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Culture of Crops vs. Crops as Culture: African Rice in Early Modern Southern Portugal?*

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This article examines rice in the early modern Atlantic world through two complementary prisms: the "culture of crops" and "crops as culture". The first situates rice as a vital commodity, essential for provisioning ships, sustaining enslaved labor, and supporting colonial settlements. European traders sourced rice from West African markets embedding the crop within local and Atlantic economic networks. The second prism highlights rice's cultural significance, encompassing identity, ritual, and foodways, which accompanied African populations across the Atlantic. The study then focuses on the Sado estuary in southern Portugal, exploring the possible introduction of African rice (*Oryza glaberrima*) by enslaved African communities. The estuary's tidal marshlands, with fluctuating salinity and hydrological complexity, resembled West African rice-growing environments, suggesting feasible adaptation of cultivation techniques. Historical sources document enslaved Africans' presence and rice consumption in Lisbon and surrounding regions, while local oral traditions and environmental evidence indicate early rice experimentation in the Sado and Tagus estuaries. Although direct archaeological evidence is lacking, rice may have been cultivated on small-scale plots, combining subsistence, cultural practice, and agroecological knowledge. The Sado hypothesis highlights how subaltern populations could have shaped early Portuguese agroecologies and the long-term development of regional rice cultivation.

Keywords: crop circulation, Portugal, early modern period, slavery, African culture, environmental history

Introduction

Understanding the history of rice in the Atlantic world requires moving beyond conventional narratives that treat crops either as commodities circulating through imperial economies or as cultural symbols embedded in ritual, identity, and memory. The following text proposes that these two interpretative prisms—the "culture of crops" and "crops as culture"—are not mutually exclusive but mutually constitutive. Only by bringing them into dialogue is it possible to reconstruct the complex trajectories through which rice moved between Africa, Europe, and the Americas from the 15th to the 17th century. This approach is grounded in a reassessment of both well-known historiographical models and often-overlooked primary sources, placing African societies at the centre of Atlantic agricultural and cultural transformations.

The first prism, the "culture of crops", builds on an economic and material perspective that examines how

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plants became integral to the logistics of long-distance trade, maritime provisioning, and colonial settlement. Rather than focusing on formal economic theory, it shows how specific crops shaped the rhythms of empire through their practical functions. Rice, in this context, emerges as a critical resource: a staple for local African markets, a barter commodity sought by European traders, and a provisioning staple essential to the infrastructures of the slave trade. The economic life of rice stretched far beyond plantation frontiers, encompassing coastal barter networks, shipboard stores, and the subsistence strategies of both free and enslaved populations.

The second prism, "crops as culture", shifts the focus to the symbolic, ritual, and identity-making dimensions of food. This perspective highlights how rice functioned as a carrier of memory and meaning within African societies and across the diaspora. Rice cultivation and consumption were embedded in ritual practices, gendered divisions of labour, and culinary traditions that persisted despite the violence of enslavement and forced migration. Tracing these cultural continuities reveals the influence of African women and men, whose expertise shaped agroecologies from Senegambia to Maranhão and left enduring legacies in the foodways of the Americas.

These economic and cultural perspectives are inseparable. Rice circulated through Atlantic markets because it mattered culturally to those who grew, prepared, and consumed it; and it retained cultural significance because it remained embedded in the material conditions of trade, subsistence, and survival. This integrated approach opens new avenues for understanding African rice (*Oryza glaberrima*), its role in early modern Atlantic systems, and its possible introduction into regions such as the Sado estuary in Portugal. By examining rice simultaneously as commodity and culture, the text seeks to illuminate a more holistic history of the Atlantic world—one in which crops are not merely objects of exchange but active participants in the making of societies, economies, and identities.

The article is structured around four interconnected sections, each addressing a different dimension of rice in the early modern Atlantic world. The first section establishes the theoretical framework, distinguishing the economic lens that views crops as commodities from the cultural lens that emphasizes their role in identity, ritual, and knowledge transmission. The second section examines rice primarily as a provisioning staple and trade commodity, highlighting its logistical importance in sustaining ships, enslaved labor, and colonial settlements. The third section shifts focus to rice's cultural significance, showing how it embodied social memory, rituals, and culinary traditions, particularly among enslaved Africans in the diaspora. The fourth and final section applies these perspectives to the Sado estuary, exploring the plausible introduction and small-scale cultivation of African rice by enslaved Africans, and emphasizing how environmental conditions, historical evidence, and cultural knowledge converge to suggest their potential influence on Portuguese agroecology.

Crops in the Atlantic World: Between the "Culture of Crops" and "Crops as Culture"

The economic approach examines plants as commodities whose historical importance emerges once they circulate through markets and imperial networks. Philip Curtin's classic *Economic Change in Precolonial Africa: Senegambia in the Era of the Slave Trade* remains exemplary in this respect: It positioned crops within the wider "Atlantic trade economy", analysing them alongside enslaved Africans, precious metals, and manufactured goods (Curtin, 1975). Yet the economic prism advanced in this article does not arise primarily from formal economic theory or quantitative models. Instead, it rests on a historical perspective that places crops at the heart of Atlantic interconnections because of their practical, material, and logistical roles in early modern imperial expansion. Plants become intelligible not through abstractions of price or productivity but through the concrete ways they

sustained mobility, settlement, and survival across the ocean. This reading aligns with Alfred Crosby's influential model of the Columbian Exchange, which framed crops, animals, and pathogens as agents transforming ecologies and economies after 1492 (Crosby, 1972). Sidney Mintz's classic *Sweetness and Power* further illustrated how a single crop—sugar—could reorder global economies, everyday consumption patterns, and capitalist development (Mintz, 1985). While these studies foreground markets and imperial economies, they also point to the everyday functions of crops as indispensable resources for mobility and labour.

From this vantage point, particular emphasis falls on how plants supported three interconnected processes: the Atlantic trade, naval provisioning, and the subsistence of colonial populations. Crops mattered because they enabled ships to sail and crews to endure long voyages; because they fed enslaved Africans during embarkation, the Middle Passage, and plantation labour regimes; and because they allowed precarious settlements—from Cape Verde to Maranhão—to achieve minimal demographic and nutritional stability. Long before becoming globally traded staples, many plants were valued for their capacity to sustain life in the micro-economies of ports, islands, fortresses, and slave depots. Thus, their meaning derives not only from profitability or export potential but also from their infrastructural role within the Atlantic system. This constellation of concerns constitutes what I call the "culture of crops".

