

## ■ KENYA

### **Hinterlands and cities: Archaeological investigations of economy and trade in Tsavo, south- eastern Kenya**

*Chapurukha M. Kusimba and Sibel B.  
Kusimba*

*Department of Anthropology  
The Field Museum*

*1400 S. Lake Shore Drive  
Chicago, Illinois, USA, 60605*

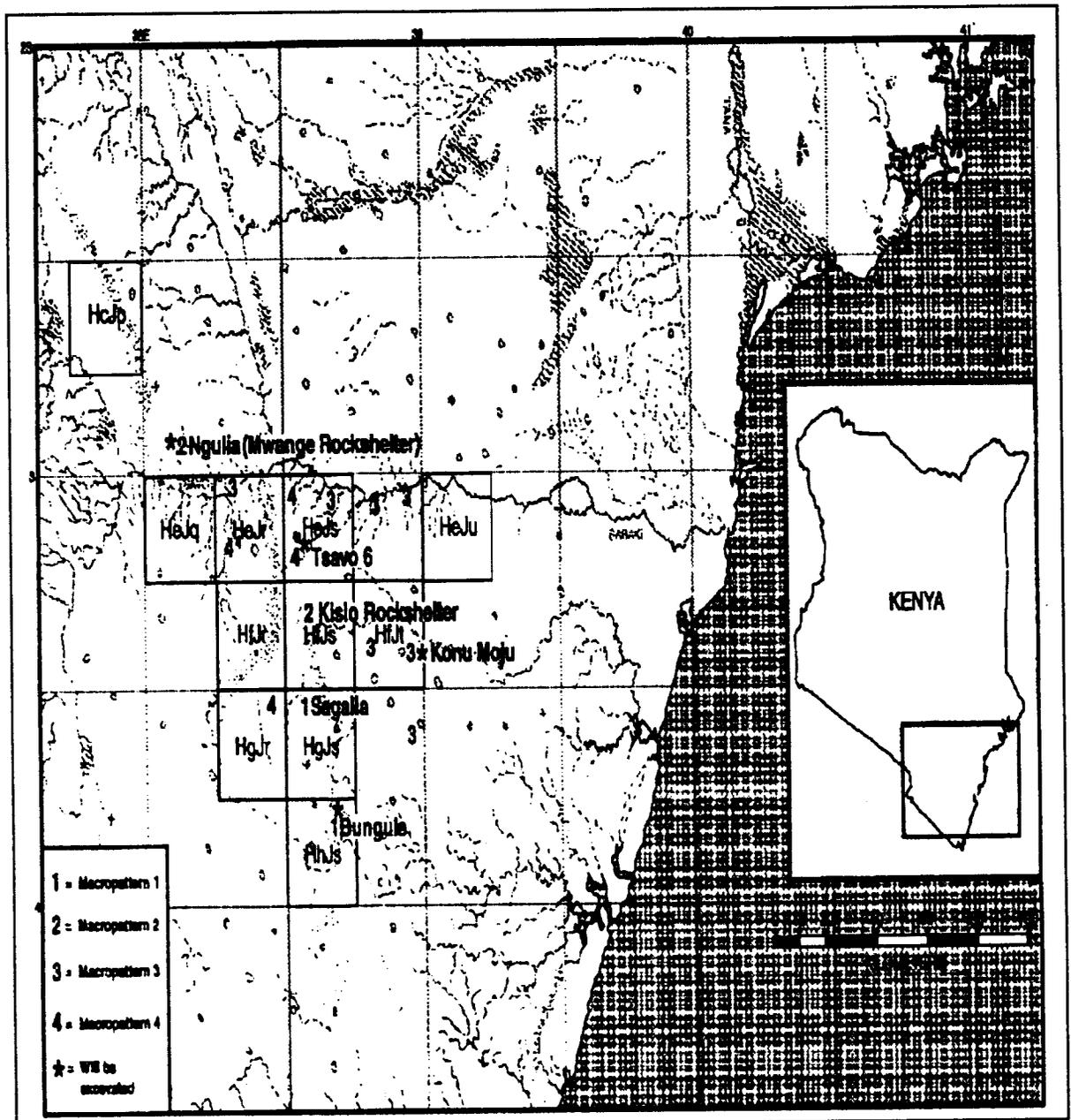
### **Introduction**

Economic, political, and social relationships with hinterlands have been crucial in the development of urban centers. Trade is acknowledged as a leading factor in the development of many precolonial African cities, including the Swahili towns of the East African coast, which developed from AD 800. Historical and archaeological evidence document that the Swahili managed a thriving extra-African trade in ivory, rhinoceros horns, skins, mangroves, slaves, and bush products in exchange for imported luxury items. Yet, the impact of trade on urban hinterlands in Africa remains poorly known. Since 1986, one of us, CMK, has devoted his research towards understanding the role of trade and technology in the origins of Swahili city-states. This paper, reports preliminary results from our ongoing research in Tsavo National Park, TNP, in Southeast Kenya. The Tsavo Archaeological Research Program or TARP is the first major investigation of trade and economy in a vast and diverse hinterland area crucial in the development of Iron Age Kenya coast urban centers. The TARP team is composed of two archaeologists, one geoarchaeologist, and one paleoecologist. Preliminary excavation at two rockshelters has found sure evidence of coastal interaction in Tsavo, including marine shells and glass beads, and documented hunter-gatherer, pastoralist, and agropastoralist settlements.

