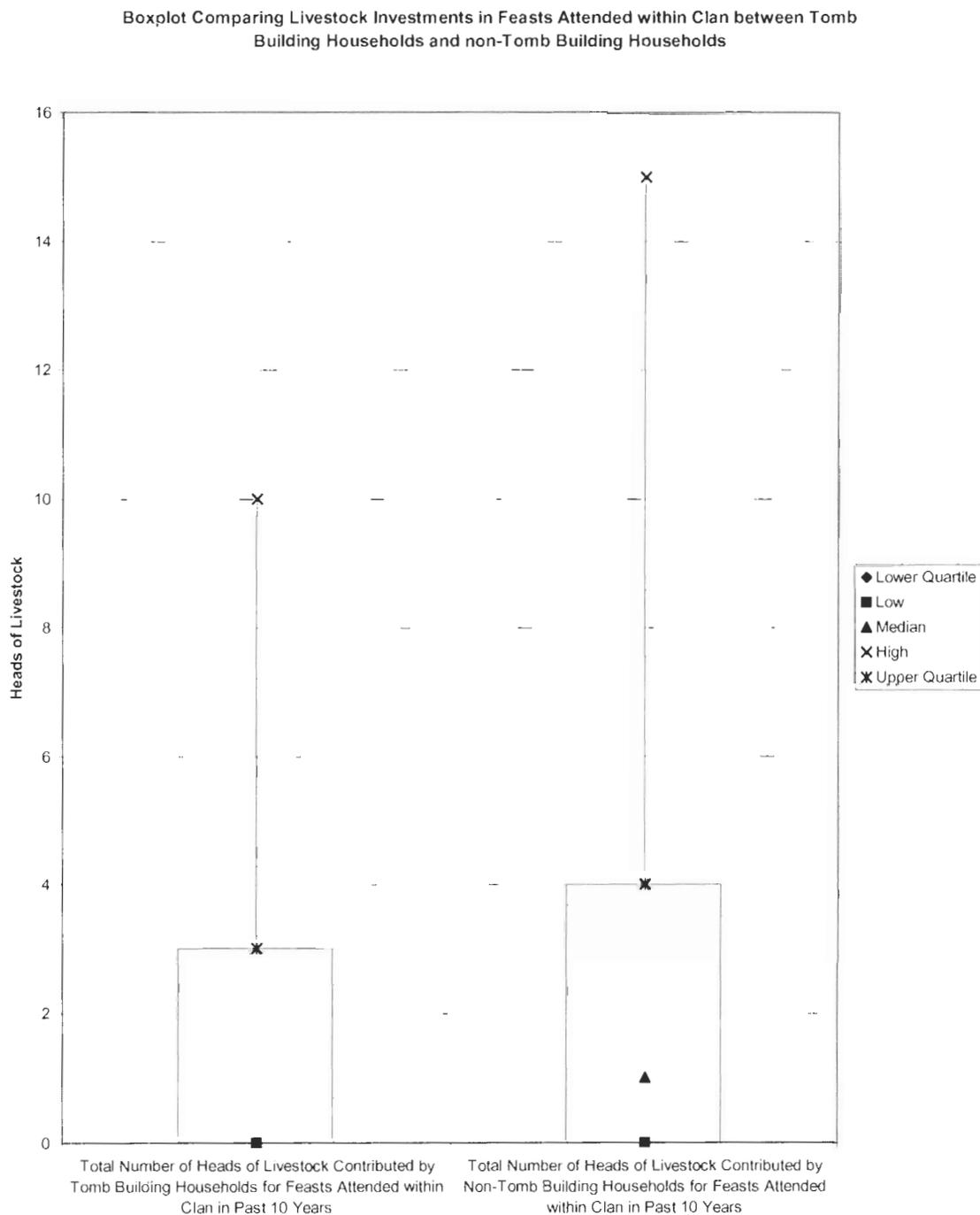


**Figure 5.52: Comparison of the Number of Heads of Livestock Contributed for Feasts Attended Outside Clan in the past 10 Years between Tomb Building Households and non-Tomb Building Households**

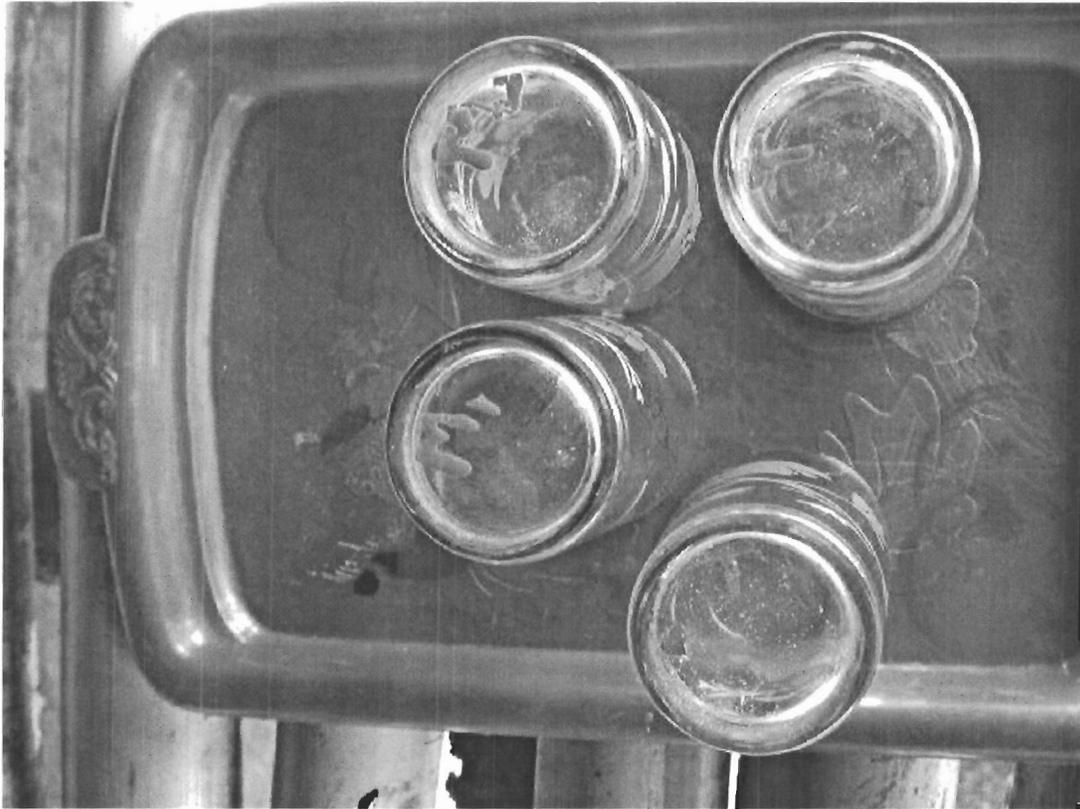
Boxplot Comparing the Number of Heads of Livestock Contributed for Feasts Attended Outside Clan in the past 10 Years between Tomb Building Households and non-Tomb Building Households



**Figure 5.53: Comparison of the Livestock Investments in Feasts Attended within Clan between Tomb Building Households and non-Tomb Building Households**

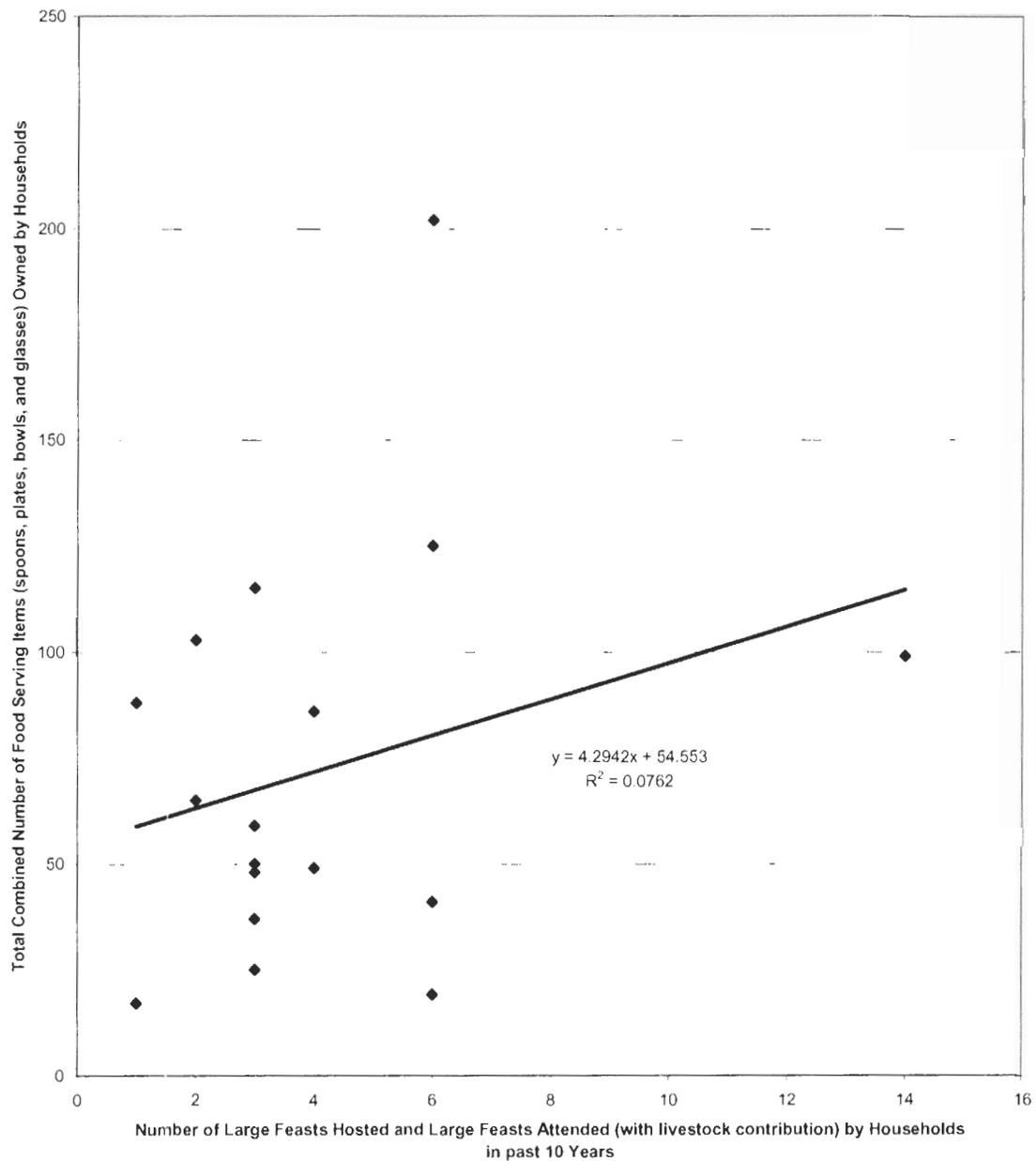


**Figure 5.54: Marks of Ownership on Glasses in Wainyapu, West Sumba (photo by R. Adams)**



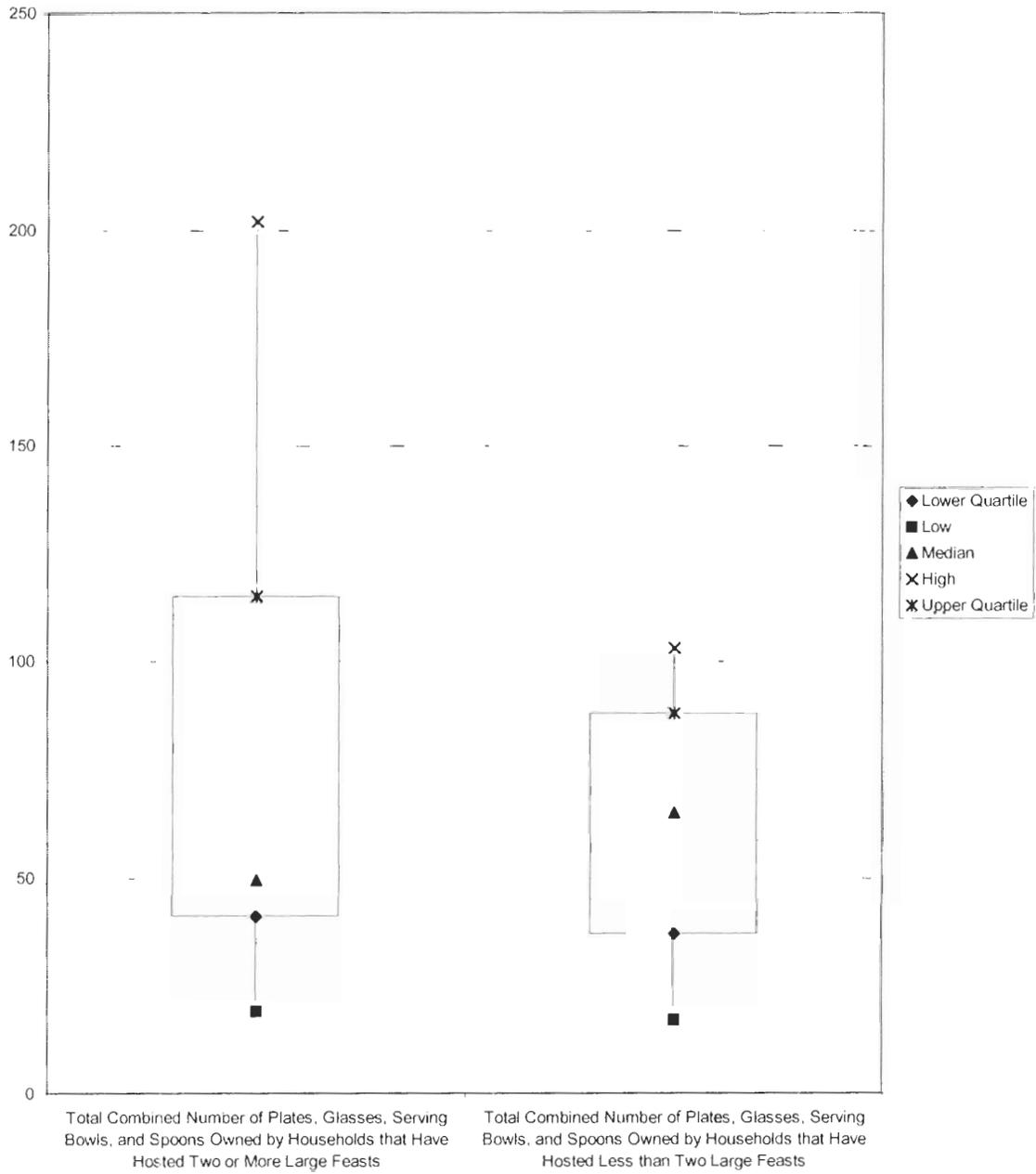
**Figure 5.55: Comparison of the Number of Large Feasts Hosted and Large Feasts Attended (with livestock contribution) by Households in past 10 Years and the total Combined Number of Food Serving Items Owned by Households**

Correlation between the Number of Large Feasts Hosted and Large Feasts Attended (with livestock contribution) by Households in past 10 Years and the total Combined Number of Food Serving Items Owned by Households



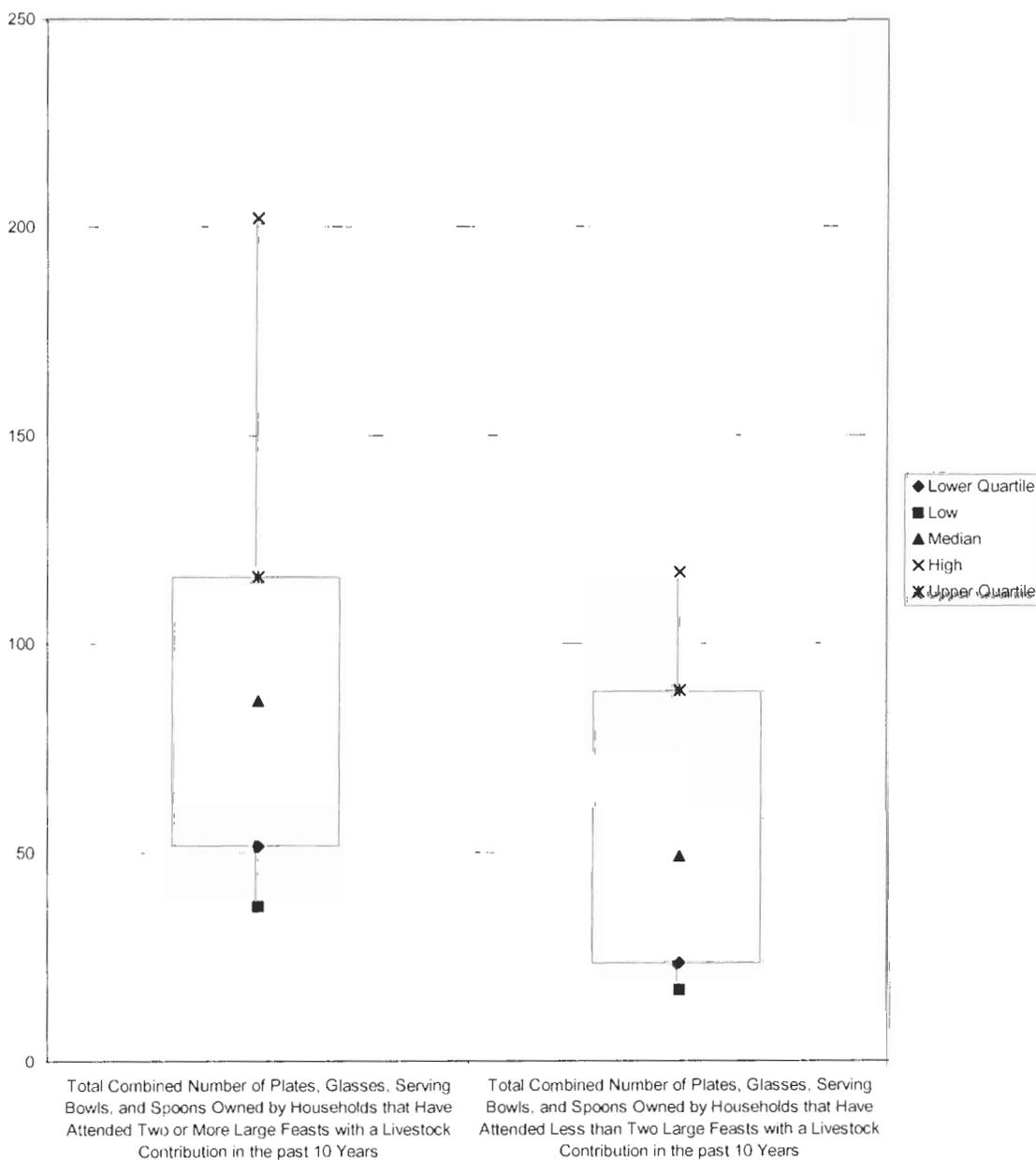
**Figure 5.56: Comparison of the Ownership of Food Serving Items between Households that Have Hosted Two or More Large Feasts and those that Have Hosted Less than Two Large Feasts**

Boxplot Comparing the Ownership of Food Serving Items between Households that Have Hosted Two or More Large Feasts and those that Have Hosted Less than Two Large Feasts

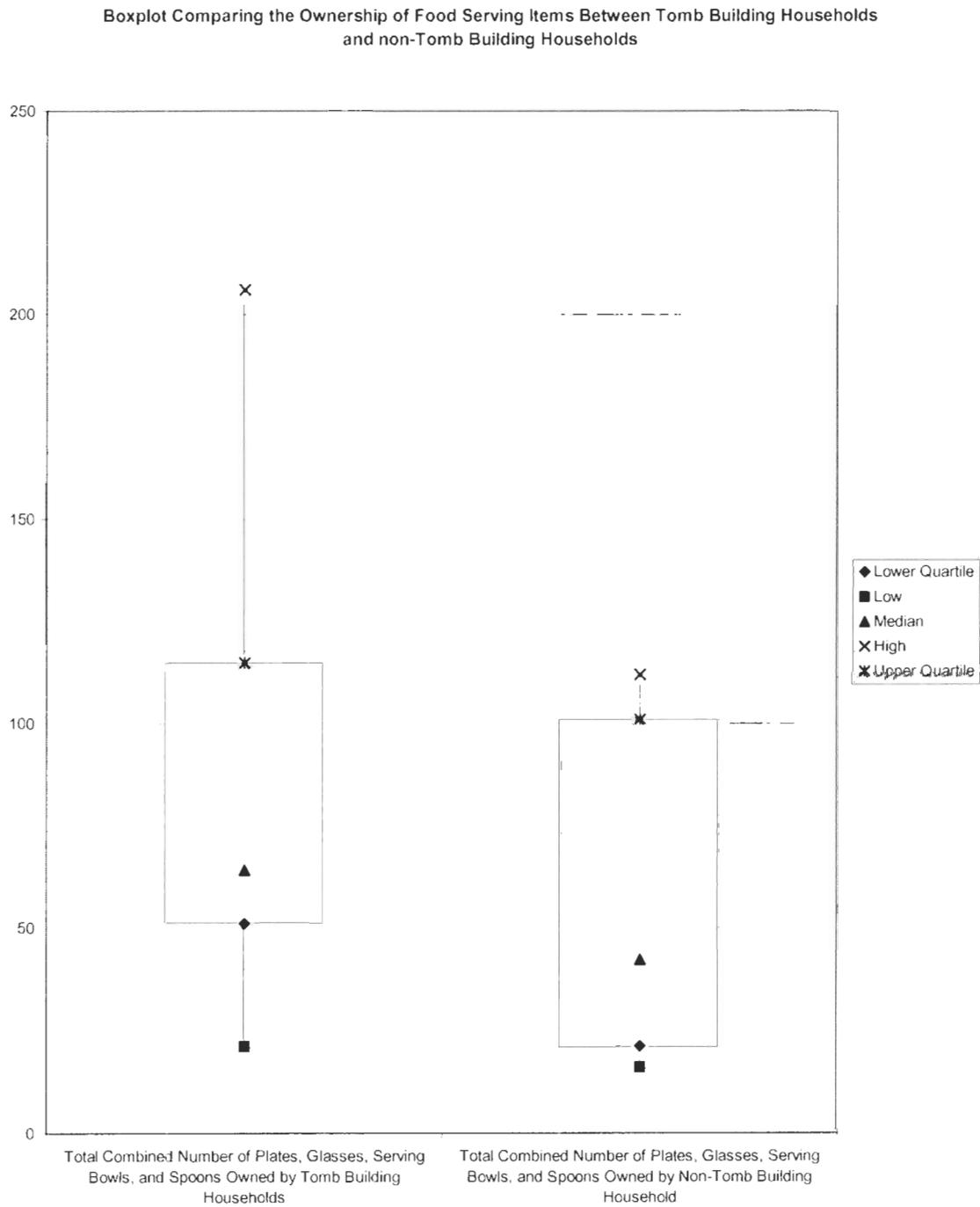


**Figure 5.57: Comparison of the Ownership of Feast Serving Items between Households that Have Attended Two or More Large Feasts with a Livestock Contribution and those that Have Attended Less than Two Large Feasts with a Livestock Contribution**

Boxplot Comparing the Ownership of Feast Serving Items between Households that Have Attended Two or More Large Feasts with a Livestock Contribution and those that Have Attended Less than Two Large Feasts with a Livestock Contribution

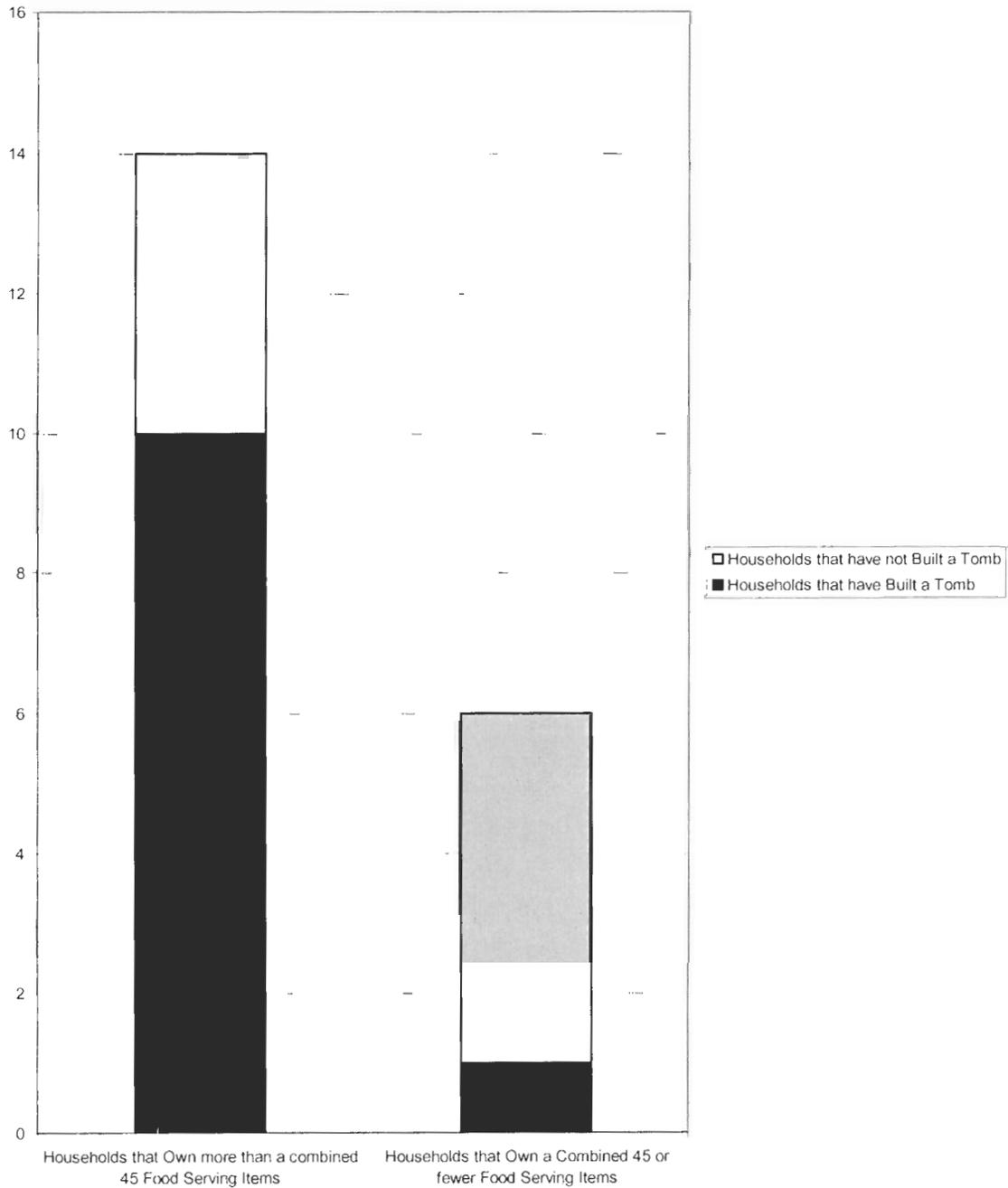


**Figure 5.58: Comparison of the Ownership of Food Serving Items between Tomb Building Households and non-Tomb Building Households**



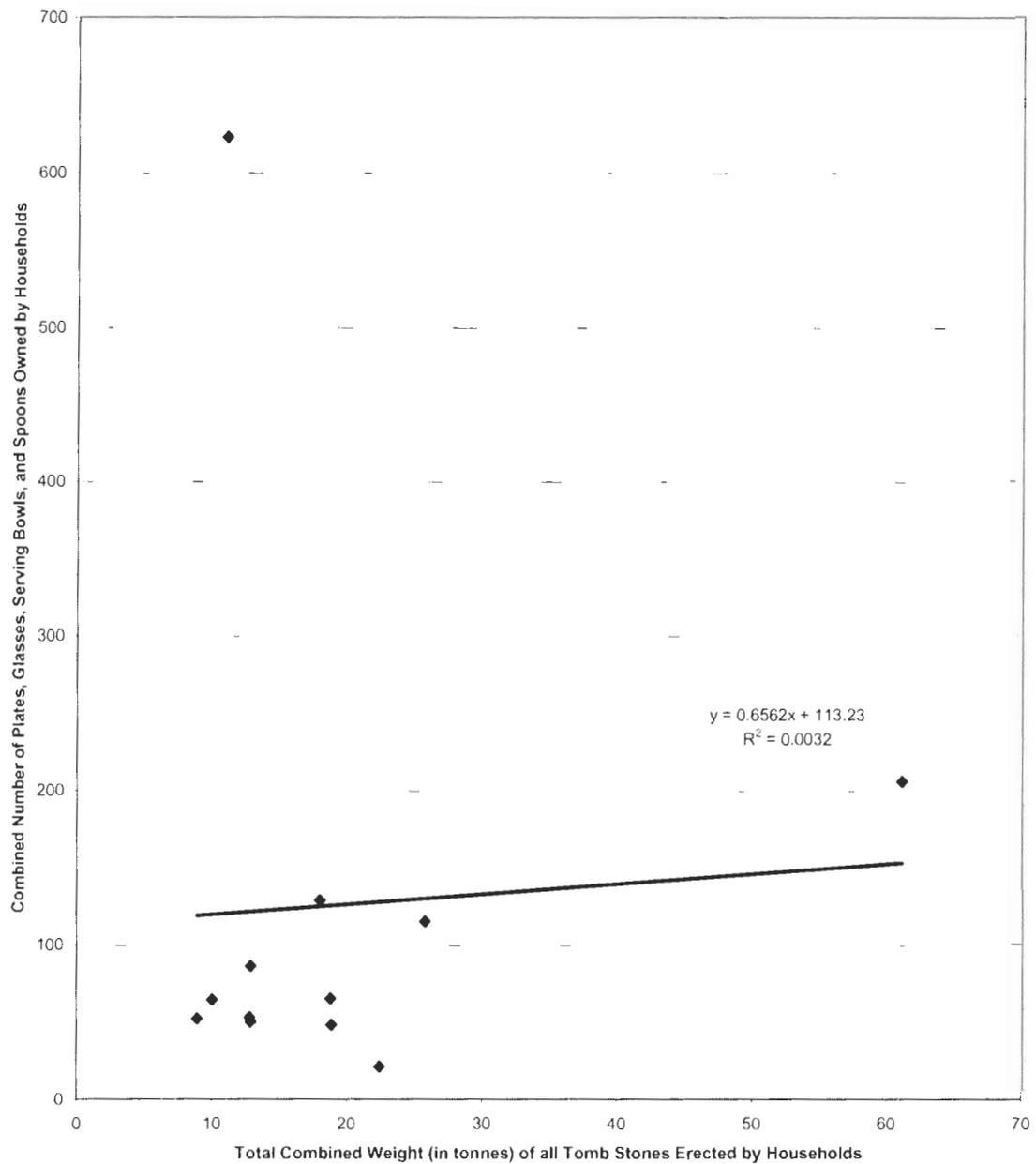
**Figure 5.59: Comparison of Tomb Building and the Number of Food Serving Items Owned by Households**

Bar Chart Comparing Tomb Building and the Ownership of Food Serving Items



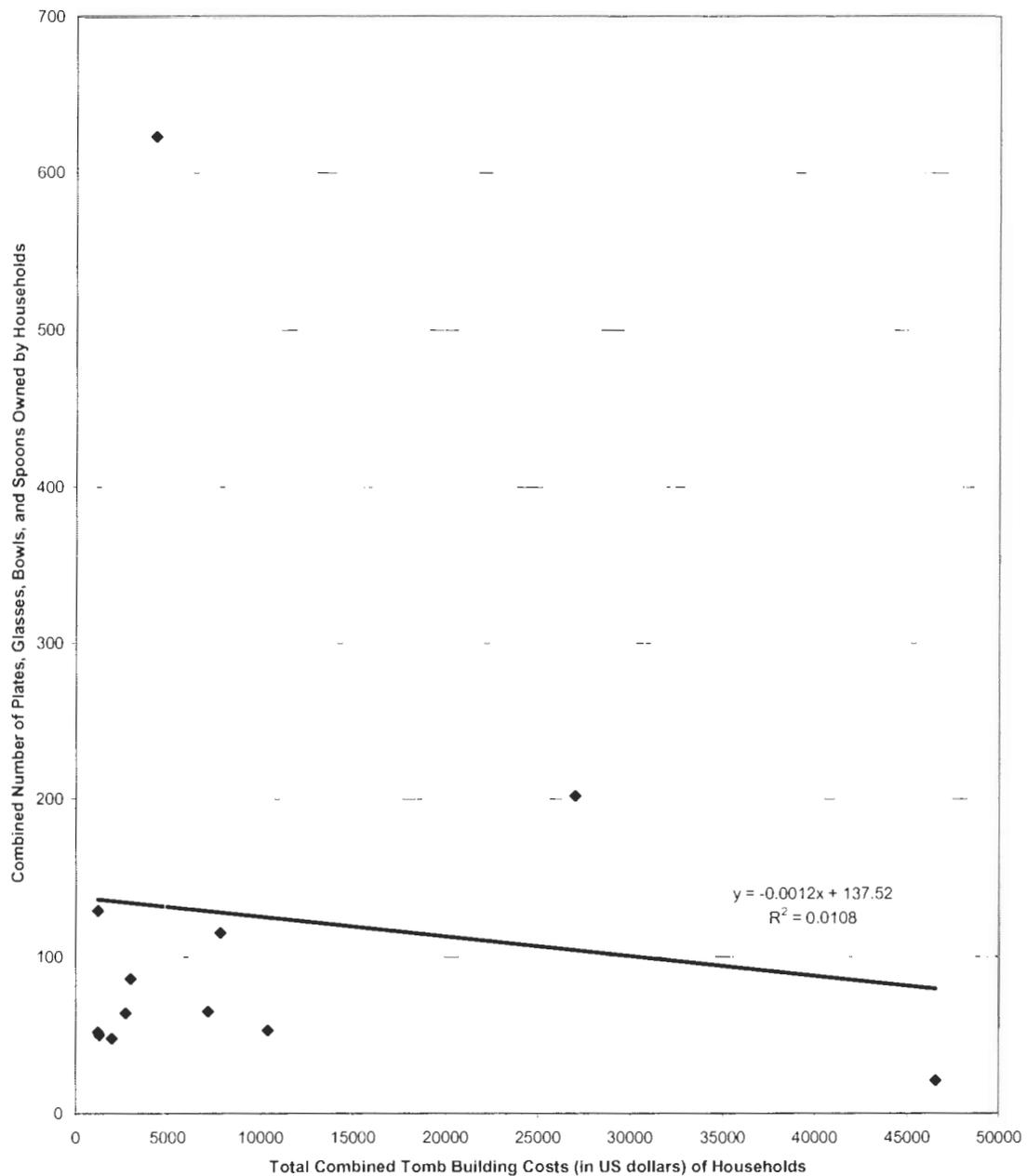
**Figure 5.60: Comparison of the total Combined Weight (in tonnes) of all Tomb Stones Erected by Households and the Combined Number of Serving Items Owned by Households**

Correlation between the total Combined Weight (in tonnes) of all Tomb Stones Erected by Households and the Combined Number of Plates, Glasses, Serving Bowls, and Spoons Owned by Households