The "crops as culture" approach views crops as bearers of identity, ritual significance, and social memory. This prism does not consider plants primarily for the economic functions they fulfilled in sustaining Atlantic commerce or provisioning ships, but for the ways in which seeds, cultivation practices, and culinary techniques operated as vehicles of cultural continuity and reinvention in the face of displacement, enslavement, and coerced migration. Here, the emphasis falls on the knowledge systems that accompanied crops across the Atlantic—embodied skills, symbolic meanings, gendered practices, and the rituals through which communities made sense of both agriculture and social life.

These two prisms—"culture of crops" and "crops as culture"—have often been presented in opposition: one emphasising productivity and trade, the other identity and memory. Yet in the early modern Atlantic world, the divide between them is far from clear-cut. The material functions of crops were intertwined with the cultural meanings that informed their cultivation, consumption, and symbolic use. Economic and cultural dimensions did not operate in parallel but in continuous interaction. Studying rice solely as a commodity obscures its cultural depth; viewing it only as a marker of identity obscures the structures of trade and empire that shaped its movement. An integrated approach is therefore essential to understand its full Atlantic trajectory.

African rice (*Oryza glaberrima*) occupies a special place in these debates. Unlike Asian rice (*Oryza sativa*), which spread globally through imperial and commercial channels, African rice was domesticated independently in the Upper Niger region (Portères, 1956; 1962). As early as 1445, Gomes Eanes de Zurara noted that on the banks of the Rio Grande de Buba,

> disserom que achavam a terra com grandes sementeiras, e muytas arvores dalgodom, e muytas herdades sementadas darroz, e assy outras arvores de desvairadas maneiras… [they reported finding land with extensive plantings, many cotton trees, numerous cultivated fields of rice, and other trees of various kinds. (Zurara, 1841, p. 415, author's translation)

Rice was a staple in West African societies from Senegal to Sierra Leone, cultivated through sophisticated techniques adapted to local ecologies. Early European sources testify to its ubiquity. Valentim Fernandes, writing in the early 16th century, noted that the populations of the West African coast consumed rice alongside beans, honey, and meat, producing harvests in as little as three months:

> In all of Ethiopia, neither wheat nor barley nor rye nor grape wine grows. They have maize of various kinds. Beans as large as hazelnuts are found here, in speckled pods. Very large red broad beans, not thick, and also white and beautiful broad beans. They sow in July and harvest in September—it rains then, and they sow, and in three months they complete their harvest […] They eat rice, broad beans, beans, and other legumes, and honey; they have beef and goat meat, though little of it. (Fernandes, 1958, pp. 676-677, author's translation)

But he also noted its association with ritual practices:

> The idolaters in Gyloffa take an old clay pot, pour chicken blood, feathers, and dirty water into it, cover it, and place the pot between the doors in a small straw-covered hut. Around it, they scatter much rice flour and other things, and there they perform their prayers and ceremonies each morning. (Fernandes, 1958, p. 683, author's translation)

At the close of the 16th century, André Álvares de Almada recorded the construction of dikes to regulate rice fields along riverbanks:

> The blacks cultivate rice fields in those *lalas* and build earthen dikes to contain the river's flooding, but even so, the river often breaks them and floods the fields. After this rice has grown, they uproot it and transplant it to other drier *lalas*, where it quickly produces food. (Almada, 1841, p. 95)

Likewise, Richard Jobson, writing around 1620, provides another illustrative example of these techniques:

> All other graines being sowed, the ground is with their Irons spadled over, and so left to his growth: but in Rice they do set it first in small patches of low marish grounds, and after it doth come up, disperse the plants, and set them in more spacious places, which they prepare for it, and it doth yeeld a great increase. (Jobson, 1623, p. 125)

These accounts reveal both the economic and cultural roles of rice in African societies prior to the Atlantic slave trade. Yet, for much of the 20th century, African rice occupied only a peripheral place in Atlantic historiography. Scholars assumed that *Oryza sativa*—the Asian species—dominated global rice economies, downplaying the African contribution. It was Judith Carney who drew *Oryza glaberrima* into the centre of scholarly discussion, reframing African rice as a symbol of cultural resilience and diasporic transmission (Carney, 2001). Today, the debate continues. Some scholars question the extent to which African rice directly shaped American rice cultivation, suggesting that Asian varieties ultimately supplanted African ones in plantation economies (Chang, 2000; Eltis, Morgan, & Richardson, 2010). Others, however, emphasize that African knowledge systems—whether or not African rice itself survived—were crucial to the adaptation of rice cultivation in new environments (Fields-Black, 2008). The challenge lies in reconciling economic evidence (plant varieties, yields, trade flows) with cultural evidence (rituals, oral traditions, culinary practices). The proposed distinction—between "culture of crops" and "crops as culture"—offers a useful heuristic. In the following sections, I examine rice first through the economic prism in Atlantic Africa, then through the cultural prism in the same region, before exploring its trajectories in southern Portugal.

Culture of Crops: Rice as a Commodity in the Atlantic System

When Europeans first began to establish contact with sub-Saharan Africa in the 15th century, they quickly recognized that any long-distance commercial activity required reliable systems of provisioning. Ships needed to be stocked not only with fresh water but also with foodstuffs that could withstand long voyages and sustain both crews and captives. It is in this logistical framework that rice first appears in the European documentary record as a commodity of considerable significance.

We have already noted that Valentim Fernandes identified rice as one of the staple foods of the coastal populations. Half a century later, in 1594, André Álvares de Almada reported the abundance of both husked and unhusked rice along the rivers of Guinea, underscoring its central role in local exchange networks: "There is abundant provision of both husked and unhusked rice, millet which they call white, and ivory, cola nuts, which are the main items for barter at the Gambia River and the other rivers of Guinea" (Almada, 1841, p. 78, author's translation).

For Portuguese merchants and later other European traders, rice thus presented itself as both an accessible staple for barter and a provisioning resource that could support the expanding slave trade. Rice's suitability to maritime logistics was critical. It was light, compact, and durable. Just as important, it was familiar to the populations being enslaved and transported. By stocking ships with rice, traders not only reduced the costs of provisioning but also mitigated the risks of digestive disorders and mortality among captives (Mouser Bruce, Nuijten, Okry, & Richards, 2017, p. 141; Torrão, 1995, p. 38). Rice, in short, enhanced the profitability of the trade by lowering one of its most significant costs: human loss during the Middle Passage. In this sense, rice entered directly into the economic calculus of the slave trade.

