

# Shea (*Vitellaria paradoxa* C.F. Gaertn.) – a peripheral empire commodity in French West Africa, 1894–1960

D.A. WARDELL<sup>a</sup>, M. ELIAS<sup>b</sup>, M. ZIDA<sup>c</sup>, A. TAPSOBA<sup>d</sup>, K. ROUSSEAU<sup>e</sup>, D. GAUTIER<sup>f</sup>, P.N. LOVETT<sup>g</sup> and T. BAMA<sup>h</sup>

<sup>a</sup>Corresponding author. Value Chains, Finance and Investments Team, Center for International Forestry Research (CIFOR) and World Agroforestry (ICRAF), Montpellier, France

<sup>b</sup>Multifunctional Landscapes, Alliance of Bioversity International and CIAT, Rome, 00153, Italy

<sup>c</sup>Governance, Equity and Wellbeing Team, Centre for International Forestry Research (CIFOR) & World Agroforestry (ICRAF), 06 BP 9478 Ouagadougou 06, Burkina Faso

<sup>d</sup>Institute of Environment and Agricultural Research/Department of Environment and Forests (INERA/DEF), 04 BP 8645 Ouagadougou 04, Burkina Faso

<sup>e</sup>Agence Française de Développement, 5 rue Roland Barthes, 75012, Paris

<sup>f</sup>CIRAD, UPR Forêts et Sociétés, Univ Montpellier, Montpellier, France

<sup>g</sup>Eco Restore Ltd., P.O. Box TL 1465, Tamale, Ghana

<sup>h</sup>Independent consultant, P.O. Box 381 CAGC, Tamale, NR, Ghana

Email: a.wardell@cgiar.org, marlene.elias@cgiar.org, m.zida@cgiar.org, aicha\_taps@yahoo.fr, denis.gautier@cirad.fr, rousseauk@afd.fr, shea.expert@gmail.com, bamatheo@gmail.com

## HIGHLIGHTS

- Historical evidence indicates a widespread and centuries old exchange of shea kernels and shea butter by women in periodic local markets, and on a regional scale, with the densely populated West African littoral.
- Initial French interest in shea was as a potential substitute for *gutta-percha* (latex) to insulate submarine cables in the wake of the profligate, inefficient and unsustainable methods of extraction from *Palaquium gutta* and other tropical rainforest trees in Southeast Asia.
- Early and violent resistance to colonial rule during the Volta-Bani War was replaced by persistent migration into the (British) Protectorate of the Northern Territories of the Gold Coast Colony, as a form of protest by local Burkinabé communities to avoid the cumulative burdens of capitation tax, forced labour, military conscription, corporal punishment, and restrictive forest policies.
- Multiple initiatives to extract shea butter (mechanically and chemically), to protect shea parklands or to plant shea trees, as well as early industrialization efforts, including a French ‘colonial petroleum’ project, were not successful.
- Ultimately, the production and supply of shea kernels and shea butter remained central to servicing the needs of Burkinabe and West African consumers throughout the colonial period.

## SUMMARY

Burkinabé women have traded shea kernels and shea butter in periodic local markets, and on a regional scale with the densely-populated West African littoral, for centuries. This paper traces the origins of French colonial efforts to develop shea as a commodity of empire from the 1890s to independence in 1960.

Colonial efforts to incorporate Upper Volta, a French colonial backwater, into the world economy was drawn out, heterogenous, and messy. The colonial state assumed erroneously that little shea trade existed, and that producers would respond positively to market incentives. Yet, we suggest that French colonial policies failed due to a composite of factors including the limited investment in either the colony or shea as an oilseed crop, adaptation by women shea producers to the extraction of male labour and the trade opportunities created by new international borders, and the ‘blindness’ of colonial officials to the economic, social and cultural functions of periodic local markets used by women shea traders. The historical trajectory of the shea trade continues to have implications for current-day shea markets and their actors.

Keywords: Burkina Faso, colonial history, periodic local markets, gendered landscapes, shea nuts and shea butter, women

## Le karité (*Vitellaria paradoxa* CF Gaertn.) – une marchandise de l’empire périphérique en Afrique occidentale française, 1894–1960

D.A. WARDELL, M. ELIAS, M. ZIDA, A. TAPSOBA, K. ROUSSEAU, D. GAUTIER, P.N. LOVETT et T. BAMA

Pendant des siècles, les femmes burkinabés ont échangé des amandes et du beurre de karité sur les marchés locaux périodiques et à l’échelle régionale avec le littoral ouest-africain densément peuplé. Cet article retrace les origines des efforts coloniaux français pour développer le karité en tant que produit de l’empire des années 1890 à l’indépendance en 1960.

Les efforts coloniaux pour intégrer la Haute-Volta, un marigot colonial français, dans l’économie mondiale ont été longs, hétérogènes et désordonnés. L’État colonial supposait à tort qu’il existait peu de commerce du karité et que les producteurs réagiraient positivement aux

incitations du marché. Pourtant, nous suggérons que les politiques coloniales françaises ont échoué en raison d'un ensemble de facteurs, notamment l'investissement limité dans la colonie ou le karité en tant que culture oléagineuse, l'adaptation des femmes productrices de karité à l'extraction de main-d'œuvre masculine et les opportunités commerciales créées par les nouvelles frontières internationales, et l'«aveuglement» des fonctionnaires coloniaux vis-à-vis des fonctions économiques, sociales et culturelles des marchés locaux périodiques utilisés par les commerçants de karité. La trajectoire historique du commerce du karité continue d'avoir des implications pour les marchés du karité actuels et leurs acteurs.