Historically, archaeologists have explained sub-Saharan African complex societies as a product of diffusion or migration from Eurasia. In fact, rather than being merely a passive recipient of cul-

tural complexity, Africa has a unique history of innovation in technology, metallurgy, and urbanization that challenges Europe-based models of cultural evolution (R. McIntosh 1998; Schmidt 1983). Initially, African cities were viewed as Near Eastern or Arab trade colonies, but extra-African trade tapped into already-existing, regional trade networks on the continent. External trade goods on Swahili sites document direct or indirect contact with Southwest, South and East Asian trade networks (Horton 1996; Kusimba 1999a). These goods are often irregularly distributed on Swahili sites, presumably reflecting their association with a mercantile elite. Other artifacts demonstrate trade relationships among city-states and between city-states and their hinterlands, including ivory, shell, chlorite schist, and possibly iron, pottery, and shells (Thorbahn 1979). More recent explanations favor both internal and external contributions to the development of Swahili polities (Abungu 1998; Horton 1996; C. Kusimba 1999a). As Wright (1993:671) has asked, "could participation in long-distance trade have encouraged the promotion of local elites seeking display goods and organizing local populations to produce surpluses for exchange?" Answering this question has been hindered by a research focus on large, urban settlements with stone architecture. This has tended to produce work that supported the foreign colony interpretation (Kirkman 1964). However, the function of any city must be seen from a regional perspective: "...Urban centers never exist in isolation - they are always articulated with a regional hinterland.... [and] perform specialized functions in relation to a broader hinterland" (S. McIntosh 1997:463). City-hinterland interactions may be economic, political and/or religious. Historical evidence indicates that the Tsavo region was a major source of ivory, rhinoceros horns, iron ore and/or bloom, animal skins, rock crystal, and slaves that Swahili merchants traded abroad (Chittick 1974:434-435). However, little archaeological and ethnohistorical work has been done to examine the impact of Tsavo-coast trade on both communities. According to ethnohistorians, Tsavo's foragers, pastoralists, and agriculturalists traded with each other and with coast merchants. Trading posts like Tsavo's Mudanda Rock and Rukanga became increasingly important exchange nodes for post-16th century Tsavo and coast traders. Tsavo hunter-gatherers became specialized elephant hunters,

Figure 1: Map of study area.



exchanging ivory for coastal food items, beadwork, and textiles.

### The geology of the Tsavo National Park (TNP) and surroundings

The TNP is a region of high geologic, geomorphic and ecological diversity. Surface elevations range from more than 2000 m above sea level

in the Chyulu Hills, Tsavo West, to less than 300 m above sea level in the Tiva River lowlands, Tsavo East. Surface geology includes exposures of ancient Precambrian metasediment and more recent Quaternary deposits, which include both unconsolidated alluvial and colluvial sediments of Holocene age and indurated Pleistocene igneous rocks (Geological Map of Kenya 1987). The TNP can be divided into five basic geologic-physiographic

landform and sediment associations: (1) low-relief, low-elevation plains, which comprise the hinterland portions of the Coastal Physiographic Province. In the Tsavo area these settings include the Athi, Dika, Kalinzo, Ndara and Serengeti Plains, which are arid, and open to dense bushlands. Surface and near-surface sediments associated with these environments are dominated by Holocene-aged colluvium, "red soils", and former geomorphic surfaces, such as the Garissa surface (Geological Map of Kenya 1987). (2) Precambrian uplands, which are comprised of sediments associated with the 2.5+ million year old Mozambique Belt, a broad but fragmented remnant of uplifted basement rocks, primarily quartz-feldspar and biotite-hornblende gneiss (granitic gneiss), migmatite, and quartz-feldspar granoblastite, or granulite (Pye et al. 1985, 1986; Geological Map of Kenya 1987). Uplifted during the Tertiary as part of the Kenyan Dome, the Mozambique Belt sediments have been highly deformed and eroded by tectonic activity, planating streams and chemical/physical weathering. In several places, the Precambrian materials are overlain by Cenozoic volcanic debris (Pye et al. 1985; Geological Map of Kenya 1987). The end result is an upland surface comprised of a broad, generally low-relief peneplain, frequently mantled by recent colluvium, and interrupted by numerous Precambrian domed inselbergs and more eroded Precambrian rock outcrops (such as Mudanda Rock). The uplifted basement rocks also include massive, high relief accumulations of erosion-resistant materials which take the form of large hills or low mountain ranges. In the Tsavo area these outcrops include the Taita, Sagala and Ngulia Hills, which rise to elevations in excess of 2000 m. (3) The Chyulu Hills, which are located primarily northwest of Tsavo, consist of massive outcrops of Pleistocene igneous rock, primarily trachytes, basalts and pyro-clastics. The Chyulu Range attains a maximum height of 2200 m and is a potentially good source of paleoenvironmental data via floral and faunal materials, preserved in a series of lava tubes which frequent the area. (4) The Yatta Plateau, a linear exposure of upper Miocene mafic intrusives which marks the boundary between the Precambrian uplands and the Holocene-mantled plains in Tsavo East. In some places, this boundary is formed by the Yatta Escarpment. The early Cenozoic rocks comprising the Yatta Plateau include phonolites, trachytes and olivine basalts

(Geological Map of Kenya 1987). (5) Perennial and major ephemeral streams, which generally trend from east to west or northeast to southwest, have dissected large portions of the Precambrian uplands and the adjacent low-lying plains. The rivers are associated with both cut and fill terraces of Holocene to Pleistocene age and recent floodplains, the latter of which are sometimes quite broad. Principal streams in or adjacent to the Tsavo study area include: the Tsavo/Athi/Galana River system, the Voi River, the Mbololo River and the Tiva/Makavi system.

