

Village Defenses of the Karnataka Maidan, AD 1600-1800

BARRY LEWIS

Introduction

The Nayaka period in Karnataka roughly brackets the centuries between the fall of Rama Raya's capital city of Vijayanagara in 1565 and the fall of Tipu Sultan's capital of Srirangapatna in 1799. The former effectively broke the back of the Vijayanagara empire in Karnataka and the latter left the British as the major political force in South India.¹ In the turbulent centuries between these events, the Mughals, the Marathas, the Mysore sultans, the Nizam, the British, the French, and scores of smaller rulers and chiefs fought for control of much of South India. As if to make things worse, marauders roamed the countryside plundering what was left, and villages preyed on each other when conditions grew particularly hard.²

As is generally true of other eras of South Indian history and archaeology, Nayaka period research is biased toward the rulers and other elite members of society, and toward major sites and events.³ Common people are seldom more than shadows in the backgrounds of grander scenes. What is striking about this bias is that it exists in the face of evidence that Nayaka period common people often do have an archival presence, at least when viewed at the village level.⁴ Similarly, archaeologists everywhere can study readily the material remains of all members of society. The inescapable inference is that relatively little is known about the archaeology of precolonial small communities in South India more often because of the prevailing priorities and interests of modern society, historians, and archaeologists rather than because of the lack of data.

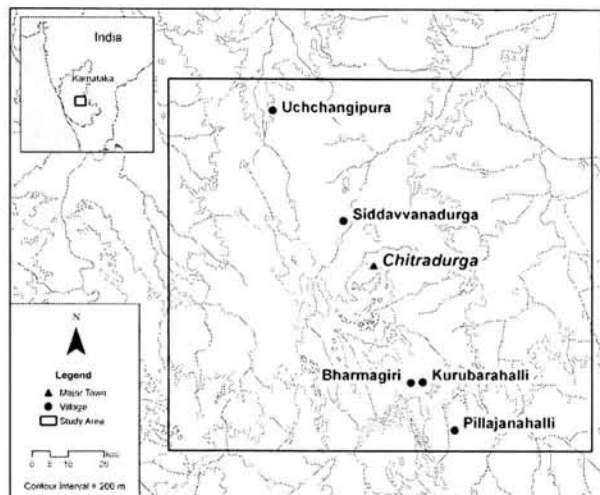
My objective here is to examine one aspect of the lives of Nayaka period common people, that of village defense. Security concerns affect every villager equally and the data needed to study this aspect of village decision-making are readily available. Furthermore, when viewed across villages in the same region, defenses tend to vary less than many other factors. By virtue of their nature, defenses respond more to external forces than to the internal social milieu and history that contribute greatly to the diversity of India's villages.⁵ The article's main thesis is that the basic elements of precolonial village security cannot be

understood fully unless considered in cultural context as part of related larger issues of village design. And, if one understands the basics of village design, the way is open to understanding aspects of Nayaka period town and city design and how communities generally coped with the trying conditions of these centuries.

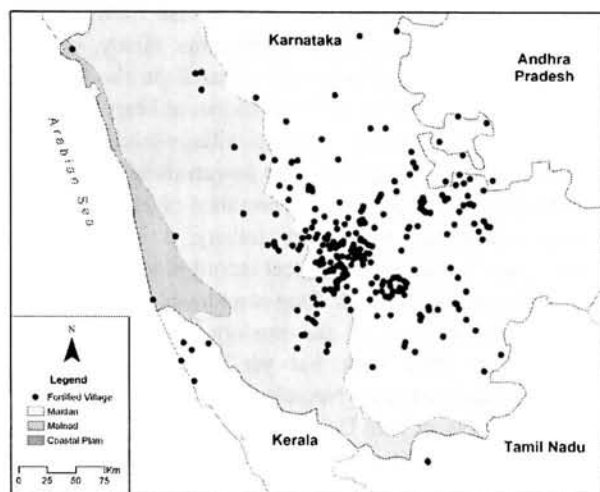
Several other practical reasons also motivate the present focus on village defensive features. Firstly, as with many other aspects of historical research on the lives of common people, studies of South Indian military features and landscapes seldom address village-level security concerns.⁶ The result promotes the unwarranted impression that defense was primarily the province of elites, and, if it were widespread throughout society, it was of little consequence in the archaeological record of villages.

Secondly, although long-abandoned fortifications are common features of the modern Indian landscape, comparatively little work has yet been done on their functional characteristics.⁷ Notable exceptions in South India include the work of Jean Deloche of the French Institute of Pondicherry;⁸ the Vijayanagara Research Project directed by John Fritz, George Michell, and M. S. Nagaraja Rao;⁹ and Carla Sinopoli and Kathleen Morrison's Vijayanagara Metropolitan Survey, which centered on Vijayanagara's immediate hinterland.¹⁰ Of particular significance in the latter research program is Robert Brubaker's recently-completed PhD dissertation on late medieval and early modern Vijayanagara region fortifications.¹¹

Thirdly, the defensive works of all communities, even small villages and hamlets, tend to be among the most massive features of the built environment. Because of these qualities (and also, in many cases, because of their lack of subsequent secondary uses except as raw material sources), the remains of village defenses have often survived to the present and can be studied archaeologically. These features are also among the few *material* aspects of village life that frequently have an archival presence. Given their relative obtrusiveness, they often stood out enough from their surroundings to attract the attention of contemporary observers who left written records. For example, Francis Buchanan's narrative account of his tour of Mysore and



1. Fortified village study area, Karnataka, India, showing the locations of village sites mentioned in this article.



2. Fortified villages in central and southern Karnataka, 1799-1808.

Malabar between 1800 and 1801, immediately after the end of the Fourth Mysore War, mentions scores, if not hundreds, of fortified villages that he passed or visited.¹² The most common attributes identified in Buchanan's village descriptions are the presence or absence of defensive features such as walls, towers, gateways, and ditches.

Finally, lest there be quibbles about their function and use, abundant evidence attests to the defensive nature of village features like those examined here. The direct evidence includes contemporary eyewitness reports in Karnataka and the archaeological research on South Indian fortifications cited above (especially Brubaker's 2004 Vijayanagara fortification research).¹³ Additional general support is provided by recent comparative research on fortifications and the archaeology of warfare.¹⁴

The next section describes the main dimensions of the defensive problem that precolonial Karnataka villagers had to solve and aspects of the region's physical and cultural geography that affected how they dealt with such issues. I then describe general features of a *maidan* village in Davangere district, which, while they were not necessarily shared by every village, were sufficiently common to provide a useful heuristic. Next, I examine the heuristic's application to the study of village defenses and outline the assumptions that underlie its use. Given this comparative framework, representative small and large villages are described, based on archaeological field surveys in Chitradurga and Davangere districts. The final section identifies general patterns of village defense in the study region and discusses the extent to which villagers responded to different security concerns, drew on different resources, and set different security priorities to their rulers.¹⁵

The Maidan region

The study area includes parts of Chitradurga, Davangere, Bellary, Dharwar, Shimoga, Tumkur, and Chickmagalur districts in central Karnataka (Figure 1). It is mostly a semi-arid scrub jungle plateau, which geographers call the Southern Maidan.¹⁶ To the west are the forested mountains, or *malnad*, of the Western Ghats, through which narrow passes lead down to the low-lying, well-watered coastal plain bordering the Arabian Sea. To the east the transition from plateau to coast is more gradual through the Eastern Ghats to the Andhra Pradesh and Tamil Nadu coastal lowlands and the Bay of Bengal. The plateau continues to the north as the Southern Deccan. To the south, it ends in the Nilgiri Mountains.

Like all natural landscapes, this diverse region played an active role in the drama of human lives. The *maidan*, *malnad*, and coastal plains each offered different possibilities, constraints, and histories, all of which influenced community decision-making. Local surface relief, vegetation cover, soils, precipitation patterns, rivers, drainage, and even seasonal changes in climate are just some of the natural factors that villagers considered in decisions about the safety and well-being of their families and the community as a whole. In the *malnad*, for example, villages were often a web of spatially discrete households and neighborhoods spread across a relatively large area.¹⁷ In many such cases, village defense relied on the ruggedness of the terrain; on barriers and earthworks that defended roads and trails; and on the option of scattering into the forest rather than seeking protection in fortified, nucleated settlements.

The situation was different in the *maidan* region, where the terrain offered a broad natural line of advance for armies. Much of it was good country for cavalry and it held abundant opportunities for robber bands. Here, villages were generally nucleated and some form of defensive works

were part of the basic fabric of precolonial village design.¹⁸ Figure 2 shows the distribution of fortified villages in central and southern Karnataka, as recorded by Colin Mackenzie's Mysore Survey between 1800 and 1808.¹⁹ Based on a conservative estimate derived from the symbology of the Mysore Survey maps, at least 253 of the 18,059 villages identified by the surveyors were fortified.²⁰ Of the fortified villages, 212 (84%) were located in the *maidan* region, 40 (16%) were in the *malnad*, and one was on the coast in what is today Dakshin Kannada district. Even after one controls for the different sizes of the *maidan*, *malnad* and coastal regions, late Nayaka period *maidan* villages were nearly twice as likely as *malnad* villages to be fortified.

Maidan village design

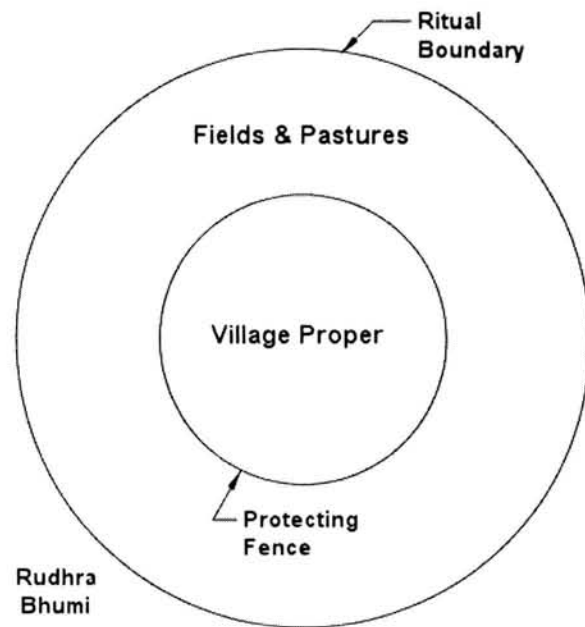
This study examines the archaeological remains of villages that were generally too insignificant to warrant inclusion on nineteenth-century maps of South India. The concept of 'village', whether viewed in English or Kannada, the common vernacular of the study region, is, at best, rather fuzzy.²¹ For present purposes, a village is defined as a small community of households in which religious, ritual, and administrative services are primarily local in scope. Following common English usage, villages are smaller than towns and larger than hamlets.

The typical spatial layout of *maidan* villages owes little to the guidelines given by traditional texts,²² or to the common stereotype of them as out-of-the-way, self-sufficient communities.²³ Nevertheless, the defensive aspects of village layout include some of the more patterned aspects of village plans because, as noted above, security threats are largely defined by external factors, not by forces internal to each village.

The Kallapura layout

K. G. Gurumurthy's ethnographic research at Kallapura,²⁴ the fictitious name he gave to a village in what is today southern Davangere district, provides a useful general model with which to characterize the basic defensive layout of *maidan* villages.²⁵ Although Gurumurthy describes this pattern as a series of "ritual circles", the term 'layout' is used here to emphasize the aspects of ritual circles that contribute to overall village design, not merely its ritual landscape. Unless otherwise indicated, the following paragraphs about the Kallapura layout are mostly a synthesis of Gurumurthy's several accounts.