## Karité (*Vitellaria paradoxa* C.F. Gaertn.) – una mercancía secundaria del imperio en el África Occidental francesa, 1894–1960

D.A. WARDELL, M. ELIAS, M. ZIDA, A. TAPSOBA, K. ROUSSEAU, D. GAUTIER, P.N. LOVETT y T. BAMA

Las mujeres burkinesas comercian desde hace siglos con las almendras y la manteca de karité en los mercados locales periódicos y a escala regional con el densamente poblado litoral de África Occidental. Este artículo rastrea los orígenes de los esfuerzos coloniales franceses por desarrollar el karité como una mercancía del imperio desde la década de 1890 hasta la independencia en 1960. Los esfuerzos coloniales por incorporar el Alto Volta, un área colonial francesa atrasada, a la economía mundial fueron prolongados, heterogéneos y caóticos. El estado colonial asumió erróneamente que apenas existía comercio de karité y que los productores responderían positivamente a los incentivos del mercado. Sin embargo, se sugiere que las políticas coloniales francesas fracasaron debido a una combinación de factores como la escasa inversión en la colonia o en el karité como cultivo oleaginoso, la adaptación de las productoras de karité a la extracción por la mano de obra masculina y las oportunidades comerciales creadas por las nuevas fronteras internacionales, y la “falta de visión” de los funcionarios coloniales ante las funciones económicas, sociales y culturales de los mercados locales periódicos utilizados por las mujeres que comerciaban con el karité. La trayectoria histórica del comercio del karité sigue teniendo implicaciones para los mercados actuales del karité y sus actores.

### INTRODUCTION

Shea fruits, kernels and butter are Non-Timber Forest Products (NTFP) of the shea tree (*Vitellaria paradoxa*), the most widely occurring species in the agroforestry parklands of Burkina Faso (Boffa 2015). The butter extracted from their kernels serve as important ingredients in the diet of rural communities, and surpluses sold provide a critically important source of income to women. Shea is collected, processed and marketed by an estimated 18.4 million women across a 3.4 million km<sup>2</sup> belt across sub-Saharan Africa (Naughton, Lovett and Mihelcic 2015). For centuries, women managed shea trees in West Africa's agroforestry parklands as a food tree crop. Women collected and processed shea kernels to produce shea butter, the most widely-used oil throughout the region, and sold kernels and shea butter in periodic local markets often linked to larger regional trading routes. The customary management of these gendered landscapes (Carney and Elias 2006) and traditional uses of this vegetable fat were largely ignored during the colonial period as women were rarely, if ever, interlocutors with colonial administrators or scientists.

Current-day periodic local markets continue to perform a vital role in the economic and social life, particularly of rural women, throughout West Africa (Bromley 1971, Curtin 1971, Hodder 1971, Meillassoux 1971, Smith 1971, Hill and Smith 1972, and McKim 1972). In Burkina Faso, a complex hierarchy links periodic three-day village markets to larger foci of trade in places such as Leo, Tenkodogo, Bittou and Koudougou and Bobo Dioulasso (Rousseau, Gautier, and Wardell 2015). In turn, these are linked to centres of consumption in neighbouring Ghana, Côte d'Ivoire, Benin and Togo, and other parts of the West African littoral. The aggregation of the periodic market system facilitates trade in surpluses of agricultural

food and cash crops such as millet, yams, onions, tomatoes, livestock, shea nuts and butter (Hill 1970, Clark 1994, House-Midambe and Ekechi 1995, Chalfin 2004a).

Given the promise shea holds for strengthening rural women's incomes as well as national economies in West Africa, several actors have attempted to radically transform shea value chains originating in West Africa by introducing new technologies, building capacities of women producer groups and improving access to new markets. These include government agencies, development and Non-Governmental Organizations, Trans-National Organizations as buyers of shea kernels and third-party certification bodies. Their efforts focused on relatively recent events and actions, detached from the broader historical context in which they are embedded. This, “at a time when short-term horizons constrict the views of most of our institutions, whether governments, non-governmental organizations (NGOs), corporations, or, increasingly universities” (Armitage and Guldi 2015: 221). History matters. It matters not just because we can learn from the past, but because the present and the future are connected to the past by the continuity of a society's institutions (North 1990, see also Huillery 2009).

Hence, this paper takes an historical perspective to contextualize current day shea value chains, focusing on the period after the establishment of the largest possession of imperial France – Afrique Occidentale Française (AOF), a federal constellation of colonial states – in 1895. The paper aims to show that women were instrumental in sustaining rural livelihoods by using local periodic markets to trade shea kernels and butter on both sides of the new borders separating Upper Volta from its neighbouring territories. After presenting the analytical framework and methods adopted, the paper initially presents an overview of pre-colonial patterns of shea trading

drawing on archaeobotanical sources, and the records of travellers and explorers between the 14<sup>th</sup> and 19<sup>th</sup> centuries. This is followed by a review of the early interest in shea by the French administration, prior to the creation of Haute Volta as a colonial state in 1919, and the modest growth in the shea trade during the colonial era. A discussion of the reasons for the failure of colonial efforts to develop shea supply chains precedes the concluding remarks.

The paper should be read in conjunction with another paper ‘Shea – the emergence of Global Production Networks, 1960–2021’ (Wardell *et al.* 2021), which traces the post-independence governance of shea supply chains in Burkina Faso. The two papers help to explain the gendered nature of the contemporary shea economy in Burkina Faso by understanding the patterns of pre-colonial and colonial trade in the commodity. Women shea nut producers and shea nut processing in Upper Volta lived in a “world that didn’t count” (McMichael 2004: 7), and remained in the shadow of cocoa growers in Côte d’Ivoire and Ghana until the post-2000 boom in the global shea trade. Women remained, nevertheless, firmly in control of the local and regional shea trade. Ironically, the key factor which influenced the placement of the border separating British and French territories was the protection of metropolitan trading interests.