### **Climate, vegetation and peoples of Tsavo**

Much of the Tsavo environment is arid with less than 300 mm of rainfall/year, falling in two seasons. Vegetation is *Acacia/Commiphora* bush land and thicket. Hill slopes have denser vegetation, including secondary shrubs and *Sansevieria* thickets, than open areas, which have more grassland. Palms grow along the banks of the Athi-Galana-Sabaki, Tsavo, Voi, Mbololo and Tiva rivers. Large animals like elephants and zebra, which can tolerate poor-quality forage, dominate the animal biomass (Olindo et al. 1988). The traditions of local groups say that the original inhabitants of Tsavo were hunter-gatherer dwarfs who lived underground, forged iron tools and hunted elephants with poisoned arrows (Krapf 1860:303). According to traditions, food producers moved in around 1000 years ago, absorbing many hunter-gatherers. Several ethnic groups inhabited the Tsavo area historically: Waata and Sanye foragers, Oromo pastoralists, and Wataita agriculturalists.

According to their oral traditions, the once powerful Oromo pastoralists began their southward migration from Ethiopia in response to severe droughts which desiccated their traditional homeland. They arrived in the hinterland and coast of Kenya by the 15th century AD. Swahili and Mijikenda ethnohistory recall Oromo supremacy here. Their power extended as far south as Pangani in Tanzania where their settlements are known. By the 19th century, however, the once powerful Oromo were in decline and appear to have concentrated their settlements in the Tsavo areas along the Sabaki flood plains. They were victims of climatic change and diseases including rinderpest, try-

panosomiasis, and malignant catarrhal fever (Gifford-Gonzalez 1998:191-193). Charles Hobley (1929:177) suggested that "as they moved south down the Tana Valley they encountered diseases to which their cattle were non-tolerant, and eventually came into the malarious coast lands and became themselves decimated.... Their strength gradually ebbed, and they could not compete with the prolific Bantu races already occupying the area they had penetrated."

The Bantu-speaking Wataita appear to have arrived at their present location in the 16<sup>th</sup> century and occupied 3 major upland areas — the Sagalla, Taita, and Kasigau Hills. They were agriculturists who supplemented their subsistence base with hunting. From oral tradition and historic texts, it is clear that periodic droughts and social conflict with neighbors forced them often further afield from the Taita Hills in search of livelihood. In addition, sources document Wataita involvement in trade networks along caravan routes to the coastal communities. Wataita contributions to trade included ivory and skins, although they were also captured as slaves. Waata or Wasanye foragers, referred to pejoratively by their neighbors as Walyankuru (those who eat pig), spoke a dialect of the Oromo language. The Waata were adept in the use of bows and poisoned arrows for hunting elephants and provided ivory to the coast people. The Waata had patron-client relationships with their Oromo overlords. Thus, "If they shoot an elephant one tusk is given to the Galla Chief" (Hobley 1895:557, 1929). Our Wataita informants stressed the importance of forging blood brotherhoods with Waata hunters for access to their knowledge of elephant hunting and the lucrative ivory trade.

### **Tsavo and coast trade systems and economies**

Timber, ivory, hides and skins, cereals, furniture, gold, incense, and slaves were among the principal coastal exports abroad (Pearson 1998). Historically, ivory, rhinoceros horns, animal skins, rock crystal, and possibly iron bloom and meat were among the major Tsavo products coastal traders sought. Demand was especially high for ivory, a coveted source of wealth and a symbol of leadership used for personal adornment, as well as ritual and ceremonial activities (Schweinfurth

1874). On the East African coast, ivory trumpets (*siwas*) were symbols of royalty and legitimacy, played during elite installations, initiations, marriages or funerals. Thorbahn (1979) conducted surveys and excavations in Tsavo East, south of the Galana River, attributing Late Iron Age sites in the area to foragers and pastoralists. According to his excavations, coast-Tsavo contact was regular by AD 1200, and Tsavo hunters had become elephant specialists, exchanging ivory for coastal items like glass and shell beads. He also hypothesized that Tsavo's precolonial hunter-gatherers and sedentary horticulturists exchanged coastal goods. Oral traditions of the Wakamba and Wataita locate their participation in this trade to the last four to five centuries.

What are the origins of these trade relationships? How did they change as the coast cities developed? In all societies, trade is a vital means of distributing risks, establishing flexible social ties, and mediating local scarcity and seasonal resource crises (Casey 1998). The risk-reducing functions of trade are especially important for hunter-gatherers. Wiessner (1986) has documented the risk-reducing functions of trade among Kalahari Desert hunter-gatherers where, as in Tsavo, rainfall is low and unpredictable. Thus, one would expect person-to-person trade in adornment objects and similar articles within and outside of the Tsavo region to have a long history.