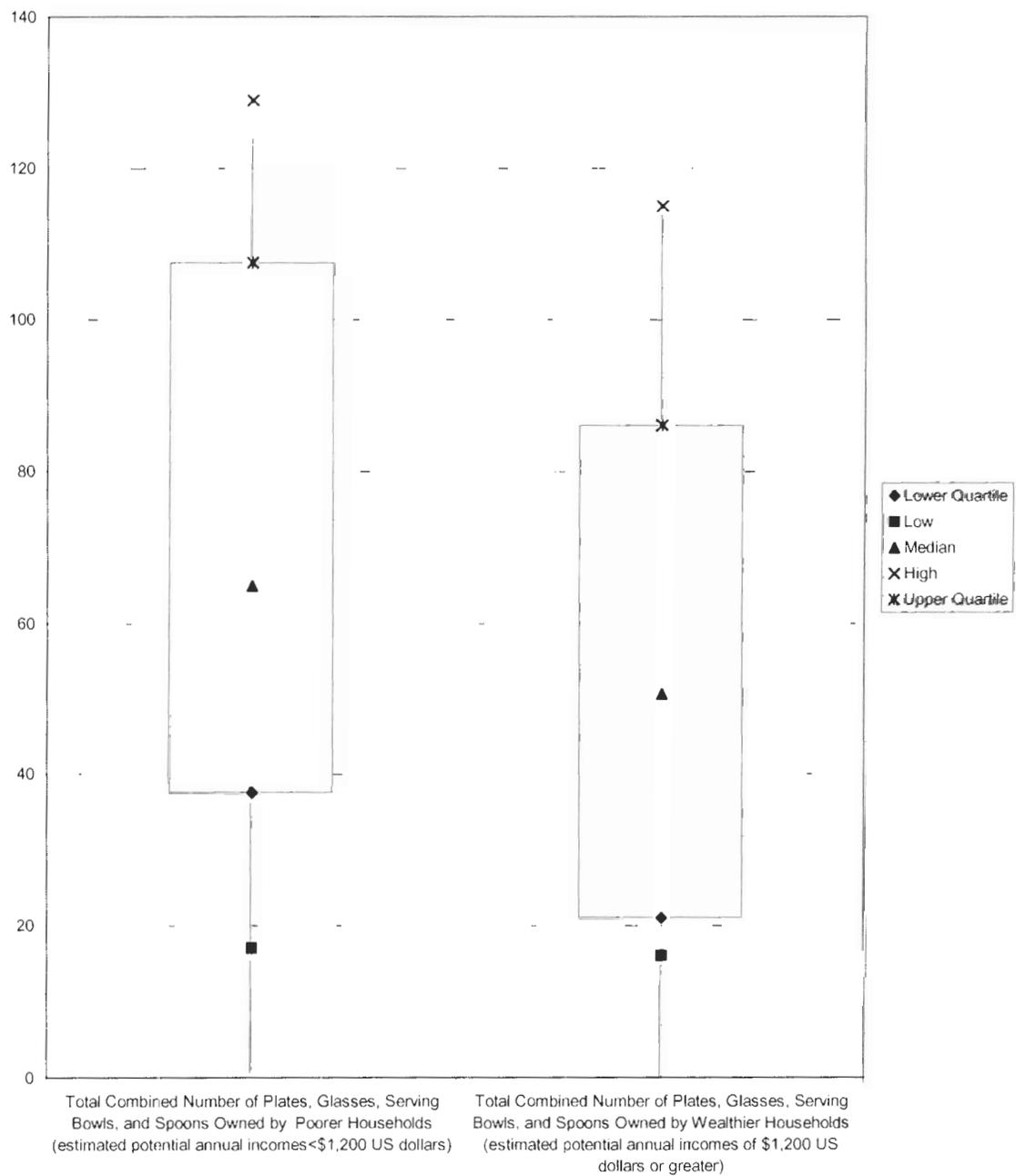
**Figure 5.61: Comparison of the total Combined Tomb Building Costs (in US dollars) of Households and the Combined Number of Food Serving Items Owned by Households**

Correlation between the total Combined Tomb Building Costs (in US dollars) of Households and the Combined Number of Plates, Glasses, Bowls, and Spoons Owned by Households

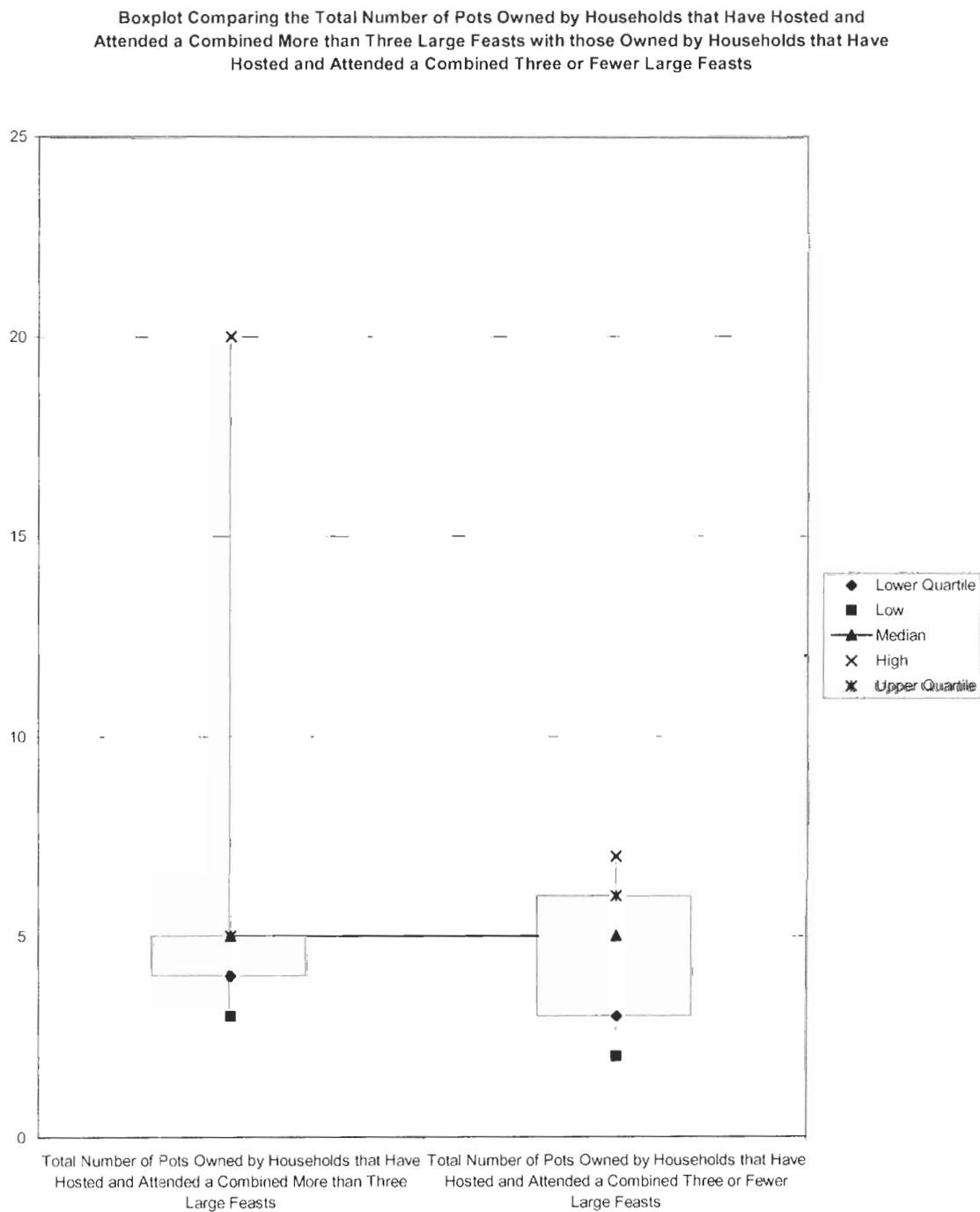


**Figure 5.62: Comparison of the Ownership of Food Serving Items between Poorer and Wealthier Households**

Boxplot Displaying Relationship between Household Wealth and the Ownership of Food Serving Items

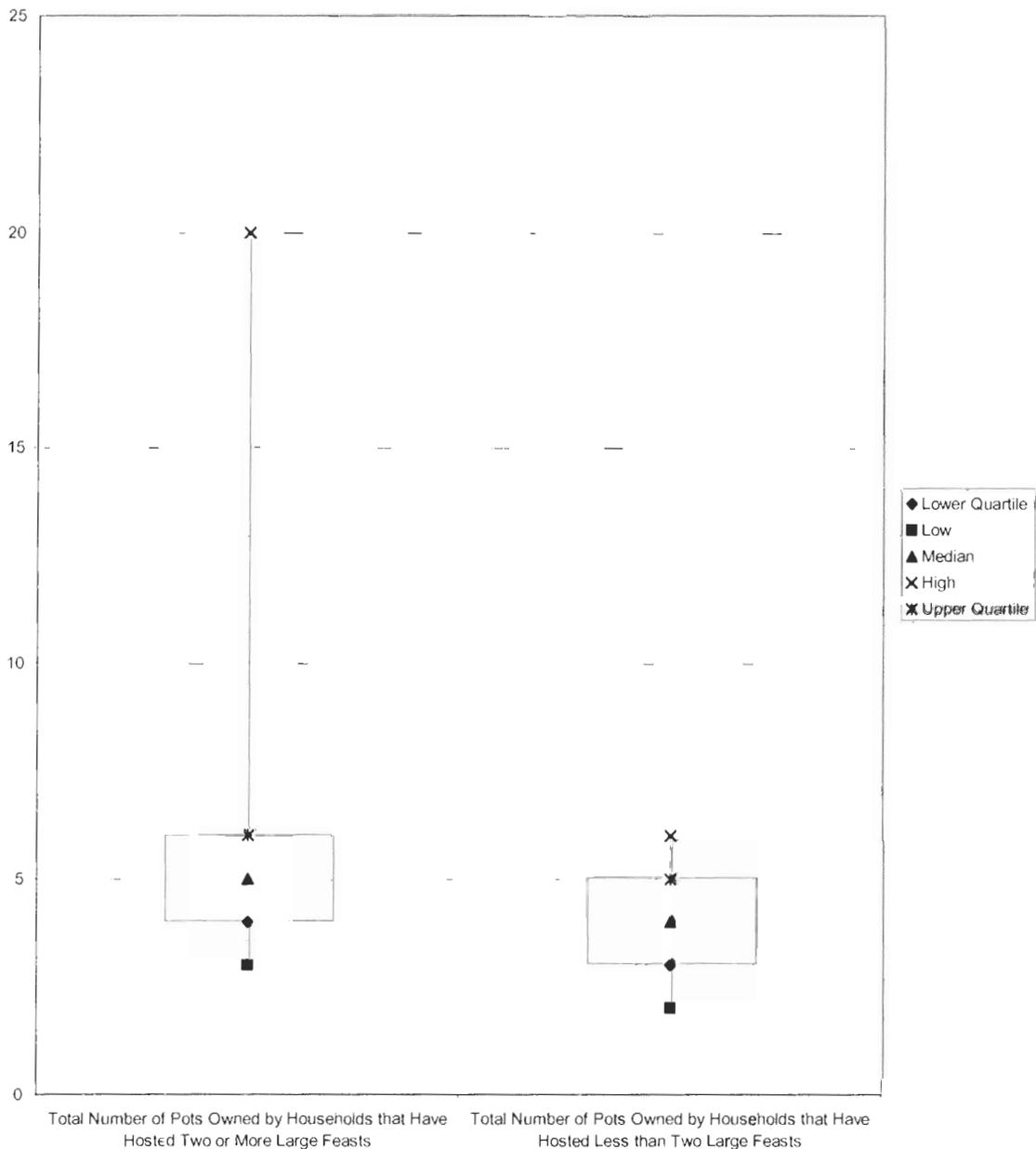


**Figure 5.63: Comparison of the Total Number of Pots Owned by Households that Have Hosted and Attended a Combined More than Three Large Feasts with those Owned by Households that Have Hosted and Attended a Combined Three or Fewer Large Feasts**



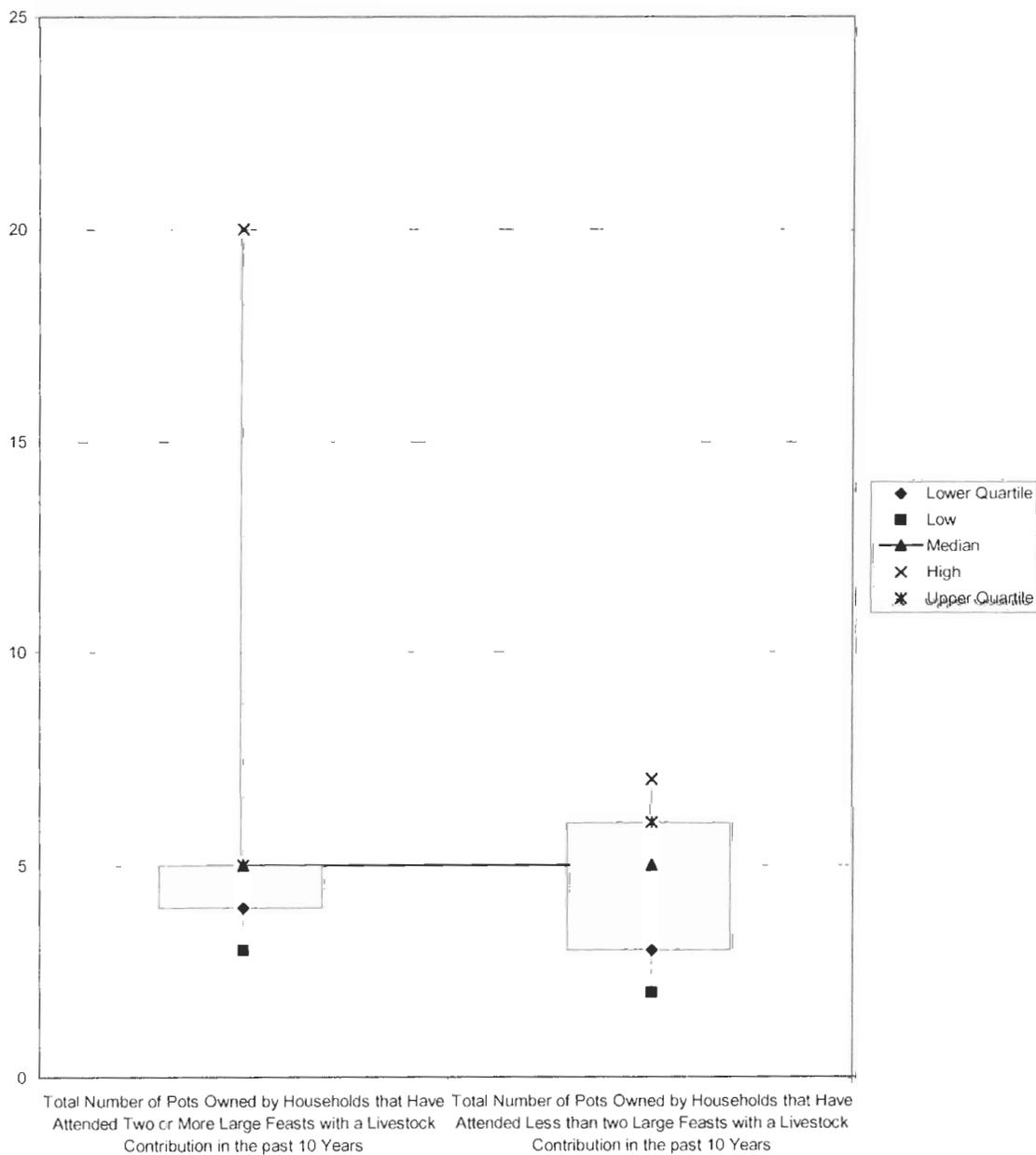
**Figure 5.64: Comparison of the Total Number of Pots Owned by Households that Have Hosted Two or More Large Feasts with those Owned by Households that Have Hosted Less than Two Large Feasts**

Boxplot Comparing the Total Number of Pots Owned by Households that Have Hosted Two or More Large Feasts with those Owned by Households that Have Hosted Less than Two Large Feasts

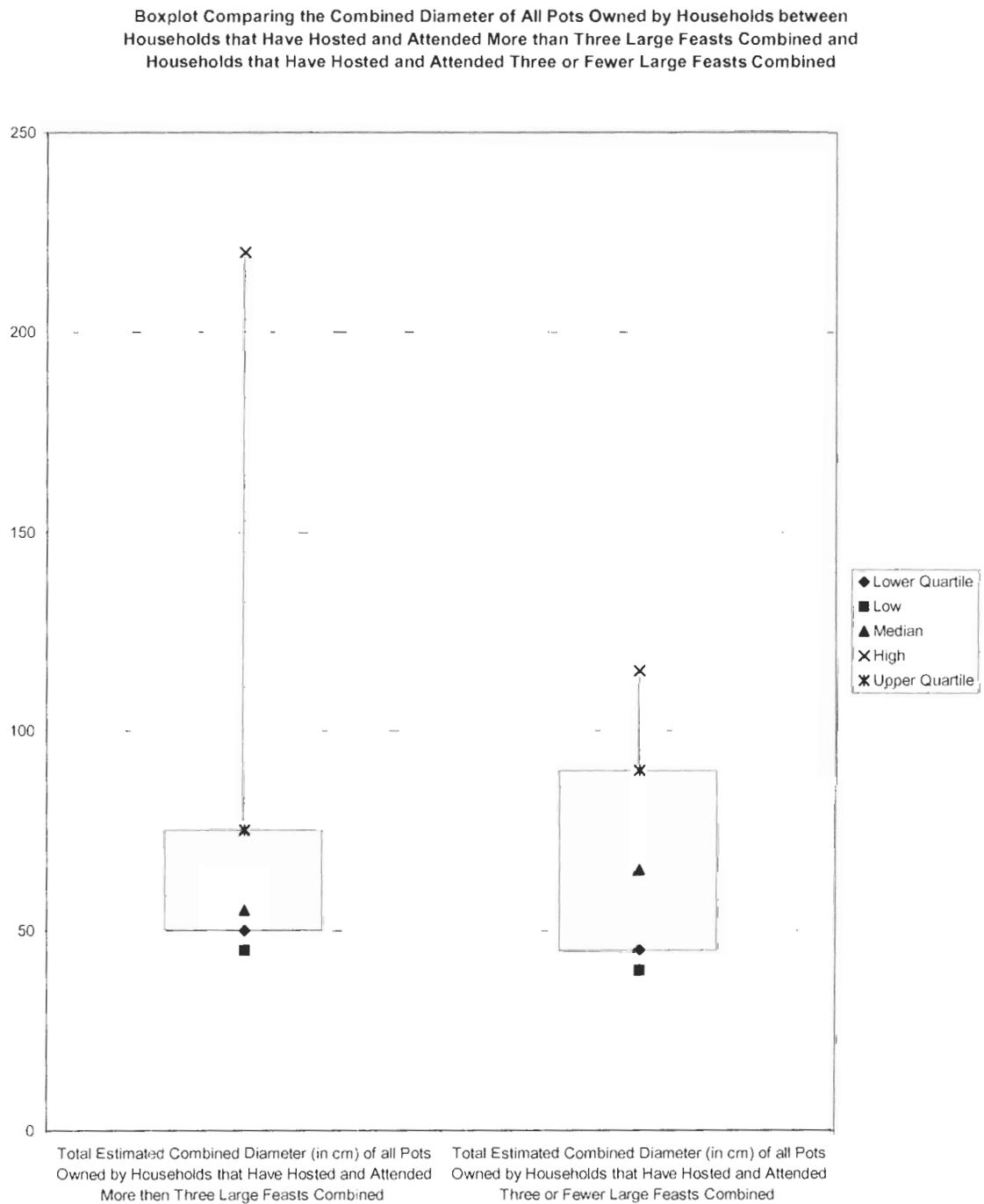


**Figure 5.65: Comparison of the Number of Pots Owned by Households that Have Attended Two or More Large Feasts with a Livestock Contribution with those Owned by Households that Have Attended Less than Two Large Feasts with a Livestock Contribution**

Boxplot Comparing the Number of Pots Owned by Households that Have Attended Two or More Large Feasts with a Livestock Contribution with those Owned by Households that Have Attended Less than Two Large Feasts with a Livestock Contribution

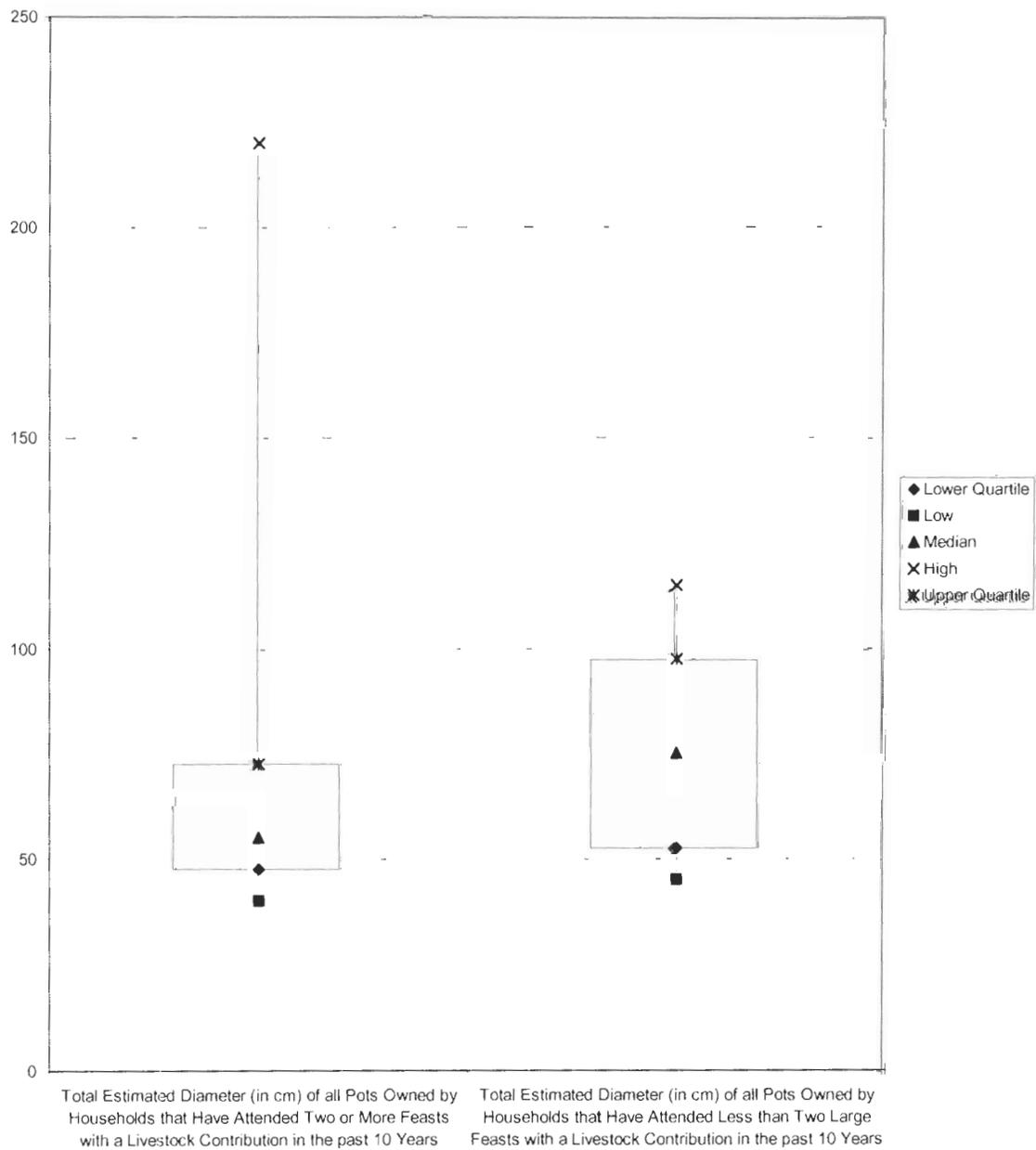


**Figure 5.66: Comparison of the Combined Diameter of All Pots Owned by Households between Households that Have Hosted and Attended More than Three Large Feasts Combined and Households that Have Hosted and Attended Three or Fewer Large Feasts Combined**



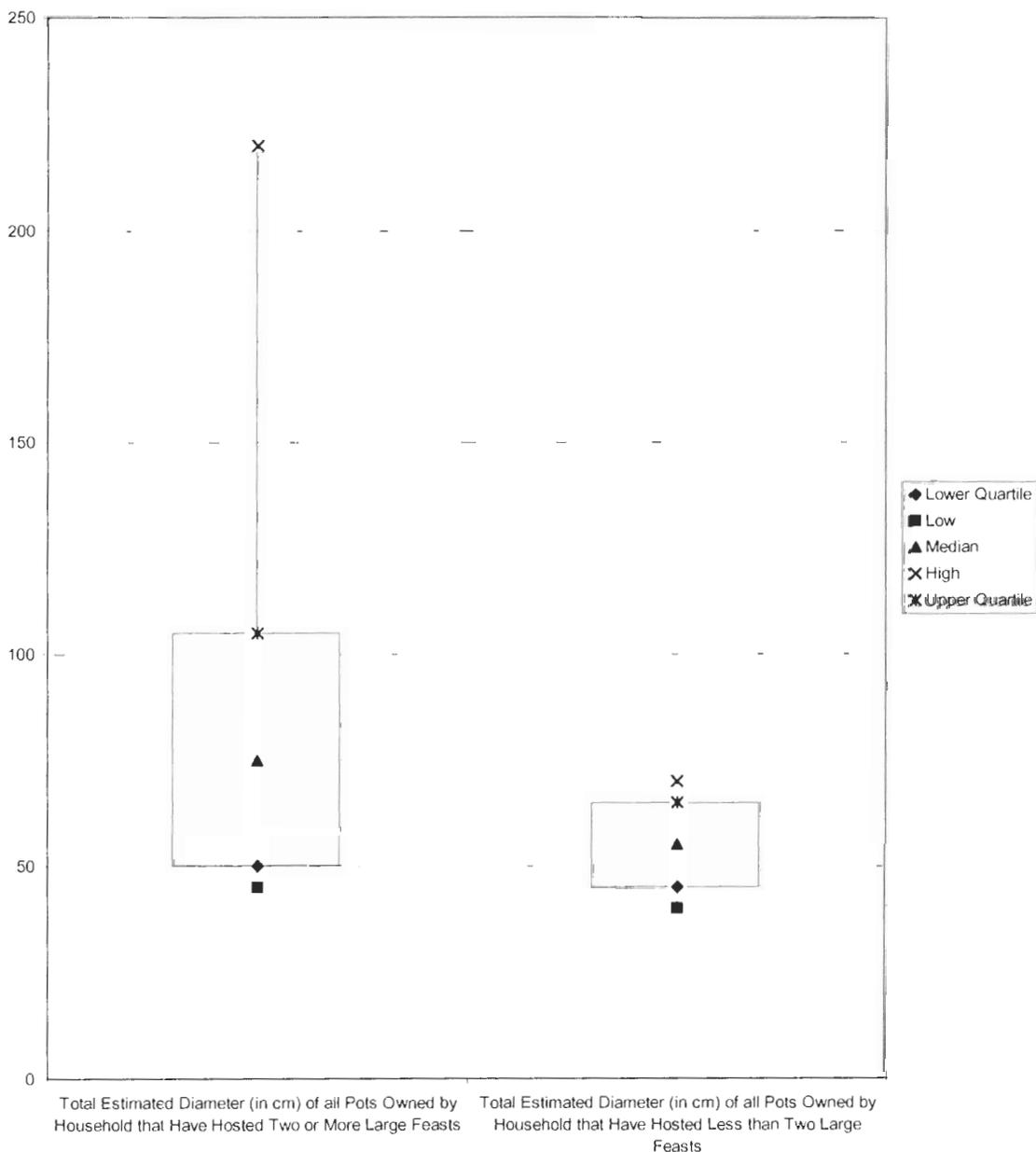
**Figure 5.67: Comparison of the Cumulative Diameter of all Pots Owned by Households that Have Attended Two or More Feasts with a Livestock Contribution and Households that Have Attended Less than Two Large Feasts with a Livestock Contribution**

Boxplot Comparing the Cumulative Diameter of all Pots Owned by Households that Have Attended Two or More Feasts with a Livestock Contribution and Households that Have Attended Less than Two Large Feasts with a Livestock Contribution



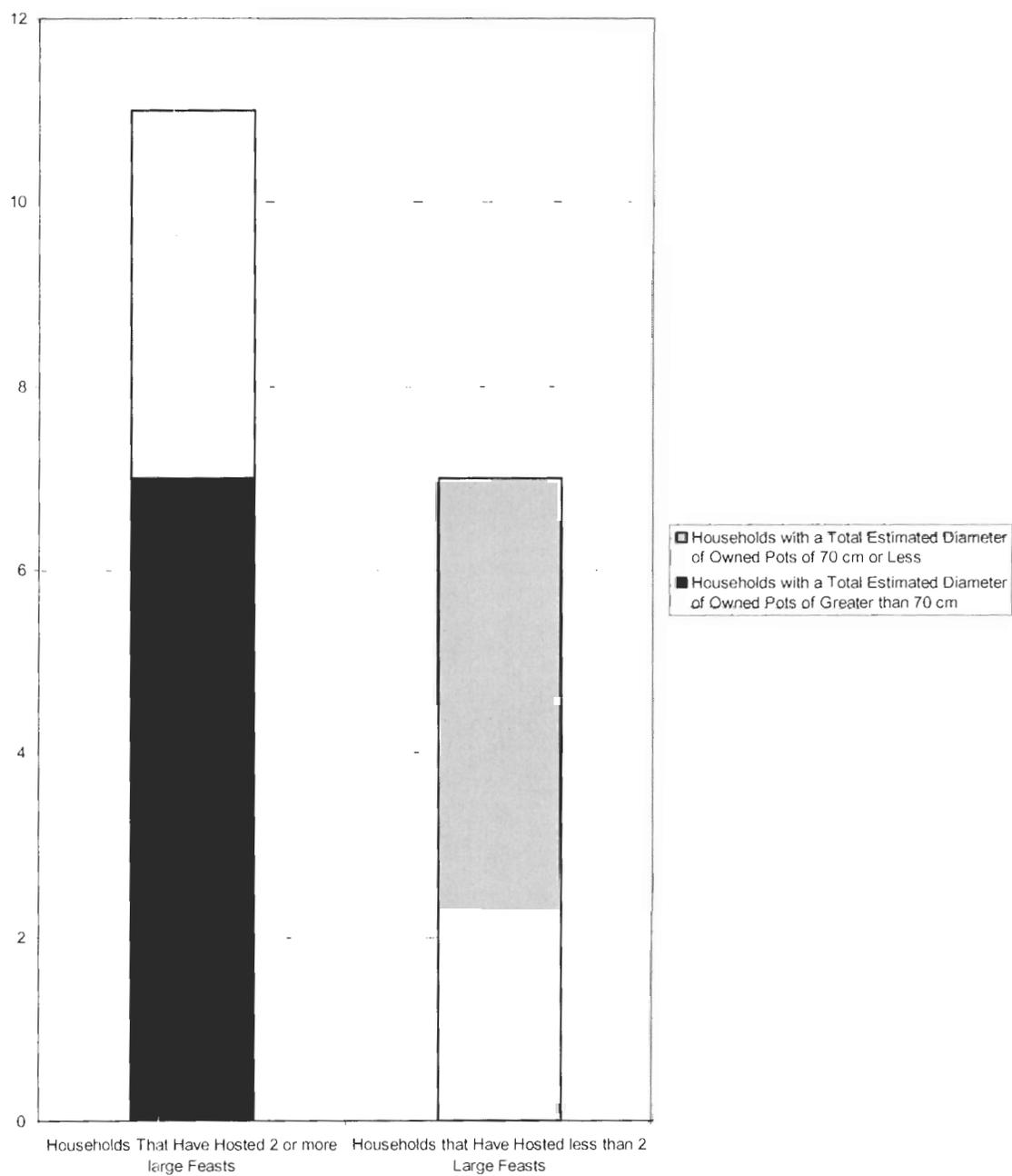
**Figure 5.68: Comparison of the Cumulative Diameter of all Pots Owned by Households that Have Hosted Two or More Large Feasts and The Cumulative Diameter of all Pots Owned by Households that Have Hosted Less than Two Large Feasts**

Boxplot Comparing the Cumulative Diameter of all Pots Owned by Households that Have Hosted Two or More Large Feasts and The Cumulative Diameter of all Pots Owned by Households that Have Hosted Less than Two Large Feasts



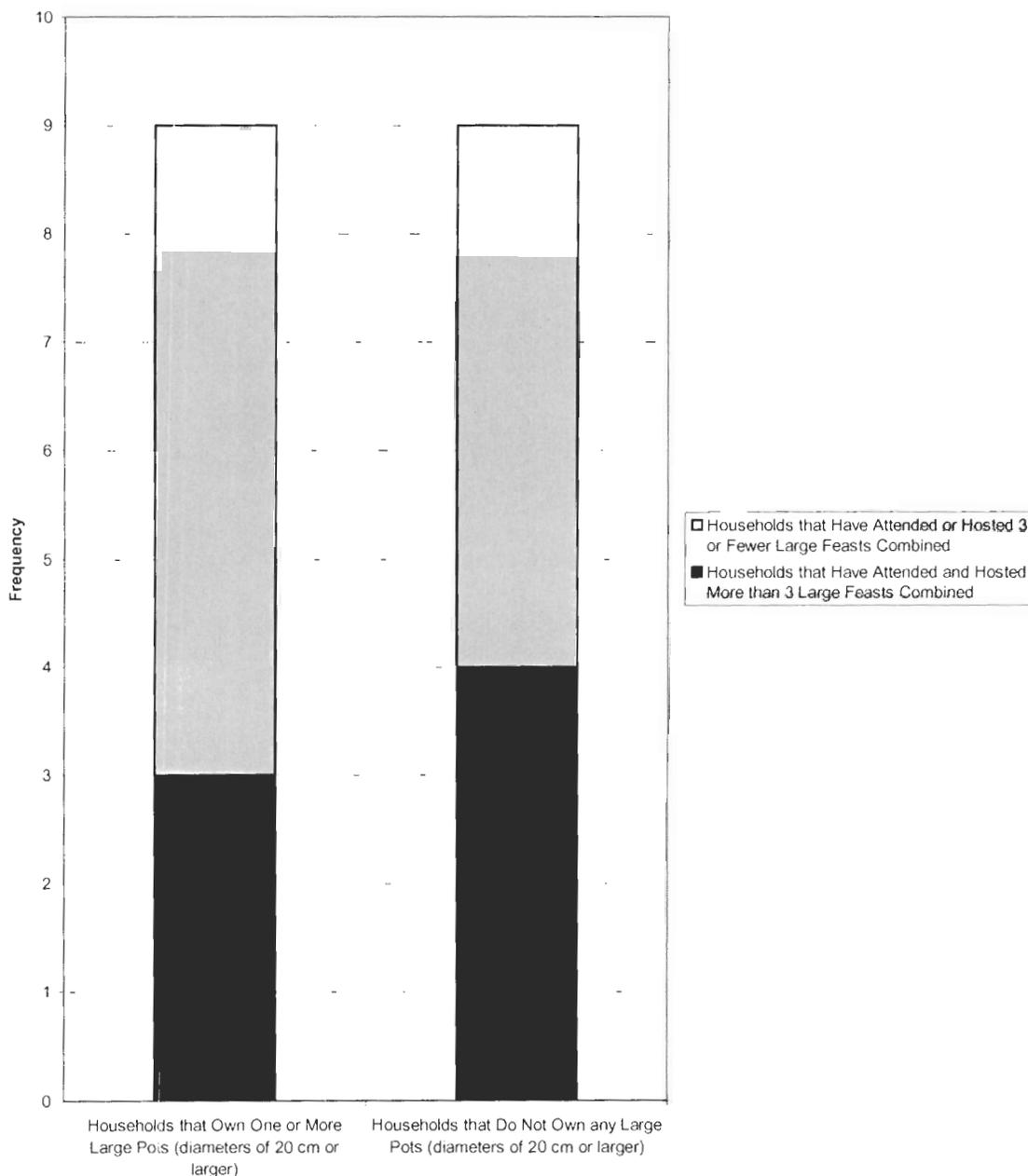
**Figure 5.69: Comparison of the Cumulative Diameter of Pots Owned by Households and the Number of Large Feasts Hosted by Households**

Bar Chart Displaying the Relationship between the Cumulative Pot Diameters of Households and the Number of Feasts Hosted by Households