The place of rice within local African markets must also be considered. Sources such as Almada or the German traveler Andreas Josua Ulsheimer describe vibrant scenes of barter along the West African coast, where rice was exchanged alongside fruits, ivory, and other goods:

> We sailed further along the coast and eventually reached the Grain Coast, yet did not enter any harbour, but instead sailed on and on. Yet the Blacks or Moors came aboard and bartered oranges, limes, lemons, plantains and all kinds of other fruits, as well as elephant tusks. (Ulsheimer, 1983, p. 20)

Pieter de Marees, writing in 1602, provides particularly vivid detail about the role of rice in local markets, where peasant women sold baskets of foodstuffs—including rice—both to local inhabitants and to Dutch sailors:

> By the time these Peasants have sold their Sugar-cane, the Peasant women are beginning to come to Market with their goods, one bringing a Basket of Oranges or Limes, another Bananas and Bachovens, [sweet] Potatoes and Yams, a third *Millie*, Maize, Rice, *Manigette*, a fourth Chickens, Eggs, bread and such necessaries as people in the Coastal towns need to buy. These articles are sold to the Inhabitants themselves as well as to the Dutch who come from the Ships to buy them… (Marees, 1987, p. 63)

In 1611, Samuel Brun, a Swiss surgeon and barber attached to the service of the United Provinces, remarked:

> As soon as we dropped anchor there, the people of Sesto and nearby places came with much malaguetta and wanted to trade with us. They traded with us in the following way: we handed them a large tub, which they twice filled with pepper, making a total weight of 280 lbs. In exchange we gave them a bar of iron. For the rice they wanted only glass beads for their wives, because the rice is the ware of women, while malaguetta is that of the men. (Marees, 1987, pp. 77-78)

These observations highlight two points. First, rice was a currency of exchange in coastal markets, valued both by Africans and Europeans. Second, the commercialization of rice was deeply gendered. Women, as cultivators and sellers, mediated the transfer of rice from field to market and from African to European hands. Although the sources often obscure this dimension, their references to women as sellers reveal the critical role of African women in sustaining both local economies and Atlantic provisioning systems.

As rice circulated in these coastal exchanges, it moved beyond subsistence and became part of a broader commercial economy. Rice participated in the Atlantic economy at multiple levels: as local food, as trade commodity, and as ship provisioning. From the perspective of the "culture of crops", this transformation is

essential: Rice became a commodity precisely because it entered into networks of trade, both internal to Africa and across the Atlantic. The circulation of rice between Africa, Portugal, and the Americas complicates simple narratives of the Columbian Exchange. Rather than a unidirectional transfer from Europe to the New World, rice illustrates the multidirectional flows that defined Atlantic trade. The economic significance of rice is also evident in the administrative records of early modern states. While sugar, gold, and enslaved labor dominate the documentation of imperial commerce, rice appears in more subtle ways, often in registers of ship cargoes or accounts of victualing (Torrão, 1995, pp. 72-73 (Table II and III), 94-95).

The absence of rice from many fiscal records may itself be revealing. Because rice did not command the same monopoly structures or state investments as sugar or tobacco, its movement often escaped formal accounting. Instead, rice circulated in informal or semi-formal networks: as provisions on ships, as part of small-scale barter, or as produce cultivated in marginal lands. From the perspective of the economic historian, this invisibility poses challenges. Yet, it also underscores the need to consider alternative forms of evidence—ethnographic, archaeological, and textual—to reconstruct the economic life of rice in the Atlantic world.

The transfer of African rice to the Americas was inseparable from the violent realities of the transatlantic slave trade. Enslaved men and women from the so-called "Rice Coast"—stretching from present-day Senegal through Sierra Leone and into Liberia—were transported in large numbers to colonial plantations (Fields-Black, 2008, pp. 161-186). Ship logs and testimonies suggest that rice was frequently carried aboard not only as a food provision but also in seed form, ensuring that familiar staples would be available upon arrival (Lovejoy, 2012, pp. 8, 169, 231-234; Torrão, 1995, pp. 72-73 (Table II and III), 94-95). I view this not merely as an accident of provisioning but as a deliberate process of cultural and ecological transfer. Seeds accompanied people because they were integral to survival, both materially and culturally. African captives carried with them not only memories of rice fields and rituals but also practical expertise in cultivation and processing. In this way, the Middle Passage became a conduit not only of forced labor but also of agricultural knowledge.

The most dramatic transformation of rice as a commodity occurred in the Americas, where it shifted from subsistence food to plantation crop. This transition is most famously associated with South Carolina, where rice cultivation became the backbone of the colony's economy in the late 17th and 18th centuries. Here, rice was not simply imported as provisions but became the basis for export-oriented production. The question of African rice's role in these plantation economies has been the subject of considerable debate. Judith Carney argued that African women carried rice knowledge and possibly seeds across the Atlantic, shaping the agroecological foundations of Carolina rice cultivation (Carney, 2001, pp. 87-109). Critics have countered that the dominant species in Carolina was *Oryza sativa*, not *Oryza glaberrima*, and that European planters provided the capital and infrastructure necessary for plantation agriculture (Eltis, Morgan, & Richardson, 2010). Yet even if African rice itself did not dominate plantation exports, the knowledge associated with it almost certainly did. Techniques of dike construction, water management, and transplanting were well developed on the Rice Coast of West Africa, as described by Almada (1841, p. 95). These techniques were essential for adapting rice cultivation to the tidal environments of the Carolina Lowcountry. Such African expertise was surely present at the beginning of rice plantations, even if the species cultivated was Asian.

A parallel, though less well-studied, case can be found in Brazil. In Maranhão, in the 17th and 18th centuries, rice emerged as an important crop within the Portuguese colonial economy. Here, too, African knowledge played a role, though the documentation is thinner than in the Carolinas. Walter Hawthorne has shown that enslaved

Africans introduced cultivation practices from the Upper Guinea Coast, where rice had long been a staple. These techniques were adapted to the Amazonian floodplains, creating a hybrid system that combined African, indigenous, and Portuguese elements. Rice in Maranhão was both a subsistence crop and, eventually, a commodity. Enslaved Africans cultivated it for their own consumption, ensuring dietary continuity in the diaspora. Over time, however, rice also entered regional markets and contributed to colonial provisioning. Its integration into Brazilian foodways was profound: Rice and beans became the staple of Brazilian diets, a culinary pairing that continues to define national identity (Hawthorne, 2010).