Villages are protected by both physical and ritual barriers that, taken together, defend the community against bad people, evil spirits, diseases, ill fortune, lessened fertility, and other factors that can diminish the health, prosperity, security, and general well-being of its inhabitants. These barriers form an integrated whole that influence how the village maps itself onto the ground and its spatial relationships with neighboring communities. The

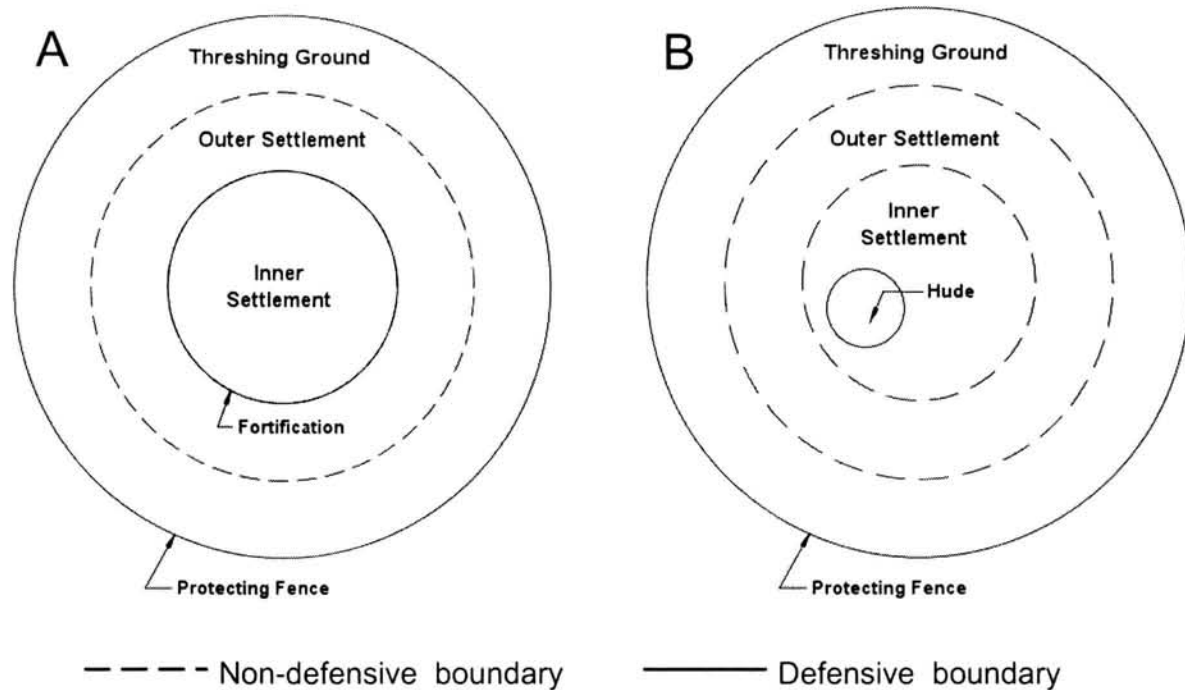


3. Kallapura village layout, as described by Gurumurthy (cf. note 24).

extent of these barriers are defined and controlled by the village, but, in modern villages at least, they do not exceed the revenue boundaries surveyed by the government.

Each village is divided into two parts, the *uru*, or village proper, and the *adive*, or the village's fields, pastures, and fallow ground (Figure 3). The core area of the *uru* is the temple compound (*gudi powli*) of the village deity.²⁶ The inner settlement (*holakeri*) surrounds this compound and is the village's oldest residential area. It typically comprises large, well-constructed houses associated with the original settlers. Often, the homes of the headman and village priest will be in the *holakeri*. The outer settlement (*horakeri*) contains the homes of original settler families and lower class villagers; many of these houses are smaller and less well-built than those of the *holakeri*. Beyond the outer settlement is the threshing ground (*ola-kanagalu*), which was originally a non-residential area that contained the threshing and winnowing areas, as well as storage facilities for grain, firewood, and animal fodder. As a village grows, houses and streets encroach on this area. The threshing ground is ringed by the protecting fence (*pahari beri*), often a thick bound-hedge open only where it intersects a road.²⁷ Gurumurthy describes this fence as

the dividing line between the residential and the non-residential area, between the members and the non-members, and between the living and the dead members of the community. It is left open only at the roads which lead to the neighbouring



4. Village defensive layouts: A. Area-type defense; B. Point-type defense using a hude or tower.

villages. In the past there were gates (*agase bagilu*) to regulate the movement of men and materials. They were watched round the clock by the village watchman.²⁸

The protecting fence defended the village against human enemies, animal predators, evil spirits, the loss of fertility, and diseases; village rites ensured its ritual purity.

The *adive* lies between the protecting fence and the village's ritual boundary (Figure 3). Taken as a whole, the *adive* is not a residential area, nor is it ritually protected or pure. The village's ancestral fields (*manedolagalu*) abut the protecting fence. These fields are among the most valued in the village and are the locus of several village rites and some of the ancestral tombs. The fields (*hola*) that stretch beyond the ancestral fields are less valued, are often more difficult of access, and have little ritual significance in village life. The village ritual boundary (*ura gadi*) surrounds the latter fields. Although infused with considerable importance as the village's outermost perimeter of ritual and economic activity, delimited by ritual boundary stones (*nimidrekallu*), and guarded by village deities who may be acknowledged by shrines erected at the parts of the boundary under their protection, it is established by village rituals alone and does not follow the village's revenue boundary. It does, however, lie within the latter boundary.²⁹

The *rudhra bhumi* (cemetery or cremation ground) (Figure 3), or the space between the ritual boundaries of

two adjacent villages, is noteworthy because it is ritually unclean. As the name implies, it serves as the burial and cremation ground for some classes of village residents. Within it live evil spirits, diseases, and ill fortune, all of which have been driven there by the village gods. Presumably, the boundary stones and markers that identify the revenue limits of the village fall in this space.

As community-centered as the Kallapura layout may be, Gurumurthy describes a mid-twentieth-century world that was more strongly focused on individual households than existed anywhere in the *maidan* region during the Nayaka period. Missing from the Kallapura layout are the stone and mud fortifications and ditches that were once the most obtrusive features of village layout. Like Kallapura's fort walls, which vanished over the past couple of centuries, this aspect of village design disappeared as the state imposed its authority across the region in the nineteenth century, dismantled the strongholds, and disbanded the private armies of the remaining poligars.³⁰

Village defenses

Archaeological field survey in central Karnataka suggests that precolonial village defensive works other than bound-hedges commonly varied with the size of a given community and whether its inhabitants decided to defend a perimeter or a point. Most large villages and some small villages opted to defend a perimeter. They typically sited their main defenses between the inner and outer settlements (the *holakeri* and *horakeri* respectively) (A in Figure 4). For

example, writing about central and southern Karnataka in the late nineteenth century, B. Lewis Rice observed,

Most important villages and towns have a considerable fort of mud or stone, also the erection of former troublous times, when every gauda aimed at being a pálegar, and every pálegar at becoming independent. The fort is the quarter generally affected by the Brahmins, and contains the principal temple. The *péte* or market, which invariably adjoins the fort at a greater or less distance beyond the walls, is the residence of the other orders.³¹

Rather than attempt to defend the village as a whole, many smaller communities tended to defend a strategic point within or adjacent to the *holakeri* (B in Figure 4). Writing about the study region in the nineteenth century, Rice noted that 'villages commonly have the remains of a round tower in the middle, a somewhat picturesque feature, erected in former days as a place of retreat for the women and children in case of attack'.³²

Even without the direct evidence of stone and mud fort walls, Gurumurthy's Kallapura layout concept is particularly relevant to a discussion of village defense for several reasons. Firstly, it identifies a logic and order of village design that goes beyond a simple perspective of defense as a response only to anticipated human conflict. The Kallapura layout reminds us that village defense is inevitably more than walls, gates, ditches, towers, and protecting oneself against other people. It is about protecting the village from the whole gamut of human, animal, and spiritual forces that may act on its well-being. Cast in this light, it also shows clearly that the material expressions of village defense must be examined both broadly and contextually if they are to be understood in more than a superficial way.

Secondly, viewed archaeologically, villages are more than spatially concentrated debris scatters of the remains of houses, outbuildings, and public spaces. A village layout extends well beyond where the streets and houses end and the fields begin, and its spatial patterning can be infused with many layers of meaning that are significant in village life. Insofar as this is true, it follows that archaeological investigations of villages, especially research that considers such problems as defense, must adopt a spatial perspective of villages that is greater than their residential cores.

Thirdly, not all village boundary markers mean the same thing, nor do they figure prominently in a community's defensive priorities.³³ Depending on the nature of local land tenure practices, village revenue boundaries may, for example, be important to landowners whose property includes land that lies between the ritual

and revenue boundaries, but the village as a whole may not view such land in the same light as similar property that lies within the ritual boundary or within the protecting fence.

Finally, village (and city) walls are not necessarily the only defenses, but may be simply the most visible component of a defense that incorporates other outlying elements, such as bound-hedges, that may be removed spatially from the village core and leave little trace in the archaeological record. Viewed strictly from a functional perspective, village walls and bound-hedges could play similar defensive roles. They both created physical barriers that channeled access through the village gates. They also made (as villagers undoubtedly hoped) the anticipated cost of penetrating these barriers greater than some kinds of attackers were prepared to pay.

How can one use these ideas to facilitate the interpretation of precolonial village defenses? They are probably best treated as heuristics, with which one asks the question: what would precolonial defenses look like if *maidan* village layouts were organized along the same general lines as Kallapura? With these expectations in mind, we can then turn to the archaeological record and assess from material remains and spatial relationships the extent to which a given village site was laid out according to similar principles.

Before considering real cases, several additional assumptions need to be made about village defense. Firstly, villages, whether ancient or modern, in India or elsewhere, do not attempt to defend against armies. Villagers lack the means – weapons, training, manpower, leadership, and stores – to resist overwhelming force. Villagers unlucky enough to find themselves in the path of an advancing army or the object of a concerted attack by a large band of marauders tend to hide what they can and run away.³⁴ For the latter villagers, passive defenses such as grain storage pits, or *hagevu*, hidden in and near the village, helped to protect a family's harvest from both agricultural pests and robbers.³⁵ However, even *hagevu* were not proof against loss. For example, during the Third Mysore War, European soldiers witnessed both Maratha and Mysore marauders seeking out and robbing village *hagevu* as their respective armies advanced through the countryside.³⁶

Secondly, defensive works are inherently reactive. Their design reflects a village's assessment of the likely forces that threaten its well-being and the anticipated strength, technology, and probable tactics of these forces. Insofar as this is true, fortifications say nearly as much about possible attackers as they do about the villagers who erected them.

Thirdly, and related to the previous assumption, the scale of village defensive works tends to be proportional to the size and wealth of the community it defends. Simply put, a wealthy community can afford a more robust defense than a poor one of the same size, and may be more motivated to do so because it feels that it has more to lose if the defense fails.

Finally, status display is seldom an issue in village defenses. Unlike the fortifications erected in the towns which were the headquarters of nayakas and poligars, villagers seldom attempted to incorporate status markers into their defensive works. For example, archaeological field survey in the study region suggests that village defensive works emphasized function over style consistently. To these villagers, the value of physical barriers rested more with perceived efficacy than adherence to a particular architectural vocabulary or style.

The next two sections apply the Kallapura heuristic to example sites drawn from the results of field surveys in Chitradurga and Davangere districts, Karnataka. The first section deals with small villages and compounds, the second with large villages.

Small villages and compounds

The most commonly-encountered archaeological remains of village defenses are those designed to protect communities against the real threats posed by other people. These aspects of the built environment tend to survive longer than other cultural features because they are typically the most massive and, consequently, the most obtrusive identifiable surface remains of the villages they were built to defend. Houses and outbuildings may disappear quickly, boundary stones be uprooted, and bound-hedges cut away, but fortifications, especially those built entirely or partly with stone, often endure simply because of their size and the fact that they have few, if any, secondary uses except as a source of raw materials. The choice of fortification building materials does matter, however, and the surface remains of mud-walled forts are often only identifiable today as ridges of earth that follow the trace of what were once proper walls. Few Nayaka period mud brick walls and buildings in the study region are as well-preserved as those at Chitradurga Fort, where coatings of *chunam* (lime plaster) and the district's low average rainfall have preserved them.³⁷

This section considers the smallest precolonial village sites that show surface evidence of defensive works. The main challenge faced by the inhabitants of these villages was to devise a viable defense from limited resources. It has never been a trivial task to defend a small poor community. As the mid-nineteenth-century expert on fortifications Hector Straith remarked, the rule of thumb when designing a defense is 'small place, bad place', and for sound reasons.³⁸ In many such communities, for example, what may seem to be the obvious solution of erecting mud or stone walls around the inner settlement of the village would have been utterly impractical because, even if the raw materials were readily available and affordable, there were too few villagers to construct, maintain, and defend the resulting large perimeter. The plight of the small village therefore compels us to identify that which was to

be defended, if one could not defend the whole, and then ascertain how villagers achieved this objective.