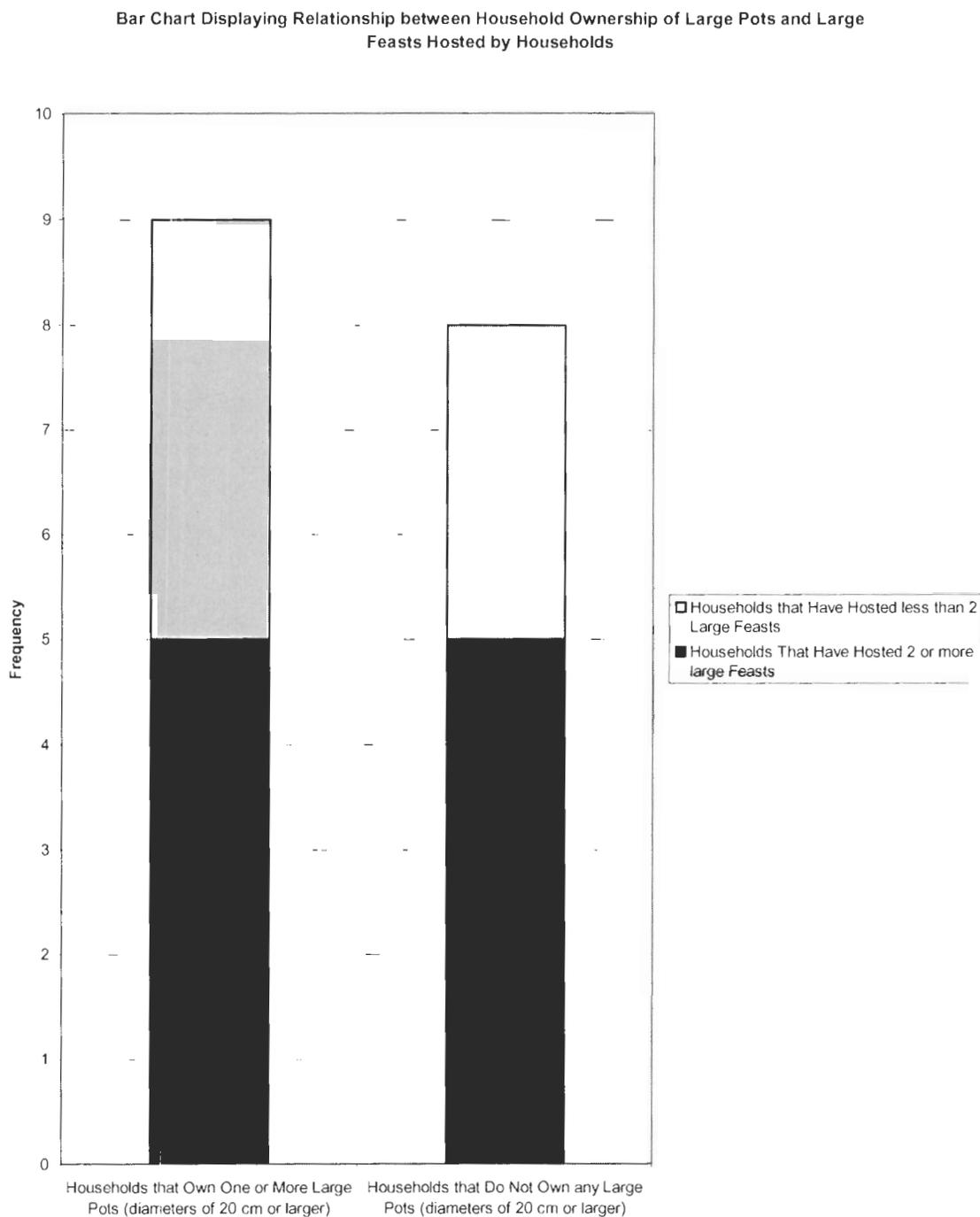


**Figure 5.70: Comparison of Household Ownership of Large Pots and Feasts Hosted and Attended by Households**

Bar Chart Displaying the Relationship between Household Ownership of Large Pots and Feasts Hosted and Attended by Households

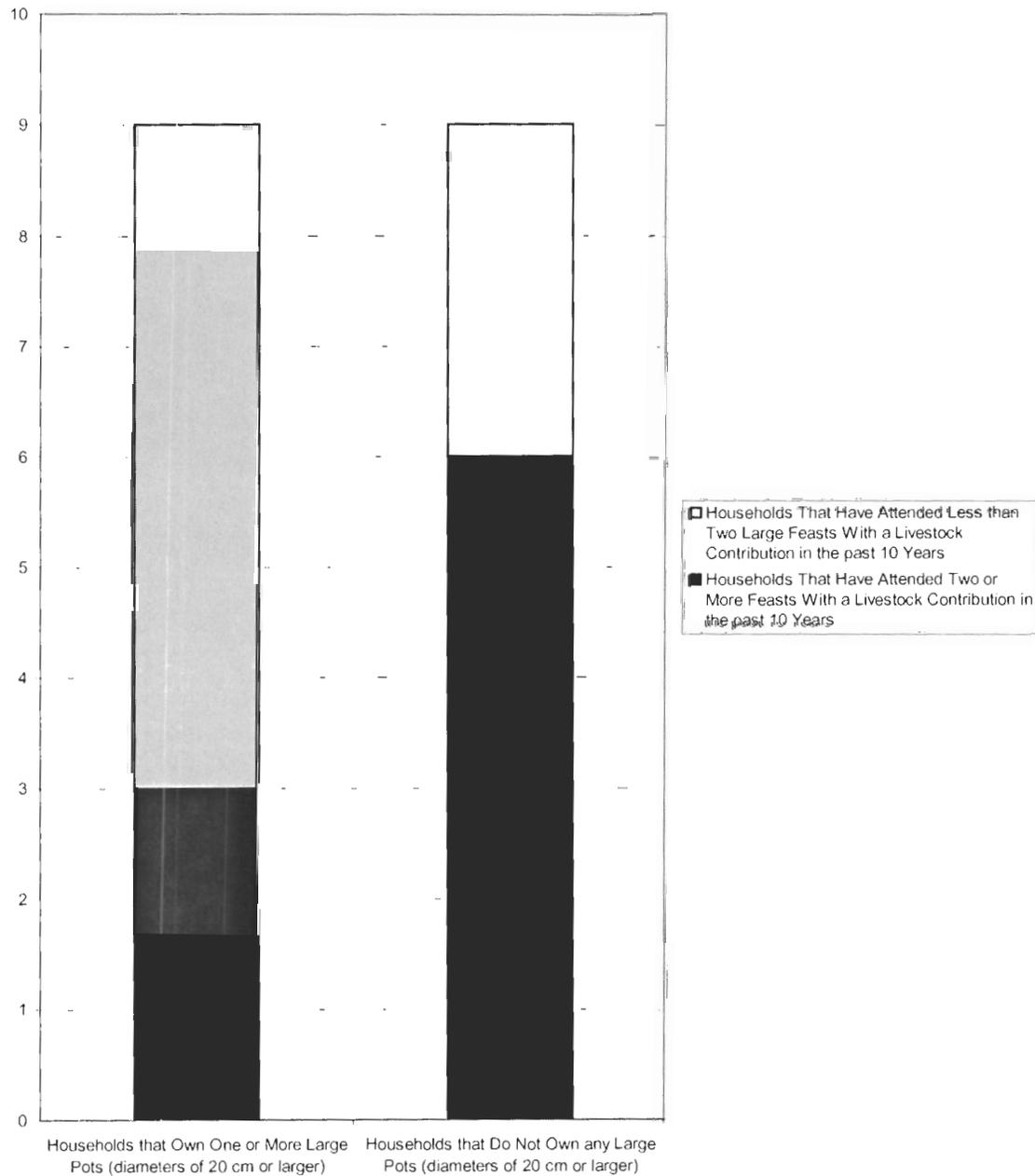


**Figure 5.71: Comparison of the Household Ownership of Large Pots and Large Feasts Hosted by Households**

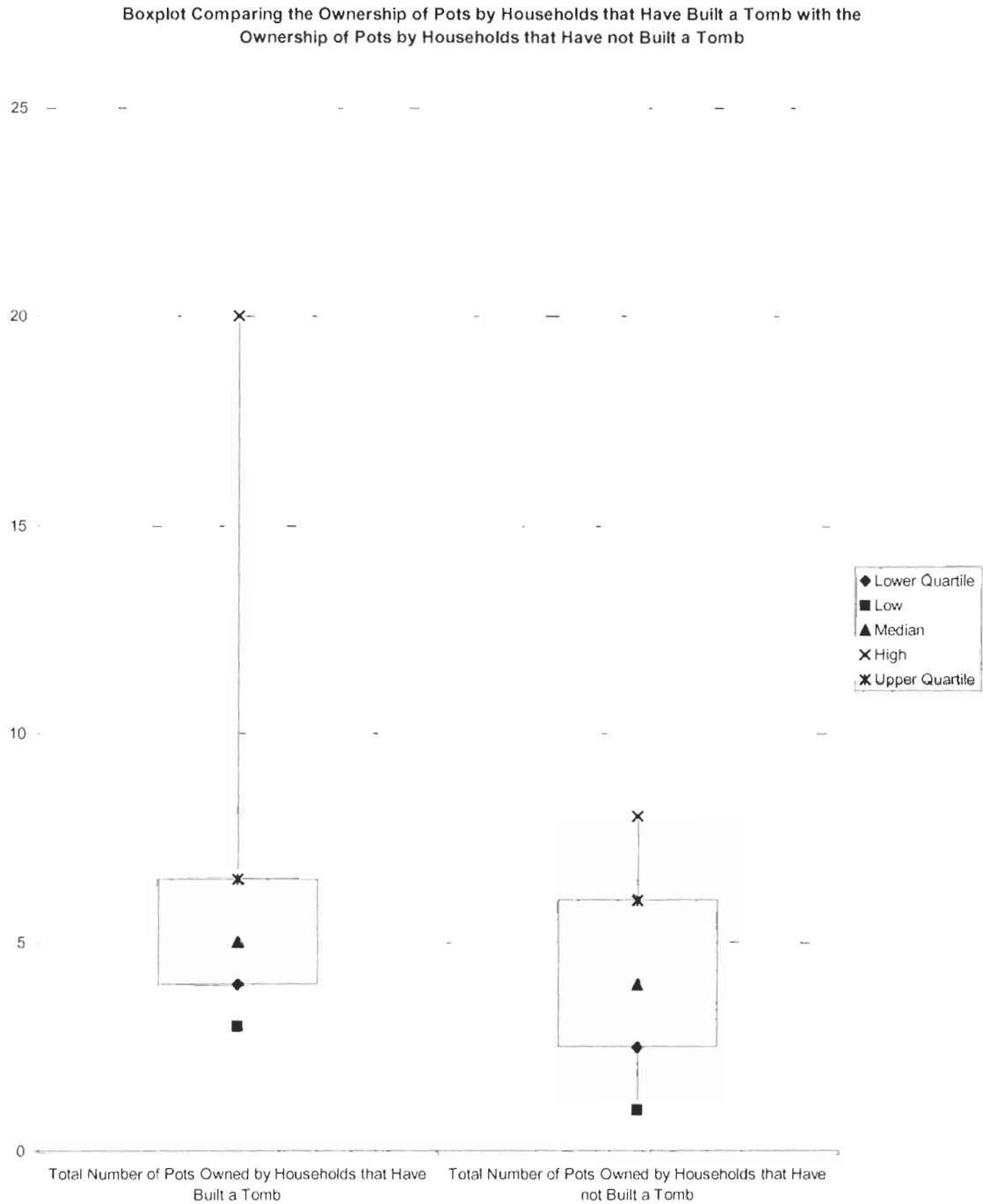


**Figure 5.72: Comparison of the Household Ownership of Large Pots and Large Feasts Attended by Households**

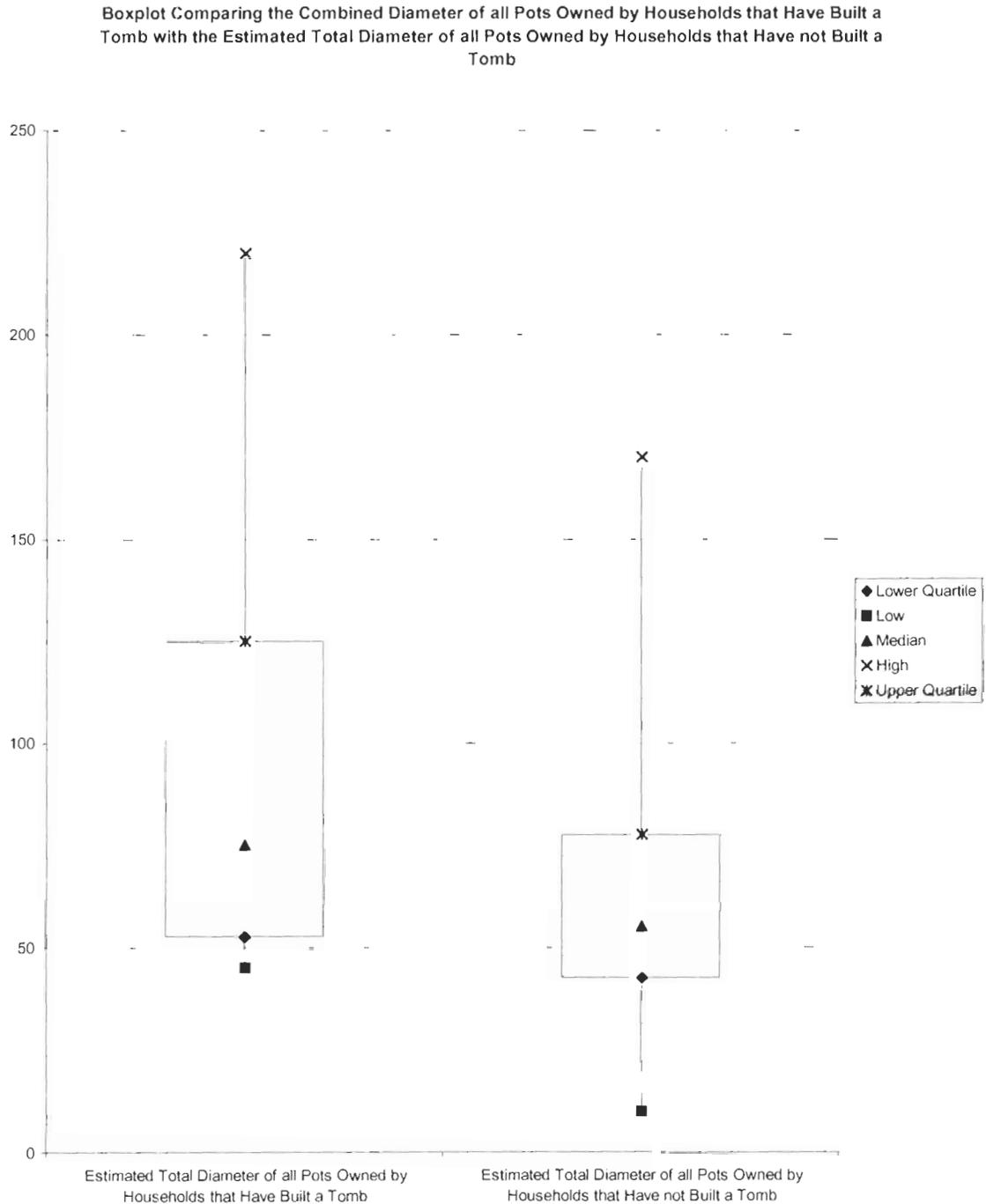
Bar Chart Displaying Relationship between Household Ownership of Large Pots and Large Feasts Attended by Households



**Figure 5.73: Comparison of the Ownership of Pots by Households that Have Built a Tomb with the Ownership of Pots by Households that Have not Built a Tomb**

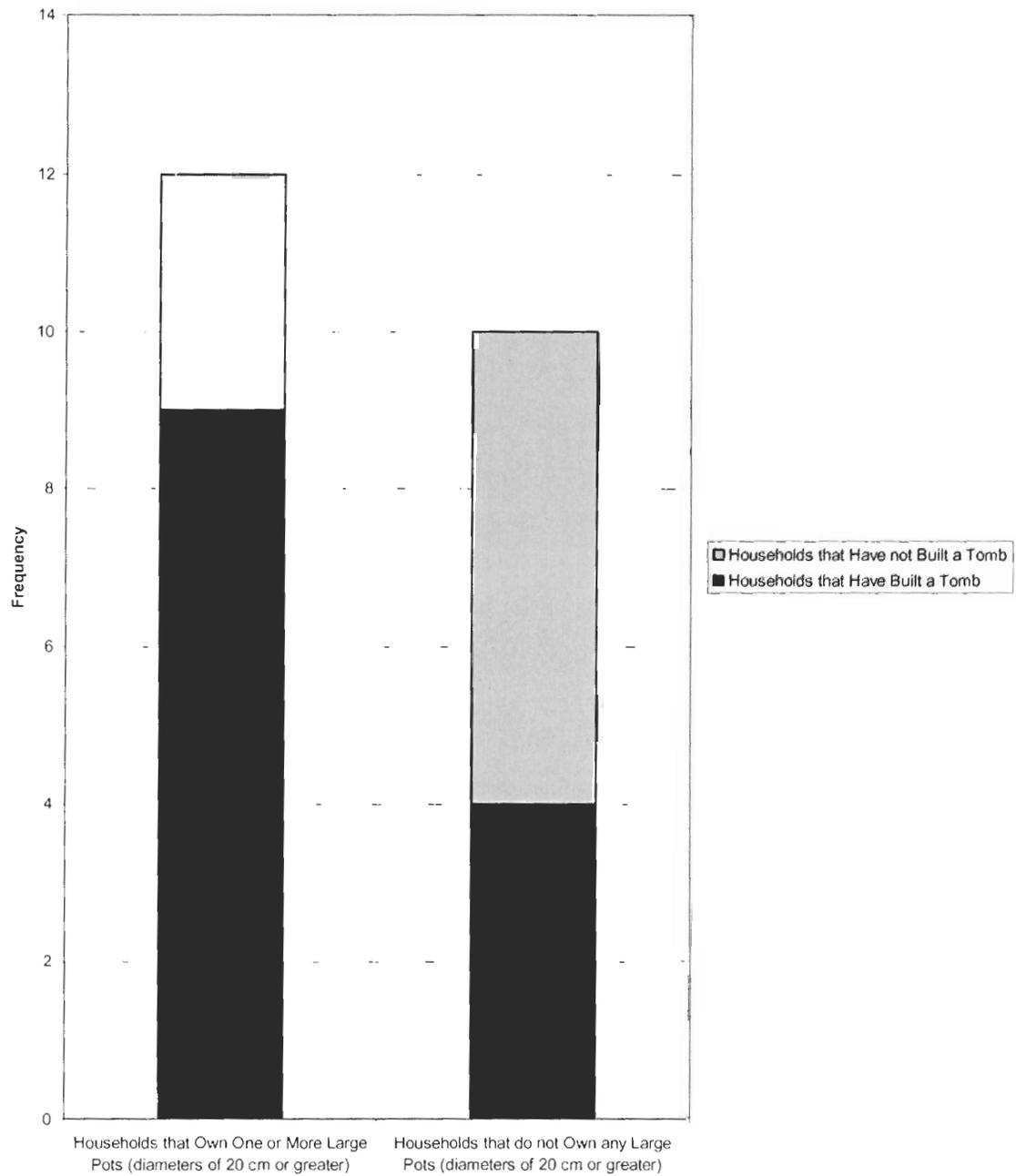


**Figure 5.74: Comparison of the Combined Diameter of all Pots Owned by Households that Have Built a Tomb with the Estimated Total Diameter of all Pots Owned by Households that Have not Built a Tomb**



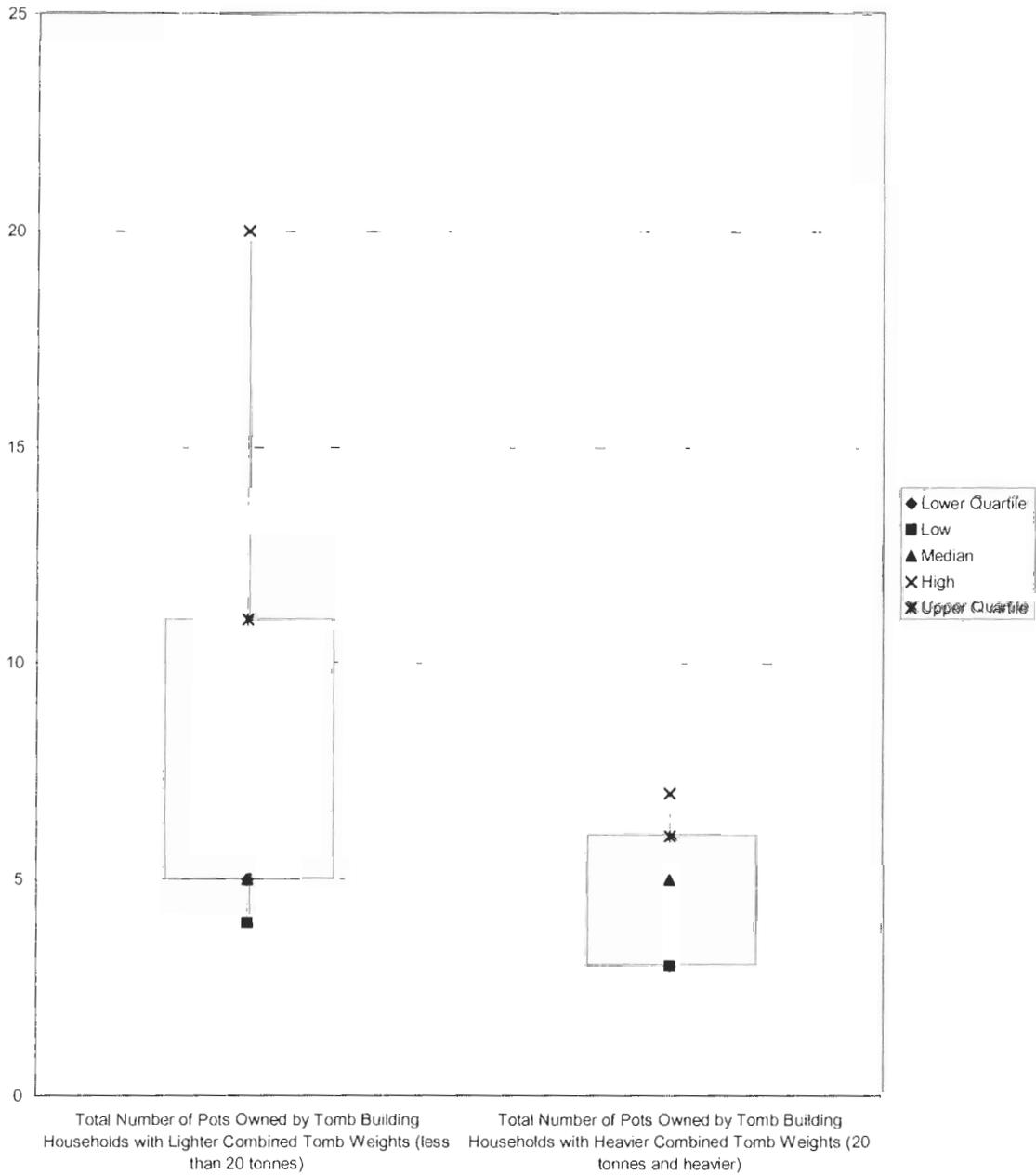
**Figure 5.75: Comparison of Tomb Building and the Ownership of Large Pots**

Bar Chart Illustrating the Correlation between Tomb Building and the Ownership of Large Pots



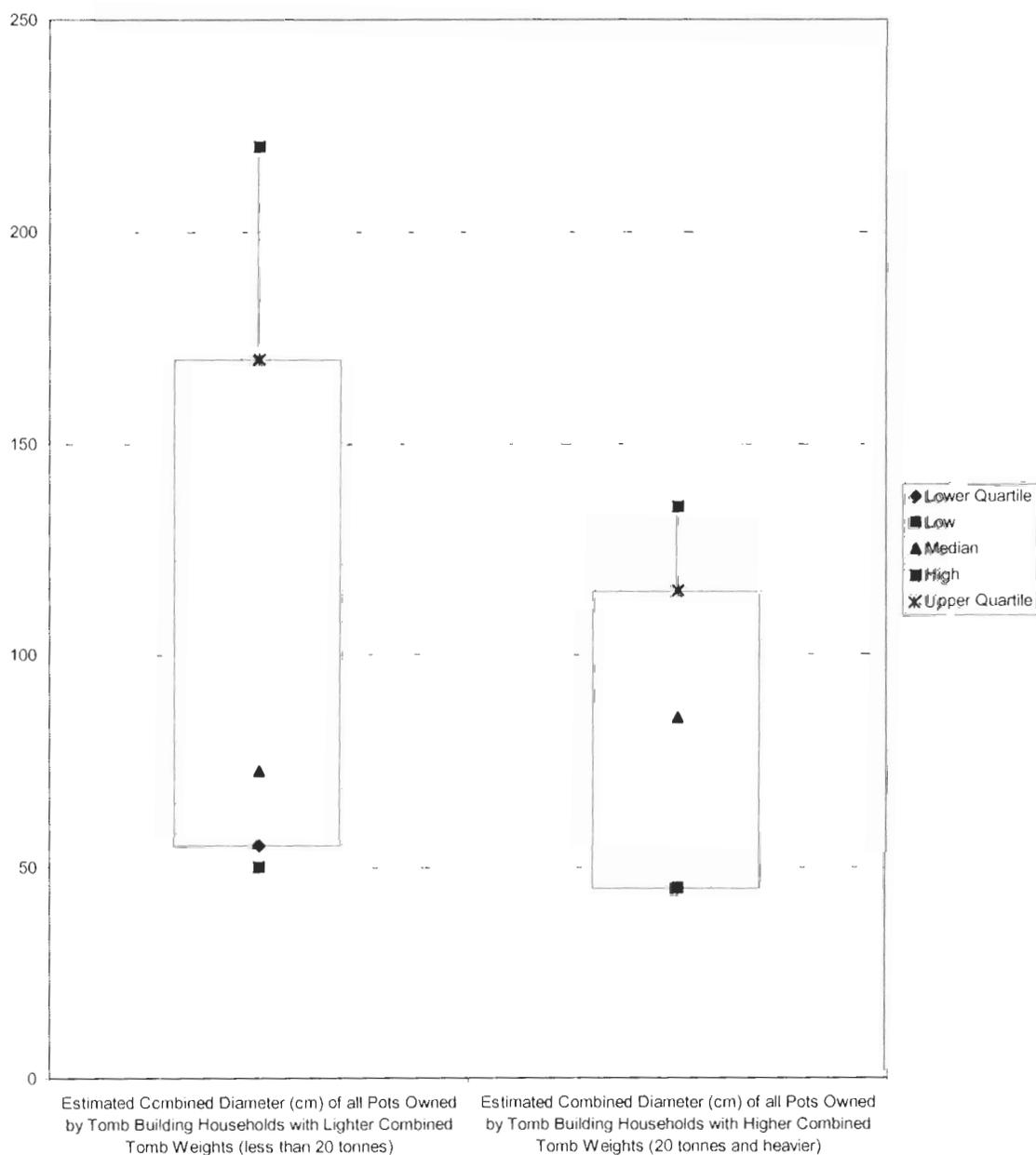
**Figure 5.76: Comparison of the Ownership of Pots among Tomb Building Households with Lighter Combined Tomb Weights and the Total Number of Pots Owned by Tomb Building Households with Heavier Combined Tomb Weights**

Boxplot Comparing Ownership of Pots among Tomb Building Households With Lighter Combined Tomb Weights and the Total Number of Pots Owned by Tomb Building Households with Heavier Combined Tomb Weights



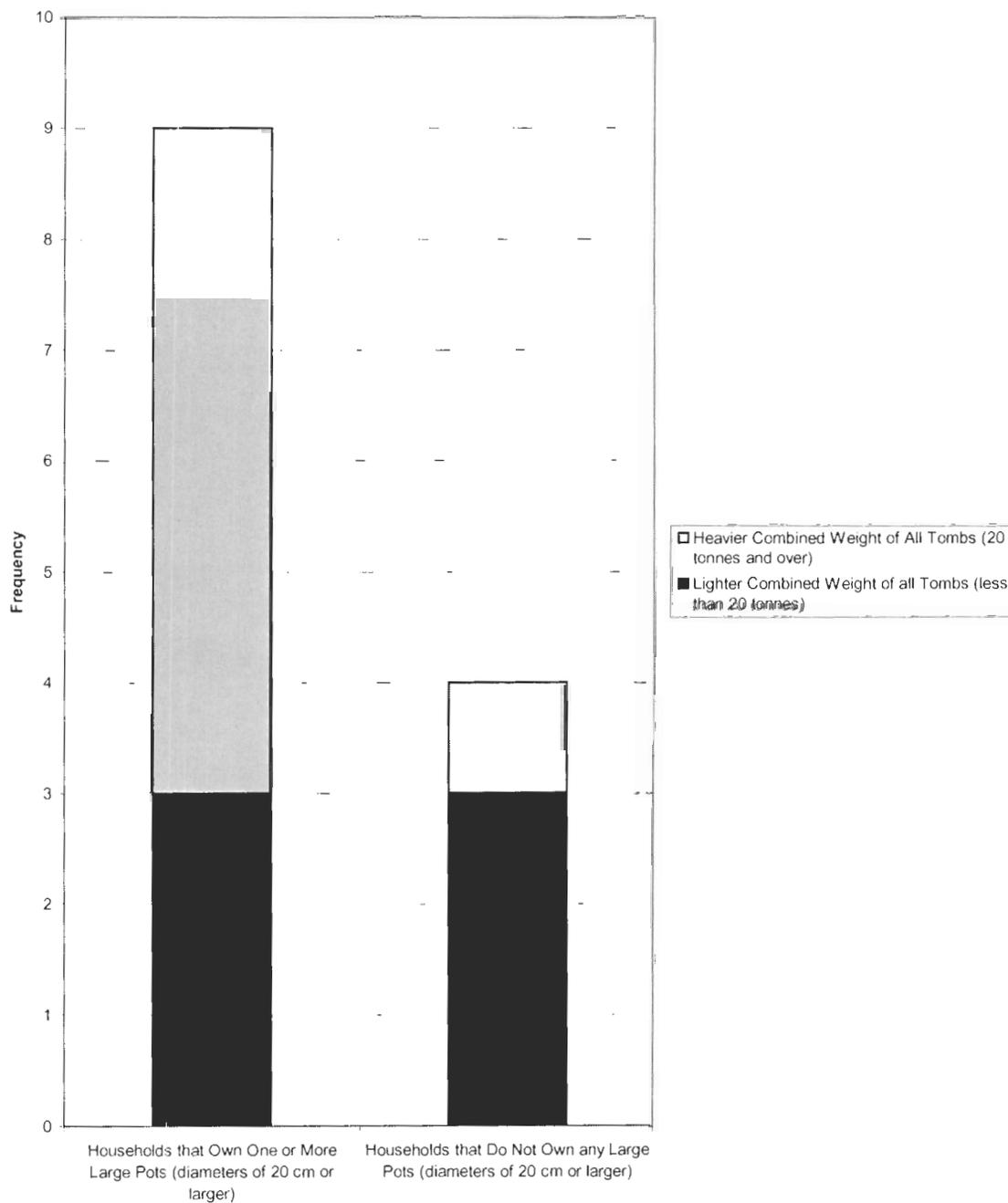
**Figure 5.77: Comparison of the Combined Diameter of all Pots Owned by Households with Lighter Tomb Weights and the Combined Diameter of all Pots Owned by Households with Higher Tomb Weights**

Boxplot Comparing the Combined Diameter of all Pots Owned by Households with Lighter Tomb Weights and the Combined Diameter of all Pots Owned by Households with Higher Tomb Weights



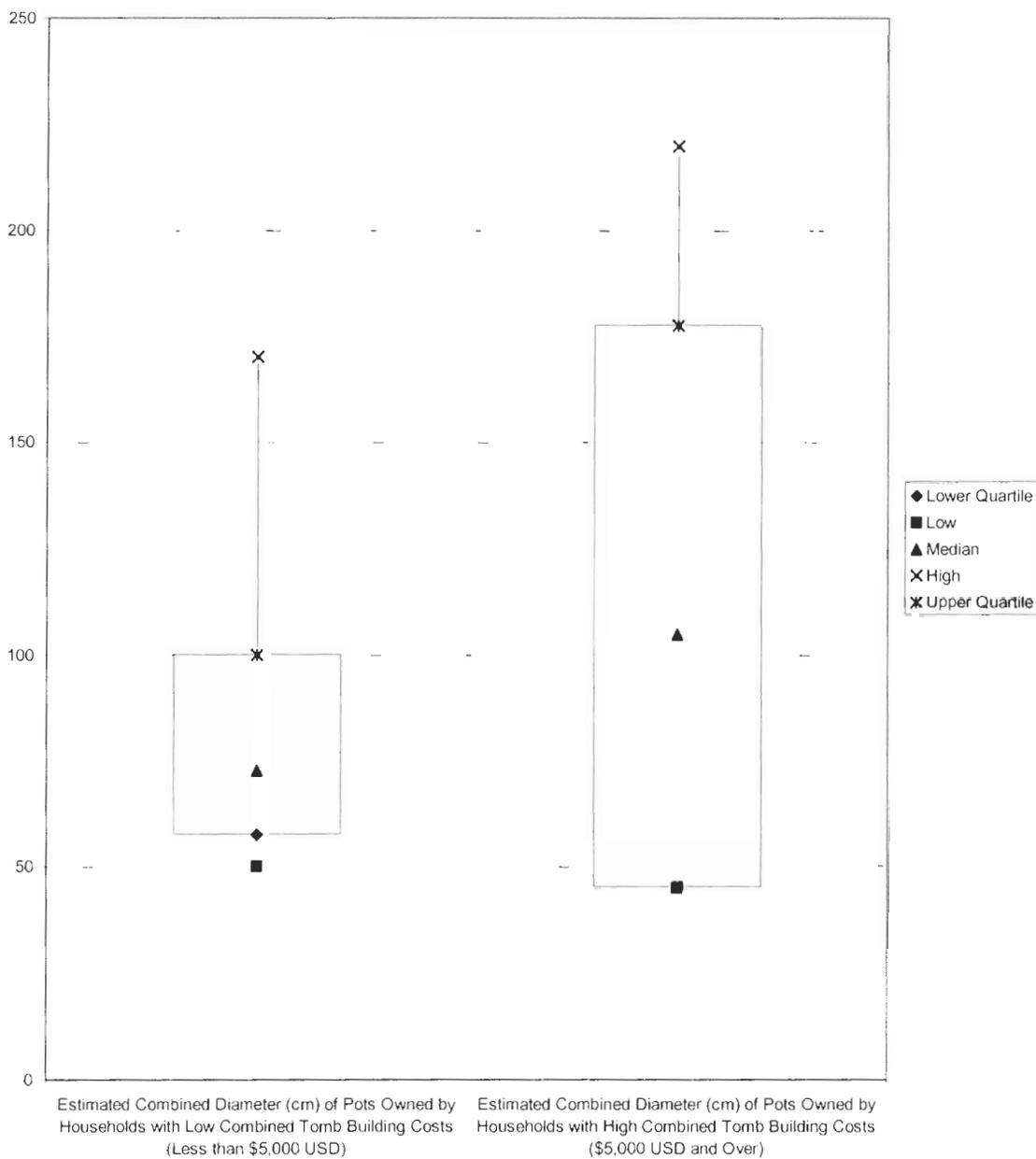
**Figure 5.78: Comparison of the Relationship between Tomb Weight and the Ownership of Large Pots**

Bar Chart Illustrating the Relationship Between Tomb Weight and the Ownership of Large Pots



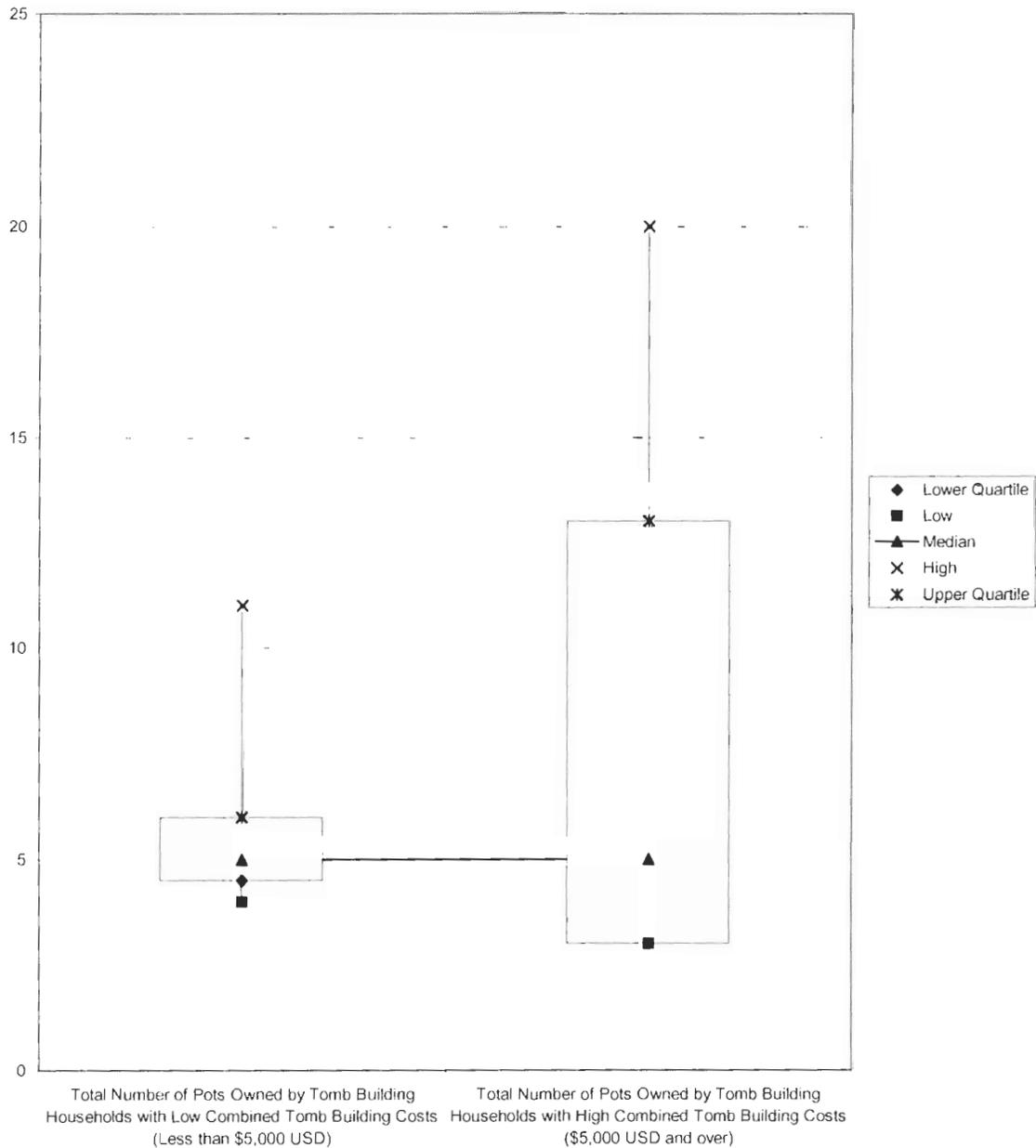
**Figure 5.79: Comparison of the Combined Diameter of Pots Owned by Households with Low Combined Tomb Building Costs and the Combined Diameter of Pots Owned by Households with High Combined Tomb Building Costs**