## ANALYTICAL FRAMEWORK

Landscape histories have important implications in understanding forest ecology and social and political relationships within current agroforestry landscapes, and in identifying coping strategies and adaptation to environmental stress. Historical perspectives can also increase our knowledge of the dynamics of tropical dry forest landscapes and provide a frame of reference to assess contemporary patterns and processes. Historical records in Africa, however, are often fragmentary. Even where longer historical time series can be assembled, the selection of appropriate reference conditions may be complicated by our limited knowledge of the past influence of humans, and by non-equilibrium dynamics. These complications do not lessen, however, the value of history; rather they underscore the need for multiple, comparative histories from many locations for evaluating both cultural and natural causes of variability. The reconstruction of landscape histories which recognize hierarchical scales of analysis in both time and space can highlight the complexity of specific local geographical and historical settings, and provide a basis to redefine baseline ecological conditions, to reinterpret the impact of population growth or, as one scholar has suggested, to “...systematically build in perspectives from political economy as well as ecology...” (Beinart 1996).

Environmental history – as a conceptual and interdisciplinary arena (Dovers 2000) in which ‘humans are restored as

part of nature’ (Myllyntaus 2001) – provides a useful framework to cross conventional boundaries between the natural and social sciences, and to give more sympathetic attention to the complex mosaic of different land and resource users in African agricultural landscapes (Andersen and Grove 1987, Batterbury and Bebbington 1998, McCann 1999, Beinart 2000, Hays 2001, and Beinart and McGregor 2003). Some researchers have described the lasting influence of colonial regimes in shaping the contemporary institutional arrangements for the conservation of forests in West Africa (Fairhead and Leach 1995, Buttoud 1997, Ribot 1995, 1999a and 1999b, Firmin-Sellers 2000, Becker 2001, and Saul, Ouadba and Bognounou 2003). Other scholars have used historical data to question forest conservation ‘orthodoxies’ (Leach and Mearns 1996, and Fairhead and Leach 1996 and 1998) which failed to recognise the important roles played by local farmers and the extent to which they were influential in enriching agricultural and woodland landscapes (see also Richards 1985, and Baker 2000).

Complex processes of differentiation and primitive accumulation have characterised West African production systems for centuries (Hopkins 1973, Wilks 1982, and Lovejoy 1985). However, processes of commoditization in African farming systems have often been ignored as an explanatory variable to help explain environmental change (Bernstein and Woodhouse 2001). Furthermore, recent approaches to global commodity chains (GCCs) and global value chains (GVCs) moved away from earlier long-term world-historical perspectives on commodification (Hopkins and Wallerstein 1977, Hopkins and Wallerstein 1986, see also Landsteiner and Langthaler 2021). Emphasis has frequently been given to quality regulation, restructuring processes, standard-setting, upgrading and the institutional ‘rules of the game’ (Humphrey and Schmitz 2000, Raikes and Gibbon 2000), and more short-term and industry- and firm-centred analyses (Bair 2008, and Grewe 2019).<sup>1</sup> In contrast, scholarship on Global Production Networks (GPN) emphasizes the multi-scalar dynamics of globalization, particularly in terms of the embeddedness of global networks in national, regional, and local contexts, encompassing both state and non-governmental actors (Coe, Dicken, and Hess 2008). Commodities have led to the consolidation of a globalized economy and societies but this has often been forged out of distinctive local experiences of cultivation and production, and regional circuits of trade (Curry-Machado 2013, and Hazareesingh and Curry-Machado 2009: 1–5).

This paper, by focusing on a francophone colonial backwater, is a corrective to the focus in much environmental history on both anglophone ‘settler colonies’ (Ofcansky 1984, Beinart and Coates 1995, Griffiths and Robin 1997, and Brown 2003), or on the timber producing and Guinea-Savanna regions of West Africa (Gillis 1988, Wilks 1993, Parren 1994,

<sup>1</sup> The GVC typology evolved to recognize five governance structures (hierarchy, captive, relational, modular and market) determined by three key variables: the complexity of transactions; the ability to codify transactions and the capabilities of the supply base (Gereffi, Humphrey and Sturgeon, 2005; Lee, Gereffi and Beauvais, 2012).

Ibo and Leonard 1997, and Kotey *et al* 1998). Furthermore, little scholarly work has been published on the history of shea as a colonial commodity although excellent work has been published on the contemporary governance of shea value chains (for Burkina Faso, see Elias and Carney 2004, Rousseau *et al* 2005, Elias and Arora Jonsson 2017, for northern Ghana, see Chalfin 2004a and Gilli *et al* 2020). By adopting a Global Production Network approach to the evolution of the shea trade in Burkina Faso, the two papers emphasize the emergence of global trade which has been forged out of distinctive local experiences of production and transformation and local and regional circuits of trade controlled by women.

## METHODS

The paper draws on a literature review and archival research primarily conducted at the: i. Archives Nationales, Ouagadougou (Burkina Faso); ii. Centre National des Archives Outre-Mer, Aix-en-Provence (France); iii. Institute of Forestry, Agricultural and Environmental Engineering in France, Nancy (France); and iv. Archives Nationales in Abidjan (Cote d'Ivoire). In addition, due to the large-scale exodus of Burkinabé people into (now) northern Ghana throughout the period after the Volta-Bani War (1914–1916) and the re-creation of Haute Volta in 1947, additional research was conducted in some anglophone archives, notably the Public Records and Archives Department (PRAAD), Tamale (Ghana); Rhodes House, University of Oxford (United Kingdom) and the University of Edinburgh Special Collections (Scotland).