The object of a community defense takes many forms and varies according to cultural traditions, historical contexts, and what villagers agree to defend against. One could choose to defend some or all of a village's inhabitants, village places or neighborhoods of particular significance, historically- or ritually-defined perimeters, and so on. As noted above, a village's defensive pose is also a function of the inhabitants' assumptions about the nature, tactics, and means of potential threats. A disciplined army thought to be dragging a train of artillery would have been viewed quite differently by villagers to a small band of marauders mounted on country ponies and armed with swords, spears, and the odd rusty matchlock.

Next to simply running away (a viable defensive strategy for the inhabitants of many small communities), the Kallapura layout conferred on its inhabitants a certain amount of protection – both real and ritual – without further elaboration. In particular, the protecting fence, or bound-hedge, defined a cheap yet effective perimeter. For some villages it was in fact the primary defensive feature. A dense protective fence of thorn bushes required attackers to concentrate their force at particular points, whether to cut through the fence or to contest the gates where the fence intersected roads. The main drawback of the protecting fence was that once penetrated, it could become a defensive liability if it constrained the villagers' ability to concentrate force or flee. Nevertheless, Arthur Wellesley, the future Duke of Wellington, found bound-hedges to be serviceable protection for many villages during the Third Mysore War.³⁹ Similarly, Tipu Sultan's regulations required that existing village and town hedges be maintained and new ones planted where they were needed.⁴⁰

Pillajannahalli

Moving beyond the protecting fence, which, to date at least, is effectively invisible archaeologically, to the habitation area of villages, the simplest *maidan* defense did not attempt to secure the entire community, but concentrated resources on defending a point, typically using a tower or *hude* built in or near the village (B in Figure 4). Kittel describes the *hude* as 'a circular bastion-like structure of stones, etc. at some distance from a village in which peasants endeavoured to secure themselves in the time of a sudden attack from marauders'.⁴¹ Francis Buchanan, traveling through Kolar district in May of 1800, described one of the many varieties of *hude*:

All the houses are collected in villages, and the smallest village, of five or six houses, is fortified. The defense of such a village consists of a round stone wall, perhaps forty feet in diameter, and six feet high. On top of this is a parapet of mud, with a door in



5. Pillajanahalli hude or defensive tower.

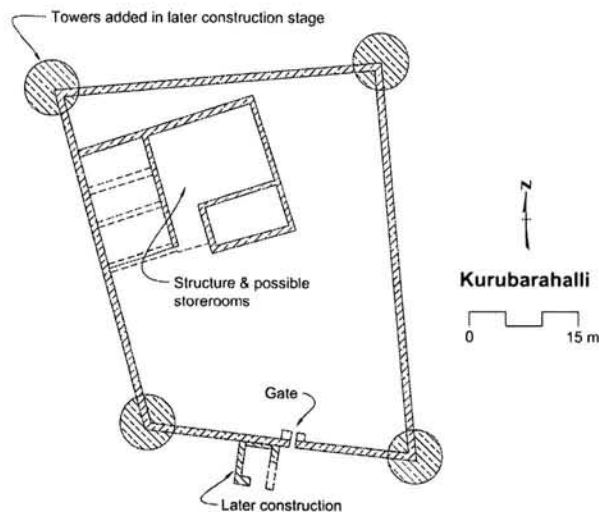
it, to which access is by a ladder. In case of a plundering party coming near the village, the people ascend into this tower, with their families, and most valuable effects, and having drawn up the ladder defend themselves with stones, which even the women throw with great force and dexterity.⁴²

Rice further notes that, 'In the districts lying north-east from the Baba Budans [i.e. the present study area], villages commonly have the remains of a round tower in the middle, a somewhat picturesque feature, erected in former days as a place of retreat for the women and children in case of attack'.⁴³ That *hude* were often, if not usually, considerably taller than the Kolar district village example quoted above is illustrated by Campbell's remark about Bijapur district villages: 'From a distance the first parts of a village that catch the eye are the trees and the village tower'.⁴⁴ The same can be said of the *hude* ruins that still survive in the study area.

Chitradurga and Davangere districts contain the archaeological remains of several types of *hude*-

based village defenses, all of which, like the Scottish dun or broch that they superficially resemble, are set in gently rolling terrain that offers few natural defensive advantages.⁴⁵ One of the simplest examples is Pillajanahalli, which lies several kilometers south of the Vedavati River in Hiriyur taluk, Chitradurga district (Figure 1). No inscriptions or other dated remains are associated with this site, which is inferred to be a Nayaka period location based on information received from local villagers and the similarity of its construction methods and materials to documented Nayaka period sites elsewhere in the study region.

The only surviving Pillajanahalli structure is the *hude* itself (Figure 5), which stands out so much from the surrounding fields that the district map marks the site with a fort symbol.⁴⁶ The *hude* measures eleven meters in diameter and its much-reduced walls are approximately five to seven meters high. It consists of a circular two-faced slab-and-rubble wall, measuring about 1.6 meters thick, which was filled in with earth and stones to make a solid platform. Nothing remains of its original top, and it cannot be determined if a stone or mud parapet and door once crowned the Pillajanahalli structure.



6. Kurubarahalli site plan.

The weeds, brush, and other ground cover around the Pillajanahalli *hude* make it hard to identify more than a few major surface features, even during the dry season, and it is unknown if the *hude* was constructed within the village's residential area or nearby. Inspection of the overgrown field in which the *hude* sits revealed traces of a 1.5 to 1.7 meter-wide two-faced rubble wall that may have once enclosed it.

The point-based objective of a *hude*-centered village defense worked best, or perhaps only worked at all, if one's attackers were simply marauders for whom success was a quick raid with opportunities for looting or cattle lifting. In the face of a more sustained attack, the *hude* must have been of little defensive value.

Kurubarahalli

The *hude*-centered defense was not the only option open to small communities. Given sufficient resources and a small area to protect, they sometimes elected to defend the living area itself. The Kurubarahalli site is the remains of a walled compound with corner towers (Figure 6) set on a stony level plain about one kilometer north of the Vedavati River in Hiriyur taluk, Chitradurga district (Figure 1). The site does not have a local name, so it is referred to here by the name of the closest village, Kurubarahalli, which is situated about two kilometers to the southwest.⁴⁷ Like Pillajanahalli, it is identified as a late precolonial site based on its stylistic similarities with documented Nayaka period sites in the region.

Given the absence of visible habitation remains in the fields around the site, its size (1876 meters square), and its interior features, Kurubarahalli appears to have been an isolated large household of means, possibly the fortified compound of a wealthy farmer or local poligar. The compound and its adjacent fields may well have been surrounded by a bound-hedge, but surface traces of any such natural defenses vanished long ago.

The two-faced compound wall measures about 1.3 meters wide and is made of dry-laid rubble and lenticular slabs, each of which are roughly 25 to 50 centimeters long and 20 to 35 centimeters thick. It is not banked or revetted on the interior by earth or rubble. The same general wall construction style persists in local village house walls to this day. The only identifiable gateway is about midway along the south wall, where there is a three meter-wide gap in the rubble, flanked on the interior by the foundations of what appear to have been small guard rooms (Figure 6). As originally constructed, the compound walls lacked corner towers. Taken by themselves, these walls would have provided relatively little security, even if their outer faces were piled with cut thorn bushes, a practice that is also still common in the region. The wall is too eroded to ascertain if it had been finished with loopholes and the like. The corner towers, which were added to the compound walls in a later construction stage, may well have been the main defense points, as they enfilade the walls completely.

The remains of a large ruined building and courtyard take up about one third of the compound interior. It was built in the same general manner as the compound walls and towers. Additional structural remains may be present inside the compound, but they cannot be delineated clearly in the rubble and thorn bushes that cover the site.

Sometime subsequent to the construction of the compound walls, a rectangular structure of dry-laid rubble and lenticular slabs was built against the exterior of the south wall (Figure 6). The slabs of this structure are roughly 25 to 50 centimeters long and 5 to 10 centimeters thick; they are noticeably thinner than the slabs used in the compound walls. Several *nagakal*, or snake stones, rest against the base of the north wall of this collapsed structure.⁴⁸

In summary, Pillajanahalli and Kurubarahalli offer different material expressions of defensive measures taken by the smallest *maidan* villages or hamlets and represent site types that are archaeologically unknown in South India. The Pillajanahalli villagers chose to defend a point, the *hude*, while Kurubarahalli defended a small area, possibly comprising a single isolated household. Both types also may have incorporated natural defensive features such as bound-hedges into their overall plan, which would have helped to mitigate some of the defensive challenges of the flat to gently rolling terrain on which they were built.

Large villages

The variety of defensive poses increases with village size, but in a complex way that is more aptly described as the expression of an interrelated web of factors than links in a chain. In the *maidan* region, for example, isolated hills or clumps of hills provided naturally strong defensive features, especially when they were also well-watered and near major lines of communication.⁴⁹ Over the centuries, many such *maidan* locations became the sites of cities,

towns, or villages. Nevertheless, natural defensive qualities alone cannot account for the spatial distribution of Nayaka period villages and towns or for the ways in which hills were integrated into village layouts.

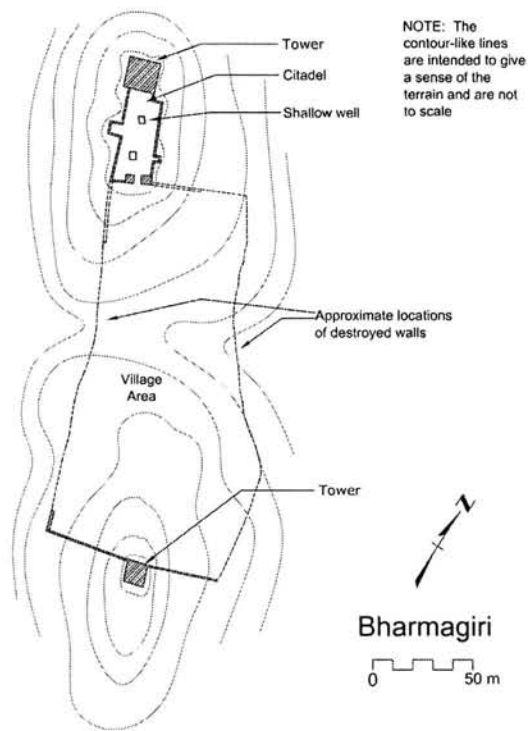
The following three examples illustrate the diversity of defensive poses of *maidan* villages larger than Pillajanahalli and Kurubarahalli. Two of these villages, Bharmagiri and Siddavvanadurga, incorporated isolated hills in their designs. Both villages also included an inner core or citadel that served as the ultimate line of defense. The remaining village, Uchchangipura, erected the most substantial defensive works of the villages considered here, but, instead of a citadel, its ultimate defensive feature was a *hude* placed inside the fort walls.

Bharmagiri

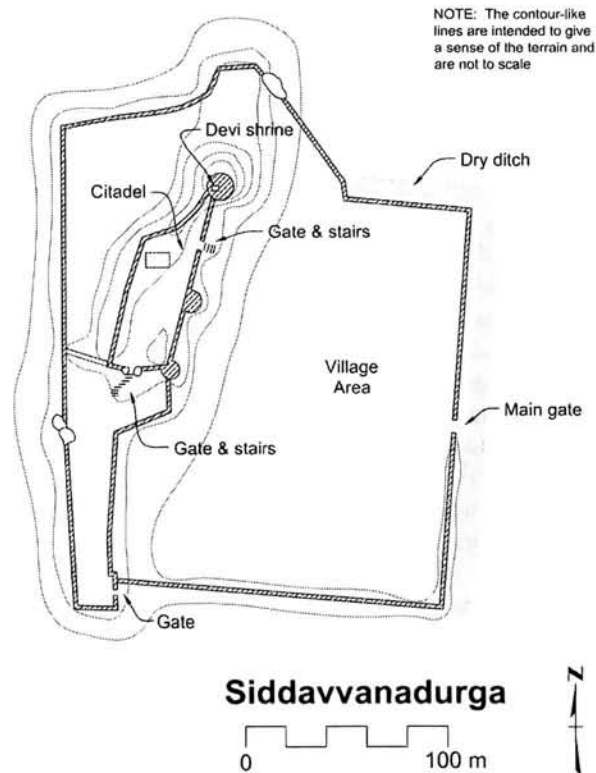
Survey of India topographical map Sheet 57 C/5 (1975 edition) shows two ruined forts on the hill above the modern village of Bharmagiri (Figure 1), which is situated about four kilometers west-northwest of the Kurubarahalli site. Field survey revealed that Bharmagiri actually comprises the remains of a Nayaka period fortified village that covers a ridge-like hill with peaks at each end and a broad saddle between them (Figure 7). Survey of India cartographers misinterpreted the hilltop towers as the remains of separate fortifications.