Boxplot Comparing the Combined Diameter of Pots Owned by Households with Low Combined Tomb Building Costs and the Combined Diameter of Pots Owned by Households with High Combined Tomb Building Costs



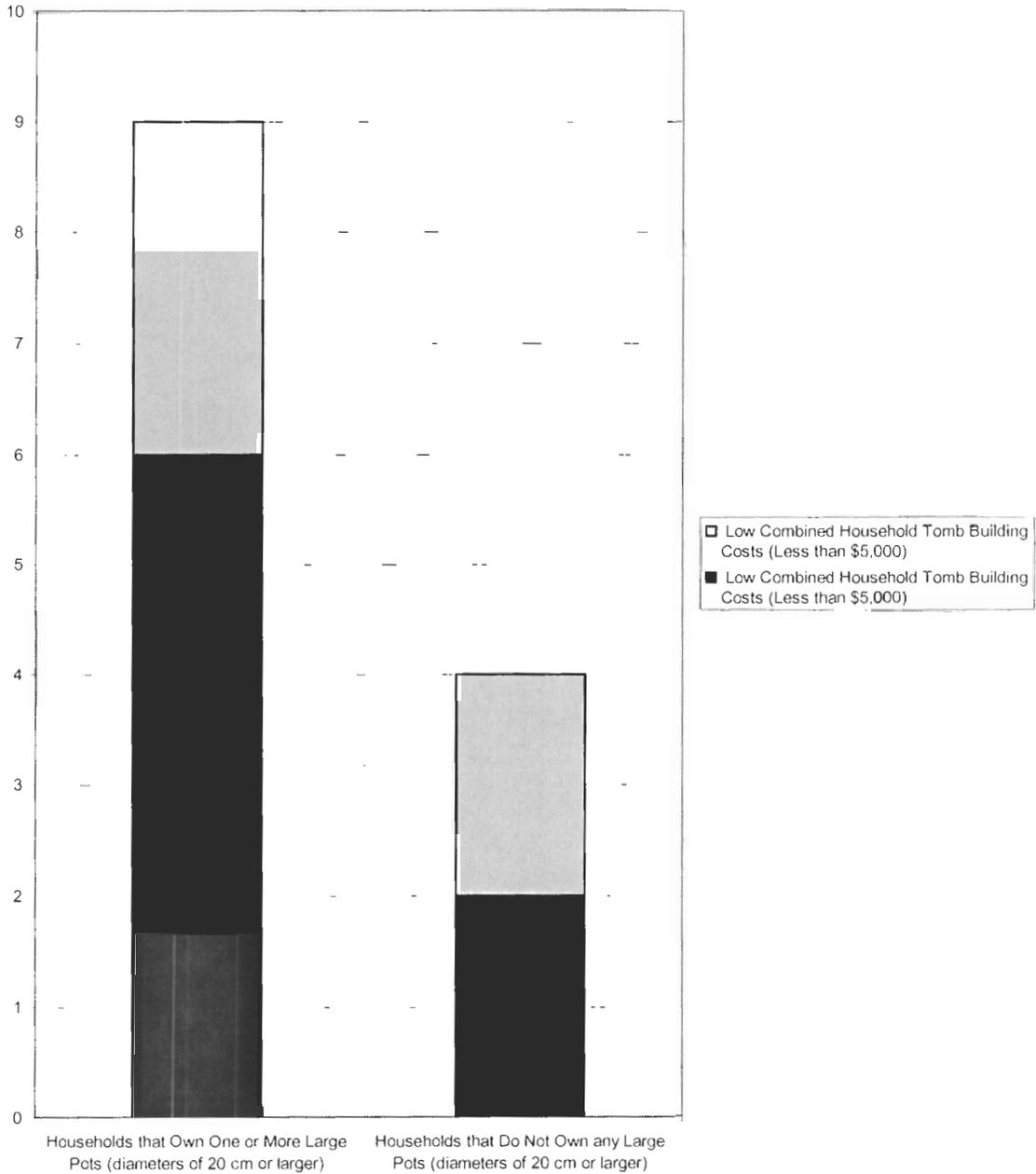
**Figure 5.80: Comparison of the Ownership of Pots among Tomb Building Households with Low Combined Tomb Building Costs and the Ownership of Pots among Households with High Combined Tomb Building Costs**

Boxplot Comparing the Ownership of Pots among Tomb Building Households with Low Combined Tomb Building Costs and the Ownership of Pots among Households with High Combined Tomb Building Costs



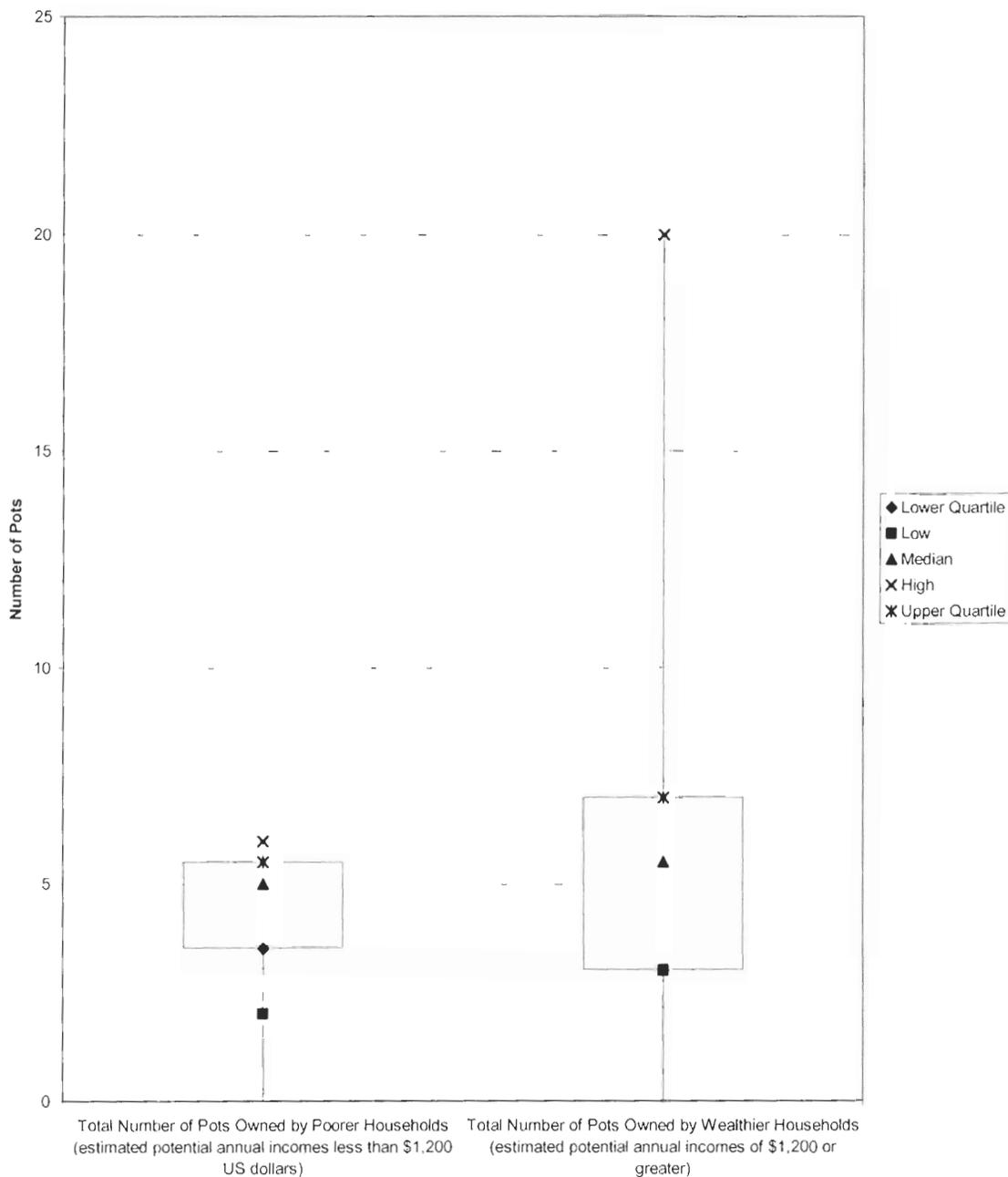
**Figure 5.81: Comparison of Household Tomb Building Costs and the Ownership of Large Pots**

Bar Chart Illustrating the Relationship between Tomb Building Costs and the Ownership of Large Pots



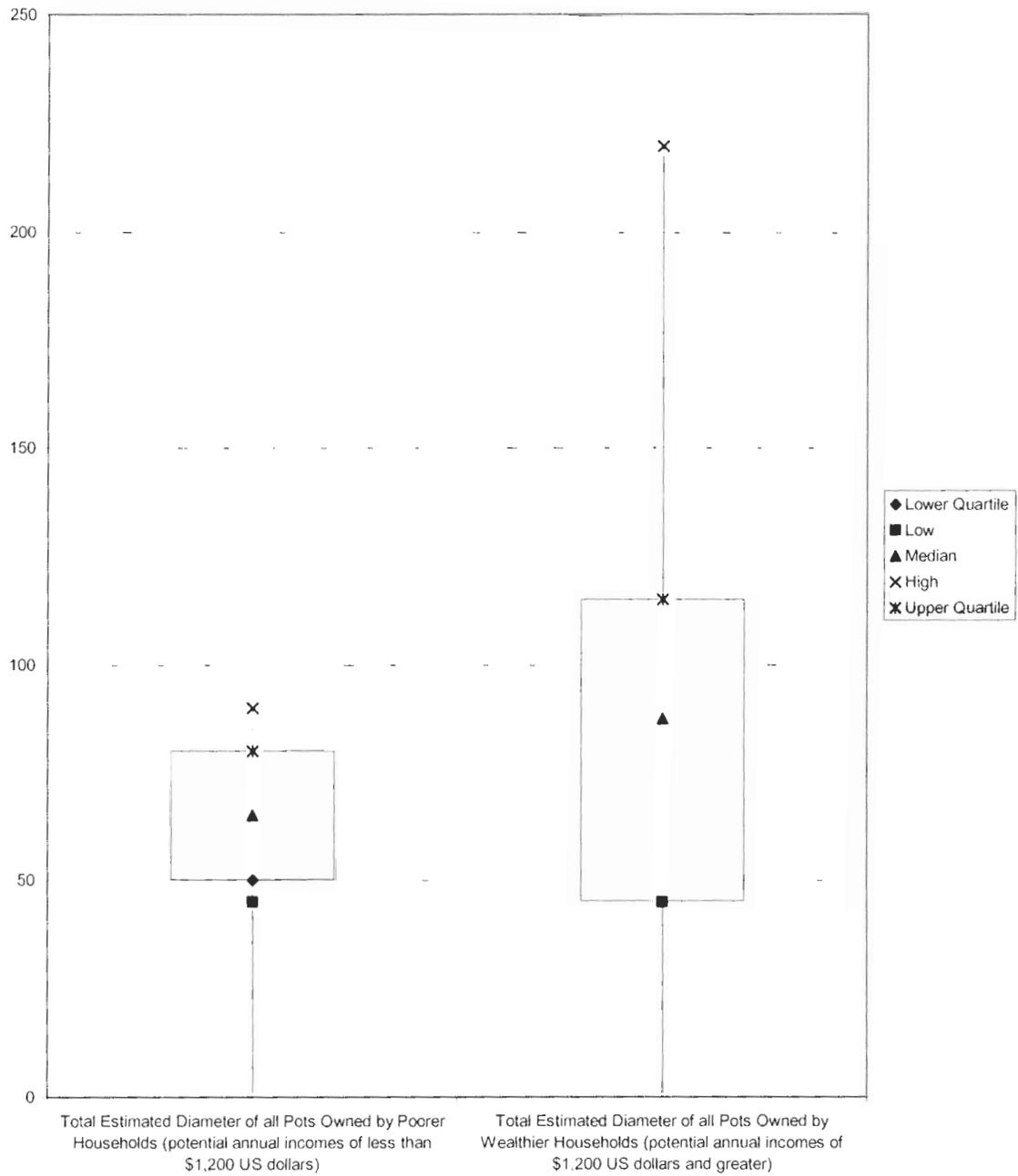
**Figure 5.82: Comparison of the Ownership of Pots by Poorer Households and Wealthier Households**

Boxplot Comparing the Number of Pots Owned by Poorer Households with the Number of those Owned by Wealthier Households



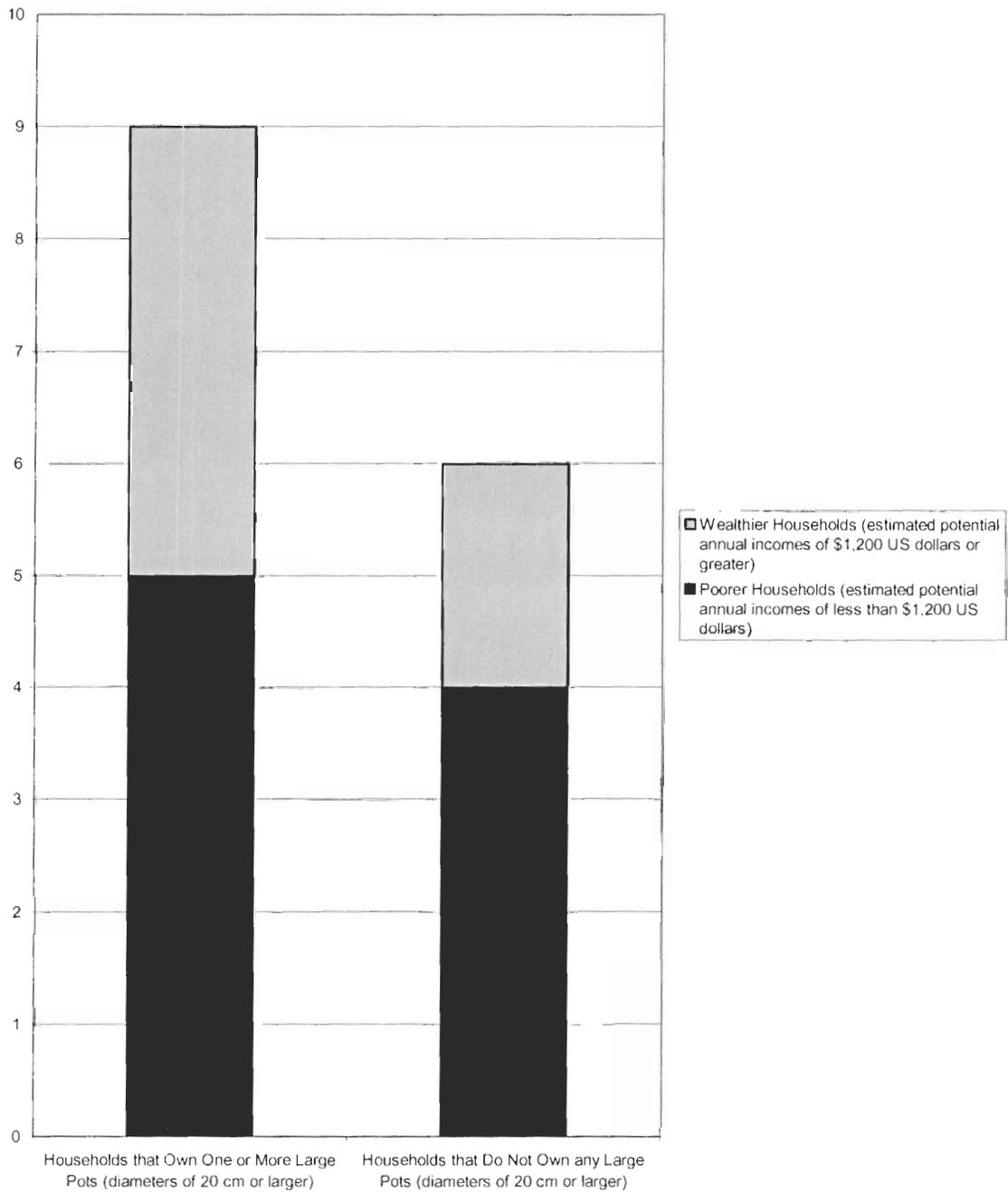
**Figure 5.83: Comparison of the Total Diameter of all Pots Owned by Poorer Households with the Total Estimated Diameter of all Pots Owned by Wealthier Households**

Boxplot Comparing the Cumulative Diameter of all Pots Owned by Poorer Households with those Owned by Wealthier Households



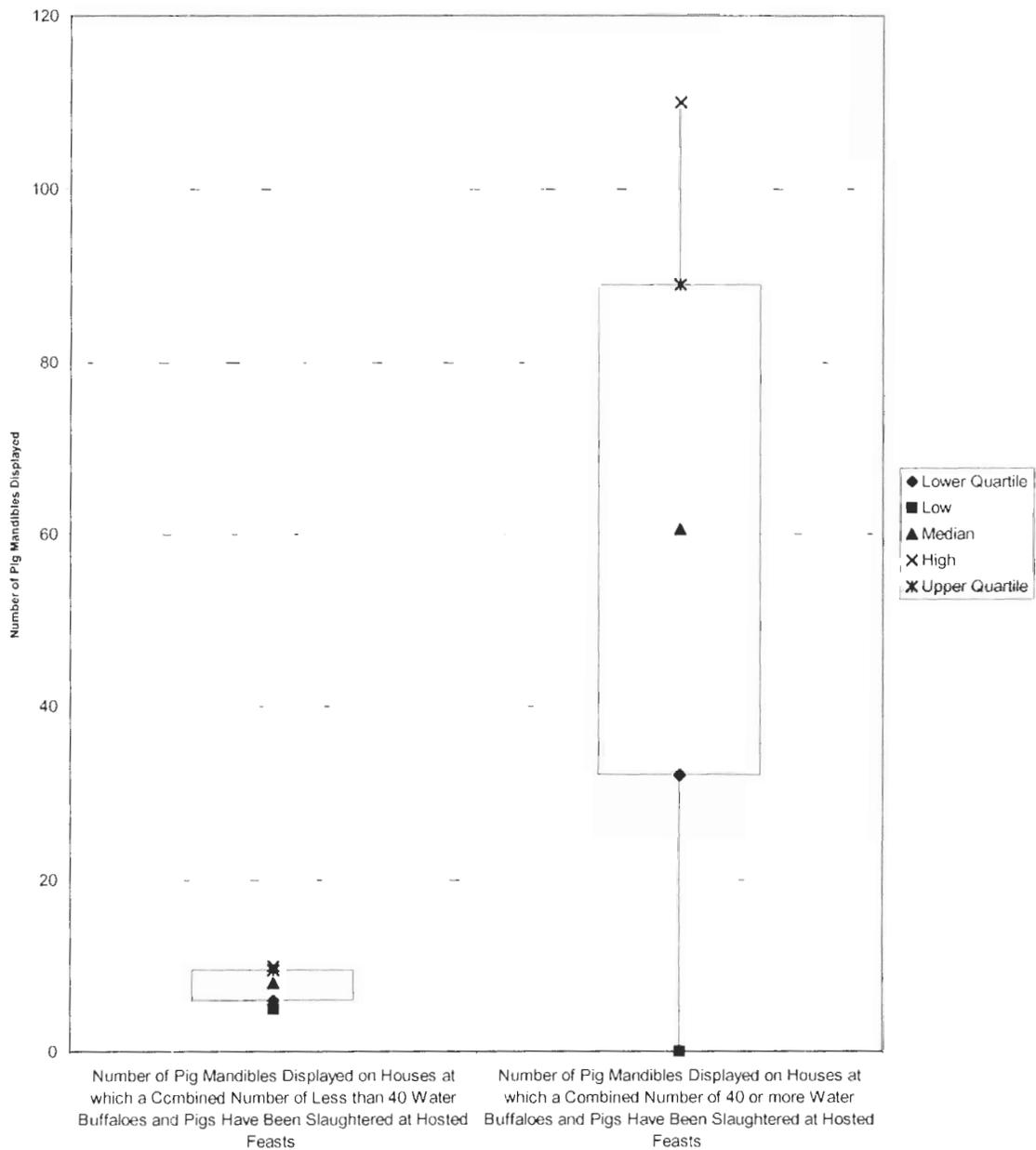
**Figure 5.84: Comparison of Household Wealth and the Ownership of Large Pots**

Bar Chart Comparing Household Wealth with the Ownership of Large Pots



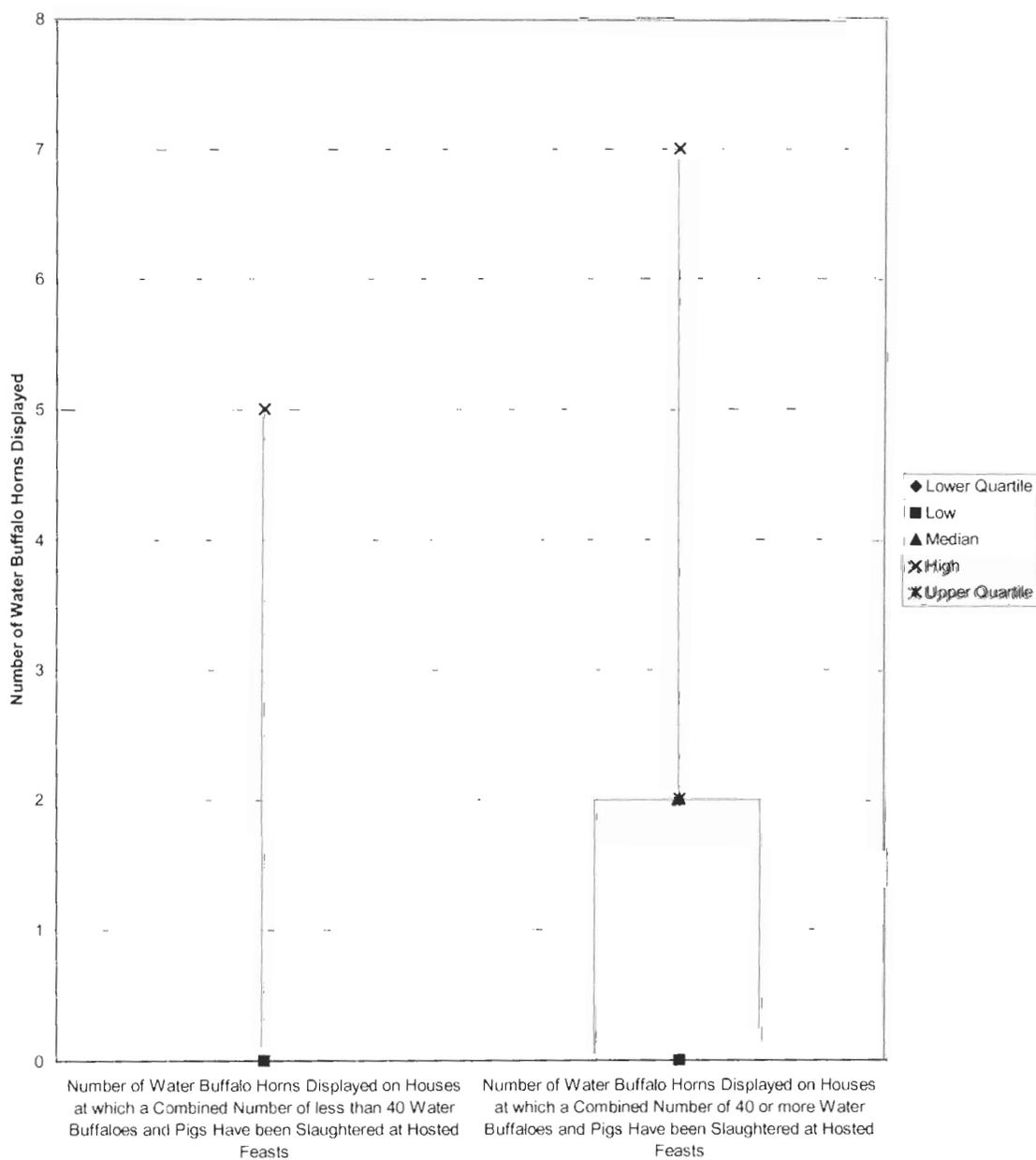
**Figure 5.85: Comparison of the Number of Pig Mandibles Displayed on Houses (households with lower numbers of animals slaughtered at hosted feasts vs. those with higher numbers of animals slaughtered at hosted feasts)**

Boxplot Comparing The Number of Pig Mandibles Displayed on Houses (households with lower numbers of animals slaughtered at hosted feasts vs. those with higher numbers of animals slaughtered at hosted feasts)



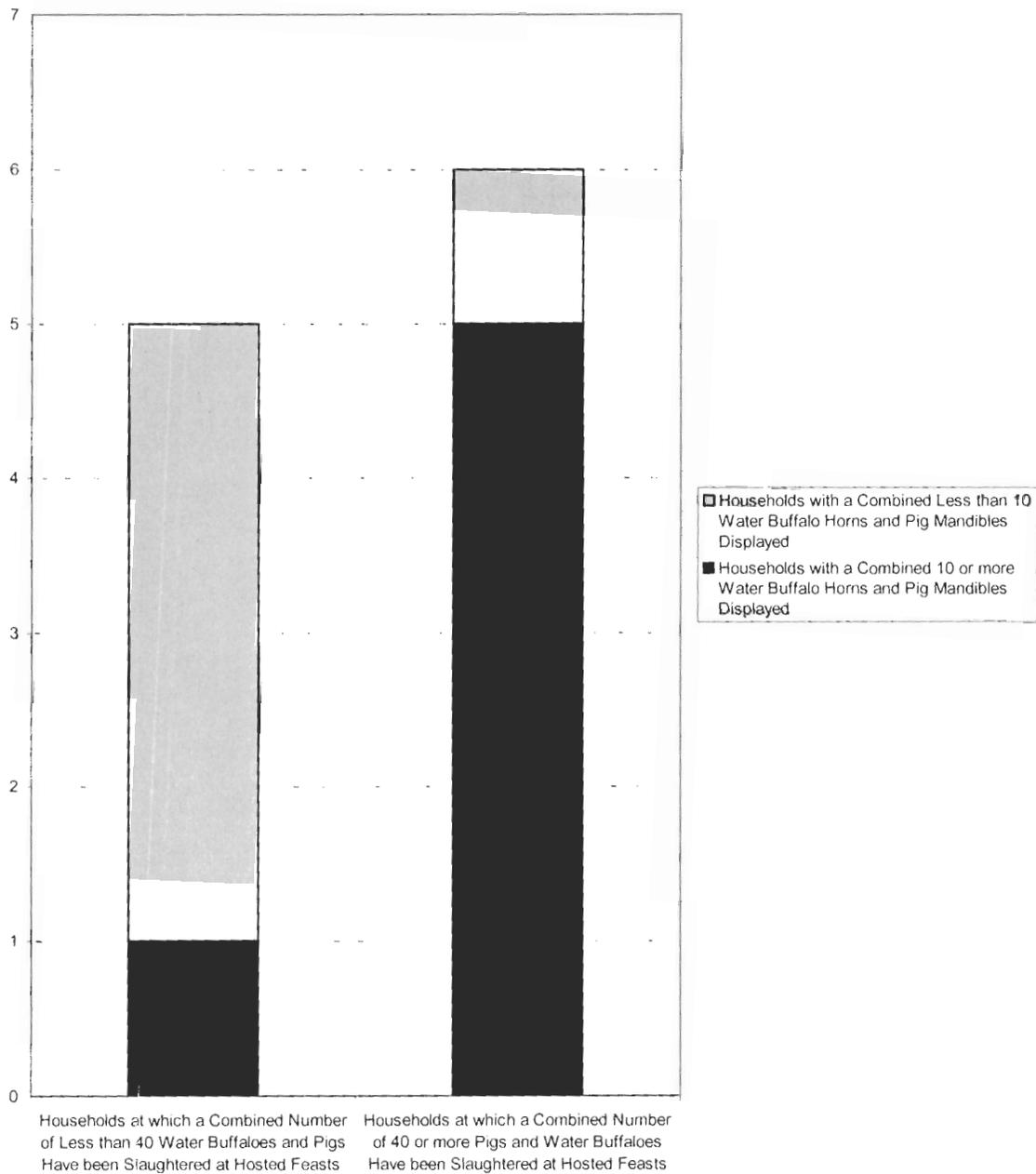
**Figure 5.86: Comparison of the Number of Water Buffalo Horns Displayed on Houses (households with low numbers of animals slaughtered at hosted feasts vs. those with high numbers of animals slaughtered at hosted feasts)**

Boxplot Comparing the Number of Water Buffalo Horns Displayed on Houses (households with low numbers of animals slaughtered at hosted feasts vs. those with high numbers of animals slaughtered at hosted feasts)

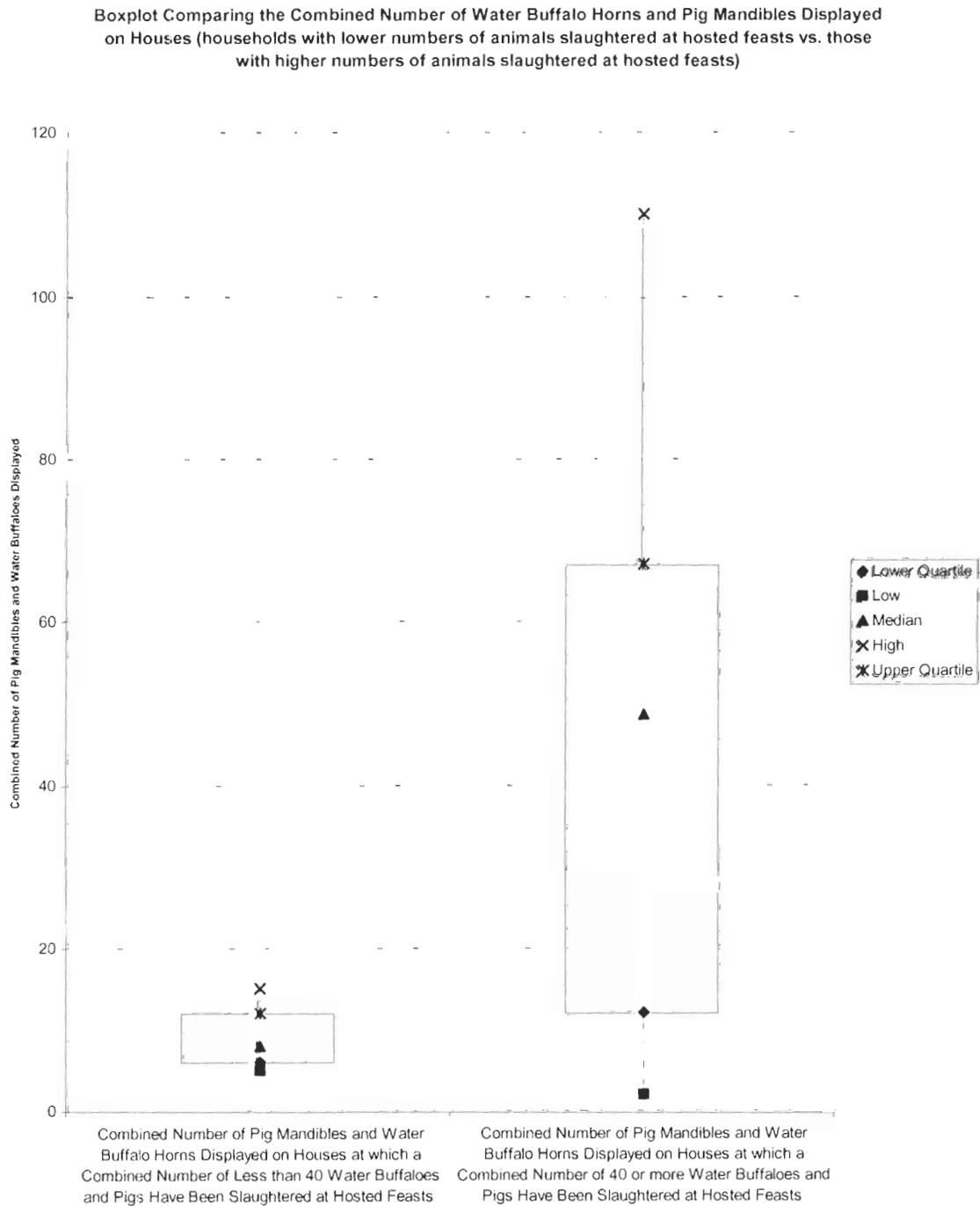


**Figure 5.87: Cross Tabulation of the Number of Water Buffalo Horns and Pig Mandibles Displayed on Houses and the Number of Heads of Livestock Slaughtered for Hosted Feasts**

Bar Chart Displaying the Relationship between the Number of Pig Mandibles and Water Buffalo Horns Displayed on Houses and the Number of Heads of Livestock Slaughtered for Hosted Feasts

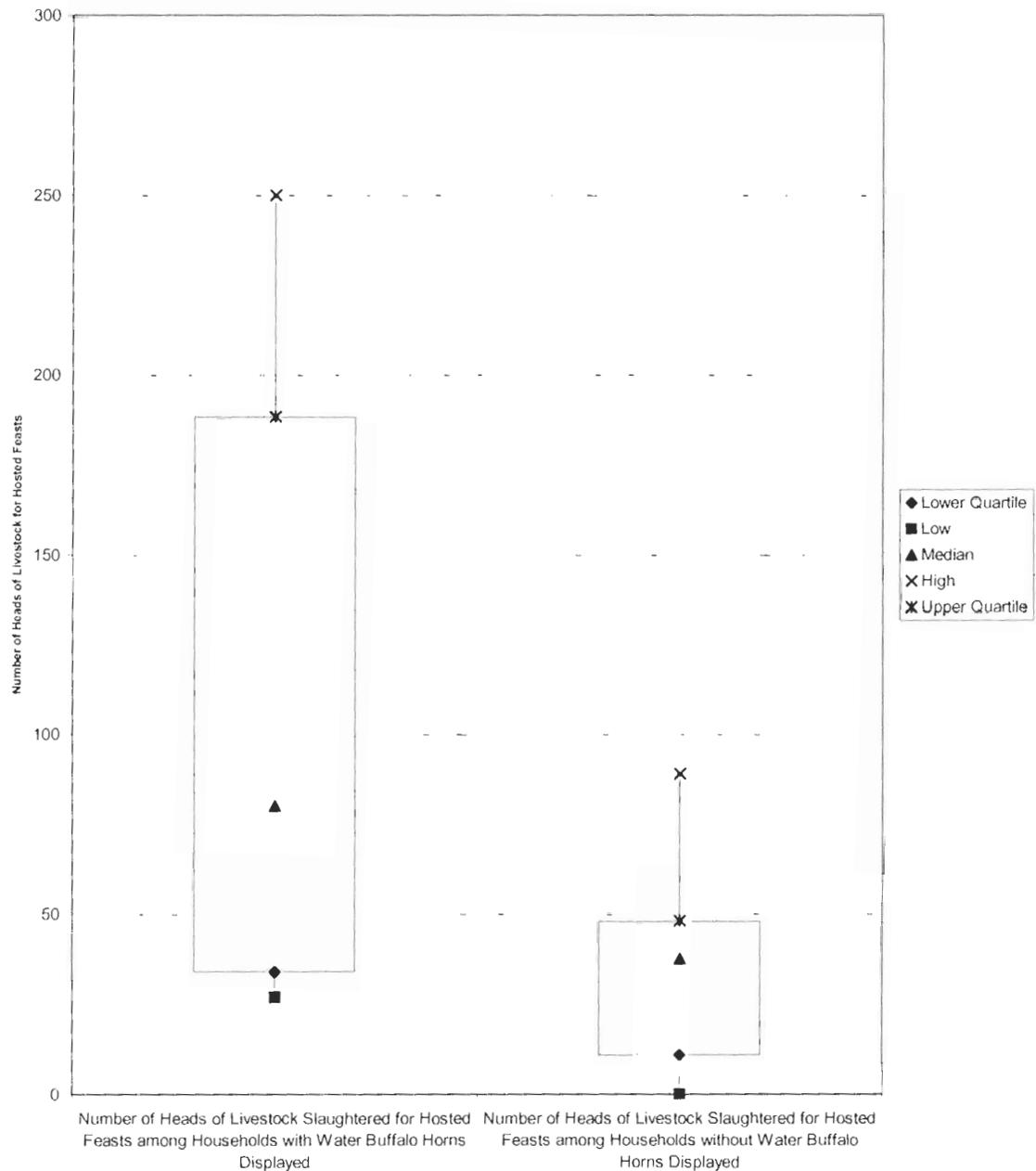


**Figure 5.88: Comparison of the Combined Number of Water Buffalo Horns and Pig Mandibles Displayed on Houses between Households with Lower Numbers of Animals Slaughtered at Hosted Feasts and those with Higher Numbers of Animals Slaughtered at Hosted Feasts**



