



PRE-COLONIAL ECOLOGY AND FOOD SECURITY STRATEGIES OF THE AKAMBA PEOPLE OF MACHAKOS, KENYA (1850-1895)

Brenda S. Lumasia

The Catholic University of Eastern Africa

Samuel A Nyanchoga

The Catholic University of Eastern Africa

Melvine C. Lilechi

The Catholic University of Eastern Africa

Email: lumasiabrenda2007@gmail.com

Abstract

This article examines the indigenous food security systems developed by the Akamba people of Machakos County, Kenya, during the pre-colonial period from approximately 1850 to the eve of colonial rule. Living in a semi-arid environment characterized by unreliable rainfall, recurrent droughts, and periodic famines, the Akamba constructed a resilient food security architecture. Drawing on oral traditions, archival sources, and ethnographic literature, this analysis demonstrates that Akamba food security rested on agricultural diversification of drought-resistant crops, a livestock economy that functioned as both sustenance and social capital, hunting and gathering that supplemented dietary needs, craft production that facilitated trade, and long-distance commercial networks that connected the interior to the coast. Furthermore, the article argues that Akamba socio-political institutions particularly the clan system (mbai), the council of elders (Nzama), and stock associatship (kuvithya indo) provided the governance framework that regulated resource access, activated mutual aid during crises, and ensured redistributive justice. The article concludes that pre-colonial Akamba food strategies represent sophisticated adaptive knowledge that challenges narratives of African subsistence as merely primitive or precarious, offering historical lessons for contemporary food security policy in arid and semi-arid lands.

Keywords: Food security, Akamba, pre-colonial Kenya, indigenous knowledge, semi-arid agriculture, Machakos County.

INTRODUCTION

The global food crisis of the twenty-first century has prompted renewed scholarly and policy interest in indigenous knowledge systems and their potential contributions to sustainable agriculture. Across sub-Saharan Africa, where climate change threatens already vulnerable agricultural systems, historians and development practitioners increasingly recognize that pre-

colonial African societies developed sophisticated strategies for achieving food security in challenging environments. The Akamba people of Machakos County, Kenya, offer a compelling case study of such indigenous resilience (Speranza, Kiteme, Ambenje, Wiesmann, & Makali, S. (2010).

Context

Machakos County, located in the former Ukambani region, lies on the eastern fringe of the Kenyan highlands. Its semi-arid climate, characterized by unreliable rainfall patterns and recurrent droughts, might appear inhospitable to sustainable agriculture. Yet the Akamba not only survived but thrived in this environment for centuries before colonial intrusion. Their achievement rested not on any single innovation but on an integrated system that combined diverse economic activities, sophisticated environmental knowledge, and robust social institutions.

This article addresses three interrelated questions: First, what specific strategies did the Akamba employ to achieve food security in a semi-arid environment? Second, how did their socio-political institutions support these strategies? Third, what can contemporary food security policy learn from this historical experience? The analysis covers the period from approximately 1850, when long-distance trade began transforming the regional economy to 1895, when formal colonial rule was established.

The article draws on multiple sources: oral traditions collected during fieldwork in Machakos County, archival materials from the Kenya National Archives, published ethnographic and historical studies, and interviews with Akamba elders conducted between 2023 and 2024. Methodologically, the study employs a case study design combined with phenomenological approaches to capture both structural patterns and lived experiences.

PROBLEM STATEMENT

Despite growing recognition of indigenous knowledge in contemporary food security discourse, the pre-colonial African food systems remain under-documented (Speranza, Kiteme, Ambenje, P, Wiesmann & Makali, 2010). Specifically, the Akamba people's indigenous strategies for achieving food security in a challenging ecological zone have received insufficient scholarly attention. Available literature has tended to focus either on colonial disruptions of African agriculture or on contemporary food security challenges, often neglecting the sophisticated systems that existed before colonial intervention. This knowledge gap has practical consequences. Development interventions in arid and semi-arid lands frequently ignore or undervalue indigenous knowledge, imposing external solutions that may be less adapted to local conditions than the strategies they replace. By documenting the pre-colonial Akamba food security system in detail, this article seeks to recover historical knowledge that can inform contemporary policy and practice.