Local villagers apply the name Bharmagiri to both the modern and the long-abandoned villages; as used here the term Bharmagiri refers only to the archaeological site. Village folklore attributes its construction to Bharamappa Nayaka (AD 1689-1721) of Chitradurga. They also associate the construction of Bharmagiri with the village fortifications at Lakkihalli, which lies about five kilometers to the west. They say that during Bharamappa Nayaka's time, he made a wager with his mistress, Lakkamma, about who could complete fortifications at their respective places first. Lakkamma finished fortifying Lakkihalli village before Bharamappa Nayaka could complete the one at Bharmagiri. He lost the wager and subsequently abandoned construction of these works.

The villagers' account of the origins of Bharmagiri and Lakkihalli may well be true, but, for the moment at least, we lack the external evidence necessary to verify it. As with the other villages described here, there are no known inscriptions or contemporary accounts that can help us to understand its origins. Moreover, the style, construction methods, and materials of the Bharmagiri fortifications and the village site they enclose are basically those described earlier for Pillajanahalli and Kurubarahalli, neither of which show any evidence of an investment of dressed masonry or other elite resources in their construction. In short, few, if any, features of construction or materials distinguish the fortified village at Bharmagiri from other Nayaka period village defenses in the region.



7. Bharmagiri site plan.



8. Siddavvanadurga site plan.

Local villagers say they lived within Bharmagiri's walls until the 1950s, when they moved off the hill to be closer to the modern road and a better water supply. Abundant evidence of two-faced rubble walls, block mortars, potsherds, and other cultural debris on the saddle area of the hill provide convincing evidence that the village thrived there for many generations. Although the general condition of the old village is poor, mostly because it has been scavenged for building materials, the move had a generally positive impact on site preservation. The site now appears to seldom be visited except by shepherds and little boys from the village below.

Bharmagiri's basic design concept was to fortify the hill's opposing elevations with square towers, both of which offer commanding views for several kilometers, and erect the village on the saddle between them (Figure 7). Walls built along the saddle crest connected the two towers and completed the village enclosure. It was a good plan, but it would have been a better one if the hill had had an adequate water supply. The lack of water on the hill undoubtedly hindered any sustained defense of the village.

The walls and towers are dry laid courses of lenticular slabs and rubble like those found at Kurubarahalli. The village walls that once connected the hilltops can be traced on the ground surface by following the line of one or two stone courses. The rest of the walls have fallen down, eroded away, or been robbed of their stones. The towers are the best preserved portions of the fortifications with walls that measure 1.5 to 3 meters high. The northern hill differs from the southern one in that its tower also covers an area of roughly 740 meters square, which appears to have been a small citadel. The single remaining standing building at Bharmagiri is a small (3.1 by 4 meter) abandoned masonry structure, possibly a former shrine of the village deity, in the citadel.

No gateways can be identified from surface evidence in the wall line that connects the two towers. The citadel on the north hilltop has a 2.3 meter-wide entryway placed in the middle of its south wall; this gate controlled movement between the citadel and the village center.

The only identified water storage feature is inside the citadel, where a 3.8 by 3.1 meter natural depression was built up on one side with rock slabs and sealed with *chunam* to create a small well.

Bharmagiri was not surrounded by a ditch, nor would one have contributed materially to the defense of the hill.

Even with its natural advantage of elevation, Bharmagiri may well originally have been surrounded by a bound-hedge planted at some distance from the foot of the hill. Such a feature would seem to have been essential to protect the threshing grounds, storage facilities, animal pens, and other parts of the village for which there was no room on the hill's saddle. Systematic survey of the surrounding locality needs to be undertaken to identify how the villagers dealt with this aspect of the design.

Siddavvanadurga

Hills were also incorporated into village layouts as one component, generally the citadel, of a larger plan. For example, the remains of the old village at Siddavvanadurga cover an isolated hill and adjacent area of a gently rolling plain of red soil and boulders about fourteen kilometers northwest of the city of Chitradurga (Figure 1). The southern edge of the village walls lies within 100 meters of the present Siddavvanadurga, which straddles the paved road connecting National Highway 4 and the town of Jagalur. About 40 years ago, the village moved to its present site from inside the fort walls to have more room for growth and to be closer to a newly constructed main road.

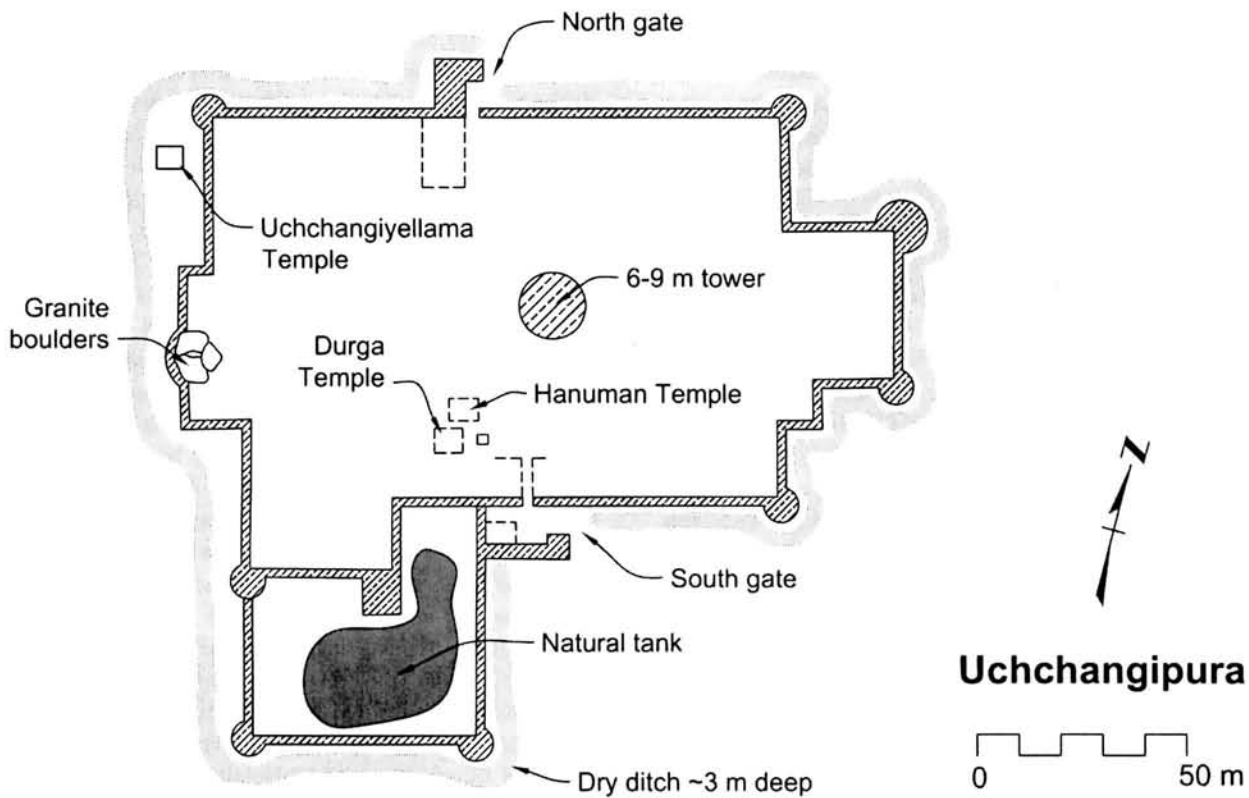
According to local villagers, the old fortified village was built by Madakari Nayaka (of which there were four Chitradurga rulers with this name) in honor of his wife, Siddavva. Given the village's location on one of the major early nineteenth-century roads that crossed this region, it may also have played a role in the collection of customs duties or *sayar* on goods.⁵⁰

The core of the village layout was the small fortified hill that formed the citadel (Figure 8). The villagers say that this part of the fortifications once had five towers, the locations of two of which can no longer be identified. Two rounded towers are present on the eastern side of the citadel facing the main village area and a much larger circular tower dominates the highest point in the village at the north end of the citadel. The living area proper was concentrated at the foot of this hill to the east, which is also the side where the old main road passed the village.

Most of the outer fortification walls stand less than a meter high today, especially on the south side of the site, which is closest to the present village. No evidence of towers or other defensive features could be identified in the outer wall line. As with other abandoned village and town fortifications in the region, the walls continue to provide the modern village with a convenient source of building materials. The wall remnants around the village proper are more accurately described as earth ridges than walls except on the northern side where a two-faced rubble wall can be clearly traced up the hill. The presence of these earth ridges suggests that the eastern and southern Siddavvanadurga walls were mostly mud rather than stone.

The citadel and western village walls, on the other hand, are granite blocks and boulders laid in dry courses and chinked with small stones. The blocks used to build the large circular tower at the north end of the citadel share a more consistent shape than do the blocks and boulders of the fortification lines. This may reflect two distinct construction episodes at the site, the most recent of which was the addition of the towers in the citadel.⁵¹

No gateways are now recognizable in the outer fort line, but the scattered remains of the southwestern corner of the fort may include such a feature in the area marked 'Gate?' in Figure 8. When asked about such features,



9. *Uchchangipura site plan.*

Siddavvanadurga villagers pointed out the main gate's approximate location in the midpoint of the eastern wall line. The villagers say that the gateway was about three meters wide, with dressed stone pillars and bronze shutters. It opened directly onto what was then the main north-south road, now a mere cart track, and did not have a bent or covered approach.

The inner or citadel fortification line has two gates. Two large boulders in the southern citadel wall define a 3.6 meter-wide gateway that leads down a stairway of dressed granite slabs to a small protected area in the southwestern corner of the village. The other citadel gateway passed through the eastern citadel wall and led down granite slab stairs to the northern part of the main village area.

The remains of a 10 to 15 meter-wide ditch can be traced along the outside of the northeastern and eastern village walls (Figure 8). It could not be determined from surface evidence whether the ditch continued along the south fort wall. The northwestern and western fort walls rest on the granite sheet-rock of the hill and a ditch was apparently deemed impractical or unnecessary on these sides.

The circular tower at the northern end of the citadel is the most visually prominent part of the site. This tower was crowned by a low masonry wall pierced by regularly-spaced loopholes. Today, the top of the tower also holds a *chemakesari* (*Delonix* species) tree and a small (2.65

by 2.60 meter) modern shrine dedicated to the village deity.⁵² The shrine's walls and roof are dressed rectangular granite slabs. Its narrow doorway faces east. The remains of only one other structure, a large rectangular building of unknown age or use, can be traced in the citadel. Many wall alignments that mark the foundations of old buildings are visible in the village area proper (designated as 'Village Area' in Figure 8).

Wells and water storage facilities are noticeably absent from the visible surface features, but this may mean little as the site locality appears to be relatively well watered.

In summary, Siddavvanadurga was about twice the size of Bharmagiri, but its core defended area represents a variation on the general theme of incorporating a small isolated hill into the basic fabric of village layout and its anticipated defense. As with modern villages in the district, village design sought to adapt itself to the local natural landscape rather than reshape it.

Uchchangipura

The final example, called Uchchangipura, occupies a low hill just west of the village of the same name in Jagalur taluk, Davangere district (Figure 1). It derives its name from the village goddess, Uchchangiyellamma, whose ancient shrine lies immediately to the west of the northwestern corner of the fortified village. Like the other villages described

in this section, Uchchangipura was occupied until a few generations ago, when the villagers moved their homes to a bare ridge near the tank that lies to the south. Later, after the construction of the paved road that passes the eastern side of the village, the village moved again to its present site just east of the old fortified village. The latter is now virtually abandoned and serves only as a source of building stones. That the villagers have not entirely forgotten ties to their ancestral home is evidenced by the fact that the eastern face of the village walls, the side that faces the modern village, still looks relatively untouched. Another generation or two of wall-robbing from the rest of the old village walls will reduce the site to an east-facing façade.

The basic plan of the old village is that of a rectangular fortification with extensions to the east and west (Figure 9). Although the lower courses of walls can be traced throughout the enclosed area of roughly 1.4 hectares, surface features are poorly preserved. A large natural well, which now holds little water during the dry season, is also enclosed by a fortification wall extension to the south. The latter looks like a later addition; it is the only place where the village walls extend to two lines.