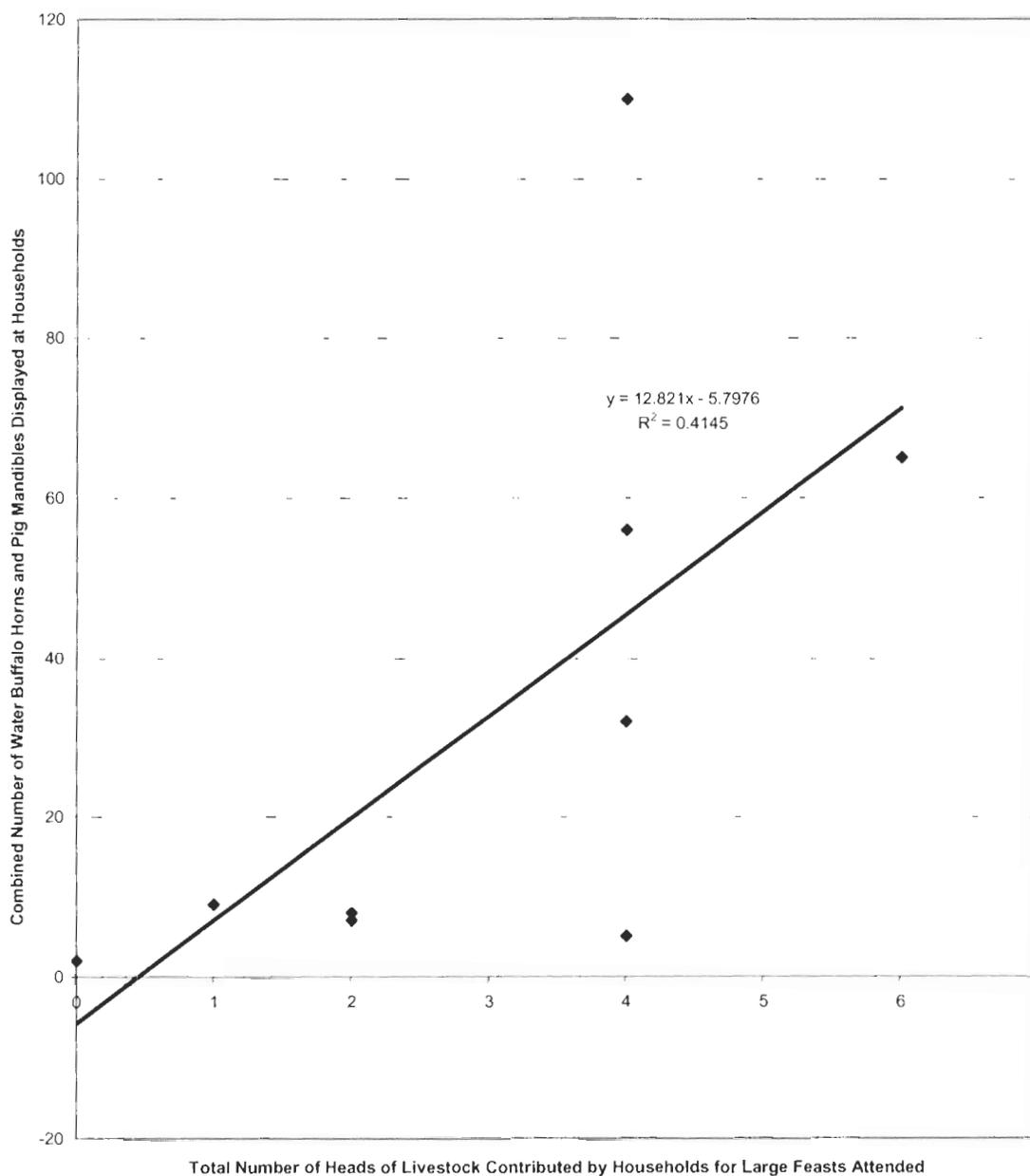
**Figure 5.89: Comparison of the Number of Heads of Livestock Slaughtered for Hosted Feasts between Households with Buffalo Horns Displayed and Households without Buffalo Horns Displayed**

Boxplot Comparing the Number of Heads of Livestock Slaughtered for Hosted Feasts between Households with Buffalo Horns Displayed and Households without Buffalo Horns Displayed

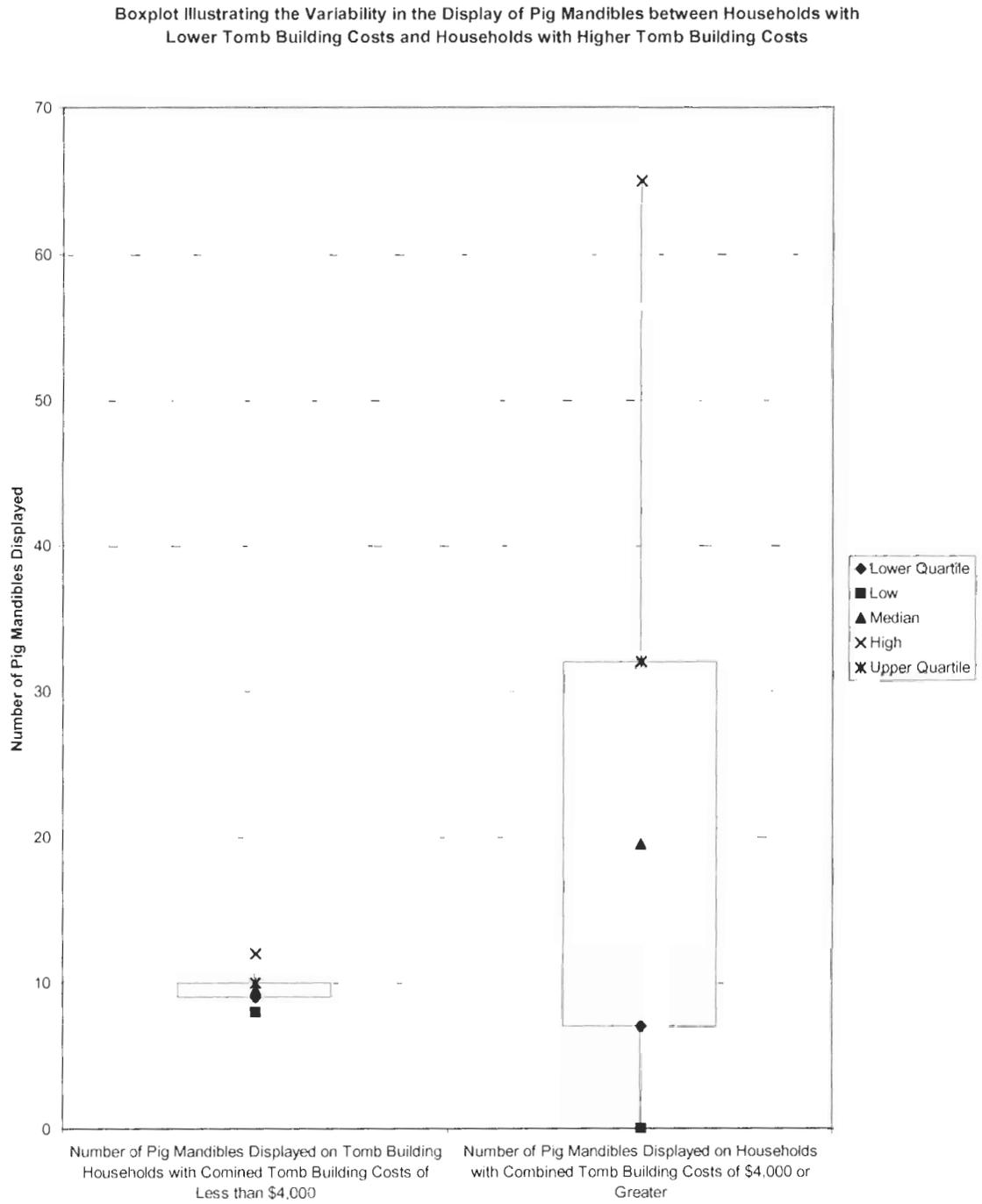


**Figure 5.90: Comparison of the Total Number of Heads of Livestock Contributed by Households for Large Feasts Attended and the Combined Number of Water Buffalo Horns and Pig Mandibles Displayed at Households**

Correlation between the total Number of Heads of Livestock Contributed by Households for Large Feasts Attended and the Combined Number of Water Buffalo Horns and Pig Mandibles Displayed at Households

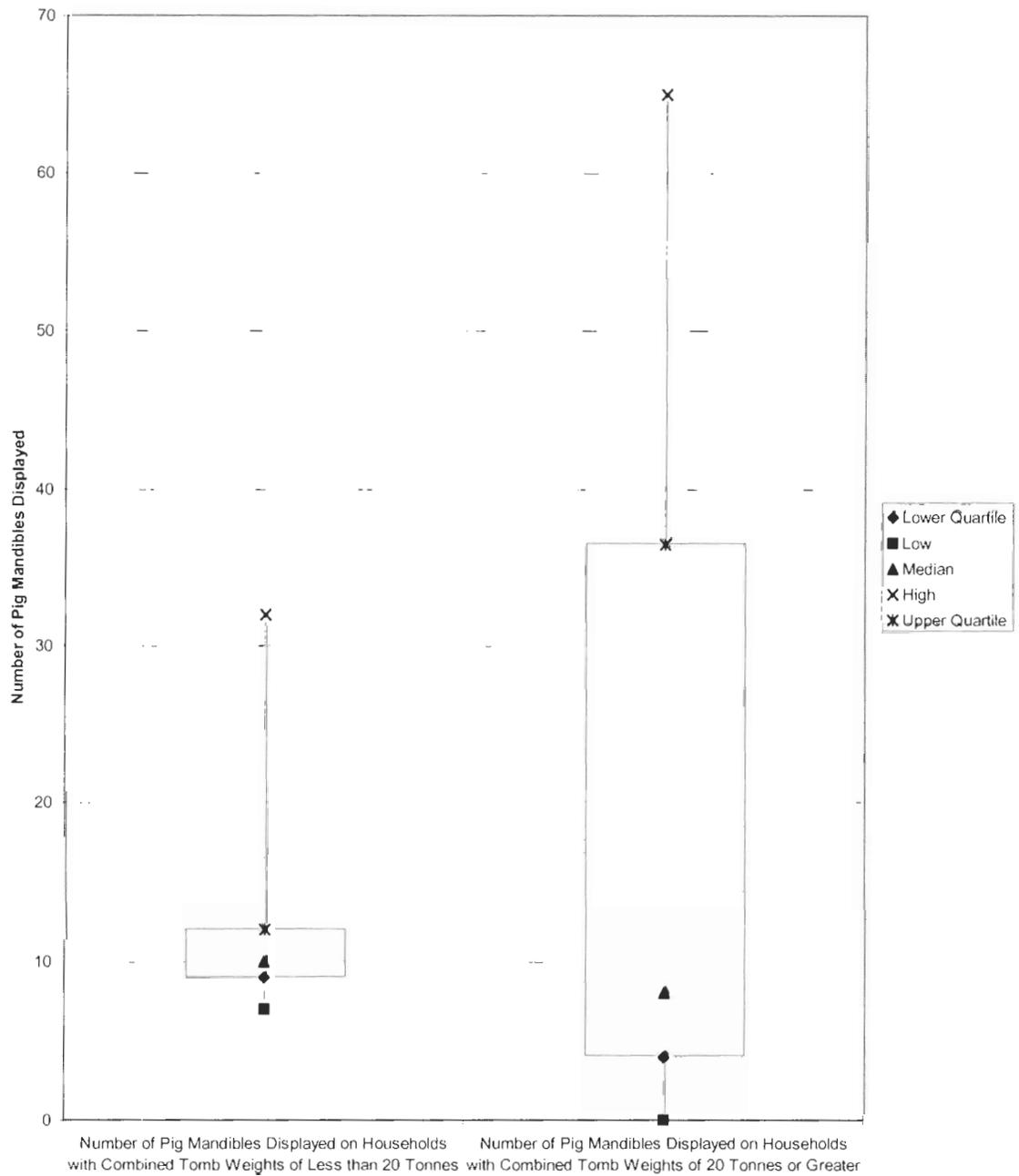


**Figure 5.91: Comparison of the Display of Pig Mandibles between Households with Lower Tomb Building Costs and Households with Higher Tomb Building Costs**



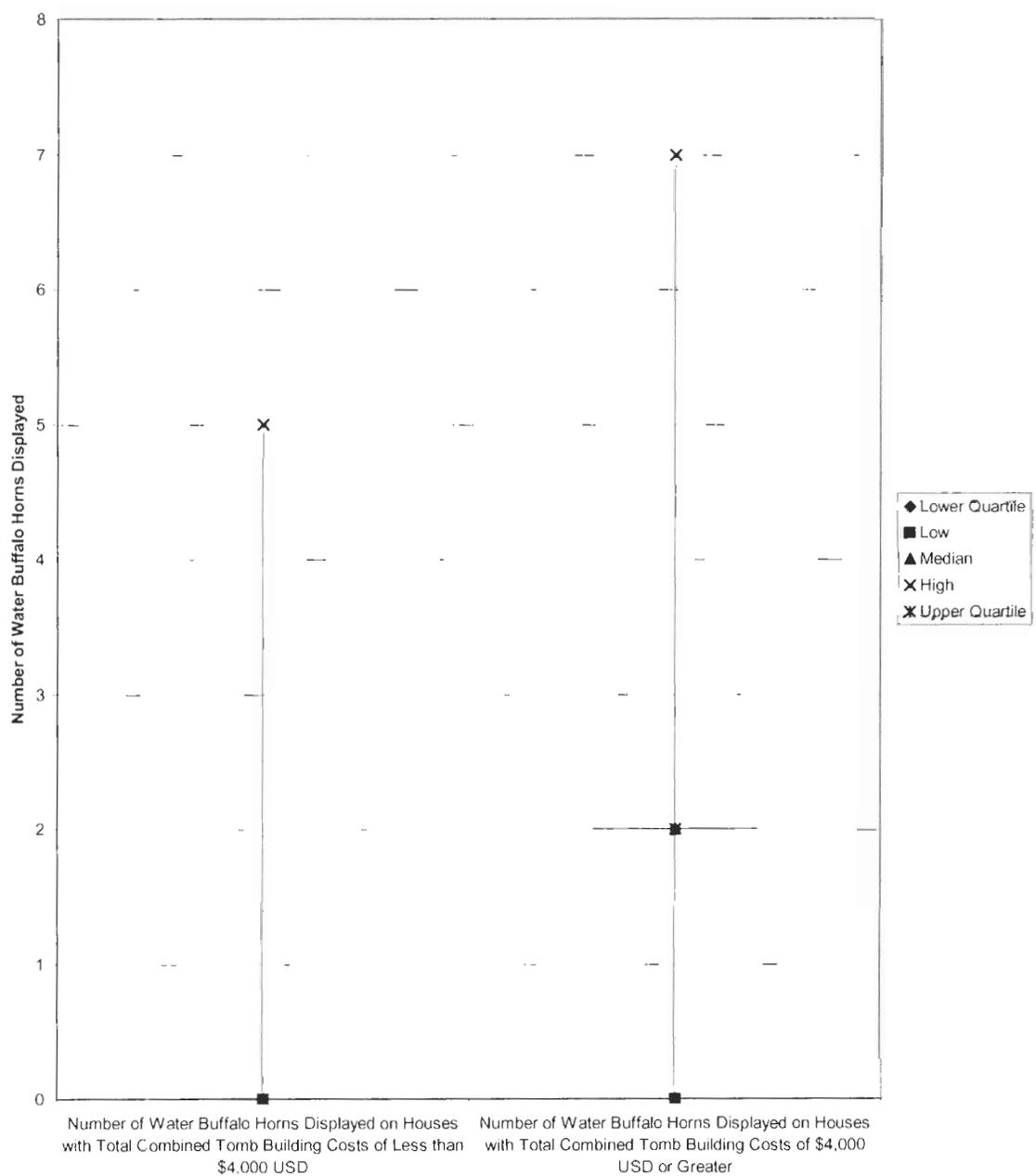
**Figure 5.92: Comparison of the Display of Pig Mandibles between Households with Lower Combined Tomb Weights and Households with Higher Combined Tomb Weights**

Boxplot Illustrating the Variability in the Display of Pig Mandibles Between Households with Lower Combined Tomb Weights and Households with Higher Combined Tomb Weights



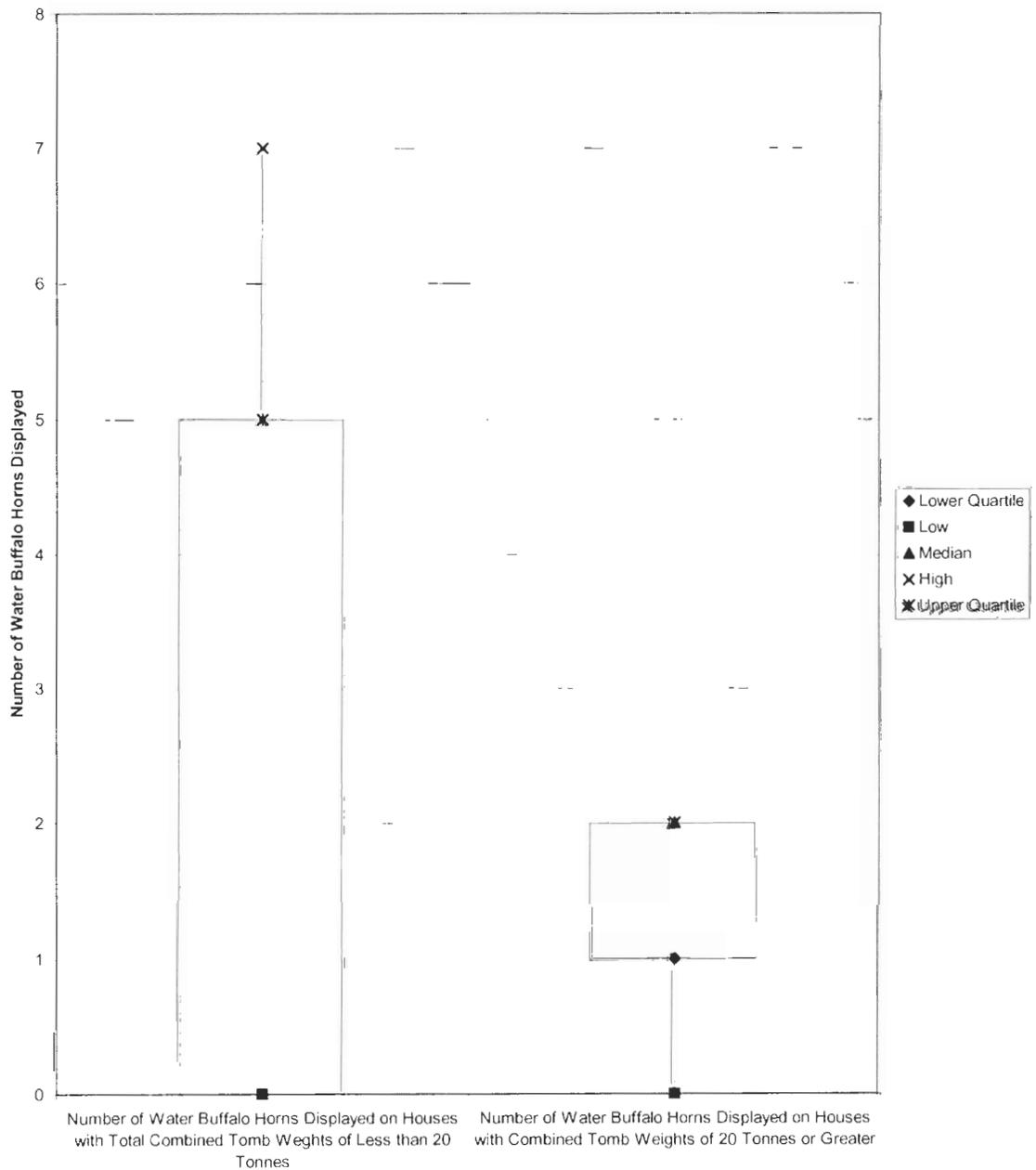
**Figure 5.93: Comparison of the Variability in the Display of Water Buffalo Horns between Households with Lower Tomb Building Costs and Households with Higher Tomb Building Costs**

Boxplot Illustrating the Variability in the Display of Water Buffalo Horns between Households with Lower Tomb Building Costs and Households with Higher Tomb Building Costs



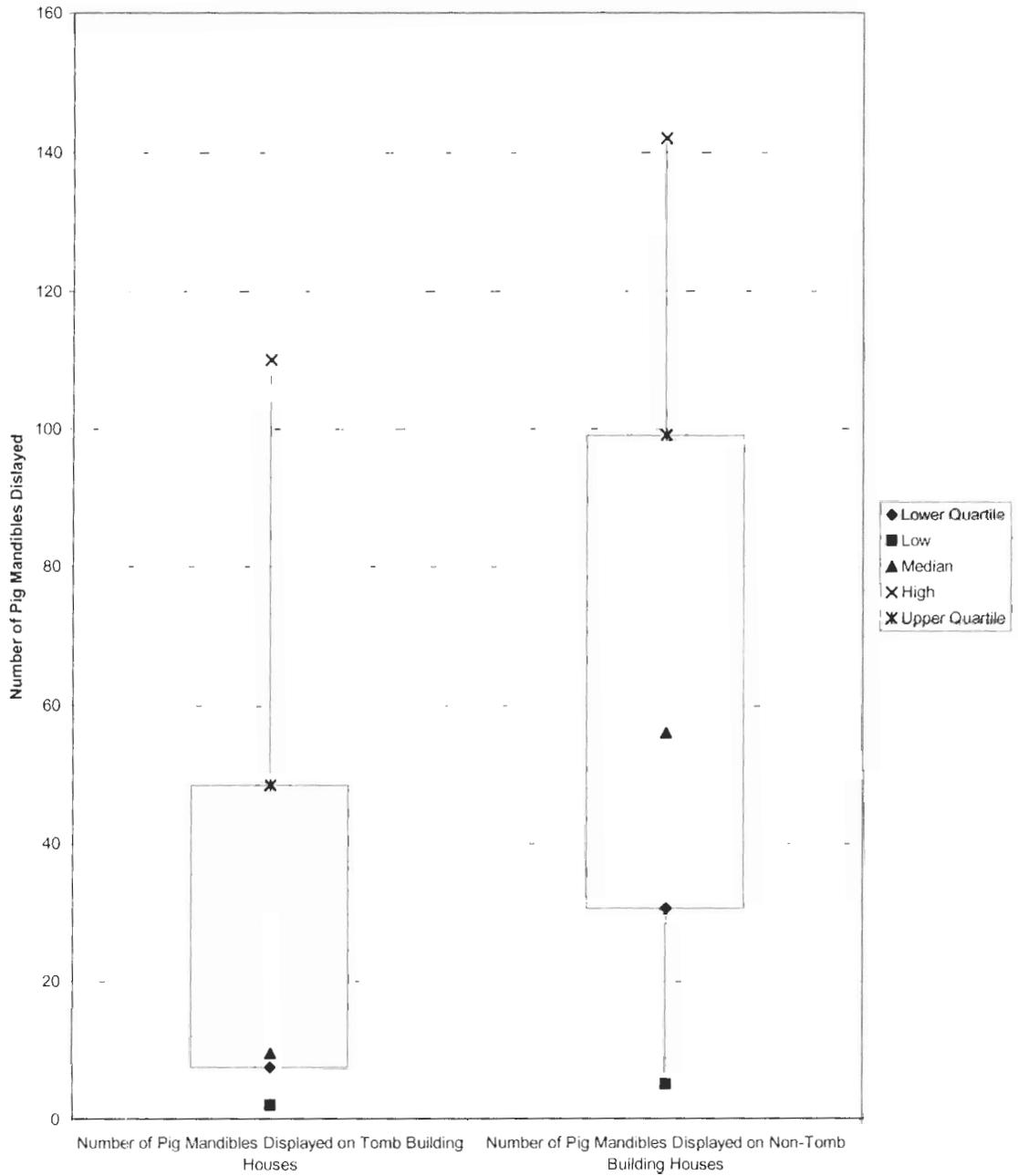
**Figure 5.94: Comparison of the Variability in the Display of Water Buffalo Horns between Households with Lower Combined Tomb Weights and Households with Higher Tomb Weights**

Boxplot Illustrating the Variability in the Display of Water Buffalo Horns between Households with Lower Combined Tomb Weights and Households with Higher Tomb Weights



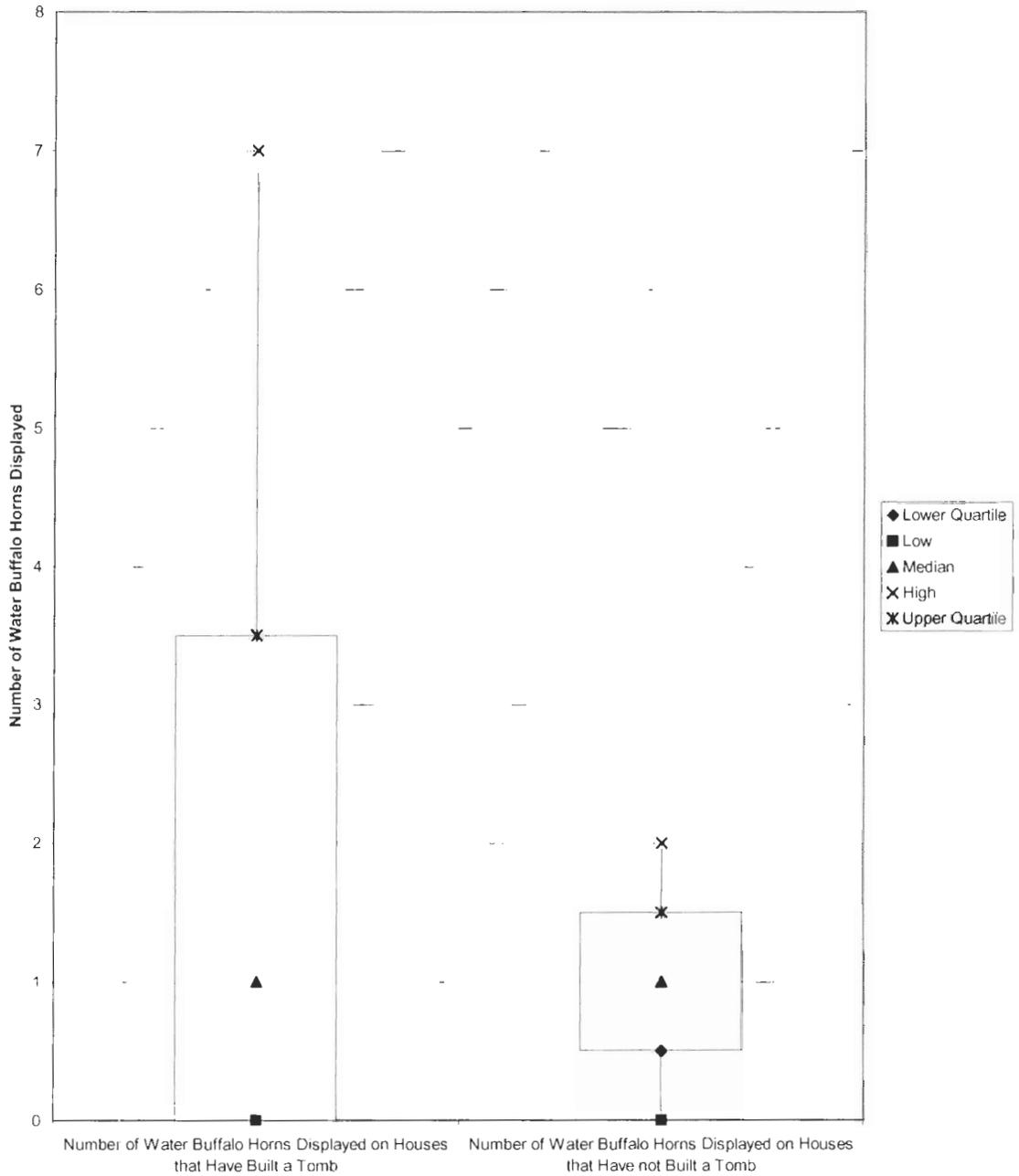
**Figure 5.95: Comparison of the Variability in the Display of Pig Mandibles between Households that Have Built a Tomb and Households that Have not Built a Tomb**

Boxplot Illustrating the Variability in the Display of Pig Mandibles between Households that Have Built a Tomb and Households that Have not Built a Tomb



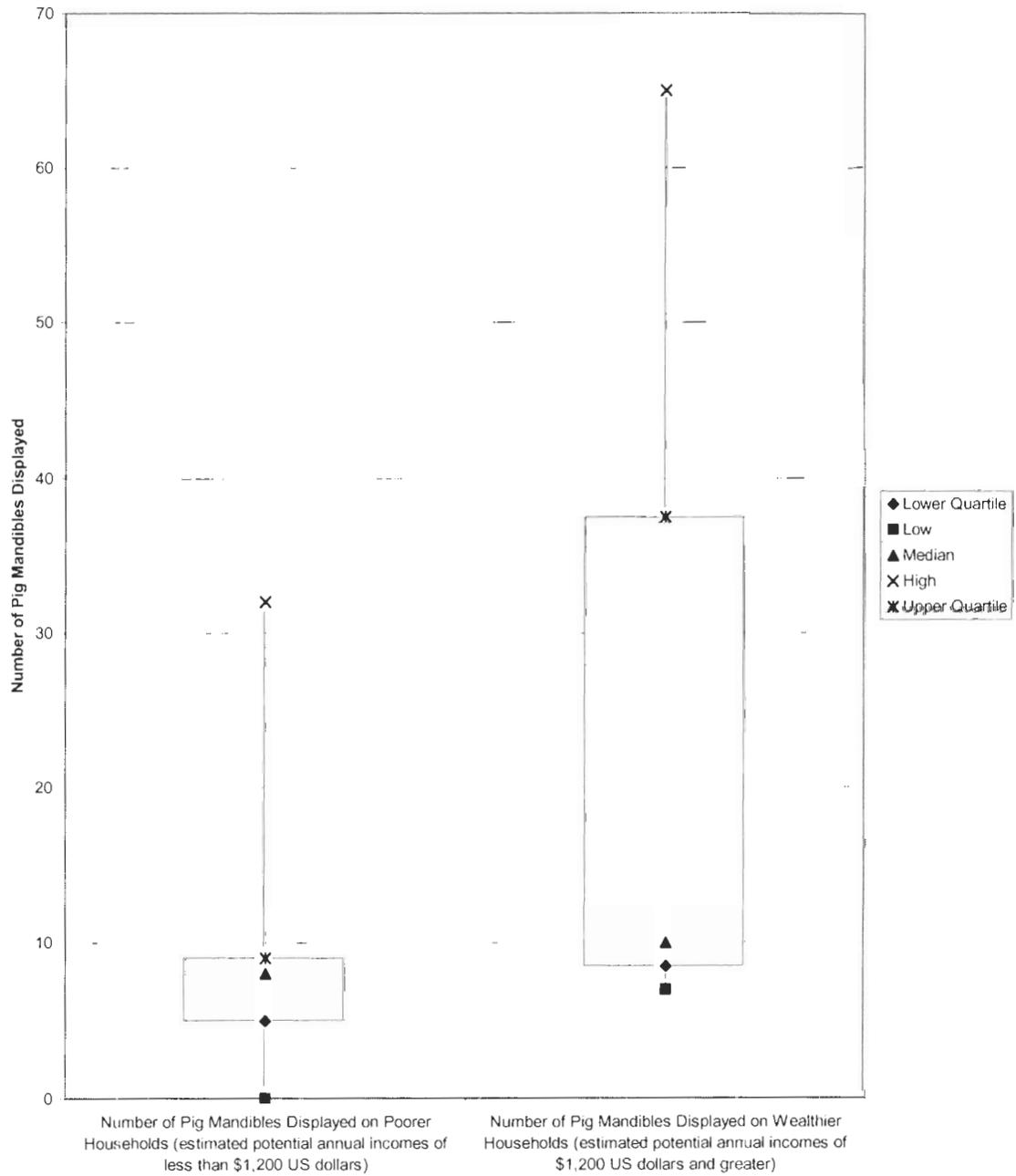
**Figure 5.96: Comparison of the Variability in the Display of Water Buffalo Horns between Households that Have Built a Tomb and Households that Have not Built a Tomb**

Boxplot Comparing the Number of Water Buffalo Horns Displayed on Houses between Households that Have Built a Tomb and Households that Have not Built a Tomb



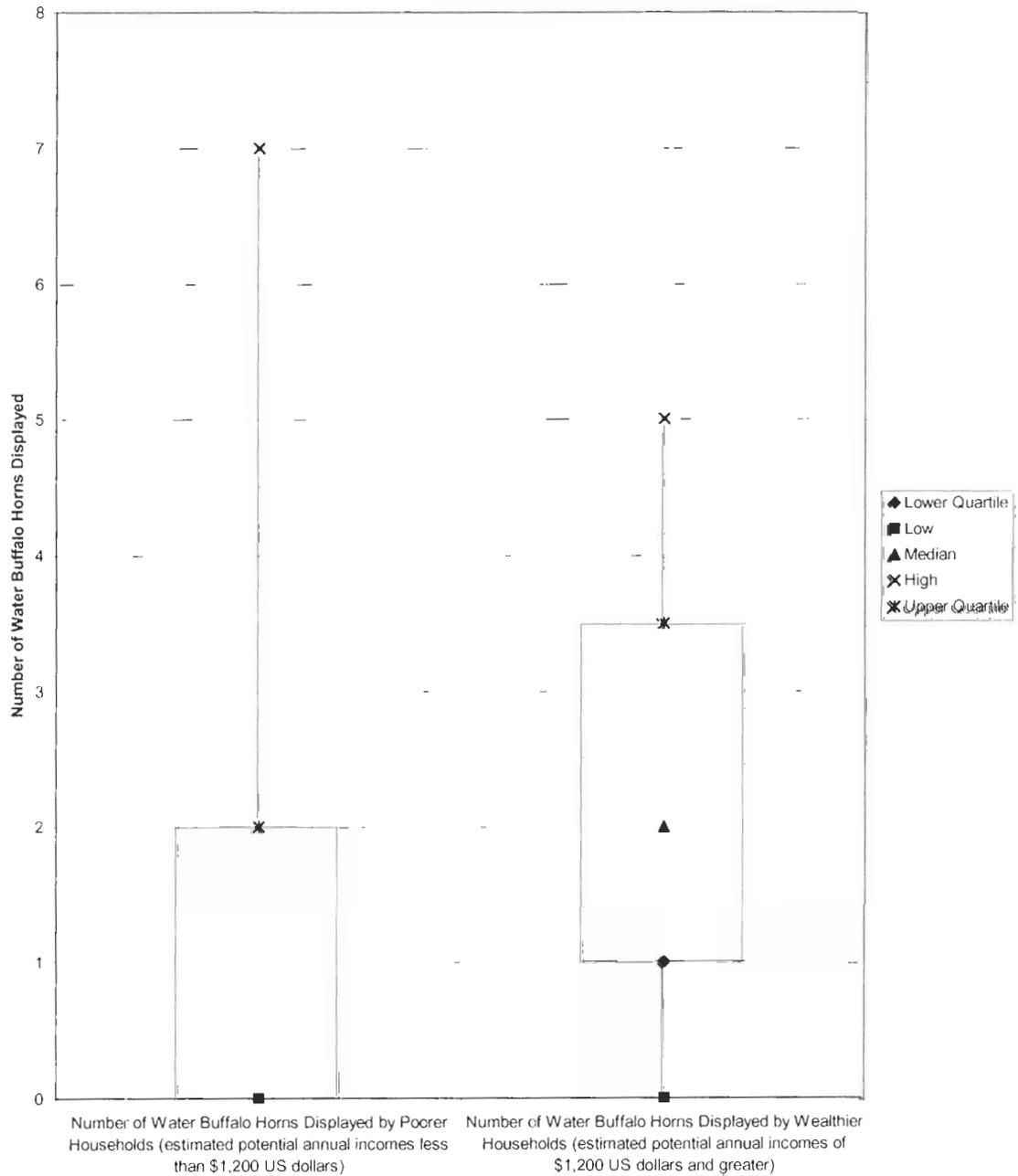
**Figure 5.97: Comparison of the Number of Pig Mandibles Displayed on Poorer Households with those Displayed on Wealthier Households**