The central problem this article investigates is therefore twofold: first, the empirical question of how the Akamba achieved food security in a semi-arid environment before colonialism; second, the historiographical question of why these achievements have been marginalized in narratives of African economic history. Addressing these questions requires careful examination of environmental constraints, economic strategies, and institutional frameworks.

LITERATURE REVIEW

Existing scholarship on pre-colonial African agriculture establishes that many communities developed sophisticated food production systems adapted to local conditions. Ochieng (1985) notes that agricultural communities in pre-colonial Kenya primarily engaged in subsistence farming, growing staple crops such as millet, sorghum, and vegetables, while producing surpluses of grain and livestock exchanged for necessities like salt. Ogutu and Kinyanjui (1991) elaborate that traditional agriculture was oriented toward subsistence rather than commercialization, prioritizing food crop production and incorporating both indigenous crops (millet, sorghum, yams) and those introduced from Asia and the Americas (rice, bananas, maize).

Focusing specifically on the Akamba, Were and Wilson (1982) characterize them as mixed farmers who grew grains such as millet, sorghum, maize, peas, beans, sweet potatoes, gourds, bananas, sugarcane, and yams, while also rearing animals. They note that in the division of labor, men cleared land, herded cattle, built structures, and traded in crafted and metal items, while women cultivated soil and produced baskets and pottery. Middleton and Kershaw (1965) and Ndeti (1972) provide detailed accounts of Akamba social organization, emphasizing the centrality of the clan system to resource management and mutual aid.

Lambert (1956) offers the most comprehensive analysis of Akamba land tenure and social institutions, documenting how clans regulated access to land, water, and pastures. Muthiani (1973) examines the egalitarian dimensions of Akamba social relations, arguing that clan solidarity provided a critical survival mechanism in Ukambani's semi-arid environment. Munro (1975) situates Akamba history within the broader context of colonial rule but provides valuable background on pre-colonial social and economic organization.

On the subject of famines and environmental vulnerability, Porter (1972) analyzes the ecological constraints on Akamba agriculture, while Matheka (1992) examines the political economy of famine in Machakos District. Ambler (1988) discusses the relationship between livestock, wealth, and influence among the Akamba, and Ndege (1989) analyzes how cattle accumulation served as social capital rather than mere economic accumulation.

However, existing literature presents several limitations. First, most studies focus either on social organization or on economic activities in isolation, rather than analyzing how institutions and strategies integrated to produce food security. Second, the colonial period has received disproportionate attention, leaving the pre-colonial period relatively understudied. Third, while individual components of Akamba food security (such as livestock keeping or crop cultivation) have been documented, the systemic integration of multiple strategies has not been fully articulated. This article addresses these gaps by presenting a holistic analysis of the pre-colonial Akamba food security system as an integrated architecture.

ENVIRONMENTAL CONTEXT AND SETTLEMENT HISTORY

Understanding Akamba food security requires appreciating the environmental constraints within which their systems evolved. Machakos County is characterized by a semi-arid climate (classified as tropical savanna) with bi-modal rainfall patterns. The long rains typically occur from March to May, while short rains fall from October to December. However, rainfall is notoriously unreliable, with significant inter-annual and intra-seasonal variability. Historical evidence from colonial records and oral traditions confirms that droughts occurred with regular frequency, often lasting multiple seasons and sometimes extending across years.

The topography of Machakos includes several prominent hill masses; veti, Mua, Kiima Kimwe, and Kangundo. that serve as water catchment areas for springs and streams. These hills also provided defensive advantages and, through terracing, enabled agricultural expansion. The lowland areas, by contrast, are more arid and were traditionally used primarily for livestock grazing rather than crop cultivation. Soils vary from fertile volcanic loams on the hillsides to less fertile sandy and clay soils in the lowlands.

The natural vegetation of pre-colonial Machakos included savanna woodlands, Acacia-dominated bushland, and

scattered baobab trees (*Adansonia digitata*). This baobab, called *mwamba* by the Akamba, held particular significance. Its fruits (*ngamba*) provided nutrition, its bark produced prized string, and its presence often marked sacred sites (*ithembo*) where ancestral rituals were performed.