East African Neolithic pastoralists were more sedentary and less specialized than modern ones. They traded obsidian, and possibly pottery, over several hundred km. They also hunted and perhaps farmed. During this period, trade appears to have been constrained by ethnic or other territorial boundaries, possibly controlled by lineage heads. Nevertheless, in egalitarian or non-ranked societies, including modern-day East African pastoralists, the need for exotic items is usually met by person-to-person or individually contracted trade relationships. In many parts of Africa where there is diversity in local habitat due to soil, altitude and rainfall differences, hunter-gatherers, pastoralists and agriculturalists coexist in complementary habitats, bound by symbiotic relationships of trade and exchange. Similar trade relationships are hypothesized for the Tsavo area (Table 1). Such a system probably developed over time long after the first food producers entered the region.

**Table 1:** Hypothesized inhabitants of the Tsavo region.

	Hunter-Gatherers	Pastoralists	Agriculturalists	Coastal Fishers/ Urbanites
Environment	scrub/thicket	arid grasslands	wetter hill slopes	Coasts - cities
Mobility	high	seasonal	sedentism/ low mobility	sedentism
Social Organization	Egalitarian Heterarchical	lineage/clan	lineage/clan	ranked/stratified hierarchical
Trade Products	skins, meat, ivory, rhino horns, honey, beeswax, labor, ritual knowledge, medicines	milk, butter, meat, hides and skins, incense, domestic animals	crops, pottery, iron, rock crystal, finished tools	Dried and/or smoked fish, beads, pottery, imported ceramics, metals, jewelry, tools, textiles
Ethic	Egalitarian Heterarchical	status-seeking	status-seeking, expansionist	status-seeking
Relationship with Coast	diplomatic trade	diplomatic trade	trade controlled by coast	
Type of Trade	Individually- contracted or person-to- person, symbiotic exchange - utilitarian goods or personal adornment	Controlled by lineage ethnic group or elders- utili- tarian goods and prestige goods	Controlled by lineage/ethnic group or elders- utilitarian goods and prestige goods	Controlled by socio-economic elites-Utilitarian goods prestige goods

Archaeological evidence shows that the Kenya coast had trade contacts outside of Africa from at least the fourth century AD, and probably needed trade items from Tsavo. The Tanzanian site of Limbo, dated to 241 ± 60 BC, contained large volumes of slag, suggesting iron working in excess

of local needs (Schmidt 1995:140). Roman glass from Kivinja on the central Tanzanian coast demonstrates early trade contacts with Egypt and the Near East dating to the third and fourth centuries (Chami 1998). Late Iron Age assemblages from the Kenya Coast document the rise of stratified urban polities.

They show considerable participation in circum-Indian Ocean trade, and include imported pottery, glass, beads, gold, silver, and lead. Imported ceramics include Partho Sassanian Islamic Wares, Tin-glazed Ware, Chinese Yue Ware, Guangdong Coastal Green Ware, Ding Ware, Gonxian (Northern White Ware), Indian Purple Ware and Egyptian glass. Islamic Sgraffiato pottery, Chinese Qing Bai and Cizhou Ware (A.D. 1200/1250-1400), and chlorite schist from Madagascar and Zimbabwe were the main imports used in the homes of coastal peoples (C. Kusimba 1994). Before the 19th century, Tsavo ivory, horn, skins, rock crystal, beeswax, incense and possibly iron were key trade items.

In most prehistoric societies, elites strove to control access to exotic goods for circulation and display among members of an interacting exchange network as symbols of belonging and trust. Exotic items are also prestige goods that elites use to establish alliances, social rank, and authority. Elites strive to control access to prestige goods, whether they are locally produced or traded. As ranking and elite economic control advanced in the coast cities, contacts with Tsavo probably increased in importance (C. Kusimba 1999b). Coast trade with Tsavo agriculturalists may have been controlled through coercion (Table 1). Control of Tsavo groups was probably much more likely in the case of agriculturalists, who were sedentary, tethered to areas suitable for farming, therefore easier to control. Both historical and ethnohistorical data support the notion that urban polities controlled the production of Tsavo goods. Coercion may have resulted from elite rivalry to secure and control both external and internal trade networks, with the city exercising economic and political control of hinterland centers and exacting manufactured goods as tribute.

As complexity increased in the developing coast towns, the elites' ability to control Tsavo trade may also have increased. Indian Ocean trade ceramics become more abundant on coast sites. To meet their demands, coastal elites could have sought to dominate the sedentary villagers, extracting tribute in the form of cereals to exchange with the hunter-gatherers for ivory. Similarly, pastoralists could have become more specialized in milk pastoralism, exchanged butter and stock with coast groups, and developed their expansionist ethic which ensured their stock of good forage. In return, they could have received coast items such as fin-

ished tools and implements, textiles, fish and food-stuffs. On the other hand, competition among coast cities for Tsavo goods may have prevented centralized control of this trade, and worked against the development of social complexity in either region. Furthermore, Tsavo hunter-gatherers were highly dispersed and mobile, and pastoralists were mobile and often warlike (Bower 1991). Nicholls (1971:65) suggested that the post-1600 AD relationship between coastal Swahili and hinterland societies was based on mutually beneficial relationships of patronage in which the Swahili guaranteed Tsavoites a peaceful environment in exchange for a supply of labor and ivory.