In general, better archival records exist for commodities such as cocoa and palm oil given the larger quantities and, hence greater values traded with European metropolises (Kotey *et al.* 1998, Lynn 1998, and Acquah 1999).<sup>2</sup> We suggest that the comparative lack of historical data regarding the shea trade also reflects the complexities of unrecorded international trade with shea products moving south *and* north across international borders after colonial boundaries were first defined in the early twentieth century (Ellis and MacGaffey 1996, Fold and Reenberg 1999, Chalfin 2001, Wardell *et al.* 2003, and Nugent and Asiwaju 1996).

The use of multiple archival sources from French and British colonies facilitated understanding of how shea women were able to spread labour demand for processing and selling shea products throughout the year, and to use the opportunities provided by an elaborate network of periodic markets and trade relays to the south and north of the (new) international boundaries between Upper Volta and neighbouring countries such as the Northern Territories of the Gold Coast Colony, Côte d'Ivoire and Benin. The creation of a subversive borderland economy is explored further in the Discussion section of the paper.

## A BRIEF HISTORY OF TRADE IN WEST AFRICA

Historical patterns of local, regional, and international trade in West Africa pre-date the arrival of the Portuguese on the West African coast in the 15th century (Brooks 1993, Wilks 1982, and Hopkins 1973). The ebbs and flows of the dominant commodities exchanged during the last five hundred years have been determined by a complex web of social, cultural, religious (notably the expansion of Islam and later Christianity), economic and ecological factors across the region (Fage 1969, Daaku 1970, and Webb 1995). These, in turn, were influenced by the larger framework of the world economy, progressive improvements in transport and communications technology, and the influences of fluctuating demand and commodity prices. It was, for example, the opening up of new maritime markets in West Africa after the Portuguese trading monopoly was overthrown in 1642 which resulted in the progressive decline in trans-Saharan trade in gold by the late 17th century (Wilks 1982 and Brooks 1993). European penetration of the West African hinterland did not begin in earnest until after 1900 (Brooks 1970 and Lynn 1998).

### Linkages between local, regional, and long-distance trade

A multitude of short distance commercial networks and longer distance trading relationships have continually forged linkages between local, regional, and global trade (Newbury 1972). Furthermore, long-distance trade was possible long before the advent of colonialism as common monetary units such as gold standards and cowries existed, and trade relays involved multiple exchanges and modes of transport – camels, donkeys, and human portage – in different ecological zones (Webb 1995). Elaborate decentralized networks of commercial alliances were maintained as trade routes changed, and new loci of commercial centres emerged such as Zuarungu close to present-day Bolgatanga in northern Ghana. Some scholars have highlighted the persistence of local and regional trade in, for example, salt (Sutton 1981), kola nuts (Lovejoy 1980 and Abaka 2005), and shea nuts (Chalfin 2004a and 2004b).

European trade was largely confined to the West African littoral until the early 20th century. It was nurtured, initially, by African middlemen and European firms who operated as personalized oligarchic semi-monopolies. A significant expansion in the export of bulk commodities from, and bulk imports to West Africa occurred during the 19th century (Davies 1976 and Arhin 1980). This period – often characterized as the era of 'legitimate trade' after the abolition of slave trading (Mcsheffrey 1983) – was dominated by the growth of trade in palm oil and palm kernels in exchange for imported cloth, guns, gunpowder, iron, salt and rum (Brooks 1970, Chamberlain 1979, and Lynn 1998). The transition to bulk

<sup>2</sup> Paul Lovejoy noted that "There is virtually no information on shea butter, used as fuel for lamps and as cooking oil in the savanna before groundnuts became common" (Lovejoy 1985: 653).

exports was facilitated by falling prices for bulk steamship transport, the advent of the telegram, and growing demand for raw materials amongst the new industrial economies of Europe.<sup>3</sup>

The period did, however, usher in some changes notably in terms of the organization of European trading firms by separating the functions of merchants and shippers and progressively shifting to more corporate forms of ownership and management. Other efforts aimed to bypass coastal agents to reach African markets in the hinterland, and the increasing ‘democratization’ of trade as smaller traders increasingly entered markets. It was also an era characterized by classic ‘boom and bust’ cycles and periodic failures associated with trade in palm oil in the 1860s (Milbourn 1970, and Lynn 1998), and mining in the 1890s (Silver 1981). During the latter part of the 19th century, trade in wild rubber (Arhin 1972) and West African mahoganies (Kotey *et al.* 1998) started to expand.

### Pre-colonial patterns of shea trading

Shea provided the primary vegetable fat over a vast region of semi-arid Africa, in which the African oil palm *Elaeis guineensis*, used for similar purposes in wetter environments, does not grow (Lewicki 1974). Shea butter was traded as far south as the Volta River in Ghana for products from the coast (salt and fish) and forest (kola nut) (Ehret 2002: 321–22, and Sutton 1981). Mossi, Juula, and Hausa caravans carried shea butter over long-distance trade routes prior to the Atlantic slave trade (Lewicki 1974: 106, Park 1983 (1799), and Barth 1968 (1857)). First-hand accounts from slave traders operating along coastal Gambia and Guinea-Bissau in the early sixteenth century also confirmed the shea trade from the interior to the Atlantic coast, where the tree did not exist (Terpend 1982). The demand for shea butter increased with the slave trade as it provided a moisturizer for Africans awaiting sale to Europeans (Cowley 1928).

The earliest evidence of shea trees being utilized is from an archaeological site in northern Burkina Faso dated to ca. 1000 AD (Neumann, Kahlheber, and Ueber 1998, and Kahlheber 1999). Hohn and Neumann (2012) suggest, furthermore, that agroforestry parklands intercropped with millet began to be cultivated in the north of the country about

2000–2500 years ago as patterns of climatic aridity were moving southward (cited in Lovett 2015: 134). Additional archaeological evidence suggests that the processing of shea in western Burkina Faso has occurred for more than two thousand years (Gallagher, Dueppen and Walsh 2016).