Oral traditions and historical linguistics suggest that the Akamba migrated into the Machakos area from multiple directions over several centuries. Munro (1975) argues that a significant wave of settlement came through Kikumbuli in the vicinity of the Chyulu Hills in the mid-seventeenth century. From there, populations dispersed to Kangundo, Iveti-Mua, Mbooni, Kilungu, Kalama Hills, and Kaumoni Hills. Other traditions, recorded by Lindblom (1920) and Jackson (1976), trace Akamba origins to the Kilimanjaro region, from which they moved past the Kyulu ranges to the highlands around Nzaui rock before dispersing from the Mbooni hills.

Oral informants provide complementary accounts. According to Mbatha's recollection, the Akamba came from the direction of Kilimanjaro and Nyamwezi land, spreading south toward Mbooni. A larger wave came from Ivia Itune in Ukambani, settling in Keni in Rombo hills north of Chulu hills before spreading to Makueni and Machakos. Another wave came from north of Nyambene Hills, settling in Mumoni in northern Kitui, while a third wave came from the Coast along the Tana River to Taita Hills before settling in Kitui.

The name "Machakos" itself reflects this trading heritage. The area was initially known as Ulu, situated between the Iveti, Mua, and Kiima Kimwe hills. By the turn of the nineteenth century, the name changed to Kwa Masaku, named after Iluvya, son of Masaku, who according to Akamba traditions inherited his father's spiritual gifts. Kwa Masaku became a regional trade and caravan center where merchants sought Masaku's protective medicine before embarking on perilous journeys and returned for cleansing rites upon their arrival. This spiritual-commercial complex illustrates the integration of economic and religious life in Akamba society.

DISCUSSION AND FINDINGS

The findings reveal that Akamba food security rested on five interconnected pillars, each contributing to resilience while compensating for the limitations of the others.

The foundation of Akamba food security was agricultural production centered on drought-resistant indigenous crops. According to oral informants and historical records, the Akamba cultivated millet (*muvea*), finger millet, sorghum, cowpeas (*ndamba*), pigeon peas (*nzuu*), pumpkins, oil seeds, cassava, sweet potatoes, and, increasingly from the nineteenth century, maize. A respondent, Nzomo from Kimutwa, recalled that these crops were carefully selected for their ability to thrive in semi-arid conditions, with pigeon peas and cowpeas serving as "insurance crops" that could mature even when long rains proved insufficient.

Agriculture

The agricultural techniques employed by the Akamba demonstrated sophisticated understanding of soil and water management. Mwikali and Tonui (2021) notes that they practiced slash-and-burn agriculture (shifting cultivation), rotating fields to maintain soil fertility. More significantly, they developed terracing techniques on hilly terrain to prevent soil erosion and optimize water use. These terraces, constructed manually using wooden hoes (*mwoo*) and later metal implements, allowed the Akamba to expand cultivable land and improve crop yields in areas that would otherwise have been marginal.

Rainwater harvesting was another critical innovation. The Akamba constructed traditional water storage systems; small earth dams, subsurface cisterns, and catchment basins—that captured runoff during rainy seasons for use during dry periods. During the rainy season, farmers generated sufficient grain surpluses for exchange with neighboring peoples, particularly the Kikuyu, to obtain necessities such as salt. Intercropping and mixed cropping further enhanced food security by reducing risk through diversification.

Livestock constituted the Akamba's strategic reserve and social currency. The Akamba kept cattle, goats, sheep, and chickens. Among these, cattle held preeminent status. As Muthua, an oral informant from Machakos, explained: "The larger the herd one possessed, the more he was able to cope with emergencies without seriously depleting the size of his herd."

The Akamba proverb *andu ni indo* ("people are livestock") encapsulated the cultural valuation of animal wealth. Ambler (1988) argues that among the Akamba, wealth and influence were inextricably tied to livestock ownership. Mutie (1992) further suggests that cattle accumulation served as social capital: individuals used livestock to expand their lineages, create friendships, and build clientage relationships. The poor settled around wealthy stock-owners, receiving milk in exchange for labor.