### **Archaeological survey and mapping**

Since 1997, TARP has conducted full-coverage and random surveys, concentrating on micro-environments that were likely to contain sites. The sites include iron working sites, cairn burials, rock-shelter sites, ancestral shrines of human skulls which we call cranial display niches (CDNs), open-air sites, and grinding hollow complexes (S. Kusimba and C. Kusimba 1999; C. Kusimba and S. Kusimba 2000). We identified site locations using a GPS, recorded them on topographical maps, assigned them SASES numbers and described them on site description forms provided to the National Museums of Kenya, and made surface collections of diagnostic and undiagnostic artifacts. Previously, about 150 sites were known in Tsavo. Since 1998, our team has added more than 220 new sites to the list of known, but not as yet fully described, sites.

### **Macropattern 1: Hillslope Agropastoralist Villages**

This macropattern is composed of five feature types, located close to each other on large hills like Sagalla, Taita, and Kasigau. The components of the macropattern are dry stonework terracing, burial cairns, cranial display niches (CDNs), and rockshelter occupations which include dry stonework, goat or cattle pens, hearths, grinding areas, and human sleeping areas. We found 25 rockshelter sites, 5 open-air sites, and 1 large iron smelting site at Kasigau Hill. These exhibited excellent preservation, including beds of grass and

sticks and goat/cattle pens 10-50 m in diameter and made of dry stonework and sticks. Often, the entrance and exit of the goat pen was also constructed out of rock. Inside the goat/cattle pens, large piles of dung evidenced a considerable intensity of livestock occupation. At Bungule sites 1-5, 9, and 11-23, human and animal occupation areas were separated by dry stonework or were located in different sections of a naturally segmented rockshelter. Most of the Kasigau rockshelters included pottery, lithic scatters, metal artifacts, goat skins, grinding hollows, dung, and bones. Another site, Rukanga 3, was a large iron smelting site 100 by 200m in size and including ore, tuyeres, slag, and bloom.

Dry stonework in habitation sites are known from the terraces and irrigation trenches of Engaruka (Sutton 1966, 1978, 1986) and the Sirikwa hole cattle pens of the Rift Valley, which also used dry stonework to mark cattle pens in rocky areas like Uasin Gishu and Elgeyo (Sutton 1987, 1990). In both of these areas, the stonework is 300-500 years old and includes terracing, irrigation canals, platform enclosures, gateways, and indoor stone fireplaces (Sutton 1990). According to informants in the area, Kasigau's dry stonework pens were built 200-300 years ago to keep goats and cows who were fed with cut fodder from the hill's apron and plains. Pen-feeding can be a response to land shortage, according to Sutton (1990:49), or a defense against cattle rustlers, like the Maasai and Oromo who entered the Tsavo region in the 19th century (Kraph 1964:362; New 1871:369).

Macropattern 1 also included old stonework terracing. Grindstones and pottery shards were accompanying artifacts. Terracing was also located near burial cairns, round piles of stones up to 1 m in diameter and constructed from black igneous stones. According to Taita informants, individuals would be buried in cairns for up to two years. After this period, the deceased's skull would be disinterred and placed in a CDN. Informants showed us six CDNs in February 2000. Two still contained human skulls. CDNs are located in rock shelters, rock crevices, and shallow caves near villages. They were visited when crises, such as drought, childlessness, or illness, required consultation with ancestors and intervention.

## Macropattern 2: Forager Rockshelter Occupations

We discovered 6 rockshelter occupations of presumed pottery-using foragers in the Ngulia Hills. The Ngulia Hills include year-round water sources and surround a series of seasonally flooded grasslands. Taita oral tradition states that Wataita ancestors were food producers from Ngulia. However, Waata people from Mbololo, who were hunter-gatherers until the creation of the TNP in the 1950s, also name Ngulia as their homeland (Hobley 1895). Two other forager sites, Tsavo 9 and Kisio Rockshelters, have been found in the open plain of Tsavo East around Manyani. We conducted preliminary excavation of Kisio Rockshelter in 1998. Occupation 1, dating to 1000 BP, included quartz, obsidian, and chert lithic tools, pottery, and wild fauna. Occupation 2, around 100 BP, included wild fauna, iron arrowheads, stone tools, pottery, coastal shells, and glass beads (S. Kusimba and C. Kusimba 1999). That these artifact types appear in small forager settlements suggests that hunter-gatherers engaged in dynamic exchange relationships with neighboring iron smelters and traded directly or indirectly with coastal traders. At the same time they subsisted on local small mammals and birds, especially hornbill, hyrax, duiker, and bullfrog (S. Kusimba and C. Kusimba 1999). Such a subsistence base suggests that for at least part of the time, Tsavo hunter-gatherers were tethered to rocky hill-sides, possibly through territorial conflict with food producers.