There are two main gateways, both of the bent entrance type, one about mid-wall on the north side of the village, the other about mid-wall on the south. The poorly dressed granite pillars and lintel of the south gate are still standing, but the rest of this gate and the walls that abutted it were pulled down long ago. No gateway access could be identified for the fortified natural well, but most of the walls in this part of the site have been robbed of their stones and the remains of a gateway could easily lie hidden among the dirt and rubble ridges that now mark the wall lines.

A *hude* placed near the village center is the only standing structure within its walls. It measures 15.9 meters in diameter at its base and stands 6 to 9 meters tall. The upper courses of the dry laid masonry of this tower and the bastions on the fort walls are pierced with loopholes at regular intervals.⁵³ As at Bharmagiri and Siddavvanadurga, the fort walls are narrow and may have lacked parapets. Such narrow ramparts may have been of little service in an active defense other than to facilitate communication between the bastions.⁵⁴ The latter were often the main fighting platforms. Both the walls and the bastions of South Indian forts often had tiled or thatched roofs.⁵⁵

The fragmentary basements of two temples, dedicated to Durga and Hanuman respectively, are situated inside the south gate (Figure 9). Local men report that, after the village moved to its present location, both temples were dismantled and reassembled outside the old village walls. The Durga temple is now close to the southeastern corner of the fortification; the Hanuman temple stands inside the modern village.

A ditch surrounds the village walls everywhere except immediately outside of the northern and southern gates. It measures about three meters deep and ten meters

wide. The fill from the ditch was piled to either side of the excavation, forming two low parallel ridges around the site.

On the west side of the old village, between the dry ditch and the fort wall, is the east-facing Uchchangiyellamma shrine (Figure 9), which is still in worship and considered by the villagers to be an integral part of the community. This shrine, the villagers claim, existed at its present location before the walls were erected, and it was the wish of the deity that the shrine would remain in its present, quite unusual location between the enceinte and the ditch.

In summary, Uchchangipura offers an excellent example with which to end this survey of fortified villages because its defenses combine point- and area-type features found in other large villages, as well as in several towns across the study area. As a case in point, consider Colin Mackenzie's description of Holalkere, a pargana headquarters town in what is now western Chitradurga district, which Mackenzie visited on 20 July 1801.⁵⁶ It was '...large, surrounded by a wall faced with stone with several narrow but high turrets in the country fashion, of no strength: no guns – it has a dry ditch; two gateways; one large circular stone tower (or bruce) in the centre – it is populous and crowded with houses, being the cusbah or capital...'. Significantly, however, the fundamental design of Uchchangipura and Holalkere differ little from that which is typical of smaller communities such as Pillajarahalli and Kurubarahalli.

Discussion and conclusion

The main constraints of *maidan* village defenses were available manpower, wealth, building materials, local terrain characteristics, and villagers' assessments of the forces against which they could reasonably expect to defend themselves.⁵⁷ Mud, rubble, and stone were the primary building materials. Wood was not used in the construction of fortifications, as it is a scarce resource throughout much of the study area. Most stone for *hude* and village walls was quarried locally, and average block size, the degree to which blocks have a regular shape, and the extent to which chinking was used in walls appear to be largely a function of the natural properties of the available stone.⁵⁸ Wall bastions can be semi-circular or rectangular in plan, sometimes in the same fortification (e.g. Ramdurga, near Nayakanahatti in Chitradurga district).⁵⁹ Although gates were occasionally protected by bent or covered entrances, the passageways were low and narrow by comparison with the gates of major towns such as Chitradurga, Kannakuppe, Hosadurga, or Molakamuru. As a rough rule of thumb, two people walking abreast, perhaps even a bullock cart, could pass through a village gate, but a caparisoned elephant and its mahout could pass through the main gates of a major town.

Nayaka period *maidan* village fortifications also show considerable variability in their plans. Brubaker notes a similar lack of consistency in the plans of several

possibly post-Vijayanagara (i.e. Nayaka period), small fortified sites in Bellary and Raichur districts, which lie to the north of the study area.⁶⁰ Such variability in small fortified settlements is common elsewhere. For example, in her comparative study of English and Welsh medieval town defenses, H. L. Turner notes the considerable variability of town plans, walls, towers, and gates.⁶¹ She infers that town defenses were largely local undertakings without much information coming from outside of the immediate area. She reasons that a consistency of plans across a region would imply that external forces exercised a certain degree of control over village and town defense. Its absence, by itself, proves nothing, regardless whether we are discussing sites in England, Wales, or India, but Turner's observations certainly agree with other indications of considerable local autonomy exercised by the inhabitants of *maidan* villages.

What is strikingly consistent about Nayaka period settlement defenses is how such basic elements as the bound-hedge fence, the *hude*, isolated hills, and village walls with bastions and gates were selectively integrated into the layouts of most communities, from the smallest villages to major cities. This section briefly explores these consistencies, after which some general conclusions about village defenses are drawn.

The smallest and poorest communities might depend on a bound-hedge as their main line of defense and as a secure retreat for their herds, in a manner like that of Kallapura.⁶² Such a fence provided a moderate level of security at little cost and had the added benefit of being essentially self-maintaining. Eighteenth-century Indian and British military commanders acknowledged the defensive value of bound-hedges, especially for villages, and recommended their widespread use.⁶³ Unfortunately, Nayaka period bound-hedges are effectively invisible in our current understanding of the region's archaeological record.⁶⁴ Reconnaissance survey for the remains of such features has yet to be undertaken anywhere in the South.

Small, poor villages in localities with little surface relief, such as Pillajanahalli, could also turn to the *hude*. Often combined with a bound-hedge, the *hude* gave village defenders the tactical advantage of high ground at relatively low cost. However, the objects of a *hude*-based defense were limited necessarily to persons and portable wealth, and were designed only to repel a raid by a relatively small group of attackers. Having elected to defend what was effectively a point, communities that opted for the *hude* also excluded the possibility of a sustained defense because there was not enough room in the *hude* for enough provisions to last more than a few days.

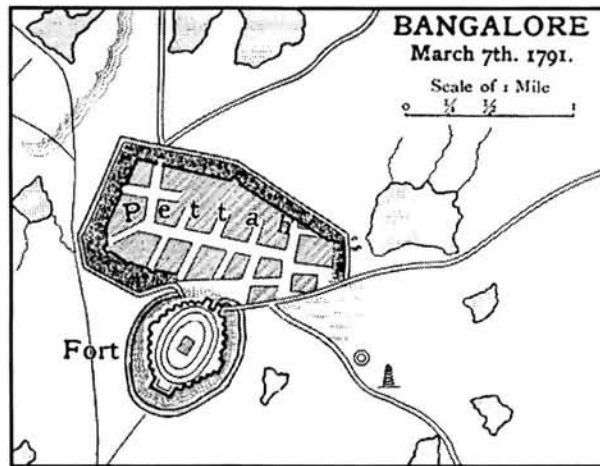
The fortified compound at Kurubarahalli shows that even the smallest *maidan* communities (in this case, one that may have been no larger than an extended family and their servants) had more defensive options than just the *hude* and the bound-hedge. They could, and sometimes did, opt to defend an entire living space. Kurubarahalli's

small area-type defense added bastions or round towers to the corners of a compound wall and achieved a result that stood a reasonably good chance of surviving an attack by a small force. The main drawback of such a defense, even for something as small as a fortified compound, is true of every defended perimeter – it can fail out of hand if too few defenders are available to man the walls and towers in an attack. To recall Straith once again, a defended small place has many disadvantages and few advantages.⁶⁵ Considered in that light, the walls and towers at Kurubarahalli may have had more visual impact than practical value.

Larger villages such as Bharmagiri, Siddavvanadurga, and Uchchangipura adapted aspects of the same defensive concepts found at Pillajanahalli and Kurubarahalli. The differences identifiable from surface remains are mostly those of scale, not kind. The *hude* tends to be an exception to this general rule because it was best applied to the defense of a small area. Few large villages and towns appear to have turned to *hude* except as one element of a more ambitious defensive plan. They often achieved the same advantages of elevation by incorporating isolated hills and ridges into their community layout. Bharmagiri and Siddavvanadurga, both of which may have been fortified or strengthened by regional leaders, incorporated isolated hills into a village design that offered two lines of defense, the village walls and bastions or towers on the high ground that commanded the village and its approaches.⁶⁶ At Uchchangipura, a village of moderate size set in rolling terrain that lacks isolated hills, a similar effect was achieved by a village wall and a *hude* set in the middle of the defended area.⁶⁷ These defenses are variations on the same general theme, centered on the core of the village proper and its surrounding fields and threshing grounds. In each case, bound-hedge fences would have added to the overall security of these villages, including their herds and fields.

An important defensive feature present at larger villages such as Siddavvanadurga and Uchchangipura, but not yet identified at smaller sites, is the ditch that parallels the line of the village fortification walls (Figures 8 and 9).⁶⁸ L. H. Keeley et al.'s recent comparative analysis of fortifications identifies ditches as one of three universal defensive features.⁶⁹ Eighteenth- and early nineteenth-century British soldiers who had first-hand experience of assaulting similar Indian forts would undoubtedly have agreed with Keeley about the defensive value of ditches. Archibald Galloway, a veteran of several assaults by regular troops and artillery on mud forts in Bengal in the early 1800s, viewed ditches as formidable obstacles. He wrote,

They [the Indian commanders] reckon a place strong which has lofty ramparts; but the strength of their Forts consists chiefly, perhaps entirely, in the depth and width of their ditches. Any wall may be soon breached, but it requires the process of



10. Bangalore Fort, 1791 (J. W. Fortescue, *A History of the British Army*, 2nd edn (London: Macmillan, 1911), III, pl. 10, top).

a regular siege to effect with a certainty of success a passage of troops across a formidable ditch.⁷⁰

The final applications of the interpretive utility of the Kallapura model of village layout place it in comparative perspective with village defenses in the mountainous *malnad* region of the Western Ghats and with *maidan* cities.

It should be noted that *Malnad* villages are archaeologically as little known as their *maidan* contemporaries. Nevertheless, based on eighteenth- and early nineteenth-century accounts, it is clear that the logic and material expression of *malnad* village defenses differed fundamentally from the Kallapura model and the example *maidan* sites. Most of these differences can ultimately be attributed to terrain characteristics. *Malnad* villages tended to be dispersed collections of neighborhoods that often depended on their relative isolation and the rugged terrain on which they lived for security.⁷¹ Community defense often took place away from the village, not around it. Taking advantage of the *malnad*'s natural defensive strengths, most villages elected not to defend the village proper, but the lines of communication that led to it. Apparently the inhabitants of these communities reasoned that if an attacking force cannot reach your village, then it cannot harm it. Consequently the passes, roads, and trails of the *malnad* were defended in depth by trenches, earthworks, barriers, and breastworks collectively called *kadangas*, while the communities to which these lines led might be essentially undefended.⁷²

The main point is that *malnad* village defense focused on the communication lines, not the villages themselves, in a defense approach that differed strongly from that of *maidan* villages. The *malnad* pattern also reinforces my thesis