At the subsistence level, cattle provided meat, milk, ghee, blood, and butter. Milk, consumed either fresh or sour, was the dietary staple. During the wet season, it was churned into butter, processed into oil, or dried into powder for use during the dry season. Blood from living animals was drunk fresh or solidified and mixed with other foodstuffs. Beyond direct consumption, livestock functioned as the most important form of saving and as insurance against crop failure, as cattle recovered quickly after drought while crops took longer to produce.

However, the Akamba were reluctant to exchange cattle for grain except as a last resort. As Kitching (1980) notes, exchange rates favored livestock owners, explaining why the Akamba preferred to offer other commodities in trade before resorting to livestock sales.

Hunting/gathering/craft

The Akamba originally identified as hunters and gatherers, and hunting remained important throughout the

pre-colonial period. Men hunted dik-dik, rabbits, antelopes, gazelles, and occasionally larger game using bows and poisoned arrows. The poison, derived from snake and scorpion venom, was considered the most effective by neighboring communities. Trapping methods included ropes, tree branches, and deep pits dug along animal paths.

Hunting provided meat and skins for clothing, bedding, quivers, bags, and sandals. Gathering complemented hunting, particularly during dry seasons. Women and children collected wild fruits, tubers, and roots, especially from the baobab tree, whose fruit provided vitamin C and whose seeds offered fats and proteins. Wild honey served as both sweetener and medicine, while the African sausage fruit (*muatine*) was used to produce traditional beer for communal gatherings, reinforcing social bonds essential for mutual support.

The Akamba craft industry transformed raw materials into valuable trade goods. The Akamba were renowned ironworkers, using local ore to produce arrowheads, clamps, collars, knives, and iron ornaments. Women specialized in pottery and basket-making, producing decorated gourds (*makwa*) and woven baskets. These craft items facilitated food preparation, storage, and consumption while serving as trade goods exchanged for agricultural products not available locally.

Trade

The Akamba became active participants in long-distance trade connecting the interior to the Indian Ocean coast. Chief Kivoi emerged as the most famous Akamba trader, organizing caravans to Kilimanjaro and beyond. Akamba hunter-traders worked as far north as Mount Kenya, west to the Rift Valley, and south to Ufigua in Tanzania. They acted as middlemen between coastal traders and interior communities, providing security to caravans crossing the Nyika.

The food security implications of this trade were significant: access to foodstuffs during shortages, wealth to purchase grain during famines, economic diversification, and social networks that created additional channels for food sharing. However, by the 1870s, Akamba trade dominance began collapsing due to raids, elephant population decline, competition, and conflict with neighbors angered by slave raiding.

Clan system

The Akamba clan system provided the institutional framework for food security. Clans were not merely kinship units but embodiments of adaptive resilience and mutualistic networks regulating redistributive ethics. According to Bahemuka and Tiffen (1992), the clan regulated social alliances, rights, duties, and access to factors of production including land and strategic community reserves.

Localized sub-lineages called *mbai sya ithembo* served as primary custodians of clan land, organizing communal rituals, settling disputes, and managing shared resources (Ndeti, 1972). The clan's most important function for food

security was mutual aid. As Olivier (1965) observed, "the clan will help a man if he gets into serious trouble. It clearly provides a kind of security in a very fluid system."

Stock Associateship (Kuvithya Indo) allowed wealthy cattle owners to loan animals to relatives or friends who had lost cattle through disease or raids. The loanee could milk the cattle and use the ghee but could not sell them. For the loanee, this provided access to livestock products and a path to rebuilding wealth. For the loaner, it insured against total loss by dispersing the herd across multiple locations.

Council of Elders

The Council of Elders (*Nzama*) organization began at the homestead level (*musyi*) and extended upward through the clan to the *Nzama* (Council of Elders), which governed clan affairs. The *Nzama* decided on raiding expeditions, ensured appropriate utilization of pastoral resources, maintained a just land tenure system, developed rangeland management strategies, and regulated access to pasture and watering points. By ensuring equitable access and mediating disputes, the council maintained the social stability necessary for agricultural production.