## Macropattern 3: Plains mound settlements

The flat, dry plains of Tsavo East, including the Lugard Falls, Konu-Moju, Sobo, Dakota, and Dika areas, are punctuated by burial cairns of white coral, 5-3.0 m in diameter, often attributed to Oromo (Galla) pastoralists (Hobley 1929). Often, they are associated with dirt-covered mounds around 1 m in diameter. Clusters of 3-10 mounds cover areas of 200 by 500 m. We found 97 cairns and 142 mounds. The mounds may be remains of circular houses.

#### **Macropattern 4: Plains rock outcrop activity areas**

Macropattern 4 includes rock outcrop activity areas found on the flat peneplain of Tsavo East. These sites consist of rock outcrops pockmarked by from 2 to 100 grinding hollows. The cup-shaped hollows are around 10 cm in diameter and 10 cm deep. They could have been used for grinding cereals or herbs or for breaking up cattle bones or slag (David 1998). At Tsavo 6, a 50 m in diameter quartz lithic surface scatter lays adjacent to one 60 m. long rock outcrop with 20 grinding hollows on it. The lithic scatter includes bipolar cores, flakes, and scrapers. Grinding hollows were preferentially located on broken pieces of rock that contained a natural shelf underneath the hollow. Under the natural shelf, a skin or fabric could be placed and the ground material swept into it. Often the rock outcrops contain natural crevices that hold rainwater. Ethnohistorical information also indicates that rock outcrops were important activity areas and food processing areas. Mudanda Rock, for example, takes its name as the place where skins were lain for drying. The rock was also a trade center where Tsavo groups and coast traders would meet to barter goods. No doubt, animal skins and ivory were important trade goods. Unfortunately, archaeological sites were destroyed when a waterhole was created at Mudanda.

#### **Ethnohistoric research**

When indigenous people become involved in archaeological research, they appreciate their history, they become more familiar and sympathetic to the esoteric discipline of archaeology, and they enhance the explanatory power of archaeological findings (Stanish and Kusimba 1996). Many archaeologists have underscored the necessity of integrating oral tradition and oral history into archaeological research (Rogers and Wilson 1993). In the African Iron Age, oral tradition and oral history can be corroborated by archaeological analysis (Schmidt 1983) and often provide archaeologists with a rich cultural background and valuable testable hypotheses. When archaeology and ethnohistory are successfully integrated, the result is a scientific archaeology that also provides a rich cultural and historical context.

Since CMK began work on the Kenya coast, he has relied on the knowledge and resources of indigenous peoples to increase his understanding of the coastal and hinterland history and prehistory. TARP has established extensive relationships with local Tsavo communities including the Waata of Kajire, Birikani, and Kisiki cha Mzungu, the Wasagalla of Maungu and Voi, the Wambololo of Ghazi, the Wadawida of Sungululu and Mbale, and Wakasigau of Rukanga and Bungule. We have carried out more than 50 interviews with the elders in these villages. These interviews have revealed that Tsavo was characterized by periodic droughts and famine, creating competition for food, water, and trade opportunities. Tsavo's inhabitants developed alliances to manage these crises, including affinal ties, blood brotherhoods, and trading partnerships. All the groups engaged in local and interregional trade. At nodes of trade like Mudanda Rock communities exchanged goods. Territorial boundaries for each group were clear-cut and recognized. Mortuary practices such as cairn burials and cranial displays emphasized territorial rights and boundaries.

Our research with Waata hunter-gatherer descendants has provided us with important testable hypotheses on hunter-gatherer ecology, including seasonal rounds, diets, and interrelationships with other Tsavo groups such as blood brotherhoods, trade relationships, and conflict. Wasanye informants we interviewed indicated that Waata people still have a strong cultural identity in which foraging is an honored activity, even if the 1947 formation of the TNP and subsequent relocation of Wasanye has curtailed traditional foraging activities. Many Waata regret their lack of access to park resources and express desire to continue a hunter gatherer way of life. Evidence gleaned by TARP includes locations Wasanye inhabited as part of the seasonal round, resources they procured there, and relationships with other communities. Interviews with Taita informants have also highlighted historical occupation of TNP. The Wataita attribute many of the cairn burials of Macropattern 3 to a group of agropastoralists known as Wambisha. Jefferson Maloti, 78, indicated that many Wambisha were absorbed into Taita society after their 16th century arrival on the Taita, Sagalla, and Kasigau Hills, suggesting that complex interactions have characterized Tsavo communities for some time. Jefferson

also explained how Taita, Giriama, and Waata formed trade partnerships through blood brotherhoods. Wataita participated in the ivory trade by offering Waata protection in exchange for ivory. Through interviews with five Wakasigau elders, we have been able to ascribe many of the Macropattern 1 sites to 16th-19th century Wakasigau, who are related to the Wadawida and Wasagalla. However, these oral traditions also indicate that the Wambisha occupied the area before the coming of Wataita, and practiced agropastoralism at several elevations on the hill. The Kasigau area was a crucial node in coastal trade, and was the first well-watered hill and rest/trade stop that coastal traders encountered after crossing the barren plain or Nyika separating Kasigau from the coast. According to our informant, a large slave market lay about 2 km south of Rukanga 3, a large iron smelting site.