The earliest recorded references to shea date from the fourteenth century as trading relations between the Mali empire and Egypt grew (Al-ʿUmarī 1927, and Levtzion and Hopkins 2000). Muslim travellers travelled along trade routes that crossed the Sahara, and included Al-ʿUmarī born in Damascus. His travels in ca. 1337–38 led to the encyclopaedic ‘Pathways of Vision in the Realms of the Metropolises’.<sup>4</sup> Subsequently, Ibn Battuta born in Tangier, undertook a 24-year long world-wide trip through most of the Muslim world. His last trip across the Sahara to the Western Sudan (ca. 1352–1353) led to the *Rihla* (Journey) a co-production with a scribe which also described uses of shea oil.<sup>5</sup>

The arrival of European explorers to West Africa’s interior from the end of the eighteenth century brought additional attention to shea. Mungo Park’s search for the source of the Niger River took him along overland trade routes from the Gambia River into Guinea and Mali. The Scottish explorer noted the importance of the edible shea butter trade to Mand-speaking populations, and the product’s multiple uses in his book, *Travels in the Interior Districts of Africa*, published in 1799.<sup>6</sup>

By the end of the nineteenth-century, French explorers, French envoys of the British Crown, and colonial military ‘*aménageurs*’ had all contributed to the considerable detail on shea that would later help in shaping its potential role in international trade. Colonial ‘*aménageurs*’ were frequently hired to explore and administer new colonial territories prior to the establishment of civil administrations (Puyo 2001: 484). This was equally true for the Gouvernement général de l’Afrique-Occidentale française (GGAOF), where the French had already established treaties with chiefs along the Senegambia coast since the 19<sup>th</sup> century. The expedition of René Caillié in the region from 1824–28 provides historical detail on the value of shea among the Mandingo (Caillié 1965 (1830)).<sup>7</sup> Joseph Dupuis, a French envoy of the British King George the Fourth, described some of the tricks of the shea trade in his *Journal of a Residence in Ashantee* (Dupuis 1824).

<sup>3</sup> This era did not involve any major economic, political or social disruptions in the region; external trade had already proved to be profitable and offered the most favorable sources of credit. The credit or trust ‘system’ expanded and ‘Cash sales . . . also increased, but did not displace the advance of bulk stocks against supplies of kernels and oil, ivory, cotton and shea butter’ (Newbury 1972: 93).

<sup>4</sup> It described a tree called *fariti* which ‘bears fruits like lemons but which taste like pears; Inside there is a fleshy kernel which is taken when fresh and ground, when it gives something resembling clarified butter (*samn*)’ (Levtzion and Hopkins, 2000: 263).

<sup>5</sup> This also describes *gharti* as ‘a fruit like a pear...Its kernel is crushed and oil is extracted from it, for which they have many uses. For instance, they cook with it, and light their lanterns with it, and fry these fitters with it and anoint themselves with it, and mix it with an earth which they have and coat the roofs of their houses with it, as one does with lime’ (Levtzion and Hopkins, 2000: 287).

<sup>6</sup> Park described the transport of the oil (shea-*toulou*) by slave traders from the interior to coastal areas and described the shea-dominated parklands (cultivated areas with shea nut trees) along the Niger River between Ségou and Bambara land in Mali. When forests were cleared for cultivation, he observed that shea nut trees were spared (Park, 1983 (1799): 84–85, 201).

<sup>7</sup> Caillié described the occurrence of shea trees in cultivated fields near villages and observed the oil extraction from its nuts: ‘the finished product is wrapped in plant leaves, where it can be preserved for as long as two years’ (Caillié, 1965 (1830), I: 357; see also Felix, 1963).

Louis Hecquard (1855: 373–74) commented favourably on the taste of the shea fruit, and the ability of the oil to last years without turning rancid. David Asante's observations in 1877 of items traded by the Hausa and Mossi caravans in Salaga included "a sort of vegetable oil which is firm even during hot spells" (Johnson 1966, cited in Duperray 1999: 135). Joseph-Simon Gallieni's (1885: 440) exploratory mission to the upper Niger River in 1879–81 provided an early observation that women and children collected shea fruits. It was Paul Soleillet, however, who was the first person to note that shea butter (French: *karité*) was prepared exclusively by African women, a detail that was missing from all previous descriptions of *karité* (Soleillet 1887, cited in Carney and Elias 2006: 242).