Boxplot Comparing the Number of Pig Mandibles Displayed on Poorer Households with those Displayed on Wealthier Households



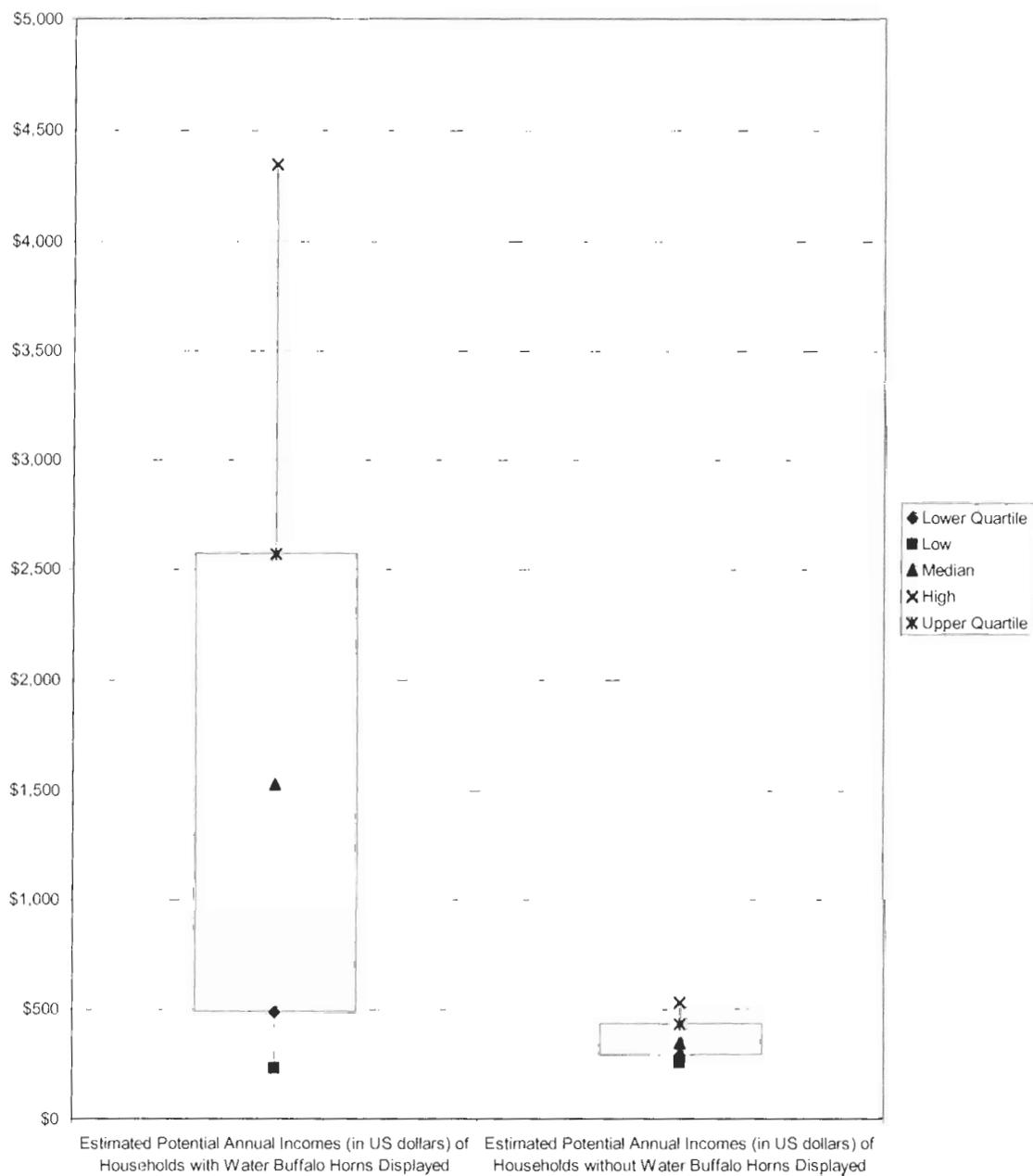
**Figure 5.98: Comparison of the Number of Water Buffalo Horns Displayed on Poorer Households with those Displayed on Wealthier Households**

Boxplot Comparing the Number of Water Buffalo Horns Displayed on Poorer Households with those Displayed on Wealthier Households



**Figure 5.99: Comparison of Potential Household Income between Households with Buffalo Horns Displayed and those without Buffalo Horns Displayed**

Boxplot Illustrating the Variability in Potential Household Income between Households with Buffalo Horns Displayed and those without Buffalo Horns Displayed

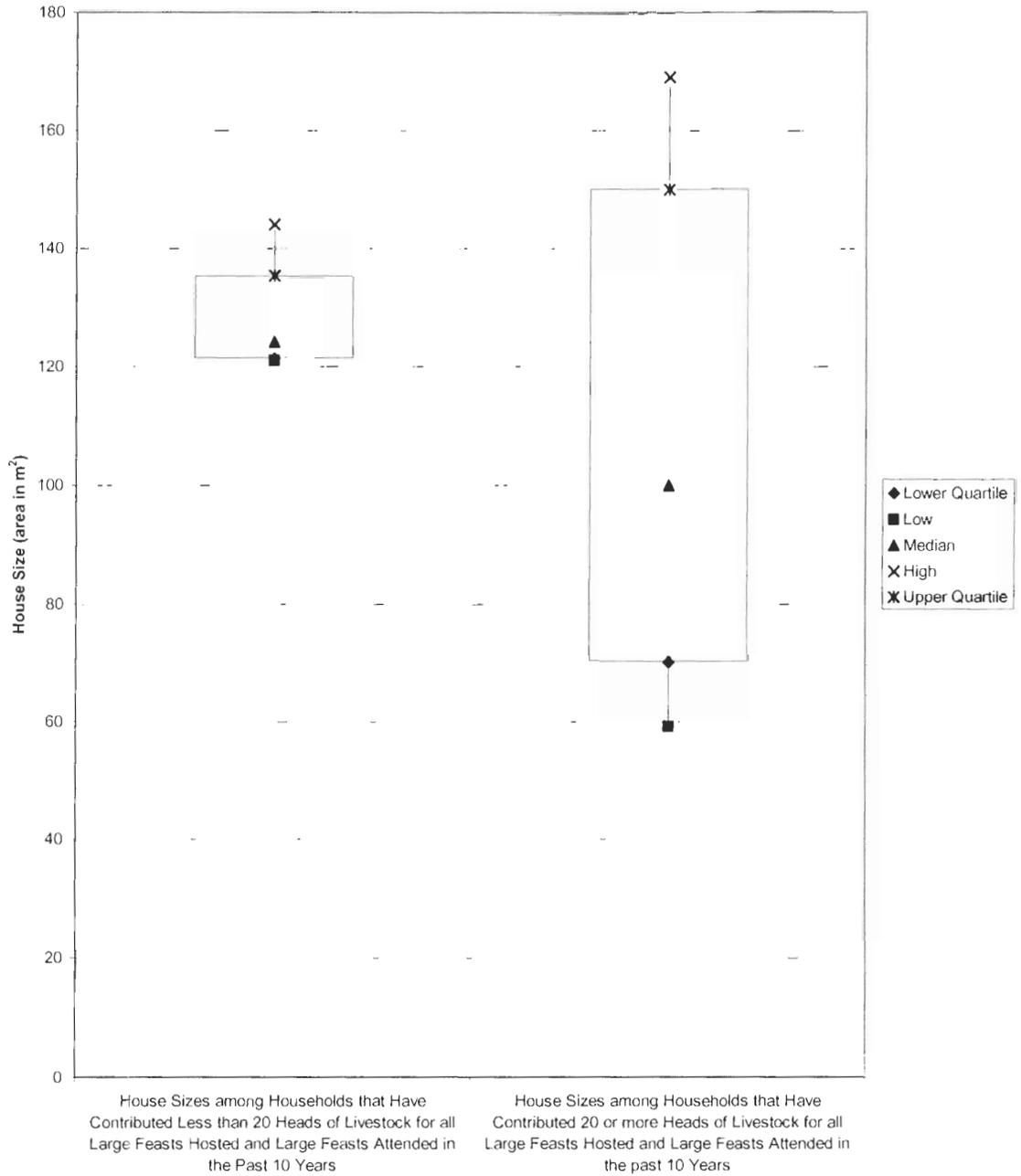


**Figure 5.100: Baskets in Wainyapu, West Sumba (photo by R. Adams)**

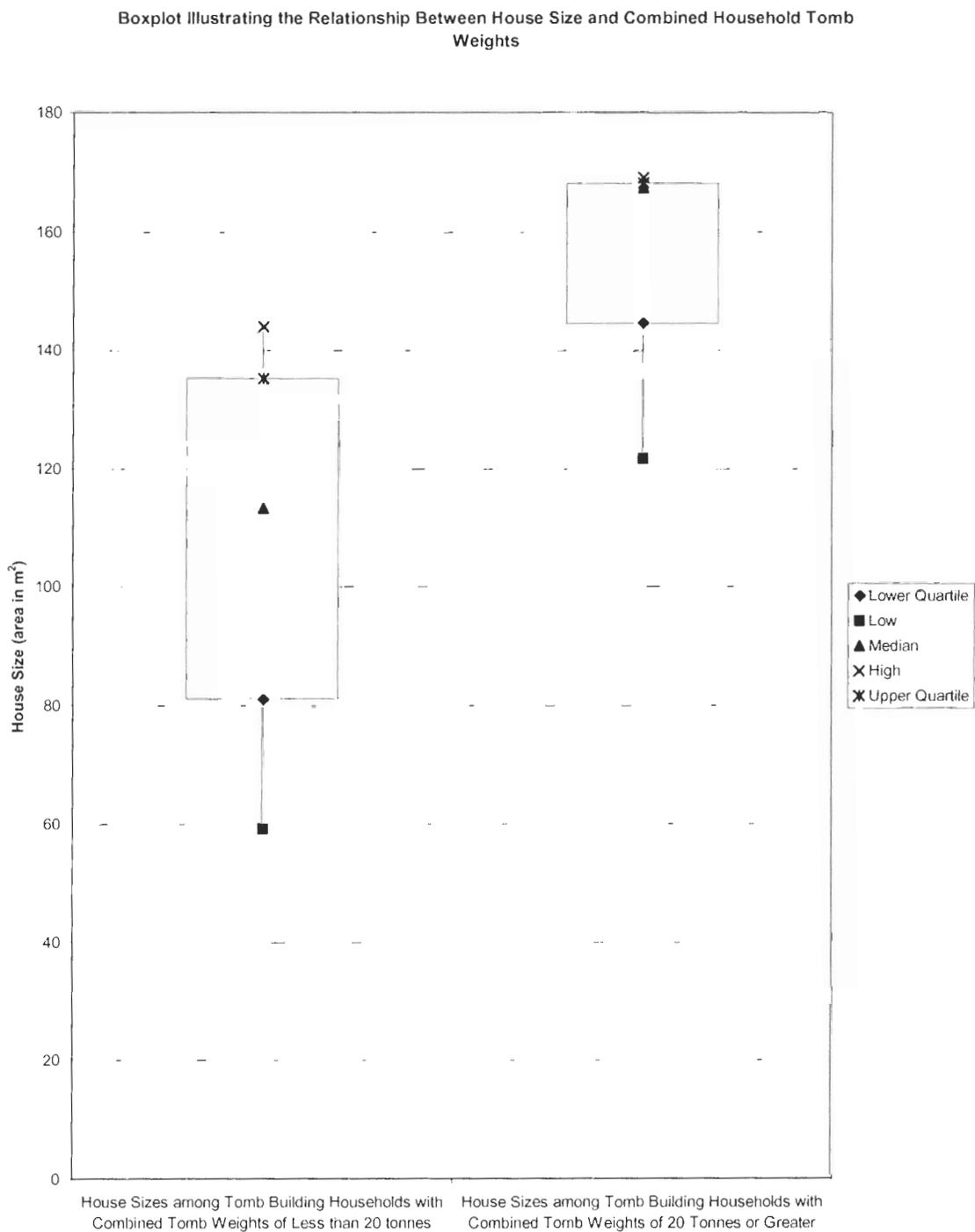


### Figure 5.101: Comparison of Household Feasting Investments and House Size

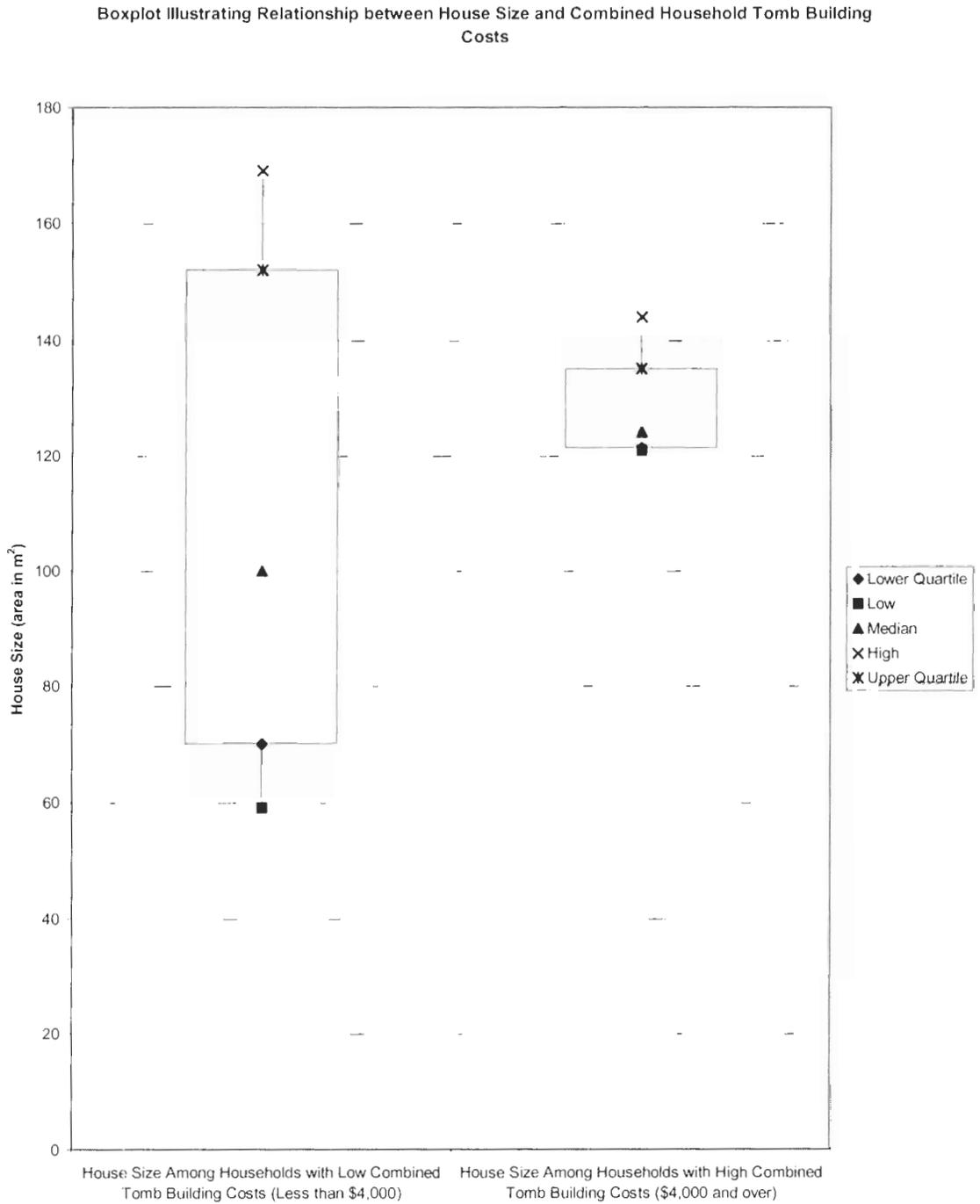
Boxplot Illustrating the Relationship between Household Feasting Investments and House Size

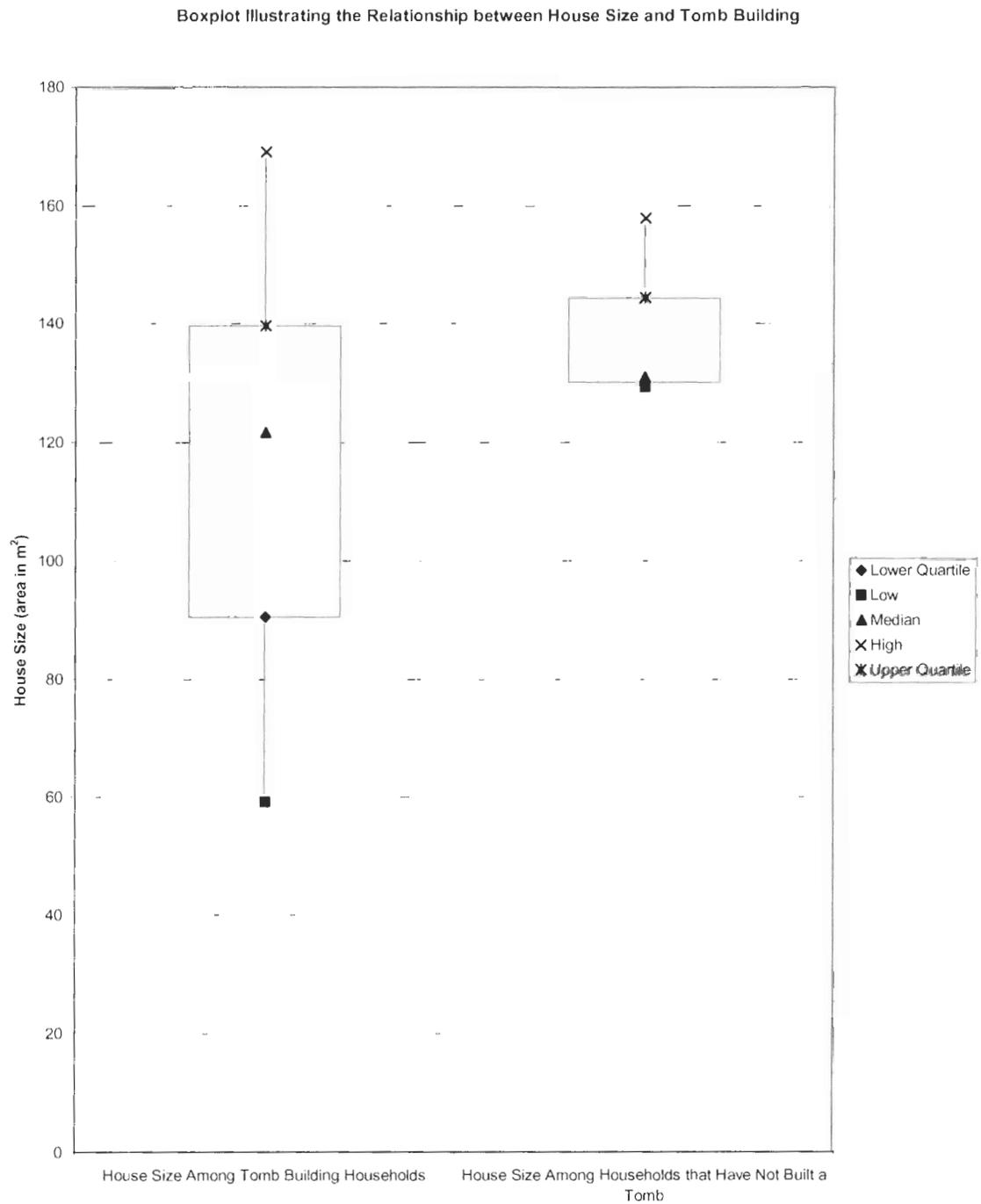


**Figure 5.102: Comparison of House Size and Combined Household Tomb Weights**



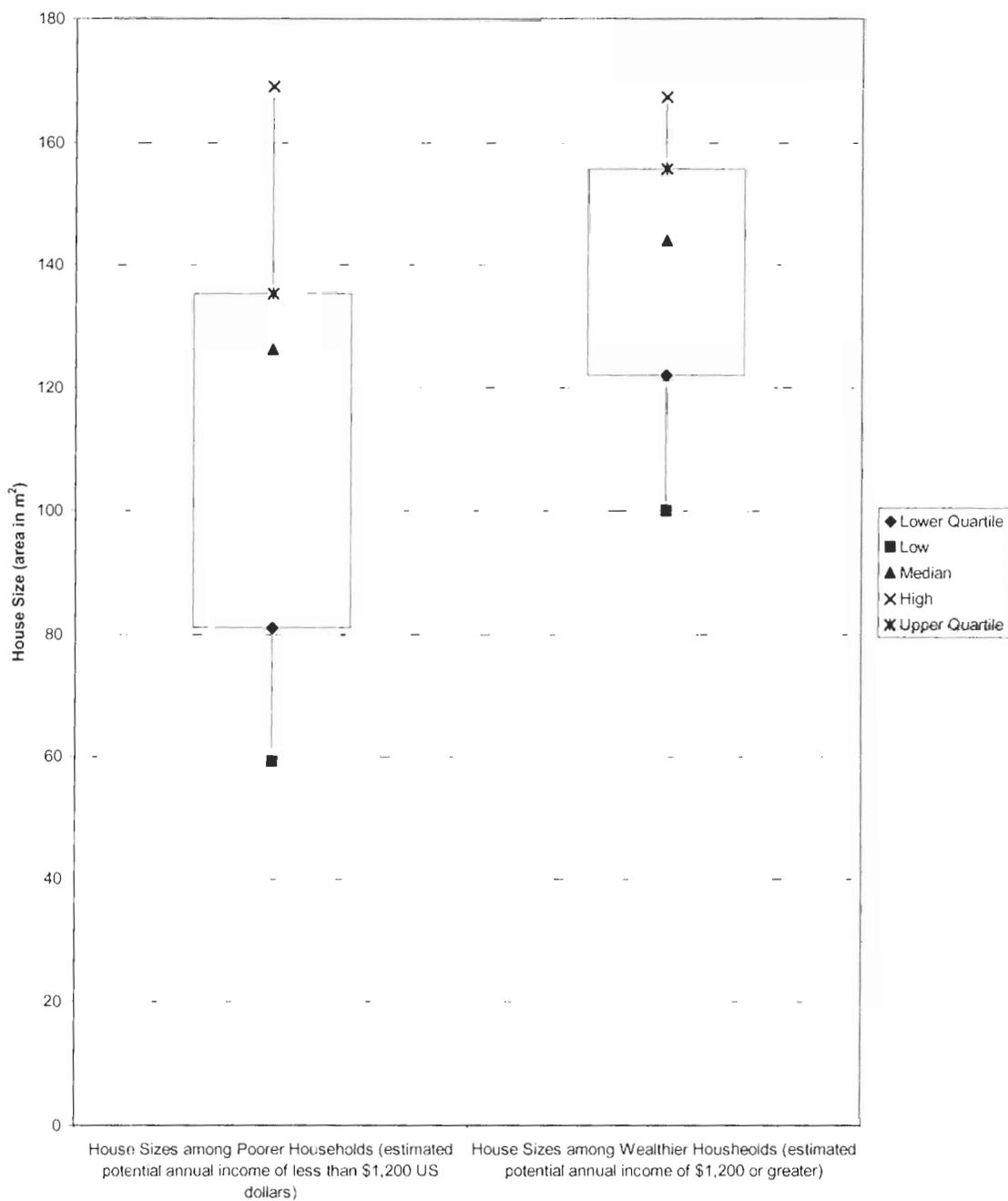
**Figure 5.103: Comparison of House Size and Combined Household Tomb Building Costs**



**Figure 5.104: Comparison of House Size and Tomb Building**

**Figure 5.105: Comparison of House Size and Household Wealth**

Boxplot Displaying the Relationship between House Size and Household Wealth

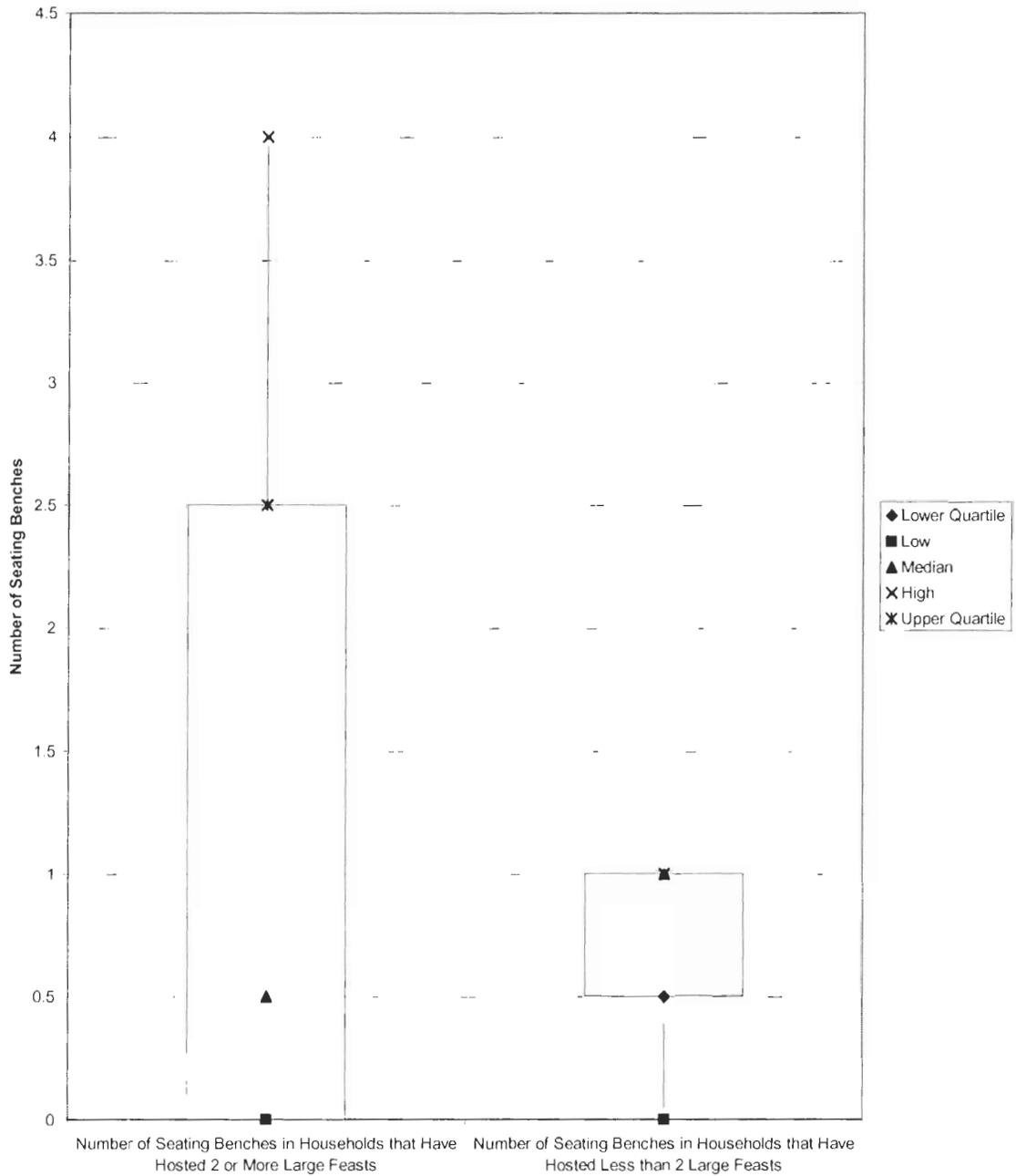


**Figure 5.106: Seating Bench in House in Wainyapu, West Sumba**  
(photo by R. Adams)



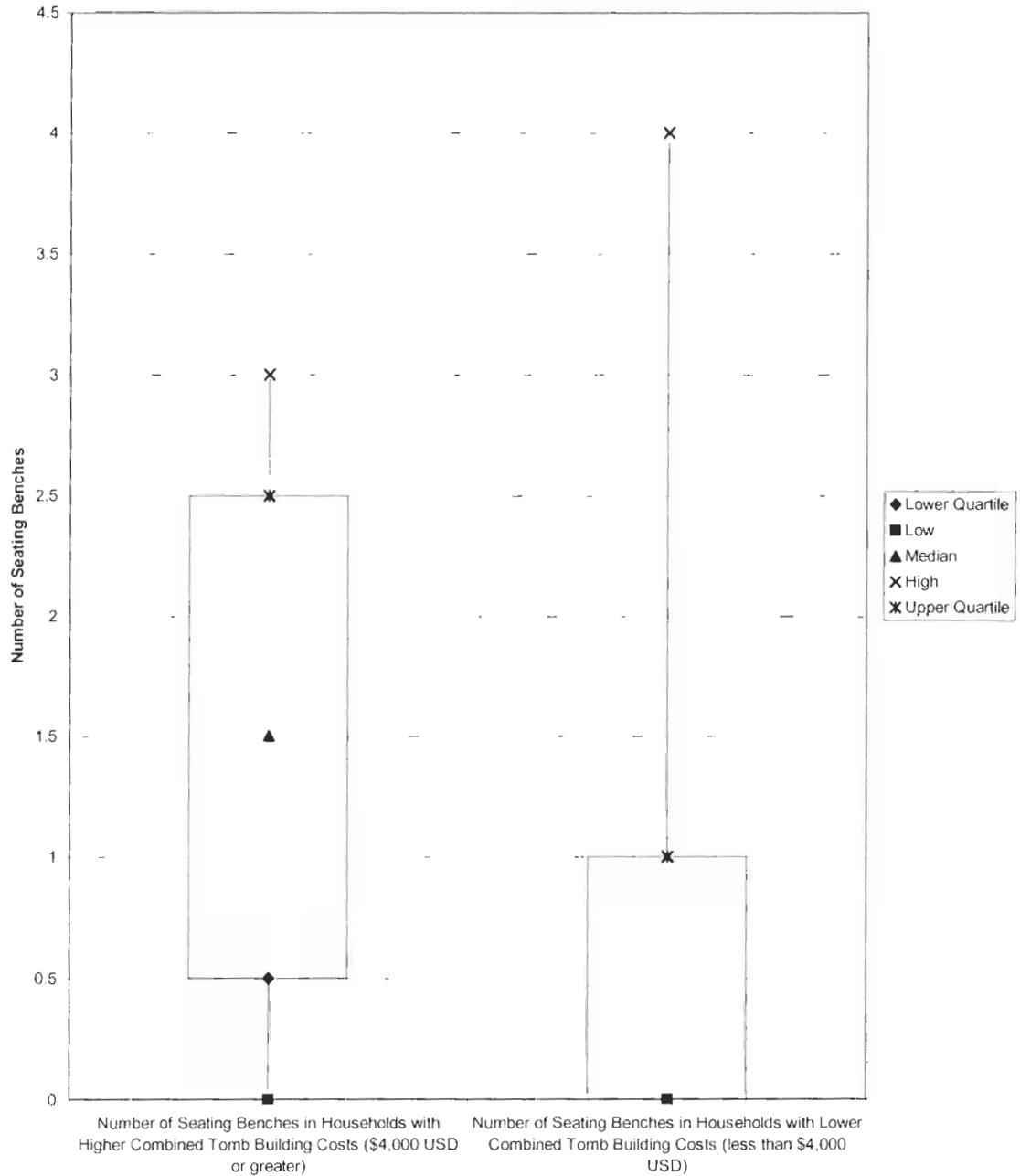
**Figure 5.107: Comparison of the Number of Seating Benches in Houses between Households that Have Hosted 2 or More Large Feasts and those that Have Hosted Less than 2 Large Feasts**

Boxplot Comparing the Number of Seating Benches in Houses between Households that Have Hosted 2 or More Large Feasts and Those that Have Hosted Less than 2 Large Feasts



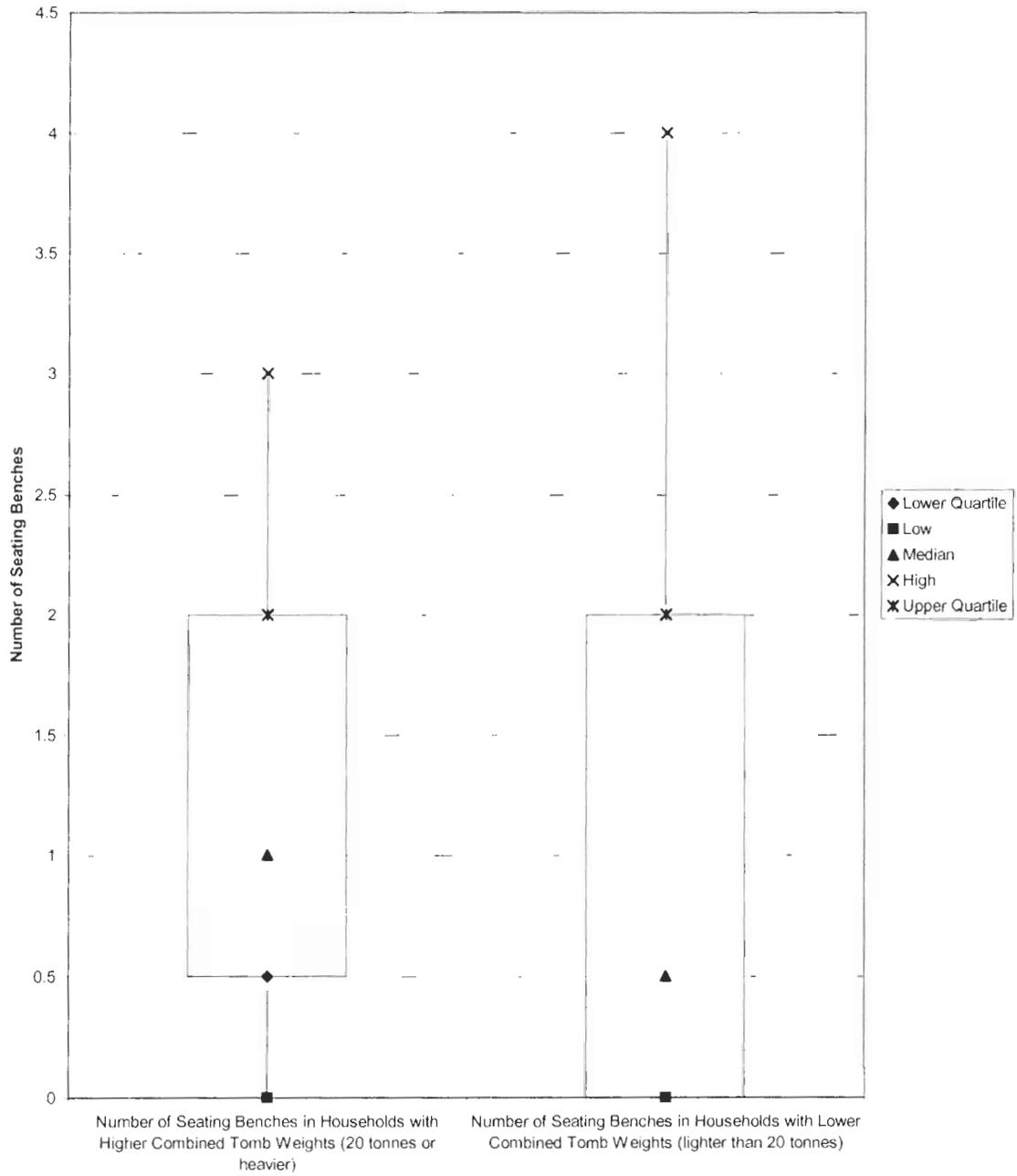
**Figure 5.108: Comparison of the Number of Seating Benches in Households with Higher Combined Tomb Building Costs and those in Households with Lower Combined Tomb Building Costs**

Boxplot Comparing the Number of Seating Benches in Households with Higher Combined Tomb Building Costs to those in Households with Lower Combined Tomb Building Costs