Gendered Division of Labour

The Akamba developed gendered division of labor. Men cleared land, herded cattle, built structures, and engaged in trading and ironworking. Women cultivated soil, planted and weeded crops, harvested grains, made baskets and pottery, prepared food, and managed grain storage. This division was flexible, allowing mobilization of labor in response to changing conditions.

Food Preservation

The Akamba developed sophisticated preservation techniques. Grains were sun-dried and stored in elevated granaries (*kiinga* or *ikumbi*) made of wood and grass. Some families stored grains in large pots, underground reservoirs, or baobab cervixes. Smoke from cooking fires helped preserve grains stored in rafters. Ash was mixed with cereals in calabashes to prevent insect infestation. Meat was roasted, salted, cut into strips, sun-dried, and stored in skin bags. Dairy products were churned into butter, boiled into oil, or dried into powder.

Famines

Despite their sophisticated systems, the Akamba experienced recurrent famines documented through oral nomenclature: *Yua ya llendu* (staggering famine), *Yua ya Musyula-Kyongo* (scorched skulls famine), *Yua ya Ngovo* (famine of disappointment, 1836), *Yua ya Kiasa* (long famine, 1851), *Yua ya Matulungo* (striking famine, 1862), *Yua ya Ngeetele* (tightening famine, 1871), and *Yua ya Ndata* (star famine, 1882-83).

During these famines, the Akamba employed multiple coping strategies: intensifying hunting and gathering, activating clan-based mutual aid networks, engaging in barter trade with neighboring communities (particularly the Agikuyu), migrating temporarily to better-watered areas, and, as a last resort, conducting cattle raids.

CONCLUSION

The pre-colonial Akamba food security system represents a sophisticated integration of agricultural, pastoral, hunter-gatherer, craft, and trade activities, governed by robust socio-political institutions. Several theoretical implications emerge from this analysis.

The study illuminates how Akamba social institutions worked together to maintain social equilibrium and meet subsistence needs. When one component faltered crop failure due to drought; other components (livestock, hunting, trade, mutual aid) compensated. Second, the articulation of modes of production theory reveals that the Akamba economy was not a unitary subsistence system but a complex articulation of cultivation, pastoralism, hunting-gathering, craft production, and trade. Third, sustainable development theory finds empirical validation in Akamba practices: drought-resistant crops, terracing, rainwater harvesting, rotational fallowing, and regulated hunting achieved a measure of ecological sustainability.

This historical analysis carries implications for contemporary food security policy. First, indigenous knowledge of drought-resistant crop varieties, water harvesting techniques, soil conservation methods, and food preservation represents a valuable resource for adapting to climate change in semi-arid regions. Second, communities with strong networks of mutual aid and collective resource management are more resilient to shocks. Third, diversification across crops, livestock, wild foods, and trade reduces risk more effectively than specialization.

The colonial period systematically dismantled many of these institutions through land alienation, livestock quarantines, forced labor, taxation, and cash cropping. However, the memory of this system preserved in oral traditions, archival records, and the landscape itself offers lessons that remain relevant for a world facing unprecedented food security challenges.

RECOMMENDATIONS

Contemporary food security policy in arid and semi-arid lands particularly in Machakos and similar ecological zones should deliberately integrate indigenous Akamba knowledge systems into climate adaptation frameworks. This entails supporting farmer-managed seed banks that preserve drought-resistant local varieties (e.g., pigeon peas, cowpeas, and sorghum), promoting traditional water-harvesting and terracing techniques through subsidy and training programs, and revitalizing community-based institutions such as clan-based mutual aid networks and elder councils to govern grazing rotations, dispute resolution, and emergency food redistribution. Policymakers and development agencies should also facilitate multi-stakeholder platforms where Akamba elders, agricultural extension officers, and climate scientists co-design interventions, ensuring that external inputs complement rather than supplant local adaptive strategies. Finally, historical preservation efforts including oral history documentation and mapping of pre-colonial trade and water-management sites should be

funded as living knowledge bases, enabling continuous learning and culturally resonant resilience building in the face of recurrent drought and climate uncertainty.

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