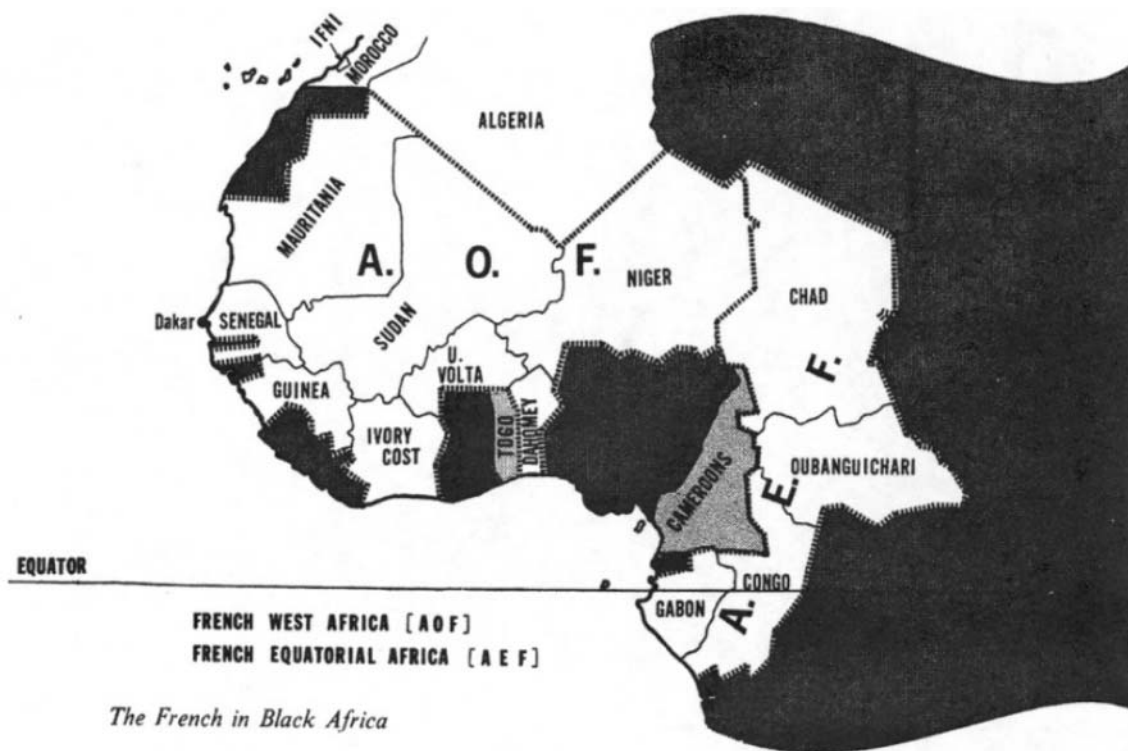
In the same year, Sir Alfred Moloney, Governor of Lagos Colony between 1886–1891, published his *Sketch of the Forestry of West Africa with Particular Reference to Its Present Principal Commercial Products*. He noted that shea "constitutes a main article of inland commerce, and is employed by the natives for anointing their bodies, for lighting, and for food. This fat is imported from Sierre Leone to the extent of 300 to 500 tons annually for use in the manufacture of hard soaps, chiefly in combination with other oils. A substance somewhat resembling gutta-percha is found in shea butter and is called Gutta-Shea; no application, however, has been found for it" (Moloney 1887: 379, see also Omosini 1975). This was in contrast to early French interest in shea as a new source of latex.

#### EARLY FRENCH INTEREST IN SHEA – THE ORIGINS OF THE OVERSEAS SHEA VALUE CHAIN

The largest possession of imperial France – Afrique Occidentale Francaise (AOF hereinafter, French West Africa) – emerged as a federal constellation of colonial states in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries (Guernier 1949, Coquery-Vidrovitch and Moniot 1993) (Figure 1). Forts and trading posts established in the 17<sup>th</sup> century on the West African coast provided the springboard for territorial conquests in Sénégal, and the later advances into the Western Sudan and southward to the Gulf of Guinea (Webb 1995).

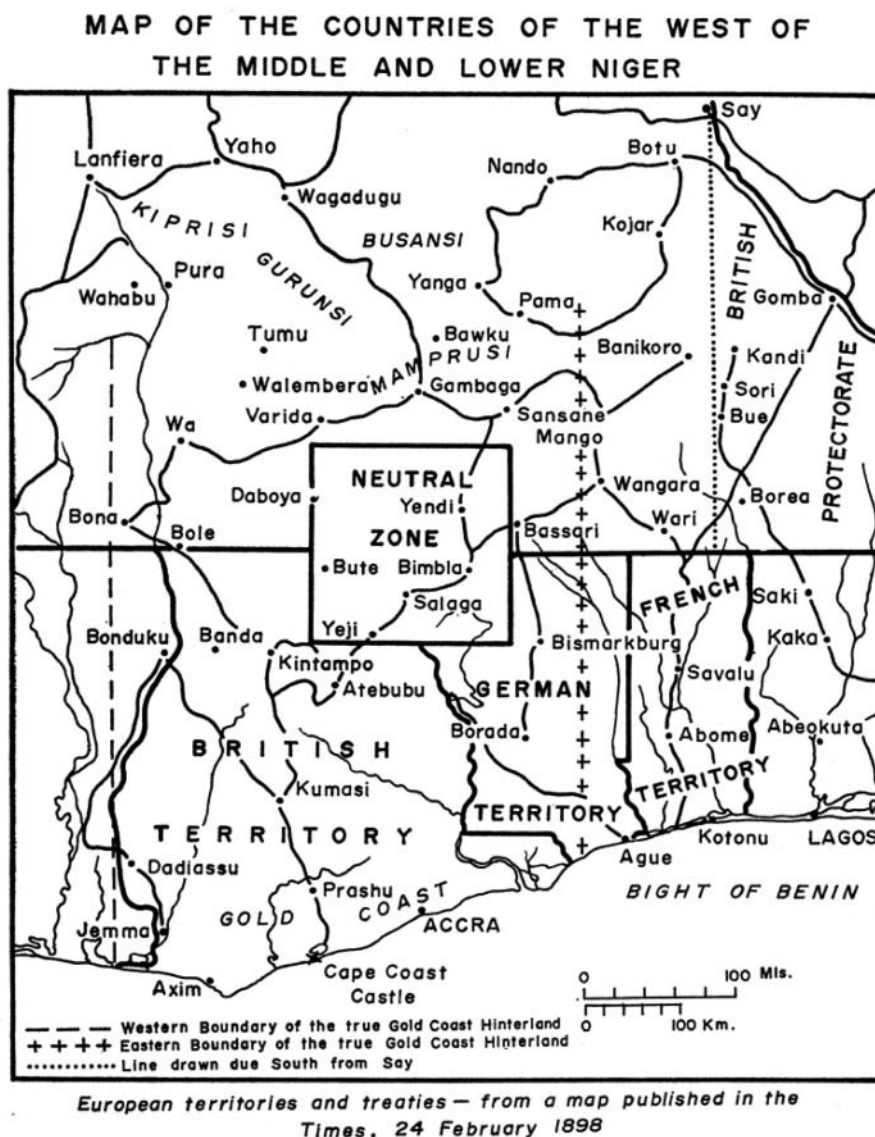
The period after 1895 witnessed significant social, economic, political and environmental changes throughout the region as African communities were confronted with increasing demands for labour, commodities, and African territory. The scrambles for territory and commodities focused initially on the delineation of boundaries around the so-called 'Neutral Zone' (Figure 2). This encompassed efforts by the French, German and British to negotiate Treaties of Friendship and Trade with customary chiefs. George Ekem Ferguson, a Fanti official of the British Crown, played a key role in securing treaties of friendship and trade with many traditional rulers in northern Ghana and the neighbouring French territories of Haut Sénégal and Niger, Côte d'Ivoire and Togoland (Metcalf 1964: 457, Thomas 1972, Arhin 1974, and Brukum 1997). These included a treaty negotiated in July 1894 with the *Mogho Naaba*, the leader of the dominant Mossi ethnolinguistic group.<sup>8</sup> These treaties aimed to grant the British free