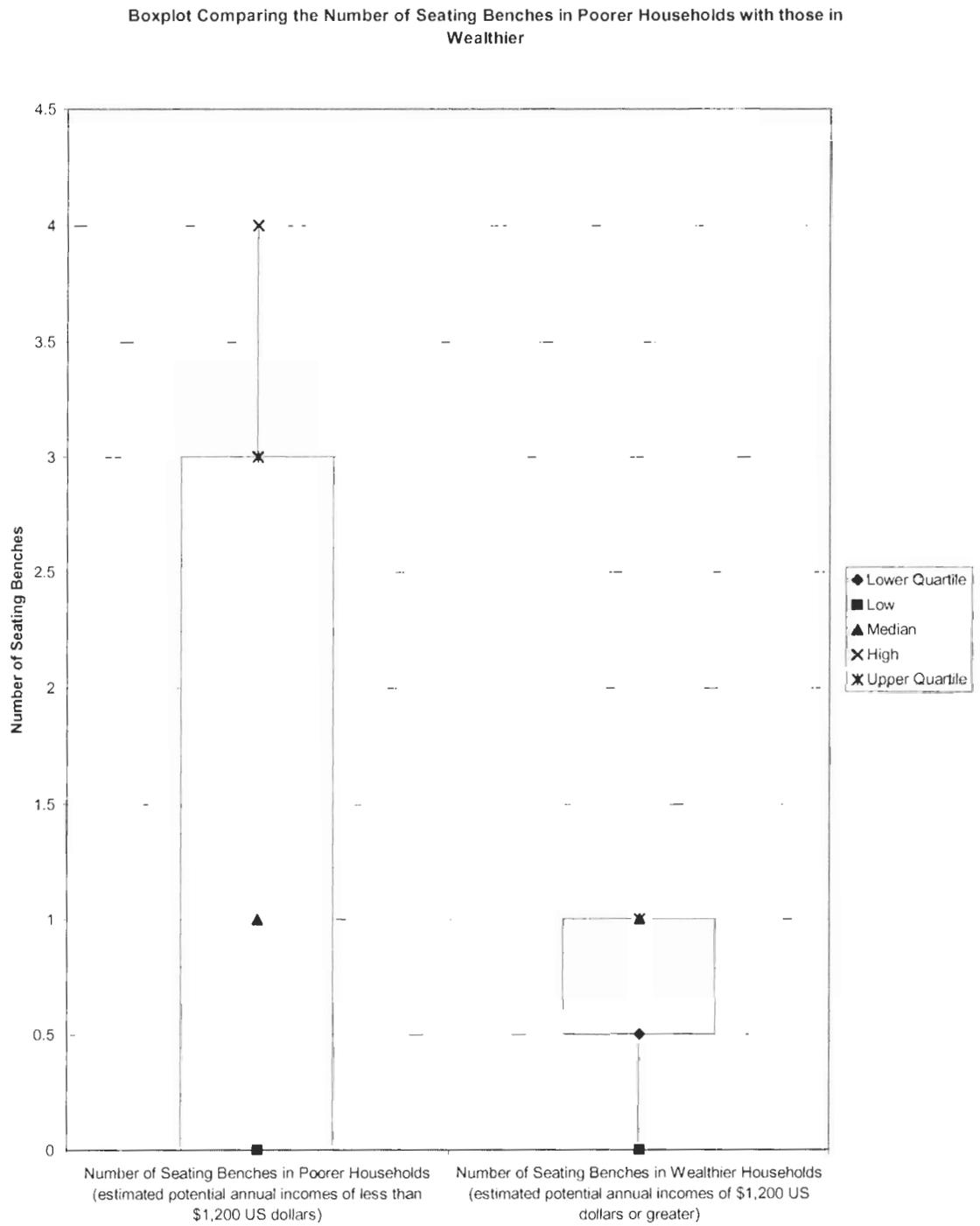


**Figure 5.109: Comparison of the Number of Seating Benches in Households with Higher Combined Tomb Weights and those in Households with Lower Combined Tomb Weights**

Boxplot Comparing the Number of Seating Benches in Households with Higher Combined Tomb Weights and Those in Households with Lower Combined Tomb Weights

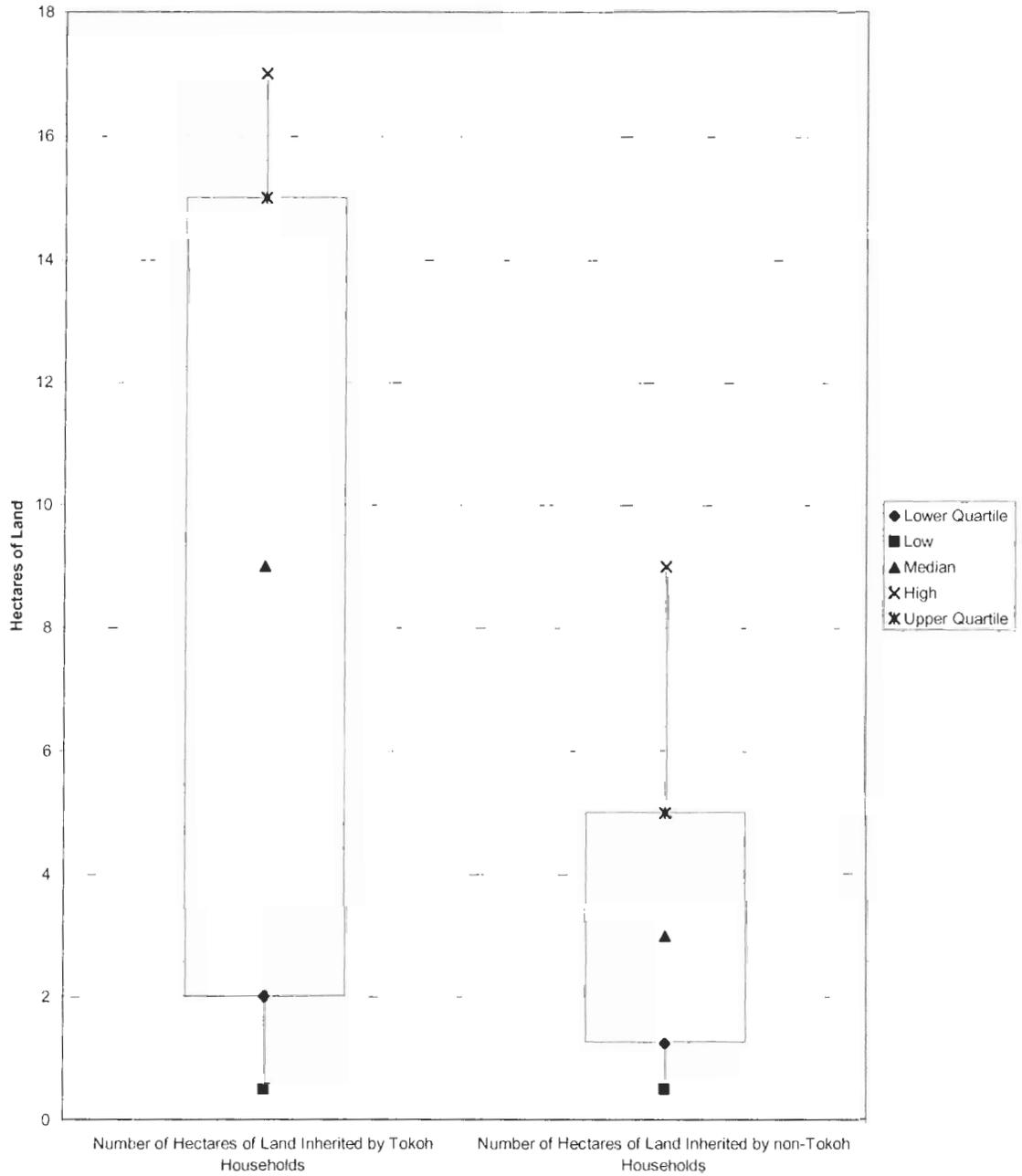


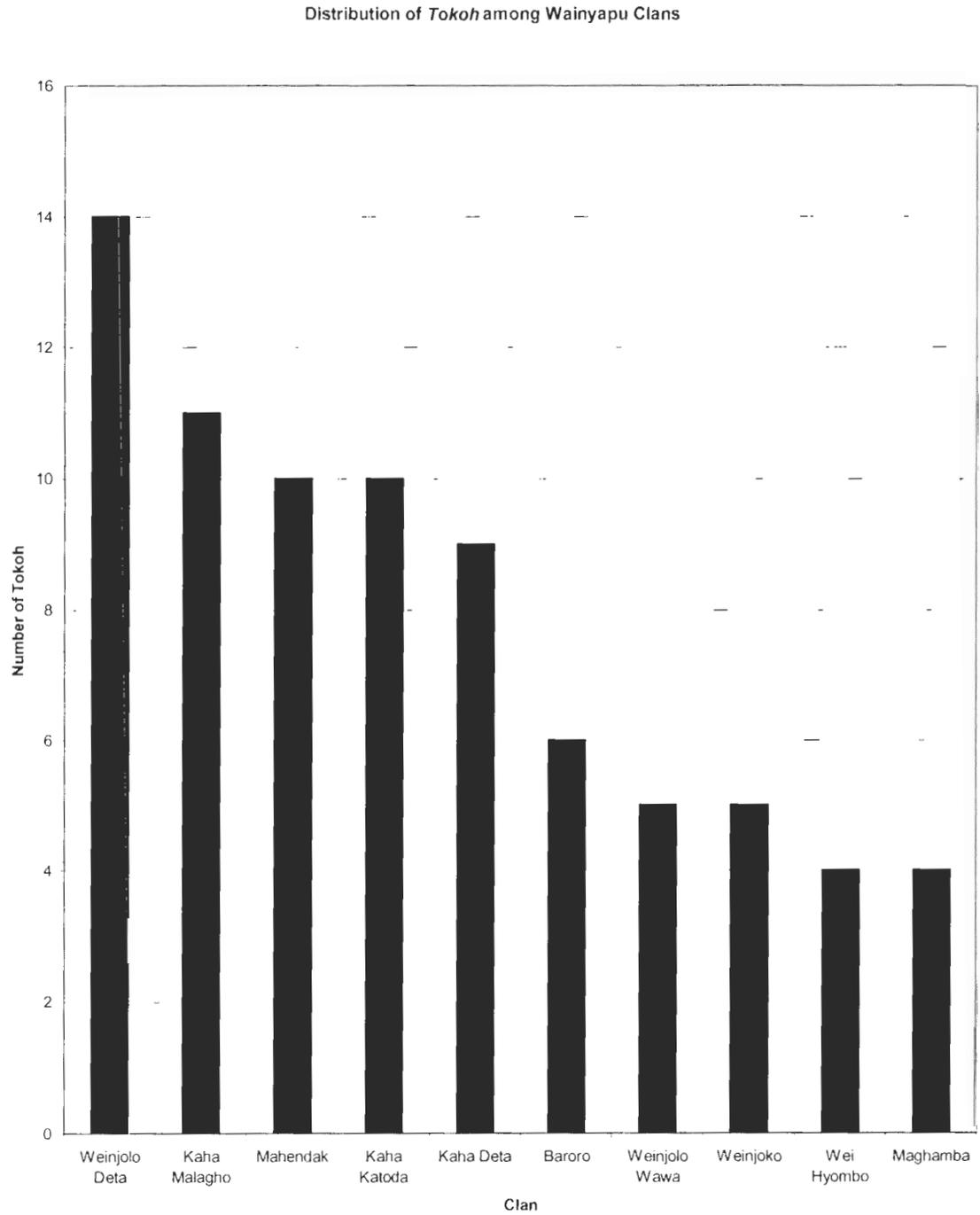
**Figure 5.110: Comparison of the Number of Seating Benches in Poorer Households with those in Wealthier Households**



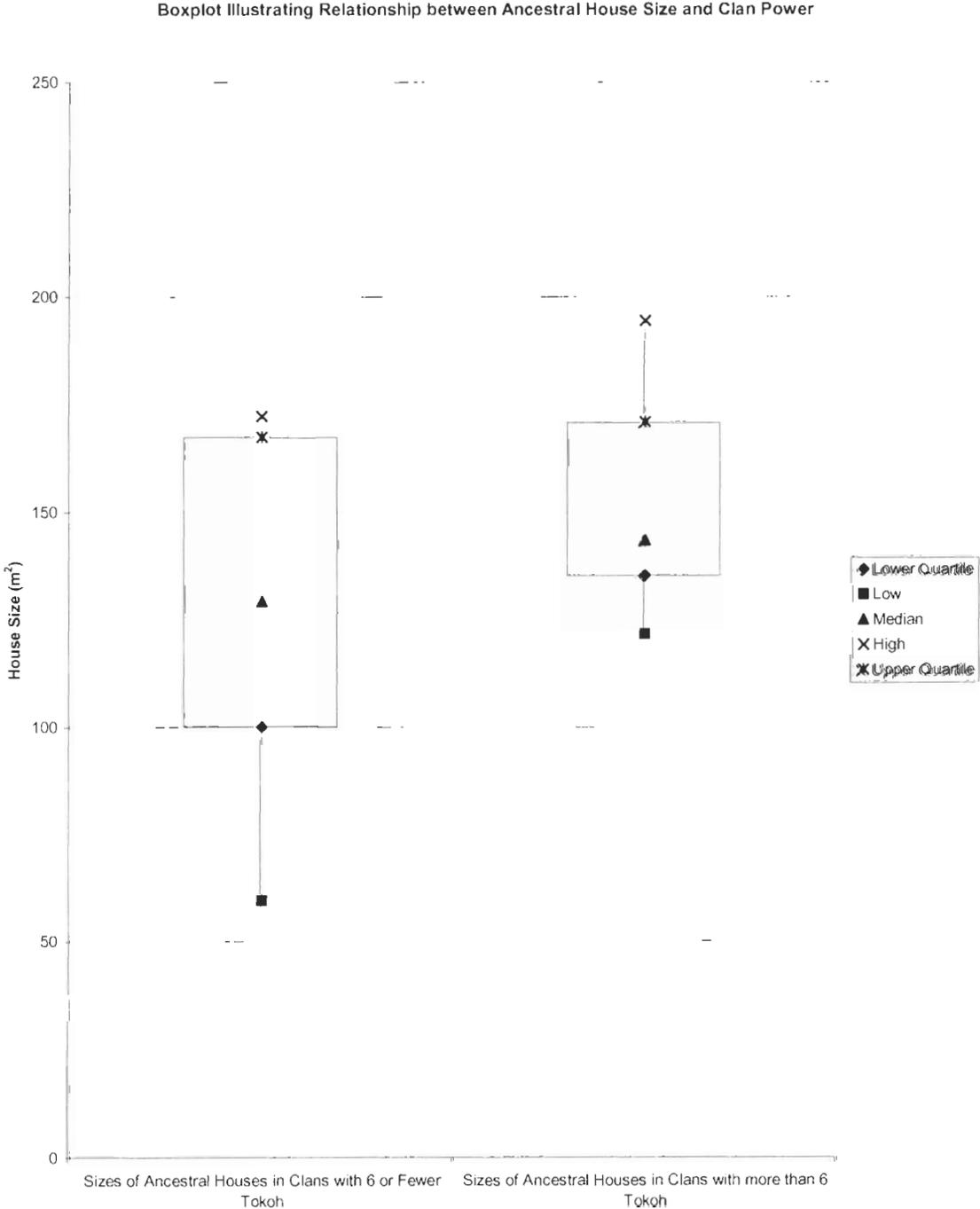
**Figure 5.111: Comparison of the Number of Hectares of Land Inherited by *Tokoh* Households with the Number of Hectares of Land Inherited by non-*Tokoh* Households**

Boxplot Comparing the Number of Hectares of Land Inherited by Tokoh Households with the Number of Hectares of Land Inherited by Non-Tokoh Households



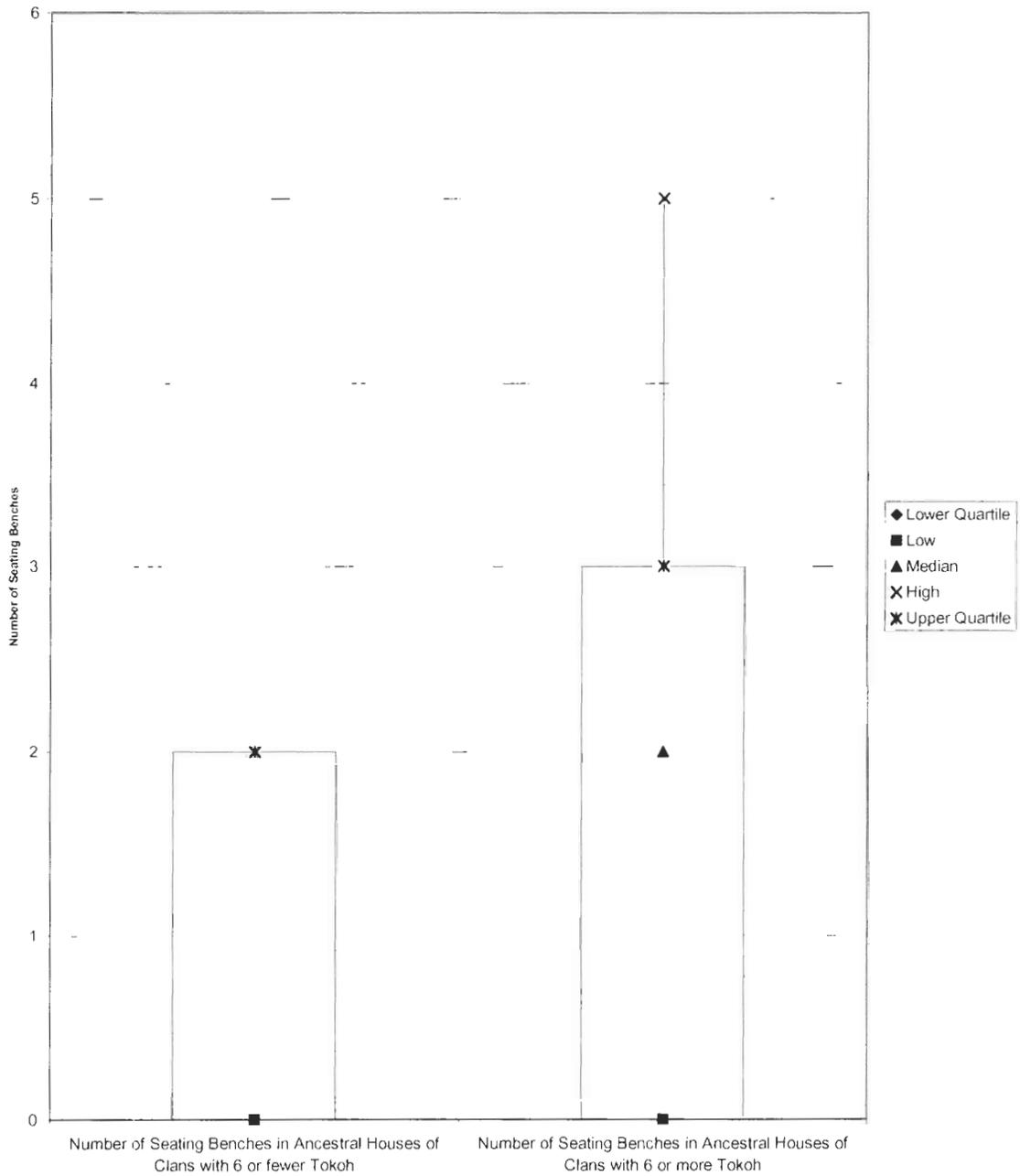
**Figure 5.112: Distribution of *Tokoh* among Wainyapu Clans**

**Figure 5.113: Comparison of Ancestral House Size and Clan Power**



### Figure 5.114: Comparison of the Number of Seating Benches in Ancestral Houses and the Relative Power of their Clans

Bar Chart Displaying Relationship between the Number of Seating Benches in Ancestral Houses and the Relative Power of their Affiliated Clans



**Figure 6.1: Large *Simbuang Batu* Stone at a *Rante'* in Tana Toraja, Indonesia (photo by B. Hayden)**



## **Appendix II: Statistical Tests**

## Test 1

t-Test: Two-Sample Assuming Equal Variances

**Estimated Potential Household Wealth of Clan Head Households and non-clan Head Households**

	<i>Estimated Potential Household Wealth of Clan Head Household</i>	<i>Estimated Potential Household Wealth of Non-Clan Head Household</i>
Mean	2342.666667	2221.140833
Variance	3283822.333	24476260.37
Observations	3	24
Pooled Variance	22780865.32	
Hypothesized Mean Difference	0	
Df	25	
<b>t Stat</b>	<b>0.041578409</b>	
P(T<=t) one-tail	0.483582538	
t Critical one-tail	1.708140745	
P(T<=t) two-tail	0.967165076	
<b>t Critical two-tail</b>	<b>2.059538536</b>	

## Test 2

t-Test: Paired Two Sample for Means

**Estimated Potential Annual Income of Tokoh and non-Tokoh Households**

	<i>Estimated Potential Annual Income of Tokoh Households</i>	<i>Estimated Potential Annual Income of Non- Tokoh Households</i>
Mean	1986.538462	815.6923077
Variance	5468681.436	608680.7308
Observations	13	13
Pearson Correlation	0.969192528	
Hypothesized Mean Difference	0	
Df	12	
<b>t Stat</b>	<b>2.64839453</b>	
P(T<=t) one-tail	0.010620966	
t Critical one-tail	1.782287548	
P(T<=t) two-tail	0.021241932	
<b>t Critical two-tail</b>	<b>2.178812827</b>	

## Test 3

t-Test: Paired Two Sample for Means

**Estimated Potential Annual Income of Tokoh and non-Tokoh Households****(without data from widowed households)**

	<i>Estimated Potential Annual Income of Tokoh Households</i>	<i>Estimated Potential Annual Income of Non- Tokoh Households</i>
Mean	2546.5	993.8
Variance	5780996.5	650423.0667
Observations	10	10
Pearson Correlation	0.966937148	
Hypothesized Mean Difference	0	
Df	9	
<b>t Stat</b>	<b>2.998489791</b>	
P(T<=t) one-tail	0.007496518	
t Critical one-tail	1.833112923	
P(T<=t) two-tail	0.014993036	
<b>t Critical two-tail</b>	<b>2.262157158</b>	

## Test 4

t-Test: Two-Sample Assuming Equal Variances

**Total Livestock Expenses for Marriage of Household Head and Offspring**

	Wealthier Households (estimated potential annual income > \$1,200)	Poorer Households (estimated potential annual incomes of less than \$1,200)
Mean	130.375	34.75
Variance	13763.98214	1456.204545
Observations	8	12
Pooled Variance	6242.5625	
Hypothesized Mean Difference	0	
Df	18	
<b>t Stat</b>	<b>2.651615917</b>	
P(T<=t) one-tail	0.008116673	
t Critical one-tail	1.734063592	
P(T<=t) two-tail	0.016233346	
<b>t Critical two-tail</b>	<b>2.100922037</b>	

## Test 5

t-Test: Two-Sample Assuming Equal Variances

**Total Livestock Expenses for Brideprice(s) of Household Head**

	Wealthier Households (estimated potential annual income $\geq$ \$1,2000 )	Poorer Households (estimated potential annual incomes < \$1,2000)
Mean	35	16.09090909
Variance	1125	294.0909091
Observations	9	11
Pooled Variance	663.3838384	
Hypothesized Mean Difference	0	
df	18	
<b>t Stat</b>	<b>1.633393435</b>	
P(T<=t) one-tail	0.059877671	
t Critical one-tail	1.734063592	
P(T<=t) two-tail	0.119755342	
<b>t Critical two-tail</b>	<b>2.100922037</b>	

## Test 6

t-Test: Two-Sample Assuming Equal Variances

**Total Livestock Expenses for Brideprices of Household Head's offspring**

	Wealthier Households (estimated potential annual income $\geq$ \$1,200)	Poorer Households (estimated potential annual incomes < \$1,200)
Mean	89.75	17.5
Variance	7857.642857	547.7272727
Observations	8	12
Pooled Variance	3390.472222	
Hypothesized Mean Difference	0	
df	18	
<b>t Stat</b>	<b>2.718493975</b>	
P(T<=t) one-tail	0.007043436	
t Critical one-tail	1.734063592	
P(T<=t) two-tail	0.014086873	
<b>t Critical two-tail</b>	<b>2.100922037</b>	

Test 7

t-Test: Two-Sample Assuming Equal Variances  
**Number of Times Household Head Sponsored  
 Brideprice or Return Brideprice Payments**

	Wealthier Households (estimated potential annual income $\geq$ \$1,200 )	Poorer Households (estimated potential annual incomes <\$1,200)
Mean	6.428571429	2.454545455
Variance	19.61904762	9.872727273
Observations	7	11
Pooled Variance	13.5275974	
Hypothesized Mean Difference	0	
Df	16	
<b>t Stat</b>	<b>2.23475273</b>	
P(T<=t) one-tail	0.020023623	
t Critical one-tail	1.745883669	
P(T<=t) two-tail	0.040047246	
<b>t Critical two-tail</b>	<b>2.119905285</b>	

Test 8

Chi-squared test comparing household wealth and tomb building costs

	Low Household Tomb Building Costs (less than \$5,000 USD)	High Household Tomb Building Costs (\$5,000 USD and over)	Total
Least Wealthy Tomb Builders (estimated potential annual incomes of less than \$2,000 US dollars)	7	2	9
Most Wealthy Tomb Builders (estimated potential annual incomes of \$2,000 US dollars or greater)	1	5	6
<b>Total</b>	<b>8</b>	<b>7</b>	<b>15</b>
Category	Expected Values	$(O_i \cdot E_i)^2 / E_i$	
	1	4.8	1.008333333
	2	4.2	1.152380952
	3	3.2	1.5125
	4	2.8	1.728571429
	<b>Chi-Squared Value</b>	<b>5.401785714</b>	
	<b>Level of Significance</b>	<b>0.05</b>	
	<b>5.40 &gt; 3.84</b>	<b>The Null Hypothesis is Rejected</b>	

**Test 9**  
**Chi-squared test comparing household**  
**wealth and tomb weight**

	Lighter Combined Weight of all Tombs (less than 20 tonnes)	Heavier Combined Weight of All Tombs (20 tonnes and heavier)	<b>Total</b>
Least Wealthy Tomb Builders (estimated potential annual incomes of less than \$2,000 US dollars)	8	1	<b>9</b>
Most Wealthy Tomb Builders (estimated potential annual incomes of \$2,000 US dollars or greater)	1	5	<b>6</b>
<b>Total</b>	<b>9</b>	<b>6</b>	<b>15</b>
Category	Expected Values	$(O_i E_i)^2 / E_i$	
1	5.4	1.251851852	
2	3.6	1.877777778	
3	3.6	1.877777778	
4	2.4	2.816666667	
	<b>Chi Squared Value</b>	<b>7.824074074</b>	
	<b>Level of Significance</b>	<b>0.05</b>	
	<b>7.82 &gt; 3.84</b>	<b>The Null Hypothesis is Rejected</b>	

**Test 10**  
**Chi-squared test comparing tomb**  
**building and household wealth**

	Tomb Building Households	Non-Tomb Building Households	Total
Households with Estimated Potential Annual Incomes of \$1,200 or Greater	9	1	10
Households with Estimated Potential Annual Incomes of Less than \$1,2000	6	6	12
<b>Total</b>	<b>15</b>	<b>7</b>	<b>22</b>
Category	Expected Values	$(O_i \cdot E_i)^2 / E_i$	
1	6.818181818	0.698181818	
2	3.181818182	1.496103896	
3	8.181818182	0.581818182	
4	3.818181818	1.246753247	
	<b>Chi-Squared Value</b>	<b>4.022857143</b>	
	<b>Level of Significance</b>	<b>0.05</b>	
	<b>4.02 &gt; 3.84</b>	<b>The Null Hypothesis is Rejected</b>	

**Test 11**  
**Chi-squared test comparing household**  
**wealth and tomb building (Kodi**  
**households only)**

	Tomb Building Households	Non-Tomb Building Households	Total
Households with Estimated Potential Annual Incomes of \$1,200 or Greater	8	1	9
Households with Estimated Potential Annual Incomes of Less than \$1,2000	6	6	12
<b>Total</b>	<b>14</b>	<b>7</b>	<b>21</b>
Category	Expected Values	$(O_i \cdot E_i)^2 / E_i$	
1	6	0.666666667	
2	3	1.333333333	
3	8	0.5	
4	4	1	
	<b>Chi-squared value</b>	<b>3.5</b>	
	<b>Level of Significance</b>	<b>0.05</b>	
	<b>3.5 &lt; 3.84</b>	<b>The Null Hypothesis is Accepted</b>	

## Test 12

t-Test: Two-Sample Assuming Equal Variances  
**Total Livestock Expenses for Brideprice of Household  
 Head and Household Head's Offspring**

	Households that Have Built a Tomb	Households that Have not Built a Tomb
Mean	107.5	1.55555556
Variance	9198.115	2.77777778
Observations	14	9
Pooled Variance	5695.13	
Hypothesized Mean Difference	0	
Df	21	
<b>t Stat</b>	<b>3.28585</b>	
P(T<=t) one-tail	0.001762	
t Critical one-tail	1.720743	
P(T<=t) two-tail	0.003524	
<b>t Critical two-tail</b>	<b>2.079614</b>	

## Test 13

t-Test: Two-Sample Assuming Equal Variances  
**Number of Times Household Has Sponsored  
 Brideprice and Return Brideprice Costs**

	Households that Have Built a Tomb	Households That Have not Built a Tomb
Mean	6.461538	1.55555556
Variance	16.60256	2.77777778
Observations	13	9
Pooled Variance	11.07265	
Hypothesized Mean Difference	0	
Df	20	
<b>t Stat</b>	<b>3.400023</b>	
P(T<=t) one-tail	0.001421	
t Critical one-tail	1.724718	
P(T<=t) two-tail	0.002841	
<b>t Critical two-tail</b>	<b>2.085963</b>	

**Test 14**

t-Test: Two-Sample Assuming Equal Variances

**Total Number of Heads of Livestock for Feasts**

	Wealthier Households (estimated potential annual income of \$1,200 US dollars or greater)	Poorer Households (estimated potential annual income < \$1,200 US dollars)
Mean	55.22222222	12.54545455
Variance	3045.944444	137.2727273
Observations	9	11
Pooled Variance	1430.015713	
Hypothesized Mean Difference	0	
Df	18	
<b>t Stat</b>	<b>2.510867027</b>	
P(T<=t) one-tail	0.010904722	
t Critical one-tail	1.734063592	
P(T<=t) two-tail	0.021809443	
<b>t Critical two-tail</b>	<b>2.100922037</b>	

**Test 15**

t-Test: Two-Sample Assuming Equal Variances

**Total Number of Heads of Livestock Contributed by Households for Feasts Hosted**

	Wealthier Households (estimated potential annual income of \$1,200 US dollars or greater)	Poorer Households (estimated potential annual income < \$1,200 US dollars)
Mean	49.33333333	11
Variance	2886.75	140.6
Observations	9	11
Pooled Variance	1361.111111	
Hypothesized Mean Difference	0	
Df	18	
<b>t Stat</b>	<b>2.31170491</b>	
P(T<=t) one-tail	0.016420102	
t Critical one-tail	1.734063592	
P(T<=t) two-tail	0.032840205	
<b>t Critical two-tail</b>	<b>2.100922037</b>	

## Test 16

t-Test: Two-Sample Assuming Equal Variances

**Number of Heads of Livestock Contributed to all Feasts (excluding feasts for household's own tomb building)**

	Households Headed by Tokoh	Households not Headed by a Tokoh
Mean	20.45454545	6.1
Variance	281.2727273	73.87777778
Observations	11	10
Pooled Variance	183.0330144	
Hypothesized Mean Difference	0	
Df	19	
<b>t Stat</b>	<b>2.428350793</b>	
P(T<=t) one-tail	0.012633597	
t Critical one-tail	1.729132792	
P(T<=t) two-tail	0.025267194	
<b>t Critical two-tail</b>	<b>2.09302405</b>	

## Test 17

t-Test: Two-Sample Assuming Equal Variances

**Number of Heads of Livestock Contributed by Household for Feasts Hosted (excluding tomb building feasts)**

	Tokoh Households	Non-Tokoh Households
Mean	15.45454545	3.1
Variance	117.6727273	31.43333333
Observations	11	10
Pooled Variance	76.82248804	
Hypothesized Mean Difference	0	
Df	19	
<b>t Stat</b>	<b>3.226036543</b>	
P(T<=t) one-tail	0.002223368	
t Critical one-tail	1.729132792	
P(T<=t) two-tail	0.004446736	
<b>t Critical two-tail</b>	<b>2.09302405</b>	

## Test 18

t-Test: Two-Sample Assuming Equal Variances

**Total Number of Heads of Livestock Contributed for all Feasts Hosted and all Feasts Attended in past 10 Years**

	Tomb Building Households with Heavier Combined Weight of All Tombs (20 tonnes or greater)	Tomb Building Households with a Lighter Combined Weight of all Tombs (less than 20 tonnes)
Mean	89.4	17.625
Variance	2738.3	80.26785714
Observations	5	8
Pooled Variance	1046.825	
Hypothesized Mean Difference	0	
Df	11	
<b>t Stat</b>	<b>3.891297883</b>	
P(T<=t) one-tail	0.001256979	
t Critical one-tail	1.795884814	
P(T<=t) two-tail	0.002513959	
<b>t Critical two-tail</b>	<b>2.200985159</b>	

## Test 19

t-Test: Two-Sample Assuming Equal Variances

**Total Number of Heads of Livestock Contributed for all Feasts Hosted and all Feasts Attended in past 10 Years**

	Tomb Building Households with High Tomb Building Costs (total expenses more than \$5,000)	Tomb Building Households with Low Tomb Building Costs (total expenses less than \$5,000)
Mean	67.4	18.71428571
Variance	3452.8	97.57142857
Observations	5	7
Pooled Variance	1439.662857	
Hypothesized Mean Difference	0	
Df	10	
<b>t Stat</b>	<b>2.191364113</b>	
P(T<=t) one-tail	0.026606502	
t Critical one-tail	1.812461102	
P(T<=t) two-tail	0.053213003	
<b>t Critical two-tail</b>	<b>2.228138842</b>	

## Test 20

t-Test: Two-Sample Assuming Equal Variances

**Total Number of Heads of Livestock Contribured for Feasts Attended in Past 10 Years**

	Tomb Building Households with Heavier Combined Weight of All Tombs (20 tonnes or greater)	Tomb Building Households with a Lighter Combined Weight of all Tombs (less than 20 tonnes)
Mean	8.4	2.5
Variance	114.8	1.142857143
Observations	5	8
Pooled Variance	42.47272727	
Hypothesized Mean Difference	0	
Df	11	
<b>t Stat</b>	<b>1.5880174</b>	
P(T<=t) one-tail	0.07029483	
t Critical one-tail	1.795884814	
P(T<=t) two-tail	0.14058966	
<b>t Critical two-tail</b>	<b>2.200985159</b>	

## Test 21

t-Test: Two-Sample Assuming Equal Variances

**Total Number of Heads of Livestock Contribured for Feasts Attended in Past 10 Years**

	Tomb Building Households with High Tomb Building Costs (total expenses more than \$5,000)	Tomb Building Households with Low Tomb Building Costs (total expenses less than \$5,000)
Mean	9.2	2.285714286
Variance	99.2	2.238095238
Observations	5	7
Pooled Variance	41.02285714	
Hypothesized Mean Difference	0	
Df	10	
<b>t Stat</b>	<b>1.843646989</b>	
P(T<=t) one-tail	0.047514663	
t Critical one-tail	1.812461102	
P(T<=t) two-tail	0.095029326	
<b>t Critical two-tail</b>	<b>2.228138842</b>	

## Test 22

t-Test: Two-Sample Assuming Equal Variances

**Total Number of Heads of Livestock Contributed for Feasts Hosted (not including feasts for households' own tombs)**

	Tomb Building Households with Heavier Combined Weights of All Tombs (20 tonnes or greater)	Tomb Building Households with a Lighter Combined Weights of all Tombs (less than 20 tonnes)
Mean	20.2	7.25
Variance	188.2	54.21428571
Observations	5	8
Pooled Variance	102.9363636	
Hypothesized Mean Difference	0	
Df	11	
<b>t Stat</b>	<b>2.238946297</b>	
P(T<=t) one-tail	0.023393777	
t Critical one-tail	1.795884814	
P(T<=t) two-tail	0.046787553	
<b>t Critical two-tail</b>	<b>2.200985159</b>	

## Test 23

t-Test: Two-Sample Assuming Equal Variances

**Total Number of Heads of Livestock Contributed for All Feasts Hosted (non-tomb building feasts)**

	Tomb Building Households with Higher Tomb Building Costs (total expenses of \$5,000 US dollars or greater)	Tomb Building Households with Low Tomb Building Costs (total expenses less than \$5,000 US dollars)
Mean	17.33333333	7.857142857
Variance	211.8666667	49.80952381
Observations	6	7
Pooled Variance	123.4718615	
Hypothesized Mean Difference	0	
Df	11	
<b>t Stat</b>	<b>1.532860923</b>	
P(T<=t) one-tail	0.076776115	
t Critical one-tail	1.795884814	
P(T<=t) two-tail	0.153552231	
<b>t Critical two-tail</b>	<b>2.200985159</b>	