In an initial visit to the village of Ghazi in 1998, the Wataita were hesitant to show us extant CDNs. TARP's continued involvement and long-term commitment to the community, including its ongoing project and medical supply supplementation, enabled us to gain informant trust. Family elders still maintain and protect ancestral remains. Intensive digital video recordings of interviews with several elders at one extant CDNs near Wundanyi indicated that knowledge of the family relationships of those individuals now interred in this shelter has been maintained for at least five generations. At CDNs, ancestors were placated by nourishment such as food, tobacco, meat, and beer, which would be left at the shrine. The ancestral spirits were thus sustained and kept happy through provision of food sacrifices. They in turn provided protection from disease, evil intentions of neighbors and witches, and drought or floods. The continued maintenance of family shrines and oral traditions spanning five generations offers us a unique opportunity to study the recent history of the Wataita people and confirm oral traditions regarding resource use, trade, and interactions with other communities and coast traders.

## Conclusions

Ethnohistorical data from the Tsavo region indicate that complex interrelationships connected Tsavo communities to each other and to coastal traders. Archaeological evidence, such as faunal

and botanical remains, traded artifacts such as obsidian, beads, and imported ceramics, offer evidence that will help discover the origins of trade networks and enable full understanding of hinterland contributions to coastal urbanism. Early models of the state emphasized the power of the urban center and the dependence of urban hinterland settlements on them. In Africa, where external impetus was a preferred explanation for the state, hierarchical, elite-centered models have been widely accepted. Alternative models of interregional interaction place greater emphasis on the role of peripheral groups or polities in influencing relationships with urban centers, and on the different kinds of power relationships that connect settlements in a region or polities within an exchange network (C. Kusimba 1999a; R. McIntosh 1998). As an empirical case of these ideas, S. McIntosh and R. McIntosh (1993) have documented that African city-states often evolved without the development of centralized economic and political control or political hierarchy. In the Jenne-Jeno region of Mali, over forty excavated mounds show the communities participated in an economic system where each had a particular economic specialization. This region was an important node in trade along the Niger Delta (R. McIntosh 1998). In spite of this complex site and its role in interregional trade, no centralized authority existed. Similarly, the Iron Age of the Great Lakes region of East Africa must be understood on a regional basis; different settlements had economic specializations around salt, ironworking or cattle, traded amongst each other, and functioned as a regional economy (Connah 1995; Robertshaw 1994; Reid 1997). Kiriyama (1993:498) argued that research on African early food producing economies has over-emphasized linguistic labels and use of pottery typologies at the expense of examining the different roles and contexts that food production, technology, and trade play in different societies, even those often subsumed within broad linguistic categories like "Bantu".

Our ongoing research in Tsavo will contribute to understanding how pastoralist, hunter-gatherer and agriculturalist economies have formed and interacted in Africa and elsewhere. Much of the diversity in early East African pastoralist economies (Gifford-Gonzalez 1984, 1998; Marshall 1994, 2000) may be explained by differing

environments and exchange relationships with neighboring communities. TARP research will help us understand this diversity. Indeed, data acquired from this research may be of great value to National Park managers and conservationists as they grapple with the ways of improving better management of wildlife resources and human resources in TNP and other conservation areas. TARP will also examine how hinterlands articulate with global economic processes. Although coast cities are no longer regarded as foreign colonies, their relationship with interior societies has never been well understood. What role did hinterland societies play in coastal city development? How did coast politics impact the African interior? How did trade influence the economic strategies of Tsavo's diverse communities? These are difficult, challenging, but truly exciting questions that can be best addressed from this interdisciplinary, integrated research perspective.

### Acknowledgements

This research was supported by the National Science Foundation (Grant # 9615291), the National Geographic Society (Grant 5816-96) and The Field Museum of Natural History. Permission to conduct survey and excavations were granted by the Office of the President, Republic of Kenya through the National Museums of Kenya. We gratefully acknowledge the logistical support of David Western, Karega-Munene, George Abungu, Athman Lali Omar, Mohamed Mchula, Robert Muasya, Samuel Andanje, John Muhanga, Isabella Ochola, and Salim Mutengo of Kenya. More than fifty American and Kenyan students have participated in our excavations in Kenya and contributed tremendously.

### References

Abungu, G. H. O.  
 1998 City States of the East African Coast and their maritime Contacts. In G. Connah, editor, *Transformations in Africa: Essays on Africa's Later Past*. Leicester: Leicester University Press, pp. 204-218.

Bower, J.  
 1991 The Pastoral Neolithic of East Africa. *Journal of World Prehistory* 5:49-82.

Casey, J.  
 1998 The Ecology of Food Production in West Africa. In G. Connah, editor, *Transformations in Africa: Essays on Africa's Later Past*. Leicester: Leicester University Press, pp. 48-70.

Chami, F. A.  
 1998 A Review of Swahili Archaeology. *African Archaeological Review* 15:199-218.

Chittick, H. N.  
 1974 *Kilwa: An Islamic Trading City on the East African Coast*. British Institute in Eastern Africa Memoir No. 5. Nairobi: British Institute in Eastern Africa.

Connah, G.  
 1995 *Kibiro: The Salt of Bunyoro, Past and Present*. Nairobi: British Institute in Eastern Africa.

David, N.  
 1998 The Ethnoarchaeology and Field Archaeology of Grinding at Sukur, Adamawa State, Nigeria. *African Archaeological Review* 15(1):13-64.