FIGURE 1 French West Africa, 1895–1960 (Source: Cohen 1971)



<sup>8</sup> Binger had earlier tried unsuccessfully to negotiate a treaty with the *Mogho Naaba* for the French protectorate (Binger, 1892).

FIGURE 2 The 'Neutral Zone' between British, German and French territorial interests, 1898



access to the areas concerned, and the right to conduct trade.<sup>9</sup> In practice, boundary disputes concerning the 11<sup>th</sup> parallel between the French and British administrations continued for many years and culminated in a joint British French mission (O’Kinaely-Verlaque) in 1904. This resulted in the delimitation of the boundary and a memorandum which recognized the user rights to lands belonging to all 34 villages straddling the boundary (Duperray 1999: 137–142). The communities were, in addition, granted the possibility to stay or to move to

the other side of the boundary within a year.<sup>10</sup> It is not known if these rights included rights to use shea trees.

Early French tropical agricultural research was characterized by the establishment of several small botanical gardens after 1880, which accompanied the (military) conquest and early occupation of France’s West African possessions.<sup>11</sup> This led to the founding of the Jardin colonial in Nogent in 1899, initially as an annex of the Natural History Museum in Paris. After 1900, new arrivals from the French school of agronomy

<sup>9</sup> The establishment of these ‘free-trade’ agreements led to an escalation in the military presence in the region in the late 1890s. A British military detachment led by Major H.P. Northcott occupied Gambaga where he was subsequently appointed Commissioner and Commandant in the Northern Territories of the Gold Coast. The defeat of the Ashanti in 1900 also heralded the beginning of a new trading era in the Gold Coast hinterland which soon set great store by the potential of the shea nut.

<sup>10</sup> Archives nationales de Côte d’Ivoire, 2 E 93 III, 8, 76. Memorandum franco-anglais 1904.

<sup>11</sup> Similarly, Alfred Moloney, Governor of Lagos Colony, 1886–1891 set up a botanical station in 1887. This experiment was later accepted by the British Colonial Office as an important cornerstone of economic policy for the whole of British West Africa in the 1890s when the demand for tropical raw materials increased sharply. He also drew early attention to deforestation in both Lagos and the Gold Coast Colony (Omosini, 1975: 665–669).

led to experimental trials on larger areas to compare varieties, as well as soil preparation and fertilization methods (Bonneuil and Kleiche 1993). The first agricultural station was opened in Banfora in 1904 with research focusing on rubber produced from the liane *Landolphia heudelotii* (Tourte 2019a: 153).

Initial French interest in shea was as a substitute source of latex (*gutta-percha*) used as an insulator of submarine cables following the “profligate, inefficient and unsustainable methods of extraction” of *Palaquium gutta* and other tropical rainforest trees in South-East Asia (Tully 2009: 559, see also Anon 1892, Kennedy 1971, and Potter 2005). Heckel, who later became the Director of the Museum and Colonial Institute in Marseille, published the first (known) article entitled ‘*Sur un arbre producteur de gutta et de corps gras*’ (Heckel 1885 and 1897). This led to further studies of shea by Dr. Rancon in 1891 and later Coppin at a botanical garden in present-day Mali. The great French botanist Auguste Chevalier undertook eight missions in AOF between 1898–1912 (Chevalier 1902, and 1912) which led, initially, to the publication of his seminal tome *Végétaux utiles de l’Afrique Tropicale Française* (Chevalier 1905, and 1917, see also Planchon 1888)<sup>12</sup> and later, the first forestry and pastoral map of AOF (Chevalier 1912). Samples of shea gutta were first sent to the French Chambers of Commerce in Le Havre and Marseille in 1897. A year later a veterinarian Cazalbou, forwarded cases of shea butter to La Maison Poncelet in Marseille. Growing interest in shea as a potential new source of either gutta-percha or as a raw material for soap manufacture, saw several studies published by Henri Jumelle and others in the late 1890s (Vuillet 1901: 8–11, see also Dastre 1901).

There are no archival records of early British interest in shea as a source of latex. In 1895 a first shipment of 23.7 tonnes of shea butter was exported by the British from Lagos to London and Liverpool (Pehaut 1974: 444). Regular shipments started in 1905 and once the railway linking Lagos and Kano was completed in 1912, the trade increased from ca. 3.000 tonnes in 1905 to more than 9.600 tonnes in 1913 primarily for use in soap and margarine manufacturing.