## Test 24

## Chi-squared test comparing household tomb building and investments in all feasts

	Households that have Contributed more than 5 Heads of Livestock for all Feasts Hosted (excluding tomb building feasts) and all Feasts Attended in past 10 Years)	Households that have Contributed 5 or fewer Heads of Livestock for all Feasts Hosted (excluding tomb building feasts) and all Feasts Attended in past 10 Years)
Households that Have Built a Tomb	11	3
Households that Have not Built a Tomb	1	6
<b>Total</b>	<b>12</b>	<b>9</b>
Category	Expected Values	$(O_i E_i)^2 / E_i$
1	8	1.125
2	6	1.5
3	4	2.25
4	3	3
<b>Chi-squared Value</b>		<b>7.875</b>
<b>Level of Significance</b>		<b>0.05</b>
<b>7.88 &gt; 3.84</b>		<b>The Null Hypothesis is Rejected</b>

## Test 25

## Chi-squared test comparing household tomb building and investments in feasts attended

	Households that have Contributed more than 5 Heads of Livestock for all Feasts Hosted (excluding tomb building feasts)	Households that have Contributed 5 or fewer Heads of Livestock for all Feasts Hosted (excluding tomb building feasts)
Households that Have Built a Tomb	11	4
Households that Have not Built a Tomb	1	6
<b>Total</b>	<b>12</b>	<b>10</b>
Category	Expected Values	$(O_i E_i)^2 / E_i$
1	8.181818182	0.970707071
2	3.181818182	0.21038961
3	3.818181818	2.08008658
4	3.181818182	2.496103896
<b>Chi-Squared Value</b>		<b>5.757287157</b>
<b>Level of Significance</b>		<b>0.05</b>
<b>5.76 &gt; 3.84</b>		<b>The Null Hypothesis is Rejected</b>

## Test 26

Chi-squared test comparing household tomb building and ownership of food serving items

	Households that Own more than a combined 45 Food Serving Items	Households that Own a Combined fewer than 45 Food Serving Items	Total
Households that have Built a Tomb	10	1	11
Households that have not Built a Tomb	4	5	9
<b>Total</b>	<b>14</b>	<b>6</b>	<b>20</b>
Category	Expected Values	$(O_i E_j)^2 / E_i$	
1	7.7	0.687012987	
2	3.3	1.603030303	
3	6.3	0.83968254	
4	2.7	1.959259259	
	<b>Chi Squared Value</b>	<b>5.088985089</b>	
	<b>Level of Significance</b>	<b>0.05</b>	
	<b>5.09 &gt; 3.84</b>	<b>The Null Hypothesis is Rejected</b>	

## Test 27

Chi-squared test comparing household cumulative diameter of pots and hosting large feasts

	Households That Have Hosted 2 or more large Feasts	Households that Have Hosted less than 2 Large Feasts	Total
Households with a Total Estimated Diameter of Owned Pots of Greater than 70 cm	7	0	7
Households with a Total Estimated Diameter of Owned Pots of 70 cm or Less	4	7	11
<b>Total</b>	<b>11</b>	<b>7</b>	<b>18</b>
Category	Expected Values	$(O_i E_j)^2 / E_i$	
1	4.277777778	1.732323232	
2	2.722222222	2.722222222	
3	6.722222222	1.102387511	
4	4.277777778	1.732323232	
	<b>Chi-Squared Value</b>	<b>7.289256198</b>	
	<b>Level of Significance</b>	<b>0.05</b>	
	<b>7.29 &gt; 3.84</b>	<b>The Null Hypothesis is Rejected</b>	

**Test 28**

t-Test: Two-Sample Assuming Equal Variances

**Number of Pots Owned by Households**

	Households that Have Built a Tomb	Households that Have not Built a Tomb
Mean	6.384615385	4.333333333
Variance	20.92307692	4.75
Observations	13	9
Pooled Variance	14.45384615	
Hypothesized Mean Difference	0	
Df	20	
<b>T Stat</b>	<b>1.244271795</b>	
P(T<=t) one-tail	0.113892446	
T Critical one-tail	1.724718218	
P(T<=t) two-tail	0.227784892	
<b>T Critical two-tail</b>	<b>2.085963441</b>	

**Test 29**

t-Test: Two-Sample Assuming Equal Variances

**Cumulative Diameter of all Pots Owned by Households**

	Households that Have Built a Tomb	Households that Have not Built a Tomb
Mean	94.61538462	65
Variance	2860.25641	2006.25
Observations	13	9
Pooled Variance	2518.653846	
Hypothesized Mean Difference	0	
Df	20	
<b>T Stat</b>	<b>1.360864001</b>	
P(T<=t) one-tail	0.094347797	
T Critical one-tail	1.724718218	
P(T<=t) two-tail	0.188695594	
<b>T Critical two-tail</b>	<b>2.085963441</b>	

## Test 30

Chi-squared test comparing the ownership of large pots with tomb building

	Households that Own One or More Large Pots (diameters of 20 cm or greater)	Households that do not Own any Large Pots (diameters of 20 cm or greater)	Total
Households that Have Built a Tomb	9	4	13
Households that Have not Built a Tomb	3	6	9
<b>Total</b>	<b>12</b>	<b>10</b>	<b>22</b>

Category	Expected Value	$(O_i - E_i)^2 / E_i$
1	7.090909091	0.513986014
2	4.363636364	0.426136364
3	5.909090909	0.616783217
4	4.090909091	0.890909091
<b>Chi-Squared Value</b>		<b>2.447814685</b>
<b>Level of Significance</b>		<b>0.05</b>
<b>2.45 &lt; 3.84</b>		<b>The Null Hypothesis is Accepted</b>

## Test 31

t-Test: Two-Sample Assuming Equal Variances

Total Number of Pots Owned by Households

	Tomb Building Households with Lighter Combined Weight of all Tombs (less than 20 tonnes)	Tomb Building Households with Heavier Combined Weight of All Tombs (20 tonnes and over)
Mean	8.333333333	4.714285714
Variance	39.06666667	2.238095238
Observations	6	7
Pooled Variance	18.97835498	
Hypothesized Mean Difference	0	
Df	11	
<b>t Stat</b>	<b>1.493200009</b>	
P(T<=t) one-tail	0.081751232	
t Critical one-tail	1.795884814	
P(T<=t) two-tail	0.163502464	
<b>t Critical two-tail</b>	<b>2.200985159</b>	

## Test 32

t-Test: Two-Sample Assuming Equal Variances

**Cumulative Diameter of all Pots (in cm) Owned by Households**

	Tomb Building Households with Lighter Combined Weight of all Tombs (less than 20 tonnes)	Tomb Building Households with Heavier Combined Weight of All Tombs (20 tonnes and over)
Mean	106.6666667	84.28571429
Variance	5016.666667	1270.238095
Observations	6	7
Pooled Variance	2973.160173	
Hypothesized Mean Difference	0	
Df	11	
<b>t Stat</b>	<b>0.737772357</b>	
P(T<=t) one-tail	0.238048596	
t Critical one-tail	1.795884814	
P(T<=t) two-tail	0.476097192	
<b>t Critical two-tail</b>	<b>2.200985159</b>	

## Test 33

t-Test: Two-Sample Assuming Equal Variances

**Estimated Total Diameter (in cm.) of all Pots Owned by Households**

	HighCombined Household Tomb Building Costs (\$5,000 and over)	Low Combined Household Tomb Building Costs (Less than \$5,000)
Mean	110	85
Variance	5300	1600
Observations	5	8
Pooled Variance	2945.454545	
Hypothesized Mean Difference	0	
Df	11	
<b>t Stat</b>	<b>0.808020103</b>	
P(T<=t) one-tail	0.218102442	
t Critical one-tail	1.795884814	
P(T<=t) two-tail	0.436204885	
<b>t Critical two-tail</b>	<b>2.200985159</b>	

## Test 34

t-Test: Two-Sample Assuming Equal Variances

**Number of Pigs Mandibles Displayed on House**

	Households at which a Combined Number of 40 or more Pigs and Water Buffaloes Have been Slaughtered at Hosted Feasts	Households at which a Combined Number of Less than 40 Water Buffaloes and Pigs Have been Slaughtered at Hosted Feasts
Mean	58.66666667	7.8
Variance	1551.066667	3.7
Observations	6	5
Pooled Variance	863.3481481	
Hypothesized Mean Difference	0	
Df	9	
<b>t Stat</b>	<b>2.858936984</b>	
P(T<=t) one-tail	0.009406487	
t Critical one-tail	1.833112923	
P(T<=t) two-tail	0.018812974	
<b>t Critical two-tail</b>	<b>2.262157158</b>	

## Test 35

t-Test: Two-Sample Assuming Equal Variances

**Number of Water Buffalo Horns Displayed on House**

	Households at which a Combined Number of 40 or more Pigs and Water Buffaloes Have been Slaughtered at Hosted Feasts	Households at which a Combined Number of Less than 40 Water Buffaloes and Pigs Have been Slaughtered at Hosted Feasts
Mean	2.166666667	1
Variance	6.566666667	5
Observations	6	5
Pooled Variance	5.87037037	
Hypothesized Mean Difference	0	
Df	9	
<b>t Stat</b>	<b>0.795203574</b>	
P(T<=t) one-tail	0.223479253	
t Critical one-tail	1.833112923	
P(T<=t) two-tail	0.446958506	
<b>t Critical two-tail</b>	<b>2.262157158</b>	

## Test 36

Chi-squared test comparing the combined number of water buffalo horns and pig mandibles on houses with feasts hosted

	Households at which a Combined Number of Less than 40 Water Buffaloes and Pigs Have been Slaughtered at Hosted Feasts	Households at which a Combined Number of 40 or more Pigs and Water Buffaloes Have been Slaughtered at Hosted Feasts	Total
Households with a Combined 10 or more Water Buffalo Horns and Pig Mandibles Displayed	1	5	6
Households with a Combined Less than 10 Water Buffalo Horns and Pig Mandibles Displayed	4	1	5
<b>Total</b>	<b>5</b>	<b>6</b>	<b>11</b>
Category	Expected Value	$(O_i E_j)^2 / E_i$	
1	2.727272727	1.093939394	
2	3.272727273	0.911616162	
3	2.272727273	1.312727273	
4	2.727272727	1.093939394	
	<b>Chi-squared</b>	<b>4.412222222</b>	
	<b>Level of Significance</b>	<b>0.05</b>	
	<b>4.41 &gt; 3.84</b>	<b>The Null Hypothesis is Rejected</b>	

## Test 37

t-Test: Two-Sample Assuming Equal  
Variances

**Number of Heads of Livestock Slaughtered for Feasts Hosted**

	Households with Water Buffalo Horns Displayed	Households Without Water Buffalo Horns Displayed
Mean	105	37.16666667
Variance	8078.5	974.9666667
Observations	5	6
Pooled Variance	4132.092593	
Hypothesized Mean Difference	0	
Df	9	
<b>t Stat</b>	<b>1.742699158</b>	
P(T<=t) one-tail	0.057680379	
t Critical one-tail	1.833112923	
P(T<=t) two-tail	0.115360758	
<b>t Critical two-tail</b>	<b>2.262157158</b>	

## Test 38

t-Test: Two-Sample Assuming Equal  
Variances

**Number of Pig Mandibles Displayed on  
House**

	Tomb Building Households with Tomb Building Costs of \$4,000 or Greater	Tomb Building Households with Combined Tomb Building Costs of Less than \$4,000
Mean	26	9.75
Variance	864.6666667	2.916666667
Observations	4	4
Pooled Variance	433.7916667	
Hypothesized Mean Difference	0	
Df	6	
<b>t Stat</b>	<b>1.103386741</b>	
P(T<=t) one-tail	0.156067857	
t Critical one-tail	1.943180274	
P(T<=t) two-tail	0.312135714	
<b>t Critical two-tail</b>	<b>2.446911846</b>	

**Test 39**

t-Test: Two-Sample Assuming Equal Variances  
**Number of Pig Mandibles Displayed on House**

	Tomb Building Households with Combined Tomb Weights of 20 Tonnes or Greater	Tomb Building Households with Combined Tomb Weights of Less than 20 Tonnes
Mean	24.33333333	14
Variance	1256.333333	104.5
Observations	3	5
Pooled Variance	488.4444444	
Hypothesized Mean Difference	0	
Df	6	
<b>t Stat</b>	<b>0.640226267</b>	
P(T<=t) one-tail	0.27284113	
t Critical one-tail	1.943180274	
P(T<=t) two-tail	0.545682259	
<b>t Critical two-tail</b>	<b>2.446911846</b>	

**Test 40**

t-Test: Two-Sample Assuming Equal Variances  
**Number of Pig Mandibles Displayed on Houses**

	Households that Have not Built a Tomb	Households that Have Built a Tomb
Mean	67.66666667	30.375
Variance	4794.333333	1466.553571
Observations	3	8
Pooled Variance	2206.060185	
Hypothesized Mean Difference	0	
Df	9	
<b>t Stat</b>	<b>1.172768773</b>	
P(T<=t) one-tail	0.135496645	
t Critical one-tail	1.833112923	
P(T<=t) two-tail	0.27099329	
<b>t Critical two-tail</b>	<b>2.262157158</b>	

**Test 41**

t-Test: Two-Sample Assuming Equal  
Variances

**Number of Water Buffalo Horns Displayed  
on House**

	Household that Have Built a Tomb	Households that Have Not Built a Tomb
Mean	2	1
Variance	7.142857143	1
Observations	8	3
Pooled Variance	5.777777778	
Hypothesized Mean Difference	0	
Df	9	
<b>t Stat</b>	<b>0.614509868</b>	
P(T<=t) one-tail	0.277046925	
t Critical one-tail	1.833112923	
P(T<=t) two-tail	0.554093849	
<b>t Critical two-tail</b>	<b>2.262157158</b>	

**Test 42**

t-Test: Two-Sample Assuming Equal  
Variances

**Number of Pig Mandibles Displayed on  
House**

	Wealthier Households (estimated potential annual incomes of \$1,200 or greater)	Poorer Households (estimated potential annual incomes of less than \$1,200)
Mean	27.33333333	10.8
Variance	1066.333333	152.7
Observations	3	5
Pooled Variance	457.2444444	
Hypothesized Mean Difference	0	
Df	6	
<b>t Stat</b>	<b>1.058733949</b>	
P(T<=t) one-tail	0.165235348	
t Critical one-tail	1.943180274	
P(T<=t) two-tail	0.330470696	
<b>t Critical two-tail</b>	<b>2.446911846</b>	

## Test 43

t-Test: Two-Sample Assuming Equal  
Variances

**Water Buffalo Horns Displayed on House and Wealth**

	Estimated Potential Annual Income of Households with Water Buffaloes Displayed	Estimated Potential Annual Income of Households without Water Buffalo Horns Displayed
Mean	2466.666667	398.5
Variance	3726966.333	11264.33333
Observations	3	4
Pooled Variance	1497545.133	
Hypothesized Mean Difference	0	
Df	5	
<b>t Stat</b>	<b>2.212774598</b>	
P(T<=t) one-tail	0.038916152	
t Critical one-tail	2.015048372	
P(T<=t) two-tail	0.077832303	
<b>t Critical two-tail</b>	<b>2.570581835</b>	

## Test 44

t-Test: Two-Sample Assuming Equal  
Variances

**House Size (m<sup>2</sup>)**

	Tomb Building Households with Combined Tomb Weights of 20 Tonnes or Greater	Tomb Building Households with Combined Tomb Weights of Less than 20 Tonnes
Mean	152.6633333	107.66
Variance	720.6892333	1112.333
Observations	3	6
Pooled Variance	1000.434781	
Hypothesized Mean Difference	0	
Df	7	
<b>t Stat</b>	<b>2.012172871</b>	
P(T<=t) one-tail	0.042047893	
t Critical one-tail	1.894578604	
P(T<=t) two-tail	0.084095786	
<b>t Critical two-tail</b>	<b>2.364624251</b>	

## Test 45

t-Test: Two-Sample Assuming Equal  
Variances

**House Size (m<sup>2</sup>)**

	Wealthier Households (estimated potential annual income of \$1,200 or greater)	Poorer Households (estimated potential annual incomes of less than \$1,200 US dollars)
Mean	137.1033333	116.155
Variance	1168.332033	1577.84279
Observations	3	6
Pooled Variance	1460.839717	
Hypothesized Mean Difference	0	
Df	7	
<b>t Stat</b>	<b>0.775109732</b>	
P(T<=t) one-tail	0.231824665	
t Critical one-tail	1.894578604	
P(T<=t) two-tail	0.463649329	
<b>t Critical two-tail</b>	<b>2.364624251</b>	

## Test 46

t-Test: Two-Sample Assuming Equal  
Variances

**Number of Seating Benches in Houses**

	Households That Have Hosted 2 or more large Feasts	Households that Have Hosted less than 2 Large Feasts
Mean	1.25	0.666666667
Variance	2.5	0.333333333
Observations	8	3
Pooled Variance	2.018518519	
Hypothesized Mean Difference	0	
Df	9	
<b>t Stat</b>	<b>0.606470531</b>	
P(T<=t) one-tail	0.279593636	
t Critical one-tail	1.833112923	
P(T<=t) two-tail	0.559187272	
<b>t Critical two-tail</b>	<b>2.262157158</b>	

## Test 47

t-Test: Two-Sample Assuming Equal Variances

**Hectares of Land Inherited**

	<i>Tokoh</i> Households	<i>Non-Tokoh</i> Households
Mean	8.25	3.2307692
Variance	40.625	5.9006410
Observations	10	26
Pooled Variance	20.78250916	13
Hypothesized Mean Difference	0	
Df	21	
<b>t Stat</b>	<b>2.617555698</b>	
P(T<=t) one-tail	0.008042422	
t Critical one-tail	1.720742871	
P(T<=t) two-tail	0.016084844	
<b>t Critical two-tail</b>	<b>2.079613837</b>	

## Test 48

t-Test: Two-Sample Assuming Equal Variances

**Size of *Uma* Ancestral House (m<sup>2</sup>)**

	Ancestral Houses in Clans With More than 6 Tokoh	Ancestral Houses in Clans With 6 or Fewer Tokoh
Mean	151.4983333	129.63
Variance	698.4564167	1655.181033
Observations	6	7
Pooled Variance	1220.306208	
Hypothesized Mean Difference	0	
Df	11	
<b>T Stat</b>	<b>1.125211712</b>	
P(T<=t) one-tail	0.142225883	
T Critical one-tail	1.795884814	
P(T<=t) two-tail	0.284451766	
<b>T Critical two-tail</b>	<b>2.200985159</b>	

**Test 49**

t-Test: Two-Sample Assuming Equal Variances

**Hectares of Land Inherited**

	<i>Tokoh</i> Households	<i>Non-Tokoh</i> Households
Mean	8.25	3.230769231
Variance	40.625	5.900641026
Observations	10	13
Pooled Variance	20.78250916	
Hypothesized Mean Difference	0	
Df	21	
<b>t Stat</b>	<b>2.617555698</b>	
P(T<=t) one-tail	0.008042422	
t Critical one-tail	1.720742871	
P(T<=t) two-tail	0.016084844	
<b>t Critical two-tail</b>	<b>2.079613837</b>	

**Appendix III**  
**Household Interview Questions**

## Informant Questions

### I. Description of Stone Dragging Process

#### A. Materials used to Drag Stone

##### 1. Ropes

- a. Ropes are made from what materials and how many ropes are used?
- b. Where are the ropes obtained from and how far is it from the village of the stone owner?
- c. Who obtains the materials to make the ropes and what is their relation to the stone owner?
- d. How is the person (people) who obtains the ropes compensated (e.g., with a feast every day worked or with cash and a feast)? Does the stone owner provide the food for the feast and the cash? If not, who else does, what do they provide, and what is their relation to the stone owner? If there is a feast, is it only for the workers or can other people attend? If non-workers can attend the feast, must they bring food as well? How many people (estimate), in total attend the feast?
- e. How long does it take to obtain the material use to make the ropes and to make the ropes?
- f. Is there a fee (e.g., cash or animals necessary in order to obtain permission to use the land where the rope material can be found)?
- g. Is there a work leader and what does he receive (cash, animals)? Does the work leader receiver more than the other workers?
- h. Is the work leader related to the stone owner and if so, what is the relation?

##### 2. Wood Rollers(what kind of wood used and how much)

- a. What kind of wood is used to make the rollers and how much wood is used?
- b. Where is the wood obtained from and how far is it from the village of the stone owner?
- c. Who obtains the wood and what is their relation to the stone owner?
- d. How is the person (people) who obtains the wood compensated (e.g., with a feast every day worked or with cash and a feast)? Does the stone owner provide the food for the feast and the cash? If not who else does, what do they provide and what is their relation to the host? If there is a feast, is it only for the workers or can other people attend? If non-workers can attend the feast, must they bring food as well? How many people (estimate), in total attend the feast?
- e. How long does it take to obtain the wood and to make the rollers?
- f. Is there a fee (e.g., cash or animals necessary in order to obtain permission to use the land where the wood material can be found)?
- g. Is there a work leader and what does he receive (cash, animals)? Does the work leader receiver more than the other workers?
- h. Is the work leader related to the stone owner and if so, what is the relation?

##### 3. Tena Watu (wooden boat that is pulled with stone on top of it)-

- a. What is the Tena Watu made out of?
  - b. What materials are used to make Tena Watu?
  - c. Who makes the Tena Watu and relation to stone owner?
  - d. Is the person who makes the Tena Watu a specialist with an inherited position?
  - e. How is the maker of the Tena Watu compensated (e.g., with daily feasts or with feasts in addition to cash)? Does the stone owner provide the food for the feast and the cash? If not, who else does, what do they provide, and what is their relation to the stone owner? If there is a feast, is it only for the workers or can other people attend? If non-workers can attend the feast, must they bring food as well? How many people (estimate), in total attend the feast?
  - f. How long does it take to obtain the materials necessary to make the Tena Watu?
  - g. Is there a fee (e.g., cash or animals necessary in order to obtain permission to use the land where the materials use to make the Tena Watu can be found?)
  - h. How long does it take to build the Tena Watu?
  - i. When is the Tena Watu built? (is the Tena Watu built just prior to dragging the stone or months or years in advance?)
  - j. Is there a work leader and what does he receive (cash, animals)? Does the work leader receiver more than the other workers?
  - k. Is the work leader related to the stone owner and if so, what is the relation?
4. Truck
- a. Is a truck use to move the stone (for any distance)?
  - b. How far is the stone moved with a truck and how long does it take?
  - c. What is the cost of renting the truck?
  - d. Who drives and loads the truck and what is their relation to the stone owner?
  - e. How is the person/people who loads/drives/unloads the truck compensated (e.g., with daily feasts or with feasts in addition to cash)? Does the stone owner provide all of the food for the feast and all of the cash? If not, who else does, what do they provide, and what is their relation to the stone owner? If there is a feast, is it only for the workers or can other people attend? If non-workers can attend the feast, must they bring food as well? How many people (estimate), in total attend the feast?
  - f. Is there a work leader and what does he receive (cash, animals)? Does the work leader receiver more than the other workers?
  - g. Is the work leader related to the stone owner and if so, what is the relation?
- B. Dragging the Stone
1. How long does it take to drag the stone?
  2. How many people hold onto the ropes and pull the stone?
  3. What is the relation between the stone owner and the stone pullers?

4. How are the stone draggers compensated (e.g., with daily feasts or with cash and feasts)? Does the stone owner provide all of the food for the feast and the cash? If not, who else does, what do they provide, and what is their relation to the stone owner? What are the stone draggers fed each day work? Is there a large feast for each day? If there is a feast, is it only for the workers or can other people attend? If non-workers can attend the feast, must they bring food as well? How many people (estimate), in total attend the feast?
5. Is there a work leader and what does he receive (cash, animals)? Does the work leader receive more than the other workers?
6. Is the work leader related to the stone owner and if so, what is the relation?
7. How many people come to watch the stone being pulled? Are they related to the stone owner or are they just people who live nearby and tourists?
8. What items are displayed? (i.e., are there ikat blankets displayed on top of the stone?)-Who owns the ikat that is displayed and how much is it worth?
9. Who stands on top of the stone and what is their relation to the stone owner—What does he/they wear and does this differ from what the stone pullers wear?
10. Has the path upon which the stone is being dragged been used for previous stone draggings?
11. How long and how often has the path been used?
12. When was the last time the path was used?
13. Is the path well worn?
14. Is the path designated for a certain clan or family?

## II. The Stone

- A. Size and weight (estimate)-what type of rock is it?
- B. Which part of the tomb is it being used for (e.g., the top, the legs, the front, etc.)—
- C. Are all of the stones for the stone tomb being moved at the same time? If not, when are the other stones being moved? How are the other stones for the tomb being moved (e.g., pulled with ropes on a Tena Watu rolling over rollers or tied to wood and carried on people's shoulders?)
- D. Where does the stone originate?
  1. Location of quarry and distance from quarry to final destination.
  2. How long has the quarry been used?
  3. How often is the quarry used?
  4. Who owns (what individual and/or clan) the land on which the quarry is located and what is the relation between the stone owner and the quarry owner?
  5. Was there money or animals (e.g., water buffaloes) given to the owner of the quarry in exchange for permission to use the quarry?
  6. When was the stone dug out of the ground and how long did it take to dig the stone out?

7. How was the stone dug out of the ground and what materials were used to dig it out?
8. How many people dug the stone out of the ground?
9. What is the relationship between the stone diggers and the stone owner?
10. How are the stone diggers compensated (e.g., with daily feasts or with cash and feasts)? Does the stone owner provide all of the food for the feast and the cash? If not, who else does, what do they provide, and what is their relation to the stone owner? What are the stone diggers fed each day work? Is there a large feast for each day? If there is a feast, is it only for the workers or can other people attend? If non-workers can attend the feast, must they bring food as well? How many people (estimate), in total, attend the feast?
11. Is there a work leader and what does he receive (cash, animals)? Does the work leader receive more than the other workers? How many people (estimate), in total, attend the feast?
12. Is the work leader related to the stone owner and if so, what is the relation?

### **III. Building the Stone Tomb**

- A. How is the stone tomb constructed?
  1. How many people build the tomb? Are they the same people who dragged the stone? What is the relationship between the stone owner and the tomb builders?
  2. What are the methods and materials used to build the stone tomb?
  3. What is the origin of the materials used to build the stone tomb? Is it wood from the forest? If so, who retrieves the wood (relation to the stone owner) and how are they compensated?
  4. How long does it take to build the stone tomb?
  5. How are the tomb builders compensated (e.g., with daily feasts or with cash and feasts)? Does the stone owner provide all of the food for the feast and the cash? If not, who else does, what do they provide, and what is their relation to the stone owner? What are the tomb builders fed each day work? Is there a large feast for each day? If there is a feast, is it only for the workers or can other people attend? If non-workers can attend the feast, must they bring food as well? How many people (estimate), in total attend the feast?
  6. Is there a work leader and what does he receive (cash, animals)? Does the work leader receive more than the other workers?
  7. Is the work leader related to the stone owner and if so, what is the relation?
  8. How many people come to watch the tomb construction? Are they related to the stone owner or are they just people who live nearby and tourists?
- B. Is there a special feast held after the tomb is constructed? If so—
  1. Where is the feast held

2. How many and what kind of animals are provided and who provides (relation to stone owner)?
  3. Who provides the rice and how much rice is provided?
  4. Anything else (e.g., cigarettes, betel, other narcotics?) and who provides it?
  5. Does everyone bring food? Who does and who does not (e.g., only relatives of the stone owner bring animals or those that did not work to pull the stone must bring something)?
  7. Who receives what portions of meat? Do some people receive more meat than others? Who receives the most meat? Do people take meat home with them?
  8. Do people of higher social standing (e.g., noble class, people with positions in government, etc.) sit in different places than other people? What is the seating pattern in relation to social and gender differences?
  9. What is the total estimated expense of the feast?
  10. How many people (estimate), in total, attend the feast?
- IV. Carving the Stone (i.e., carving the designs on the surface of the stone tomb)**
- A. Who carves the stone (relation to stone owner) and how many people carve it?
  - B. How are the stone carvers compensated (e.g., with daily feasts or with cash and feasts? Does the stone owner provide all of the food for the feast and the cash? If not, who else does, what do they provide, and what is their relation to the stone owner? What are the tomb builders fed each day work? Is there a large feast for each day? If there is a feast, is it only for the workers or can other people attend? If non-workers can attend the feast, must they bring food as well? How many people (estimate), in total attend the feast?
  - C. Is there a lead carver with assistants? If so, is the lead carver compensated differently than the other carvers?
  - D. After the carving of the stone tomb is complete, is a special feast held for the occasion? If so—
    6. Where is the feast held?
    7. How many and what kind of animals are provided and who provides (relation to stone owner)?
    8. Who provides the rice and how much rice is provided?
    9. Anything else (e.g., cigarettes, betel, other narcotics?) and who provides it?
    10. Does everyone bring food? Who does and who does not (e.g., only relatives of the stone owner bring animals or those that did not work to pull the stone must bring something)?
    11. Who receives what portions of meat? Do some people receive more meat than others? Who receives the most meat? Do people take meat home with them?
    12. Do people of higher social standing (e.g., noble class, people with positions in government, etc.) sit in different places than other people? What is the seating pattern in relation to social and gender differences?
    13. What is the total estimated expense of the feast?
    14. How many people (estimate), in total, attend the feast?

**V. Total Time and Expense**

- A. What is the total time and expense (estimated cash amount) of the entire tomb building process (from digging the stones out of the ground to carving the stone tomb)?

**VI. Profile of the Stone Owner (or other household)**

- A. Age of the stone owner.
- B. Number and identity of people living in the stone owner's household and their ages.
- C. What village does the stone owner live in, where was he/she born, and where was his/her spouse born?
- D. What is the lineage affiliation, ancestral house affiliation, and clan affiliation of the stone owner?
- E. Does the owner have a special title and/or role within his ancestral house, lineage, or clan group?
1. What are the duties and benefits (e.g., salary, access to livestock or rice)
- F. What is the class standing of the stone owner (e.g., traditionally of the noble class)?
- G. Brideprice (and return brideprice) of stone owner's spouse and her/his clan affiliation?
- H. Brideprice (and return brideprice) of stone owner's children's spouses and their clan affiliation?
- I. Is the stone tomb for the owner (who is still alive) or for a relative (who is already deceased)?
- J. Occupation of stone owner (if retired, what was it before retiring?)
- K. What is the yearly salary or pension of the stone owner?
- L. How much paddy land does the stone owner possess?
1. What are the yearly rice yields?
- M. How much grazing land does the stone owner possess?
- N. How much garden land does the stone owner possess?
1. What is grown on the gardens (e.g., corn) and how much is grown per year?
- O. How many animals does the stone owner possess?
1. Water buffaloes?
2. Pigs?
3. Chickens?
4. Goats?
5. Cows?
- P. How many water buffaloes, pigs, cows, or goats are owed to the stone owner by others? (before and after the stone owner gathered contributions for the stone tomb construction)
- Q. How many water buffaloes, pigs, cows, or goats does the stone owner owe to other people? (before and after the stone owner gathered contributions for the stone tomb construction)
- R. Is the ownership of any of the stone owner's animals or land in dispute? If so, who is the dispute with and what is his/her relation to the stone owner?

- S. How much of the financing (water buffaloes, cash, etc.) of the stone tomb construction came from the stone owner's own resources?
- T. How much of the financing (water buffaloes, pigs, cash, etc.) of the stone tomb construction came from others?
1. Who else (besides the stone owner) contributed to the financing of the stone tomb construction and what is their relation to the stone owner?
  2. Did the outside contributions for the tomb building represent return contributions for old debts or were did the initiate new debts for the stone owner?
- U. How long did it take for the stone owner to gather the resources and contributions necessary to finance the stone tomb construction?
- V. How much has the stone owner invested in feasts in the past 5 or 10 years (if he/she cannot remember for the past 10 years, go with the past 5 years)
1. Feasts hosted by the stone owner
    - a. Name of feast
    - b. What was the purpose of the feast?
    - c. How often is the feast typically held?
    - d. When was feast held?
    - e. How many people attended feast?
    - f. How many and what kind of animals were slaughtered for the feast?
    - g. Who (other than the host) contributed the animals and rice for the feast and what is their relation to the host?
    - h. Did the contributions of animals and rice for the feast create a debt for the feast host? Were they returns for old feasting debts?
    - i. Was the feast for relatives only, or was it open to anyone?
  2. Feasts attended by the stone owner
    - a. Name of feast
    - b. What was the purpose of the feast?
    - c. How often is the feast typically held?
    - d. When was feast held?
    - e. How many people attended feast?
    - f. How many and what kind of animals did the stone owner contribute to the feast?
    - g. How many and what kind of animals in total were slaughtered for the feast?
    - h. Did the stone owners' contributions of animals for the feast create a debt for the feast host? Were they returns for old feasting debts?
    - i. Was the feast for relatives only, or was it open to anyone?
- W. Relatives of stone owner in prominent positions in business and government
1. What is their relation to the stone owner and what is their position?
- X. Regular cash contributions to the stone owner from relatives/others
1. How much is sent to stone owner per year and by whom
- Y. Disputes involving stone owner
1. What was the subject of the dispute?
  2. Who was the other party involved in the dispute and what is their relation to the stone owner?

3. How was the dispute resolved?

Z. Does the stone owner resolve disputes?

AA. Borrowing livestock or rice? From whom and for what occasion?

**VII. What is the symbolic/spiritual purpose of erecting the stone tomb?**

A. How is it connected to the local religious beliefs? (e.g., it is considered important for the afterlife, etc.)

**VIII. Additional**

A. Feast debt interest (differences between kin, non-kin; Is it normal to give back in kind 6 months or 1 year past deadline)?

B. Debt inheritance?

C. From whom are plates, pots, cups etc... for feasts borrowed (who owns large pots, etc...)?

D. Genealogical time depth of ancestral houses?

E. Who has the most influence in times of dispute resolution and feast planning within a clan/lineage?

F. How does one acquire land that is not inherited?

G. Kabihu clan confederations: How is the territory defined?

H. If one does not have good dependability (i.e., feasting record), can they count on support from fellow lineage/clan members in times of dispute?

I. Interest on loans for brideprice, other feasts, etc...?

J. When did people start planning for new Kabupaten in central Sumba?

K. Who is invited to Pasola?

L. Who provides pigs and water buffaloes to Pasola?

M. Can clan and lineage contributions at large feasts be identified? For, example when people carry animals to funerals in Anakalang, etc..., they play gongs and walk in a group.

N. Gift lists or other record keeping of feast debts?

O. Are wives of clan members considered members as well?

P. Does household contribution to lineage and clan feasts affect their access to cooperative labor arrangements or what happens if one does not participate in these activities?

Q. What can be beneficial about having had a high-priced marriage arrangement?

R. Are genealogies listed at feasts?

S. In internal clan disputes, who is favored (e.g., someone participates a lot in feasting etc... vs. someone who participates very little)?

T. Are all households in clan traditionally in the same territory? Is this old or new phenomenon?

U. What are the consequences of defaulting loans?

V. What is highest number in indigenous counting system?

W. Elections of officials: Who decides? How do clan heads influence? (specific examples?)

X. Penalties: Who decides severity? What are the penalties? Sources of conflict?

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## ABSTRACT

Megaliths have figured prominently in discussions of sociopolitical complexity and ideological systems in prehistoric societies, leading to a very wide range of interpretations concerning their significance. What has limited these discussions is the paucity of ethnoarchaeological studies of the living processes associated with megalith building. In this dissertation, I present an ethnoarchaeological examination of the continued traditional practice of erecting megalithic tombs in West Sumba, Indonesia. The construction of megalithic tombs has occurred for hundreds of years on the island of Sumba. The persistence of this practice to the present day, particularly in West Sumba, makes Sumba an incredibly unique context in which to examine megalith building and its larger social context from an ethnoarchaeological perspective. This ethnoarchaeological analysis of megalith construction in West Sumba approaches the subject from a political ecological perspective guided by the following primary objectives: 1) to examine the social aspects of megalithic tomb building in West Sumba in order to determine whether there are sociopolitical and economic advantages associated with the practice; 2) to investigate the household material signatures of megalith building; and 3) to develop a model for the sociopolitical processes that surround megalith building which can be applied to prehistoric contexts.

Ethnoarchaeological data on megalith building and its social significance in West Sumba was collected in interviews and household material culture inventories. Analysis of this data indicates that megalith erection provides a

visual representation of individual and group power and is enmeshed in a larger feasting economy through which power is achieved and relations are defined. From this analysis and a review of ethnographic accounts of megalithic cultures in other areas, I have developed a model which links megalith building to the power of individuals and groups in contexts of corporately controlled resources, relational power, competition over key resources, and the importance of group sociopolitical power.

**Key Words:** Ethnoarchaeology; Indonesia; Megaliths; Labor Mobilization; Feasting