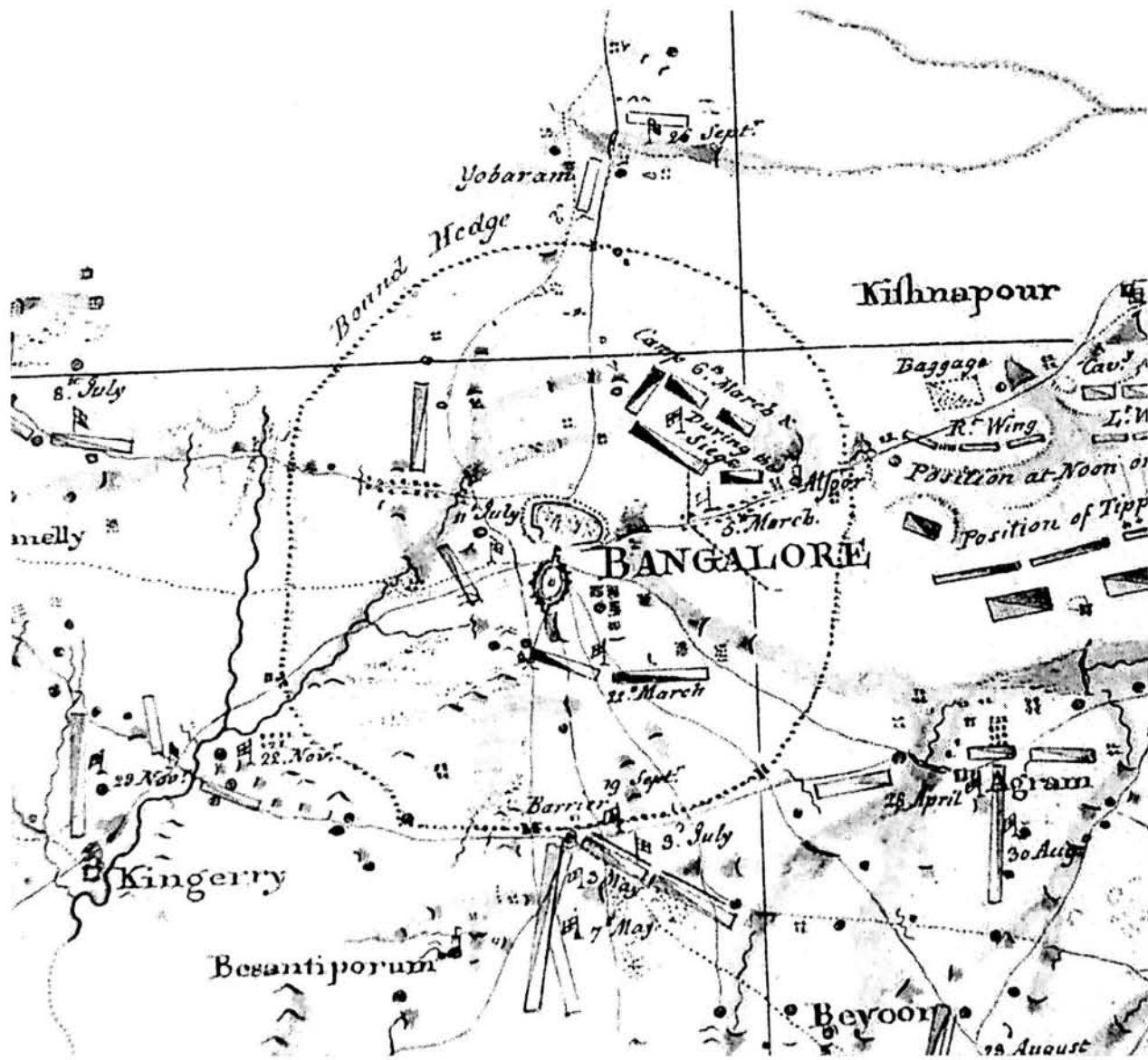
that investigations of precolonial village security need to be rooted firmly in local cultural context. Archaeologists would be hard put to discover *malnad* village sites that appear as groups of spatially clustered households. Those that are found through site reconnaissance survey would likely appear to be undefended simply because the defenses were off-site along the community's trails and roads, not clustered around the village proper.

Although the Kallapura model clearly offers little insight into the defensive strategies of *malnad* villages, one can identify elements of it in the largest Nayaka period *maidan* towns and cities readily. Perhaps the best known examples of this point are the late eighteenth-century defensive works of Bangalore and Srirangapatna. The core of Bangalore's defenses was a masonry fort that covered the city walls, both of which were also protected by ditches (Figure 10). The outermost perimeter, however, was a bound-hedge that surrounded the city in a radius of roughly 5.5 kilometers from Bangalore Fort (Figure 11). This line of works enclosed an area of approximately 95 kilometers square and was cut by at least six major gateways on the main roads. Few details are available about the land-use patterns of the area enclosed by Bangalore's bound-hedge, but it clearly created a *de facto* hinterland for the city and, as such, differed more in scale than kind from the Kallapura village model.⁷³

Srirangapatna, Tipu Sultan's heavily fortified capital, occupies an island in the Kaveri River about ten kilometers north of the modern city of Mysore. As at Bangalore, Srirangapatna's defenses included multiple lines of fortifications, as well as bound-hedge fences that enclosed far less area than at Bangalore but were particularly well integrated into the city's overall defensive plan.⁷⁴ Alexander Dirom, who participated in the British assault on Srirangapatna during the Third Mysore War (1790-1792), wrote,

On both sides of the river, opposite to the island of Seringapatam, a large space is inclosed by a bound hedge, which marks the limits of the capital, and is intended as a place of refuge to the people of the neighbouring country from the incursions of horse. On the south side of the river this inclosure was filled with inhabitants, but that on the north side was occupied only by Tippoo's army. The bound hedge on the north side of the river includes an oblong space of about three miles in length, and in breadth from half a mile to a mile [Figure 12]... Six large redoubts, constructed on commanding ground, added to the strength of this position...⁷⁵

Effective though the bound-hedge may have been in discouraging cavalry, it made less of an impression on



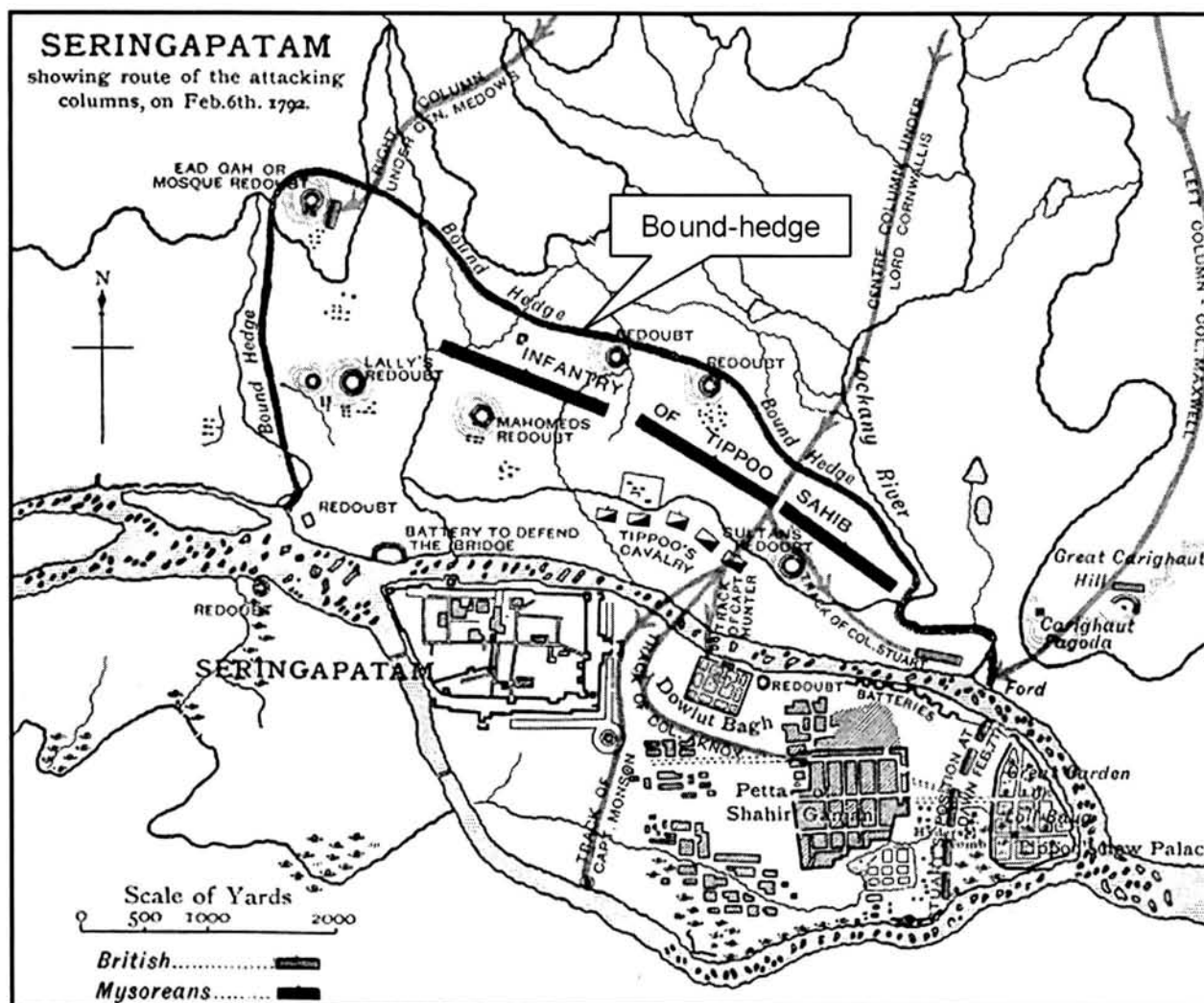
11. Bangalore locality, 1792 (detail from R. H. Colebrooke, *Survey of the Marches of the British Army in Mysore Country during the Campaigns of 1791 and 1792 under Earl Cornwallis*, *The National Archives of the UK: Public Record Office MR 1/386*).

European infantry. Srirangapatna's bound-hedge slowed, but did not otherwise hinder the British forces, who sent pioneers forward to cut gaps where unit commanders intended to pass the fences.⁷⁶

Bangalore and Srirangapatna share most of the same defensive elements that we find in *maidan* villages and towns – the bound-hedge fence, the commanding elevations of isolated hills and ridges, and substantial walls dotted with bastions and encircled by ditches. The *hude* is noticeably absent from the cities and is the one defensive feature that appears to be unique to the defensive needs of small *maidan* settlements.⁷⁷ Other differences between *maidan* village and city defenses can be traced partly to

the range of potential aggressors against which they could reasonably expect to defend their respective communities. Given their typically limited resources, most villages could defend only against relatively small threats. Major towns and cities, such as Bangalore and Srirangapatna, went far beyond that and invested the resources necessary to contest the outcomes of sieges and artillery-assisted assaults. However, even in these larger communities, one finds the kernel of the Kallapura layout.

Villages also differed significantly from towns and cities in that the latter settlements were infused with material expressions of emblematic meaning. Forts such as Chitradurga were built with as much intent to impress



12. Seringapatam (Srirangapatna). 1792 (adapted from J. W. Fortescue, *A History of the British Army*, 2nd edn (London: Macmillan, 1911), III, pl. 10, bottom).

as to command, and the ability of a ruler to add his own embellishments to the existing fortifications, even if they did not contribute materially to the overall defense, were clear, highly visible statements of his legitimacy and status.⁷⁸ Similar examples of the symbolic use of fortifications can be found in major settlements worldwide, but are seldom seen in small villages.⁷⁹

To conclude, Nayaka period *maidan* village defenses were described by contemporary observers, but little can be learned from such descriptions unless they are considered in cultural and historical context along with archaeological evidence. Applying the Kallapura village layout as a heuristic, this article has examined and interpreted the defensive features of village sites that have been discovered through field reconnaissance survey in central Karnataka. The example sites illustrate the range of defensive poses typical of *maidan* villages. Significant differences are identified between different kinds of *maidan* villages

and between *maidan* and *malnad* village defenses. It is reasonable to speculate that village defenses also varied in patterned ways across other Karnataka regions. Although fundamentally different in some important ways, the gross spatial layout of *maidan* villages and cities is surprisingly similar, certainly more so than one might expect at first glance. The results demonstrate the interpretive value of comparative analysis of the gross spatial patterns of many site types, the crucial importance of considering the cultural context of such patterns, and the relevance of the villages to the understanding of such patterns.

ACKNOWLEDGEMENTS

This article is based on research supported by a Senior Scholarly Development Fellowship from the American Institute of Indian Studies and by grants from the University of Illinois Research Board. The late C. S. Patil and the staff

of the Karnataka Directorate of Archaeology and Museums provided valuable assistance that facilitated the successful completion of this research. In Chitradurga, Shankar Athani, B. Rajashekarappa, the V. S. Reddy family, C. Jagadeesha and his extended family, and many other people helped to make my 1996-97 stay in their community, as well as later visits, pleasant and productive. Many thanks also to John Fritz, George Michell, Klaus Rotzer, S. K. Aruni, K. G. Gurumurthy, Sujata Patil, and Venkatesh Naik for their comments and support. The data reported here are on file with the Department of Anthropology, University of Illinois and the Karnataka Directorate of Archaeology and Museums, Mysore.