Here again, the cultural prism complicates the economic narrative. Rice was not simply imposed by colonial authorities as a plantation crop. It was cultivated by enslaved Africans who reproduced familiar practices in unfamiliar landscapes, sustaining both body and identity under conditions of coercion. The Brazilian case underscores the broader point that African rice knowledge was not confined to a single colony but contributed to agricultural transformations across the Americas. The persistence of rice as both a dietary staple and a cash crop reveals the dual logic of culture and economy at work.

If we restrict ourselves to the economic prism, rice appears primarily as a provisioning staple and occasional plantation crop. We see its value in calories per ton, its resilience in maritime storage, its role in sustaining enslaved labor forces. This perspective is essential: Without it, we cannot understand the logistics of empire or the economics of the slave trade. Yet this perspective also has limits. By focusing exclusively on rice as commodity, we risk overlooking the cultural, ritual, and symbolic dimensions that made rice meaningful to African communities. It reduces rice to numbers and erases the cultural meanings that accompanied its cultivation and consumption. It overlooks the rituals described by Duarte Pacheco Pereira and Valentim Fernandes, the persistence of *Oryza glaberrima* in Suriname. Rice crossed the Atlantic not merely because it was profitable but because it was meaningful—because Africans carried it as seed, as knowledge, and as identity. In the next section, therefore, I turn to the cultural prism. By shifting perspective, I aim to recover the symbolic, ritual, and identity-laden dimensions of rice, which are as central to its Atlantic history as its economic functions.

Crops as Culture: Rice as Marker of Identity and Belief

If we shift from the "culture of crops" to the "crops as culture" prism, rice appears in a very different light. Instead of a commodity or provisioning staple, rice emerges as a cultural marker, deeply embedded in rituals, religious practices, and community identities. In many African societies, rice was not merely food but a medium of meaning. Around 1505, Duarte Pacheco Pereira, in his *Esmeraldo de Situ Orbis*, described a group of islands off the West African coast that he called the "Isles of the Idols", corresponding to the present-day Îles de Los in Guinea:

> And these we call the Isles of the Idols. This name was given because the blacks of this land, when they go there to sow their rice, take with them the idols they worship. And because many of these idols were found there when this land was discovered, the name Isles of the Idols was given. (Pacheco Pereira, 2022, p. 108, author's translation)

According to his account, Africans carried their idols with them when they went to sow rice, leaving these ritual figures in the fields during the cultivation season. The presence of idols in the agricultural landscape reveals that rice was not only food but also part of a ritualized cycle in which cultivation was intertwined with the sacred. Such practices highlight the crop's role in ritual life, where it functioned as an offering to deities, ancestors, or community spirits.

As previously noted, Valentim Fernandes offered a complementary description from Gyloffa—likely within the Jolof Empire—, where local populations performed daily ceremonies involving rice flour. He reported that idolaters placed chicken blood, feathers, and water in a clay pot inside a small hut, scattering rice flour around it as part of their morning rituals (Fernandes, 1958, p. 683). This testimony suggests that rice functioned as a medium between the human and spiritual realms: an offering, a material of prayer, and a marker of communal religious life.

These accounts, while filtered through European eyes, point to the cultural significance of rice within African societies. Rice fields were not merely sites of labor but spaces where cosmologies were enacted, where human effort intersected with divine or ancestral forces. Though European observers often failed to capture the full meaning of these practices, scattered references suggest that rice held symbolic weight in marking life transitions. Rice was, in this sense, a cultural landscape—and continues to do so nowadays (Davidson, 2015). When enslaved Africans carried rice knowledge and perhaps rice seeds across the Atlantic, they carried not only an agricultural technology but also a ritual lexicon.

Foodways are among the most enduring markers of cultural identity. Richard Jobson, an English explorer who navigated the Gambia River in the early 17th century, provides an example of how rice was prepared:

> They have sixe several sorts of graine, they doe feede upon, amongest which none is knowne to us by name (I meane heere in *England*) but onely Rice; the other may rather be called a kinde of seed then corne, being of as small a graine as mustard seed, neither do they make any bread, but boyling their graine, rowle it up in balls (as I have said before) and so eate it warme: in like sort they boyle their Rice, and eate it warme; and even to us it is a very good and able sustenance. (Jobson, 1623, p. 125)

Among the various cereals the author identifies in the region's diet—a detail that reveals the newcomers' preoccupation with securing alternative supplies for their ships—rice occupies a singular place. It is the only grain he names explicitly, describing how the inhabitants cooked it and shaped it into compact balls while still hot. He remarks on its nourishing qualities and notes that it was relished not only by the local population but also by the European crews, who readily adopted it as part of their own fare.

For enslaved Africans, food offered one of the few spheres where memory, tradition, and identity could be sustained under conditions of displacement. Rice played a central role in this process. Comparable patterns can be observed in African diasporic communities across the Americas, where rice likewise functioned as a powerful link to ancestral practices. Enslaved Africans incorporated rice into stews, porridges, and side dishes that preserved elements of African cuisine. In Brazil, rice combined with beans to create a staple that remains central to Brazilian diets today (Schwartz, 1985, p. 138). In the Caribbean, rice appeared in a range of creolized dishes that blended African, European, and indigenous influences (McCann, 2009, pp. 163-179; Carney & Rosomoff, 2009, pp. 177-186). In Suriname, maroon populations preserved African rice into the 20th century, cultivating it in small gardens and using it in rituals. Tinde van Andel's research demonstrates how this rice, long considered "lost", in fact persisted as a cultural heritage, carefully maintained by descendants of enslaved Africans (Van Andel, 2010). Its survival underscores the role of rice not merely as sustenance but as a vehicle of memory and identity in the diaspora. The persistence of African-style rice dishes across the diaspora underscores the cultural importance of this crop. Even where African rice itself was not cultivated, the culinary traditions associated with it endured, shaping the diets of generations.

The cultural prism also highlights the gendered dimensions of rice cultivation. In West Africa, women played a central role in planting, harvesting, processing, and cooking rice. Women were responsible not only for

sowing, transplanting, and harvesting rice but also for preparing it for consumption and for sale in markets. This expertise encompassed technical, culinary, and cultural dimensions: Women knew which varieties to plant in which soils, how to process rice efficiently, and how to embed it in ritual and everyday practice. Judith Carney has argued that it was precisely this gendered expertise that enabled African women to shape rice cultivation in the Americas, particularly in South Carolina (Carney, 2001, pp. 107-141). According to her, planters relied on the skills of enslaved African women who knew how to cultivate rice in wetlands, how to transplant seedlings, and how to process grain using mortars and pestles. The persistence of hand-pounding rice in mortars across the diaspora reflects the survival of African techniques and the proficiency of women. In this sense, women's knowledge became a hidden foundation of colonial economies. Yet for the women themselves, it was more than a set of techniques: It was a cultural inheritance, carried across the ocean and adapted to new contexts.