Geological Map of Kenya  
 1987 *Geological Map of Kenya*. Kenya Ministry of Energy and Regional Development, Nairobi.

- Gifford-Gonzalez, D.
- 1998a Early Pastoralists in East Africa: Ecological and Social Dimensions. *Journal of Anthropological Archaeology* 17:166-200.
- 1998b Gender and Early Pastoralists in East Africa. In S. Kent, editor, *Gender in African Prehistory*. Walnut Creek: AltaMira, pp. 115-137.
- Hobley, C. W.
- 1895 Upon a Visit to Tsavo and the Taita Highlands. *Geographical Journal* 5:545-561.
- 1929 *Kenya from Chartered Company to Crown Colony*. London: Frank Cass.
- Horton, M.
- 1996 *Shanga: A Muslim Trading Community on the East African Coast*. Nairobi: British Institute in Eastern Africa.
- Kirkman, J. S.
- 1964 *Men and Monuments of the East African Coast*. London: Butterworth Press.
- Kusimba, C. M.
- 1999a *The Rise and Fall of Swahili States*. Walnut Creek: AltaMira Press
- 1999b The Rise of Elites among the Precolonial Swahili of the East African Coast. In J. Robb, editor, *Material Symbols in Prehistory*. Carbondale: Southern Illinois University Press, pp. 318-341
- Kusimba, C. M. and S. B. Kusimba
- 1999 *Current Research Themes in Later East African Archaeology*. Philadelphia: MASCA, University of Pennsylvania Museum of Archaeology and Anthropology.
- 2000 Archaeology of Urban Hinterlands in the Tsavo National Park, Kenya. Paper presented at the annual meeting of the Society for Africanist Archaeology, Cambridge.
- Kusimba, S.B. and C.M. Kusimba
- 1999 Later Stone Age Archaeology in Tsavo, Kenya. Paper presented at the annual meeting of the Society for American Archaeology, Chicago.
- Marshall, F.
- 1994 Archaeological Perspectives on East African Pastoralism. In E. Fratkin et. al., editors, *African Pastoralist Systems: An Integrated Approach*. Boulder: Lynne Rienner Publishers, pp. 17-43.
- 2000 The Origins and Spread of Domestic Animals in East Africa. In R. Blench and K. Macdonald, editors, *African Livestock: The New Synthesis. Archaeology, Linguistics, DNA*. Cambridge: Cambridge University Press.
- McIntosh, R. J.
- 1991 Early Urban Clusters in China and Africa. *Journal of Field Archaeology* 18:199-212.
- 1998 *The Peoples of the Middle Niger: The Island of Gold*. Malden: Blackwell Publishers.
- McIntosh, S. K.
- 1997 Urbanism in sub-Saharan Africa. In J. C. Vogel, editor, *The Encyclopedia of Precolonial Africa*. Walnut Creek: AltaMira, pp. 461-465.
- McIntosh, S. K., and R. J. McIntosh
- 1993 The Early City in Africa: Toward an Understanding. *African Archaeological Review* 2:302-319.

Pearson, M. N.

- 1998 *Port Cities and Intruders: The Swahili Coast, India, and Portugal in the Early Modern Era*. Baltimore: Johns Hopkins University Press.

Pye, K., A. S. Goudie, and A. Watson.

- 1985 An Introduction to the Physical Geography of the Kora Area, Central Kenya. *The Geographical Journal* 151:168-181.
- 1986 Petrological Influence on Differential Weathering and Inselberg Development in the Kora Area of Central Kenya. *Earth Surface Processes and Landforms* 11:41-52.

Reid, A.

- 1997 Lacustrine States. In J. C. Vogel, editor. *The Encyclopedia of Precolonial Africa* Walnut Creek: AltaMira, pp. 501-507.

Robertshaw, P.

- 1994 Archaeological Survey, Ceramic Analysis, and State Formation in Western Uganda *African Archaeological Review* 12 105-131.

Rogers, J.D. and S.M. Wilson, editors

- 1993 *Ethnohistory and Archaeology Approaches to Postcontact Change in the Americas*. New York: Plenum Press

Schmidt, P. R.

- 1983 Cultural Meaning and History in African Myth. *International Journal of Oral History* 4:165-83.
- 1995 Using Archaeology to Remake History in Africa. In P. Schmidt and T. C. Patterson, editors, *Making Alternative Histories*. Santa Fe: School of American Research Press, pp. 119-147.
- 1997 *Iron Technology in East Africa: Symbolism, Science, and Archaeology*. Bloomington: Indiana University Press.

Schweinfurth, G.

- 1874 *The Heart of Africa: Three Year's Travels and Adventures in the Unexplored Region of Central Africa from 1868 to 1871*. 2 vols. New York: Harper and Collins.

Thorbahn, P.

- 1979 *Precolonial Ivory Trade of East Africa: Reconstruction of a Human-Elephant Ecosystem*. PhD Dissertation, University of Massachusetts, Amherst.

Wiessner, P.

- 1986 !Kung San Networks in A Generational Perspective. In M. Biesele, et. al., editors, *The Past and Future of !Kung Ethnography*. Hamburg: Helmut Buske, pp. 103-136.