NOTES

- 1 Arguably so, at least in the eyes of the Marathas, who soon contested the point in the Second Anglo-Maratha War, 1803-1805.
- 2 For example, F. Buchanan, *A Journey from Madras Through the Countries of Mysore, Canara, and Malabar*, 3 vols (London: T. Cadell and W. Davies, 1807), I, pp. 400-1, writes,

Although in the immediate neighbourhood of a powerful garrison [Sira, Tumkur district], all the villages are strongly fortified. On asking the reason of such precautions from a very intelligent chief of a village, from whom I took most of my information, he told me, that it was chiefly on account of robbers, who in the time of famine were very numerous. During this calamity the inhabitants of one village wish, by plundering their neighbours, to support life; and of course, expecting the same treatment, each is shut up, and guarded from the nocturnal attacks of its neighbours, as if these were its most inveterate enemies. In war also the people have found these fortifications very useful. In their defence they employ few weapons except stones, which both men and women throw with great dexterity, and equal boldness. They do not attempt to defend themselves against any thing that wears the face of a regular body of men; but they stone, with the greatest intrepidity, the irregular cavalry that attend all native armies, and who are seldom provided with fire-arms. On a visit I made to the chief above mentioned, he boasted, that with ten men he had beaten off 200 of the Marattah cavalry, of whom several men and horses were killed.
- 3 S. V. Desikachar, 'Archival Materials on Karnataka and Historical Research', in *Historiography of Karnataka: Seminar Papers*, ed. by Suryanath U. Kamath (Bangalore: The Mythic Society, 1991), pp. 78-83; S. V. Desikachar, 'Archival Wealth and Post-Vijayanagara Karnataka History', *The Indian Archives*, 26(1-2) (1977), 1-18; T. R. Trautmann and C. M. Sinopoli, 'In the Beginning Was the Word: Excavating the Relations Between History and Archaeology in South Asia', *Journal of the Economic and Social History of the Orient*, 45 (2002), 492-523.
- 4 D. Bhattacharya and R. Deb Roy, 'Khanasumari Records and the Statistical System of India', *Indian Historical Records Commission. Proceedings of the Session*, 45 (1977), 227-37; N. Hatti and J. Heimann, 'The Return of the "Black Books": A Unique, New Source-Material for Reinterpretation of South Indian History', *Scandinavian Economic History Review*, 39(2) (1991), 42-89; N. Hatti, V.S. Satyapriya, and J. Heimann, 'Yelandur Kaditas and a Critique of the Survey Settlement in Mysore State', *South Indian Studies*, 1 (1996), 111-35; N. Peabody, 'Cents, Sense, Census: Human Inventories in Late Precolonial and Early Colonial India', *Comparative Studies in Society and History*, 43 (2001), 819-50.
- 5 See M. J. Rowlands, 'Defence: A Factor in the Organization of Settlements', in *Man, Settlement, and Urbanism*, ed. by P. Ucko, R. Tringham, and G. W. Dimbleby (London: Gerald Duckworth, 1972), pp. 447-62, for a systematic examination of the many factors that affect the nature and extent of village defenses.
- 6 See for example J. Deloche, 'Études sur les Fortifications de l'Inde II. Les Monts Fortifiés du Maisur Méridional', *Bulletin de l'École Française d'Extrême-Orient*, 81 (1994), 219-68; *Ibid.*, 82 (1995), 231-62; J. Deloche, *Senji (Gingee): A Fortified City in the Tamil Country* (Pondicherry: French Institute of Pondicherry, 2005); J. Deloche, 'Mysore Hill Forts (1400-1800)', in *Indo-Portuguese Encounters: Journeys in Science, Technology and Culture*, ed. by L. Varadarajan (New Delhi: Aryan Books, 2006), pp. 796-817; J. Deloche, *Studies on Fortification in India* (Pondicherry: French Institute of Pondicherry, 2007); S. K. Joshi, *Defence Architecture in Early Karnataka* (Delhi: Sundeep Prakashan, 1985); G. Michell, 'City as Cosmogram: The Circular Plan of Warangal', *National Geographical Journal of India*, 40 (1994), 217-37; M. S. Naravane, *Forts of Maharashtra* (New Delhi: APH, 1995); M. S. Navarane, *Maritime and Coastal Forts of India* (New Delhi: APH, 1998); C. S. Patil, *Karnataka Kotegalu* (Hampi: Karnataka University, 1999); N. S. Ramachandra Murthy, *Forts of Andhra Pradesh from the Earliest Times up to the 16th c. A.D.* (Delhi: Bharatiya Kala Prakashan, 1996); V. Sugurna Sarma, *History and Antiquities of Raichur Fort* (Delhi: Bharatiya Kala Prakashan, 1998); R. Vasantha, *Penugonda Fort, A Defense Capital*

- of *Vijayanagara Empire: History, Art & Culture* (Delhi: Sharada, 2000).
- 7 J. J. L. Gommans and D. H. A. Kolff, 'Warfare and Weaponry in South Asia: 1000-1800 A.D.', in *Warfare and Weaponry in South Asia 1000-1800*, ed. by J. J. L. Gommans and D. H. A. Kolff (New Delhi: Oxford University Press, 2001), pp. 1-42 (p. 37).
- 8 Points made in Deloche's work are also made by Gommans and Kolff, pp. 37-38. See Deloche, *Études sur les Fortifications de l'Inde* (1994-95); Deloche, *Senji*; Deloche, 'Mysore Hill Forts'; Deloche, *Studies on Fortification in India*.
- 9 J. M. Fritz, G. Michell, and M. S. Nagaraja Rao, *The Royal Centre at Vijayanagara: Preliminary Report*, Department of Architecture and Building, Vijayanagara Research Centre, Monography Series 4 (Melbourne: University of Melbourne, 1984); J. M. Fritz, 'Sally Ports and Other Small Entries in the Fortifications of the Urban Core (NPj, NPu, etc)', in *Vijayanagara, Archaeological Explorations, 1990-2000. Papers in Memory of Channabasappa S. Patil*, ed. by J. M. Fritz, R. P. Brubaker, and T. P. Raczek (New Delhi: Manohar/American Institute of Indian Studies, 2006), pp. 157-80; C. S. Patil, 'Mudugal Fort and Its Bearing on the Defence System at Vijayanagara', in *Vijayanagara: Progress of Research 1988-1991*, ed. by D. V. Devaraj and C. S. Patil, Vijayanagara Research Centre Series, 9 (Mysore: Directorate of Archaeology and Museums, 1996), pp. 197-209.
- 10 M. Dega and R. P. Brubaker, 'VMS-6: A Fortified Settlement Complex', in Fritz, Brubaker and Raczek (eds.), pp. 539-56; C. Sinopoli, 'Beyond Vijayanagara's City Walls: Regional Survey and the Inhabitants of the Vijayanagara Metropolitan Region', in *Archaeology as History in Early South Asia*, ed. by H. P. Ray and C. M. Sinopoli (New Delhi: Aryan Books, 2004), pp. 257-79; C. Sinopoli, 'Nucleated Settlements in the Vijayanagara Metropolitan Region', in *South Asian Archaeology 1995*, ed. by B. and F. R. Allchin (New Delhi: Oxford and IBH Press, 1997), pp. 475-87.
- 11 R. Brubaker, 'Cornerstones of Control: The Infrastructure of Imperial Security at Vijayanagara, South India' (doctoral dissertation, University of Michigan, 2004).
- 12 For just a few cases, see Buchanan, I, pp. 32, 34-35, 271, 276, 310, 400-401; *Ibid.*, II, pp. 24, 33-34, 58-59; *Ibid.*, III, pp. 304, 310, 360-61.
- 13 J. Bristow, *A Narrative of the Sufferings of James Bristow, Belonging to the Bengal Artillery, During Ten Years Captivity with Hyder Ally and Tippoo Saheb* (London: J. Murray, 1793); Buchanan; A. Dirom, *A Narrative of the Campaign in India which Terminated with the War with Tippoo Sultan in 1792* (London: W. Bulmer, 1793); E. Moor, *A Narrative of the Operations of Captain Little's Detachment, and of the Mahratta Army, commanded by Purseram Bhow; during the Late Confederacy in India, against the Nawab Tippoo Sultan Bahadur* (London: George Woodfall, 1794); A. Wellesley, Duke of Wellington, *Supplementary Despatches and Memoranda of Field Marshall Arthur Duke of Wellington, Vol. I: India, 1797-1805* (London: J. Murray, 1858), pp. 59-60, 67.
- 14 L. H. Keeley, M. Fontana, and R. Quick, 'Baffles and Bastions: The Universal Features of Fortifications', *Journal of Archaeological Research*, 15 (2007), 55-95; L. H. Keeley, *War Before Civilization: The Myth of the Peaceful Savage* (New York: Oxford University Press, 1996); K. F. Otterbein, *How War Began* (College Station, TX: Texas A&M Press, 2004); J. D. Tracy, 'Introduction', in *City Walls: The Urban Enceinte in Global Perspective*, ed. by J. D. Tracy (Cambridge: Cambridge University Press, 2000), pp. 1-15.
- 15 A companion article will address the archival side of the picture with a spatial analysis of Buchanan's survey of Mysore in 1800-1801, and consider the extent to which these observations can be generalized across South India.
- 16 A. T. A. Learmonth, *Sample Villages in Mysore State India*, Department of Geography, Research Papers, 1 (Liverpool: University of Liverpool, 1962; repr. 1966), pp. 105-42; R. P. Misra, *Geography of Mysore* (New Delhi: National Book Trust, 1973), pp. 26-27.
- 17 P. E. Connor, *Memoir of the Codugu Survey, Pt 1* (Bangalore: Central Jail Press, 1870), p. 25; C. Hayavadana Rao, *Mysore Gazetteer*, new edn, 5 vols (Bangalore: Government Press, 1930), I, p. 367; B. L. Rice, *Mysore: A Gazetteer Compiled for Government*, rev. edn, 2 vols (London: Archibald Constable, 1897), I, p. 3; V. R. Thyagarajaiyar, 'Mysore: Part I – Report', in *Census of India* (Bangalore: Government Press, 1923), vol. 23, p. 19.
- 18 Rice, *Mysore: A Gazetteer*, I, p. 263.
- 19 B. Lewis, 'The Mysore Kingdom at AD 1800: Archaeological Applications of the Mysore Survey of Colin Mackenzie', in *South Asian Archaeology 2001*, ed. by C. Jarrige and V. Lefèvre (Paris: Editions Recherche sur les Civilisations, 2005), pp. 557-65.
- 20 The five major Mysore Survey maps (Oriental and India Office Collection, British Library, Shelfmarks X2108/1-5) do not differentiate consistently between fortified and unfortified villages and the settlement counts given in the map legends seldom tally exactly with those calculated from the map symbology.