In the diaspora, African women continued to reproduce rice-based food traditions, from porridges to stews, integrating them into creole cuisines. The persistence of these dishes testifies to the cultural endurance of rice as a marker of belonging, even under conditions of enslavement and displacement. This gendered perspective complicates economic accounts of rice as a plantation crop. From the standpoint of profit and productivity, labor is abstract. From the standpoint of culture, labor is embodied, gendered, and transmitted. Recognizing women's role in rice cultivation allows us to see how enslaved Africans actively contributed to shaping agroecologies in the Atlantic world.

Viewing rice through the cultural prism alters our understanding of Atlantic history. Instead of seeing crops as passive commodities, we see them as active bearers of culture. Rice becomes a lens through which to view rituals, identities, and memories. It highlights its significance in identity formation, and its endurance as a marker of belonging. It reveals the agency of enslaved Africans, who shaped foodways and agroecologies in ways often invisible in economic records. This perspective also reminds us that the Atlantic world was not only a space of extraction but also a space of cultural creation. Enslaved Africans did not merely supply labor to imperial projects; they reproduced cultures, invented traditions, and sustained identities through practices such as rice cultivation and preparation. The cultural prism recovers these dimensions, rebalancing the narrative of Atlantic history. In this sense, African rice exemplifies how cultural practices shape the ecological and economic landscapes of the Atlantic world.

At the same time, the cultural perspective must be integrated with the economic. To see rice only as ritual is to ignore the conditions that enabled its circulation and transformation. To see it only as commodity is to erase the meanings it carried. In the following section, I explore how these two prisms intersect in southern Portugal, where rice functioned simultaneously as staple food, trade commodity, ritual marker, and cultural heritage. The possibility of African rice cultivation in the Alentejo raises further questions about the role of subaltern populations in shaping European agroecologies.

African Rice in Portugal: The Sado Hypothesis

The history of rice in Iberia has generally been narrated as the story of *Oryza sativa*, introduced into the Mediterranean world by Arabs and cultivated in Spain and Portugal from the medieval period onward (Wright, 1999, pp. 587-591). The history of rice cultivation in Portugal is complex and multilayered, shaped by centuries of cultural and agricultural exchanges. Rice is generally believed to have been introduced from Asia during the period of Muslim rule between the 8th and 12th centuries, when the Iberian Peninsula became a crossroads of Mediterranean and Near Eastern farming practices. The sophisticated irrigation systems developed under al-

Andalus provided the ideal conditions for experimenting with water-intensive crops such as rice, facilitating its acclimatization to Iberian landscapes. Documentary evidence from the reign of D. Dinis (k. 1279-1325) confirms that rice was already under cultivation in Portugal by the late Middle Ages (Carmo et al., 2020).

Long before "Black rice" became a recognizable historiographical thesis, Maria Beirante argued that, while Levantine rice had long been known, it was the variety "coming from Guinea" that became widespread during the 15th and 16th centuries, underscoring its Atlantic connections (Beirante, 1981, p. 112). Already in 1965, the eminent Portuguese historian Vitorino Magalh ães Godinho suggested that African rice was being cultivated in the Tagus region (Godinho, 1965, II, p. 392). Evidence from the late 15th and early 16th centuries confirms that the rice regularly purchased on the West African coast and shipped through Cape Verde was predominantly *Oryza glaberrima*, the domesticated African species. Portuguese settlers in Cape Verde sent African rice to Lisbon, and similar shipments were recorded from Cape Verde to Brazil throughout the 16th and 17th centuries (Godinho, 1965, II, pp. 391-392, 395. Hawthorne, 2010, p. 141). Concerning the Sado estuary, however, documentation is largely silent before 1700. Nineteenth-century authors frequently assumed that rice was a recent arrival in the region. Andrade Corvo argued in 1860 that cultivation in most places was less than thirty years old. Yet Corvo's own inquiries reveal a much older chronology: A physician from Alc ácer do Sal suggested that rice had been grown there for at least a century, and parish priests in nearby Vale do Guizo and Palma dated its introduction to around 1700 and 1720, respectively. These testimonies suggest a two-phase development: an early period in which rice was grown in small plots by local inhabitants, followed by a large-scale phase in the 19th century when thousands of seasonal labourers were employed (Corvo, 1860, pp. 136, 256-257, 354, 369-407).

Understanding how rice took root on the Sado and the Tagus estuaries requires an appreciation of the agroecological complexity of salt marshlands (*sapais*). These hybrid environments, shaped by tidal flooding and freshwater inputs, demanded sophisticated labour, constant observation, and specialized skills. Converting marshes into agricultural land required desalination, mastery of water-control systems, and the construction of dikes, sluices, and drainage networks capable of regulating both saltwater and freshwater flows. Such knowledge aligns closely with rice-growing traditions documented in West African mangrove ecologies, where rice cultivation and salt extraction had long been practiced in estuarine landscapes. There, farmers constructed dams and canals to control tidal flows, manage brackish waters, and maintain soil fertility—systems directly comparable to the techniques later required on the Sado and the Tagus. While Portuguese sources rarely describe labourers in these technical roles, it is impossible to ignore the significant presence of enslaved West Africans in the riverine lowlands around Lisbon and Set úbal. The arrival of people from rice-growing regions of Upper Guinea, the Casamance, and the great mangrove belts of Senegambia and Guinea-Bissau raises the possibility—never explicitly recorded but strongly suggested by contextual evidence—that their environmental knowledge could have informed the development of early rice agriculture in Portugal. The parallels between the technical challenges described for the Tagus and Sado and those observed in West Africa are striking: managing connected ditches, mastering tidal rhythms, balancing salt and freshwater supplies, and maintaining adequate drainage.

Engineering works carried out in the marshes of Ota, Muge, and Asseca reveal a long sequence of innovation, modification, and abandonment from the 16th to the 18th centuries, marked by the periodic construction and refurbishment of sluices, floodgates, and drainage structures. By the mid-18th century, rice cultivation had reached the tidal lowlands of the lower Sado. The large-scale interventions at Paul da Comporta (1808-1812) demonstrate the circulation of technical knowledge between the Tagus and Sado basins, binding the two regions into a shared technological sphere of marshland agriculture. Between 1750 and 1850, rice growing expanded

rapidly across Portugal, including throughout the Sado estuary. By the 1850s, nearly every riverside parish of Grândola and Alcácer do Sal was cultivating rice, and dedicated facilities such as rice mills had appeared near Vale do Guizo. By the late 19th century, the Sado estuary had emerged as a major centre of rice production (Capela, Matos, & Castro, 2016, pp. 591, 593, 720; Corvo, 1860, p. 136; Coutinho, 2003, p. 101). In the 20th century, the *Estado Novo* dictatorship undertook large-scale hydraulic projects in the Tagus and Sado regions, both to increase agricultural productivity and to improve access to the port of Setúbal (Amaral & Freire, 2017, pp. 254-255). These far-reaching transformations of the landscape, combined with the intensive use of the land since at least the 19th century, have made it virtually impossible to identify archaeobotanical remains from earlier centuries.

At the same time, local lore began linking the region's population with African origins. In the late 19th century, an ethnographer recorded an oral tradition claiming that the Marquis of Pombal had resettled Africans in the "malarial lands" of the Sado (Vasconcelos, 1895, p. 67). Though historically unsubstantiated, the story is revealing: It suggests a long-standing collective memory of African presence in the wetlands and an association—real or imagined—between African communities, disease environments, and lowland agricultural labour. An 18th-century document from the Overseas Council further noted that inhabitants of the Sado and Tagus wetlands were thought to be naturally adapted to adverse climates and should be sent to Cape Verde to repopulate it, reinforcing these ideas (Barcellos, 1905, p. 83).

From the 15th century onwards, enslaved Africans from the Rice Coast were present in southern Portugal in significant numbers (Saunders, 1982, pp. 59-60). The Sado estuary is located in Alentejo—the province directly south of Lisbon and traditionally the least densely populated region of Portugal, where agriculture has historically constituted the principal economic activity. Beyond the historical dynamics of the *Reconquista*, which fostered the formation of the large landed estates characteristic of the area, a persistent scarcity of labour to work these extensive holdings further contributed to the consolidation of such properties. This chronic shortage of manpower was particularly significant in a region traditionally responsible for supplying cereals to the growing urban market of Lisbon (Fonseca, 2002, pp. 26-27, 55). It is also noteworthy that the Alentejo's spring and summer climate closely resembles that of several African regions from which many enslaved Africans were brought.

Enslaved men and women in Alentejo were mainly employed as agricultural laborers, tending fields and herds. Many were granted small plots of land or gardens, either for their own subsistence or as part of manumission strategies. These gardens provided spaces where Africans could reproduce elements of their own foodways (Saunders, 1982, pp. 28, 101-114). Here, crops unfamiliar to Portugal might be introduced, provided that environmental conditions allowed. It is in these marginal, semi-private plots that African rice could have been cultivated, not as a farm crop but as a subsistence plant and cultural marker. Such practices would likely have left few traces in official records. The region's principal crops were other cereals—wheat, barley, and oats—and for that reason large landowners, as well as their tenants, did not pay attention to recording subsistence crops. These fell outside both fiscal revenues and the contractual obligations that governed their estates. Unlike sugar mills or wheat fields, rice gardens tended by enslaved or freed Africans would not have generated legal disputes. Yet they may have been of immense cultural importance, sustaining dietary preferences and cultural identities within enslaved communities.

African rice exhibits ecological characteristics that make its introduction into the Sado estuary entirely plausible. Unlike *Oryza sativa*, which performs best in highly managed irrigated systems, *Oryza glaberrima*

withstands poor soils, drought, iron toxicity, and saline conditions. Its rapid early growth allows it to suppress competing weeds, and it is commonly grown with minimal external inputs (National Research Council, 1996, pp. 28-29; Sharma, 2010, p. 18). Such traits would have suited the marginal environments of the Sado estuary, where tidal marshes and floodplains offered conditions unfavourable for wheat but potentially ideal for rice varieties adapted to fluctuating water levels[1]. Archaeological and palaeoenvironmental investigations in these estuaries reveal early modern interventions in wetland landscapes, suggesting ongoing agricultural experimentation (Carmo et al., 2020, pp. 57-60). Portuguese slave ships routinely carried rice, both husked and as seed (Torrão, 1995, pp. 72-73 (Table II and III), 94-95). If enslaved Africans laboured in these settings, it is conceivable that they tested rice cultivation locally, drawing on agronomic knowledge from their homelands. Whether such efforts produced sustained harvests or remained limited to small subsistence plots is uncertain. The ecological compatibility nonetheless lends the hypothesis considerable plausibility. What remains absent is direct archaeobotanical evidence—a gap that future research may yet attempt to bridge, even if the prospects of recovering such material are admittedly slim.

Rice consumption in Portugal, particularly in Lisbon, became increasingly visible from the 16th century onward. In 1551, Cristóvão Rodrigues de Oliveira recorded the presence of 27 women selling rice in Lisbon (Oliveira, 1554-1560, fl. 46)—a revealing detail that speaks both to the grain's widespread availability and to the prominent role of women in its commercialization within the emerging urban markets of early modern Portugal. João Brandão's description of rice-based foods sold on the streets of Lisbon in 1552 testifies to its integration into urban food culture:

> And I say that in this city there are fifty women, both white and black, free and enslaved, who at dawn go out to the Ribeira with large pots filled with rice, couscous, and peas, calling out their goods. And as the children hear them from bed, they get up crying for money from their parents. And in truth, it is not very bad, because it provides lunch for the children. The same is done by the young men who are working, both white and black, as they use it for their own lunches and to fill their stomachs. And in this way, they quickly deplete their pots. (Brandão, 1990, p. 72, author's translation)

In this context, rice became a breakfast staple for children and workers, woven into the rhythms of daily life and fully integrated into urban food economies. While Brandão highlights its practical utility and widespread popularity, my focus here is on the cultural mediation: Enslaved and free African women acted as transmitters of rice-based foodways, shaping and embedding them within Lisbon's urban culinary culture. From a cultural perspective, this ubiquity should not obscure the specific meanings rice held for African populations. For them, rice was a marker of identity, a connection to homeland practices, and a staple of ritual life. If they cultivated African rice in Portugal—even on a small scale—they were not only supplementing their diets but also asserting cultural continuity under conditions of displacement.