- Nevertheless, based on cross-referencing Mysore Survey map data with Buchanan's route information and modern site surveys, it is clear that fortified villages are underrepresented on the Mysore Survey maps.
- 21 Kannada has several terms that describe communities of the same general complexity and size as the English notion of village (e.g. *halli*, *uru*, *grama*).
- 22 P. K. Acharya, *Architecture of Manasara*, Manasara Series 4 (New Delhi: Munshiram Manoharlal, 1994), pp. 63-92; *Mayamata, An Indian Treatise on Housing, Architecture, and Iconography*, trans. by B. Dagens (New Delhi: Sitaram Bhartia Institute of Scientific Research, 1985), pp. 25-37.
- 23 S. Gordon, *Marathas, Marauders and State Formation in Eighteenth-Century India* (New Delhi: Oxford University Press, 1994), pp. 99-121.
- 24 K. G. Gurumurthy, 'Fertility Festivals and Village Unity', *Society and Culture*, 4 (1973), 111-20; K. G. Gurumurthy, *Kallapura, A South Indian Village*, Research Publications Series, 24 (Dharwar: Karnatak University, 1976); K. G. Gurumurthy, 'Ritual Circles in a Mysore Village', *Sociological Bulletin*, 20 (1971), 24-38; K. G. Gurumurthy, *Rural Development and Factional Politics* (New Delhi: Reliance, 1988).
- 25 Gurumurthy's characterization of the Kallapura layout as typical of maidan villages is supported by Hayavadana Rao, *Mysore Gazetteer*, I, p. 367, who writes the following of the general spatial patterns of the maidan districts: '...the houses are collected in a prominent or central portion of the village, waste and cultivated lands surrounding them on all sides'. Modern Kallapura obviously differs in many ways from the precolonial villages examined in this study. In particular, it is larger, with a 1968 population of 2228 inhabitants according to Gurumurthy, *Kallapura*, p. 15. Uchchangipura, the largest of the study village sites, would have been hard put to shelter more than about 500 inhabitants.
- 26 The temple or shrine of the village deity, or *gramadevata*, was a fundamental element of village identity. The Western India proverb of 'no God, no village', found for example in A. S. Altekar, *A History of Village Communities in Western India*, University of Bombay Economic Series, 5 (Bombay: Oxford University Press, 1927), p. 117, also applies to South Indian villages.
- 27 The concept of a 'bound-hedge', or 'boundary hedge' appears to be obsolete in modern Karnataka – see H. Yule and A. C. Burnell, *Hobson-Jobson: A Glossary of Colloquial Anglo-Indian Words and Phrases, and of Kindred Terms, Etymological, Historical, Geographical and Discursive*, 2nd edn (London: J. Murray, 1903), p. 108. In older Kannada and Telugu dictionaries, these living fences are called *tettu* – see P. Percival, *Telugu-English Dictionary* (Madras: Public Instruction Press, 1862), p. 238; D. Sanderson, *A Dictionary, Canarese and English* (Bangalore: Wesleyan Mission Press, 1858), p. 133.
- 28 Gurumurthy, 'Ritual Circles', p. 31.
- 29 H. Whitehead, *The Village Gods of South India*, 2nd edn (Calcutta: Association Press, 1921) gives an accessible but dated introduction to the village gods and goddesses of South India. E. Harper, 'A Hindu Village Pantheon', *Southwestern Journal of Anthropology*, 15 (1959), 227-34, describes the boundary-guarding role of village gods at a modern village in Shimoga district. On South Indian village boundary rituals, see also E. Thurston, *Omens and Superstitions of Southern India* (New York: McBride Nast, 1912), pp. 36-38, 60-61, 184.
- 30 Gurumurthy, *Kallapura*, pp. 19-20.
- 31 Rice, *Mysore: A Gazetteer*, I, p. 263.
- 32 Ibid.
- 33 There are many kinds of village boundary stones. See C. T. M. Kotraiah, 'Boundary Stones: A Short Study with Special Reference to Those Available in the Hampi Museum', *Journal of the Andhra Historical Research Society*, 37 (1977), 129-46, for an introduction to the diversity of late medieval Vijayanagara boundary stones. The Mysore Village Manual describes briefly the many boundary markers that were important to the land revenue system – see *The Mysore Village Manual, Part I*, Government of Mysore (Bangalore: Government Press, 1918), pp. 11-14; detailed information on village and land boundary markers can be found in the *Mysore Revenue Survey Manual, Part II*, Government of Mysore (Bangalore: Government Press, 1966).
- 34 See for example Buchanan, III, p. 206; Gordon, pp. 105-7. As pointed out in M. Wilks, *Historical Sketches of the South of India in an Attempt to Trace the History of Mysore*, 2nd edn, 2 vols (New Delhi: Asian Educational Services, 1930; repr. 1989), pp. 334-345, Kannada and Telugu even have a word to describe those who flee in the face of an overwhelming threat – *wulsa* or *valsè*. Writing about rural southern Karnataka, Maclachlan and Beals report that the arrival of strangers was still enough to send villagers fleeing to the forest as recently as 1953 – see M. D. Maclachlan and A. R. Beals, 'The Internal and External Relationships of a Mysore Chiefdom', *Journal of African and Asian Studies*, 1 (1966), 87-99 (91).
- 35 S. Nagnur, G. Channal, and N. Channamma, 'Indigenous Grain Structures and Methods of Storage', *Indian Journal of Traditional Knowledge*,

- 5 (2004), 114-17.
- 36 Moor, p. 85; Dirom, p. 243.
- 37 Lewis, 'The Mysore Kingdom'; B. Lewis, *Chitradurga in the Early 1800s: Archaeological Interpretation of Colonial Drawings*, Southern Regional Centre, Lecture Series Publications, 6 (Bangalore: Indian Council of Historical Research, 2006); B. Lewis and C. S. Patil, 'Chitradurga: A Nayaka Period Successor State in South India', *Asian Perspectives*, 42 (2003), 267-86.
- 38 H. Straith, *Treatise on Fortifications and Artillery*, 6th edn, 2 vols (London: William H. Allen, 1852), II, p. 43.
- 39 Wellington, pp. 59-60.
- 40 C. F. Greville, *British India Analyzed* (London: Faulder, 1795), pp. 37-38.
- 41 F. Kittel, *A Kannada-English Dictionary* (New Delhi: Asian Educational Services, 1894; repr. 1999), p. 1673.
- 42 Buchanan, I, p. 32.
- 43 Rice, *Mysore: A Gazetteer*, I, p. 263.
- 44 *Bijapur*, ed. by J. M. Campbell, *Gazetteer of the Bombay Presidency*, 25 (Bombay: Government Central Press, 1884), p. 73. On the diverse *hude* of northern Karnataka, see S. K. Aruni, *Surapura Samsthana: Historical and Archaeological Study of Poligar State in South India* (Delhi: Bharatiya Kala Prakashan, 2004), pp. 154-56; S. K. Aruni, 'Hude Athava Hudevu: Madhyakaleena Deccanda Grama-Rakshana Vastu - Ondu Avalokana', *Studies in Karnataka History & Culture, Proceedings*, 6 (2006), 139-44.
- 45 I. Hogg, *The History of Fortifications* (New York: St Martin's Press, 1981), pp. 14-16.
- 46 *Chitradurga, Karnāṭaka*, District Planning Map Series (Survey of India, 1995).
- 47 Here I follow the common archaeological convention of assigning a newly-recorded site the name of a nearby known place. While Kurubarahalli means 'Shepherd Village' in Kannada, no evidence associates this archaeological site with the Kurubas.
- 48 *Nagakal* are found throughout the region, and are often associated with pipal (*Ficus religiosa*) or neem (*Azadirachta indica*) trees and women's desire for offspring – see J. Vogel, *Indian Serpent-Lore, or the Nāgas in Hindu Legend and Art* (London: Arthur Probsthain, 1926), pp. 270-271. These stone slabs are typically less than one meter long and bear the chiseled outlines of one or more cobras.
- 49 Deloche, *Studies on Fortification in India*, pp. 189-98.
- 50 Lewis, 'The Mysore Kingdom'.
- 51 This inference is based mostly on patterned differences in the block sizes used in these two parts of the fort. The blocks used in the largest of the three citadel towers have a median length of 35 centimeters, median height of 28 centimeters, and length-to-width ratio of 1.2. Blocks and boulders in the inner fortification line to the south of this tower have a median length of 48 centimeters, median width of 33 centimeters and length-to-width ratio of 1.7.
- 52 The shrine contains two earthenware pots, one of which represents the Goddess.
- 53 Fort wall loopholes enabled defenders to fire through the walls, which was particularly important because many fort walls lacked parapets. British soldiers felt that loopholes weakened Indian fort walls – see for example Moor, pp. 110, 143-49 – but one must bear in mind that they looked at such features from a European perspective, which tended to assume strong projectile capability. Wall loopholes probably served Indian defenders quite well until the availability of effective and readily-transportable artillery rendered largely obsolete both the loopholes and most of the forts that had them.
- 54 Moor, p. 257.
- 55 *Ibid.*, pp. 137, 148. See R. Orme, *History of the Military Transactions of the British Nation in Indostan, from the Year MDCCXLV* (London: F. Wingrave, 1803), vol. 2, facing p. 255, for an excellent line drawing of a Nayaka period fort in northeastern Andhra Pradesh. The walls and bastions, which in this case had an adequate rampart and a parapet pierced with loopholes, were protected by a thatched roof. He describes this phenomenon on p. 256: 'The rampart and parapet is covered by a shed of strong thatch, supported by posts; the eaves of this shed project over the battlements, but fall so near, that a man can scarcely squeeze his body between: this shed is shelter both to the rampart and guards against sun and rain'.
- 56 C. Mackenzie, *Remarks on the Forts on the Northern Frontier of Mysore in 1800 and 1801 (extracted from the papers of the Mysore Survey)*, prepared by Capt. Colin Mackenzie of the Engineers and Superintendent Mysore, Fort St. George, 12 January 1803, University of Southampton, Hartley Library, Wellington Papers, WP3/3/100, pp. 3-4.
- 57 Nayaka period villagers in South India faced the same community defense dilemma confronted by Japanese villagers in Akira Kurosawa's classic 1954 film *Shichinin No Samurai* (Seven Samurai), and they sought similar solutions using time, contributed labor, and local materials, as opposed to cash.
- 58 See Brubaker, 'Cornerstones of Control', pp. 399-407, 428-29, for a detailed examination of the use of chinking stones in the walls of sites included in the Vijayanagara Metropolitan Survey.

- 59 B. Lewis, 'Poligar Chiefdoms of Chitradurga: Their Forts as Manifestations of Legitimacy and Status', Final report submitted to the American Institute of Indian Studies (New Delhi, 1997).
- 60 Brubaker, pp. 310, 314.
- 61 H. L. Turner, *Town Defences in England and Wales: An Architectural and Documentary Study, AD 900-1500* (London: Archon Books, 1971), pp. 71-72.
- 62 In the southern Deccan, such defensive features protected 'land and bullocks, the socially significant forms of wealth' well into the twentieth century according to K. Ishwaran, *Shivapur, A South Indian Village* (London: Routledge and Kegan Paul, 1968), p. 3.
- 63 Greville, pp. 37-38; Wellington, pp. 59-60.
- 64 As demonstrated by R. Moxham in *Great Hedge of India: The Search for the Living Barrier That Divided a Nation* (New York: Carroll & Graf, 2001), his recent popular history of the Inland Customs Hedge of central and northern India, which appears to have been considerably more substantial than typical village bound-hedges; surface evidence of such features may be very difficult to find. Archaeologically, village bound-hedges may prove to be most easily discovered through field reconnaissance surveys aimed at identifying gateways where these fences crossed village roads.
- 65 Straith, I, p. 47.
- 66 The involvement of regional leaders could take many forms, including simple sponsorship of a building project or provision of funds or raw materials. For the most part, these villages were too insignificant to warrant direct intervention by an outside leader.
- 67 The construction sequence of these village fortifications is unknown. Which came first at Uchchangipura, the *hude* or the village walls, or were they built at the same time? Village traditions do not address this question, which can probably only be answered through extensive excavations.
- 68 Field reconnaissance survey in the study area has thus far been insufficient to demonstrate unequivocally that ditches were not present at small villages and hamlets situated in terrain where it would have been feasible to dig defensive ditches.
- 69 The other two universal features are bastions and defended gateways. See Keeley, Fontana, and Quick, pp. 58-62.
- 70 A. Galloway, *Observations on the Attack of Mud Forts* (Calcutta: [n. pub.], 1813), p. 9.
- 71 Connor, p. 21.
- 72 Ibid., pp. 24-25; B. L. Rice, *Mysore and Coorg* (Bangalore: Mysore Government Press, 1878), pp. 300-1; K. K. Subbaya, *Archaeology of Coorg, with Special Reference to Megaliths* (Mysore: Geetha Book House, 1978), pp. 201-2. Connor calls the *kadangas* 'cuddungs'. *Kadangas* are a broad class of features that also include earthworks and trenches used as boundary markers.
- 73 A. Mathur and D. da Cunha, *Deccan Traverses: The Making of Bangalore's Terrain* (New Delhi: Rupa, 2006) provides an excellent introduction to the rich body of early British maps and drawings of late eighteenth-century Bangalore in their strikingly unusual book on the making of its modern landscape.
- 74 Wilks, II, pp. 526-27.
- 75 Dirom, p. 130.
- 76 Ibid., pp. 142, 144-45.
- 77 Srirangapatna's redoubts (Figure 12) appear to have served mainly as gun platforms. As such, they owed more to European notions of the defensive utility of such outworks than to the South Indian *hude*.
- 78 Lewis, *Chitradurga in the Early 1800s*; Lewis and Patil.
- 79 See for example B. Kemp and others, 'Egypt's Invisible Walls', *Cambridge Archaeological Journal*, 14 (2004), 259-88; D. Parrott, 'The Utility of Fortifications in Early Modern Europe: Italian Princes and Their Citadels', *War in History*, 7 (2000), 127-53; S. Pepper, 'Siege Law, Siege Ritual, and the Symbolism of City Walls in Renaissance Europe', in Tracy (ed.), *City Walls*, pp. 573-604; Tracy, 'Introduction'.