Cookbooks from noble households corroborate that rice had become a standard ingredient in elite cuisine by the 16th and 17th centuries, appearing in dishes ranging from desserts to preparations accompanying all types of meat and fish (Manuppella, 1986, pp. 67, 71-75; Rodrigues, 1693, pp. 15-16, 101-102, 124-125, 131-133, 190). By the early 18th century, petitions to the Crown show Black women selling rice, maize, and fish on the steps of the Rossio hospital, claiming a customary right to their trade, "enjoyed by us and our ancestors since the world was the world" (Reginaldo, 2009, p. 295). Around the same period, some observers remarked that rice was "present in every meal" (Hawthorne, 2010, p. 149).

[1] Nicholaas Pinas, personal communication.

Today, the Sado Valley remains one of Portugal's principal rice-producing zones. While direct documentary proof is scarce, the broader Atlantic context—marked by the circulation of African rice, African technical expertise, and enslaved labour—raises the possibility that the early roots of this enduring industry may lie, at least in part, in the skills and ecological knowledge carried by enslaved communities from West Africa. My own research within the *Ecologies of Freedom* project has reinforced the hypothesis that African rice may have been introduced into southern Portugal, particularly in the Sado region (Mouta, 2025). The marshlands where rice thrives today are thus not only agricultural landscapes but also historical palimpsests, shaped by centuries of human labour, environmental transformation, and cultural entanglement across the Atlantic world. This perspective allows us to consider the possibility that enslaved Africans played a role in introducing and maintaining cultivars, even if only in modest or localized ways.

The hypothesis of African rice in the Sado Valley confronts us with the problem of historical silences. Administrative records and economic data rarely mention such practices; archaeological remains are elusive in a region that underwent extensive modification; and botanical traces are easily lost. The absence of evidence, however, should not be mistaken for evidence of absence. Here, the cultural prism becomes especially important. By recognizing plants as cultural markers, we can reconstruct possibilities of introduction and cultivation that remain invisible in the economic record. If enslaved Africans valued rice as a staple and a ritual crop, it is plausible that they attempted to cultivate it wherever conditions allowed. The Sado hypothesis thus serves as a reminder that subaltern contributions to Portuguese agriculture may remain hidden, requiring us to adopt interdisciplinary methods—archaeology, palynology, anthracology—to recover them. Even if *Oryza glaberrima* never became a dominant crop in Portugal, its possible presence illustrates how enslaved Africans could shape local agroecologies. By cultivating rice in marginal lands, they may have left cultural footprints that escape traditional economic narratives. This perspective challenges conventional narratives of crop diffusion, which emphasize elite or state-driven transfers. It invites us to rethink the geography of the Columbian Exchange, extending its scope to include the subtle, often invisible contributions of enslaved Africans within Europe itself.

Conclusion

The trajectory of rice cultivation in Portugal, and particularly along the wetlands of the Tagus and Sado, invites a reconsideration of the country's agrarian and Atlantic histories. The evidence surveyed here suggests that rice, long consumed in Lisbon by both free and enslaved populations, was not merely an imported staple but increasingly a locally produced crop whose development depended on complex transformations of estuarine landscapes. These transformations—drainage, diking, desalination, and the management of tidal regimes—required sophisticated environmental knowledge and sustained manual labour. In both respects, the parallels with West African mangrove-rice systems are striking. While the documentation is fragmentary, the technological and ecological continuities strongly suggest that enslaved communities from rice-growing regions of Upper Guinea and the Gulf of Guinea may have played a decisive role in the emergence of rice cultivation in Portugal.

This long history acquires additional significance when viewed against the modern agricultural landscape. The Sado estuary remains today one of Portugal's principal rice-producing regions, a status that testifies to centuries of accumulated skill, labour, and environmental adaptation. Yet this continuity also raises important historical questions. If the beginnings of rice production in the region lie in the early 18th century—or perhaps, as local informants hinted in the 19th century, even earlier—then the expertise of enslaved Africans, many of whom came from societies with deep-rooted rice cultures, may have been foundational. Their technical

knowledge, transmitted across generations and adapted to new ecological conditions, could have shaped the very landscapes that continue to sustain Portugal's rice economy.

The distinction between "culture of crops" and "crops as culture" is not a dichotomy but a heuristic. In practice, the two logics were intertwined. Crops became commodities because communities cultivated them; crops endured as cultural markers because they circulated within economic systems. Rice thus forces us to see Atlantic history as simultaneously economic and cultural, material and symbolic. Although archival silences prevent definitive claims, the convergence of technological patterns, ecological requirements, and demographic history renders this hypothesis both plausible and historically meaningful. Recognising the potential African origins of rice cultivation in the Tagus and Sado marshes not only reframes the agrarian history of Portugal but also situates it within the wider Atlantic world, where enslaved Africans profoundly influenced environmental management, crop dissemination, and agricultural innovation. The rice fields of the Sado, still active today, may therefore constitute one of the most enduring legacies of these displaced communities—an enduring, if largely unacknowledged, testament to their expertise, resilience, and lasting imprint on Portuguese landscapes.

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References

Almada, A. Á. (1841). *Tratado Breve dos Rios de Guiné do Cabo-Verde*. Porto: Typographia Commercial Portuense.

Amaral, L., & Freire, D. (2017). Agricultural policy, growth and demise, 1930-2000. In D. Freire and P. Lains (Eds.), *An Agrarian history of Portugal, 1000-2000: Economic development on the European frontier* (pp. 245-276). Leiden and Boston, MA: Brill.

Barcellos, J. S. (1905). *Subsídios para a História da Guiné e Cabo-Verde*. Part III. Lisbon: Academia Real das Ciências de Lisboa.

Beirante, M. R. (1981). *Santarém Quinhentista.* Lisbon: Livraria Portugal.

Brandão, J. (1990). *Grandeza e Abastança de Lisboa em 1552*. Lisbon: Livros Horizonte.

Brun, S. (1983). Samuel Brun's voyages of 1611-1620. In A. Jones (Ed.), *German sources for West African history, 1599-1669* (pp. 44-96). Wiesbaden: Franz Steiner Verlag.

Capela, J. V., Matos, H., & Castro, S. (Eds.). (2016). *As Freguesias dos Distritos de Lisboa e Setúbal nas Memórias Paroquiais de 1758. Memórias, História e Património*. Vol. 9. Braga: Universidade do Minho.

Carmo, M., Sousa, J., Varela, P., Ventura, R., & Bivar, M. (2020). African knowledge transfer in early modern Portugal: Enslaved people and rice cultivation in Tagus and Sado Rivers. *Diacronie. Studi di Storia Contemporanea, 44*(4), 45-66.

Carney, J. A. (2001). *Black rice: The African origins of rice cultivation in the Americas*. Cambridge, MA: Harvard University Press.

Carney, J. A., & Rosomoff, R. N. (2009). *In the shadow of slavery: Africa's botanical legacy in the Atlantic world*. Berkeley, CA: University of California Press.

Chang, T.-T. (2000). Rice. In K. F. Kiple and K. C. Ornelas (Eds.), *The Cambridge world history of food* (pp. 132-149). Cambridge: Cambridge University Press.

Coutinho, M. T. C. P. (2003). *Comunidade Fitoplanctónica do Estuário do Sado: Estrutura, Dinâmica e Aspectos Ecológicos*. Lisbon: IPIMAR.

Corvo, J. A. (1860). *Relatório sobre a Cultura do Arroz em Portugal e sua Influência na Saúde Pública*. Lisbon: Imprensa Nacional.

Crosby, A. W. (1972). *The Columbian exchange: Biological and cultural consequences of 1492*. Westport, CT: Greenwood Press.

Curtin, P. D. (1975). *Economic change in precolonial Africa: Senegambia in the era of the slave trade*. Madison, WI: The University of Wisconsin Press.

Davidson, J. (2015). *Sacred rice: An ethnography of identity, environment, and development in rural West Africa*. Oxford: Oxford University Press.

Eltis, D., Morgan, P., & Richardson, D. (2010). Black, brown, or white? Color-coding American commercial rice cultivation with slave labor. *The American Historical Review, 115*(1), 164-171.

Fernandes, V. (1958). Descripção da Costa Ocidental de África do Senegal ao Cabo do Monte. In A. Brásio (Ed.), *Monumenta Missionaria Africana. África Ocidental (1342-1499)* (2nd Series, Volume I) (pp. 672-739). Lisbon: Agência Geral do Ultramar.

Fields-Black, E. L. (2008). *Deep roots: Rice farmers in West Africa and the African Diaspora*. Bloomington: Indiana University Press.

Fonseca, J. (2002). *Escravos no Sul de Portugal, Séculos XVI-XVII*. Lisbon: Editora Vulgata.

Godinho, V. M. (1965). *Os Descobrimentos e a Economia Mundial*. 2 Vols. Lisbon: Arcádia.

Hawthorne, W. (2010). *From Africa to Brazil: Culture, identity, and an Atlantic slave trade, 1600-1830*. New York, NY: Cambridge University Press.

Jobson, R. (1623). *The golden trade: Or, a discouery of the riuer Gambra…* London: Nicholas Bourne.

Lovejoy, P. E. (2012). *Transformations in slavery: A history of slavery in Africa* (3rd ed.). Cambridge: Cambridge University Press.

Manuppella, G. (1986). *Livro de Cozinha da Infanta D. Maria*. Lisbon: Imprensa Nacional-Casa da Moeda.

Marees, P. (1987). *Description and historical account of the Gold Kingdom of Guinea (1602)*. Oxford: Oxford University Press.

McCann, J. C. (2009). *Stirring the pot: A history of African cuisine*. Athens, OH: Ohio University Press.

Mintz, S. W. (1985). *Sweetness and power: The place of sugar in modern history*. New York, NY: Penguin Books.

Mouser Bruce, L., Nuijten, E., Okry, F., & Richards, P. (2017). Red and white rice in the vicinity of sierra Leone: Linked histories of slavery, emancipation, and seed selection. In F. Bray, P. A. Coclanis, E. L. Fields-Black and D. Schäfer (Eds.), *Rice: Global networks and new histories* (pp. 138-162). New York, NY: Cambridge University Press.

Mouta, F. (September 10, 2025). Rice in Atlantic history: Crops as culture or the culture of crops? Paper presented at the *7th EURHO Biennial Conference Rural History 2025*. Coimbra.

National Research Council. (1996). *Lost crops of Africa. Volume I: Grains*. Washington, DC: National Academy Press.

Oliveira, C. R. (1554-1560). *Summario, em que brevemente se contem algumas cousas assim ecclesiasticas, como seculares, que ha na cidade de Lisboa*. Lisbon: Arcebispado de Lisboa.

Pacheco Pereira, D. (2022). *Esmeraldo de Situ Orbis*. Lisbon: ERC RUTTER Project/Universidade de Lisboa.

Portères, R. (1956). Taxonomie Agrobotanique des Riz Cultivés O. sativa Linné et O. glaberrima Steudel (suite et fin). *Journal d'Agriculture Tropicale et de Botanique Appliquée, 3*(12), 821-856.

Portères, R. (1962). Berceaux Agricoles Primaires Sur le Continent Africain. *The Journal of African History, 3*(2), 195-210.

Reginaldo, L. (2009). "África em Portugal": Devoções, Irmandades e Escravidão no Reino de Portugal, Século XVIII. *História, 28*(1), 289-319.

Rodrigues, D. (1693). *Arte de Cozinha*. Lisbon: Officina de Manoel Lopes Ferreyra.

Sharma, S. D. (2010). Domestication and diaspora of rice. In S. D. Sharma (Ed.), *Rice: Origin, antiquity and history* (pp. 1-24). Enfield, NH: Science Publishers.

Schwartz, S. B. (1985). *Sugar plantations in the formation of Brazilian society: Bahia, 1550-1835*. Cambridge: Cambridge University Press.

Saunders, A. C. C. M. (1982). *A social history of black slaves and freedmen in Portugal, 1441-1555*. Cambridge: Cambridge University Press.

Torrão, M. M. (1995). *Dietas Alimentares: Transferências e Adaptações nas Ilhas de Cabo Verde (1460-1549)*. Lisbon: Instituto de Investigação Científica Tropical.

Ulsheimer, A. J. (1983). Andreas Josua Ulsheimer's voyage of 1603-1604. In A. Jones (Ed.), *German sources for West African history, 1599-1669* (pp. 18-43). Wiesbaden: Franz Steiner Verlag.

Van Andel, T. (2010). African Rice (*Oryza glaberrima* Steud.): Lost crop of the enslaved Africans discovered in Suriname. *Economic Botany, 64*(1), 1-10.

Vasconcelos, J. L. (1895). Excursão Archeologica a Alcacer-do-Sal. *O Archeologo Português, I*(3), 65-92.

Wright, C. (1999). *A Mediterranean feast: The story of the birth of the celebrated cuisines of the Mediterranean, from the merchants of Venice to the barbary corsairs*. New York, NY: William Morrow.

Zurara, G. E. (1841). *Chronica do Descobrimento e Conquista de Guiné*. Paris: J. P. Aillaud na Oficina Typographica de Fain e Thunot.