In 1900, Ponty, then Délégué du Gouverneur-Général du Haut Sénégal et Moyen-Niger, requested the agronomy station

in Kati (present-day Mali) to continue research on shea. Jean Vuillet’s first report – *Etude du Karité considéré comme producteur de gutta* – was addressed to the Delegate of the Governor-General (Vuillet 1901). He published a much more detailed monograph – *Le Karité et ses Produits* – for the GGAOF in 1911 (Vuillet 1911), which recognized the need to provide additional protection to shea trees and to support the establishment of shea plantations.<sup>13</sup>

The extension of political control inevitably raised the issue of ownership, management and access to land and forests. Four decrees were adopted on 20 July 1900 defining the forestry, land tenure, State lands and public property régimes in Sénégal and its dependencies. By late 1900 the Governor had powers “...to set aside such parts of the forest as are already being exploited whose preservation he may deem useful, until further notice.” In 1904, following the French Civil Code, the colonial administration decreed that all “lands that are vacant and without master, in the colonies and territories of French West Africa, belong to the state”.

Early Colonial state restrictions on the use of both wood-fuels (primarily for the railways) and Non Timber Forest Products (NTFPs) including shea were adopted in 1906, 1912, 1914 and 1918.<sup>14</sup> A GGAOF Forestry Code was adopted in 1935. Legal instruments of political-administrative control in Haute Volta created a history of fear (Ribot 1999a, see also Ribot 1995 and Ribot 1999b). Shea nuts were also collected for the colonial administration using forced labour (*corvée*); women bore the brunt of this task (Massa and Madiéga 1995, see also Madiéga and Nao 2003).<sup>15</sup> Forced labour continued until 1946 with the more populated *cercles* in Haute Volta affected the most.

French interest in the export of shea products was limited at this stage given unfavourable customs import duties on oilseeds and competition from French farming interests which were advocating expansion of the domestic production of oilseed rape (Pehaut 1974: 445). The British, Germans, Dutch and Belgians were, in contrast, more interested in shea as a commodity for the margarine industry.<sup>16</sup> In 1907, a British company expressed interest to the Governor General of

<sup>12</sup> This was expanded and updated in 1917.

<sup>13</sup> An Arrêté was adopted on 29 July 1906 prohibiting the cutting of shea trees throughout the colony of Haut Senegal and Niger (Vuillet, 1911: 93–94).

<sup>14</sup> *Journal Officiel de l’Afrique Occidentale Française* (JOAOF), 25.10.1900: 418–419; JOAOF, 01.11.1900: 426–429; JOAOF, 8.11.1900: 435–438; and JOAOF, 15.11.1900: 443–444. Archives Nationales, Ouagadougou.

<sup>15</sup> Martin Klein, *Slavery and Colonial Rule in French West Africa* (Cambridge: Cambridge University Press, 1998); Richard Roberts, *Two Worlds of Cotton. Colonialism and Regional Economy in the French Soudan, 1800–1946* (Stanford: Stanford University Press, 1996); Fall, *Le travail forcé en AOF*; Boubacar Barry, *La Sénégambie du XVe au XIXe siècle; traite négrière, Islam, conquête coloniale* (Paris: L’Harmattan, 1988); Denise Bouche, *Les villages de liberté en Afrique noire française, 1887–1910* (The Hague: Mouton, 1968); Jean-Louis Boutiller, “Les captifs en AOF, 1903–1905”, *Bulletin de l’IFAN*, 30, ser. B, 2 (1968): 511–535; Dennis Cordell, Joel Gregory, “Labour reservoirs and population: French colonial strategies in Koudougou, Upper Volta, 1914 to 1939”, *Journal of African History*, 23, 2 (1982): 205–224; Martin Klein, *Islam and Imperialism in Senegal: Sine-Saloum 1847–1914* (Stanford: Stanford University Press, 1968); Patrick Manning, *Slavery, Colonialism and Economic Growth in Dahomey, 1640–1960* (Cambridge: Cambridge University Press, 1982); François Renault, *Libération d’esclaves et nouvelle servitude: les rachats de captifs africains pour le compte des colonies françaises après l’abolition de l’esclavage* (Abidjan: ANSOM, 1976); Richard Roberts, *Warriors, Merchants and Slaves: the State and the Economy in the Middle Niger Valley, 1700–1914* (Stanford: Stanford University Press, 1987); Henri Brunschwig, *Noirs et blancs dans l’Afrique noire française ou comment le colonisé devient colonisateur (1870–1914)* (Paris: Flammarion, 1983).

<sup>16</sup> Margarine became a global food product within decades of its invention in 1869 (van Stuyvenberg, 1969).



Haut-Sénégal-Niger, in buying 100,000 tonnes per year of shea nuts on the basis of a five-year renewable contract.<sup>17</sup>

By 1910, the Haut-Sénégal-Niger colony had started to export shelled kernels rather than whole nuts. This improvement, by reducing the volume of exports per unit mass of kernels, led to an increase in kernel exports, from 25 tons in 1910 to 243 tons in 1911 (Perrot 1915). Margarine manufacturers were the first outlet for shea exports (Pehaut 1974) but shea was also used in soap and candle manufacturing as well as in pharmaceutical products and as an industrial lubricant. In the 1920s, irregularities in consignments, inconsistent product quality and transport constraints from the AOF's landlocked countries hindered expansion of the export market. No shea plantations were successfully established during the colonial period in either French or British colonies (for northern Ghana see Wardell and Fold 2013).

## THE CREATION OF HAUTE VOLTA AND MODEST GROWTH IN THE SHEA TRADE

### Modest growth in the shea trade in the early colonial period

The interest of colonial trading firms and early industrial investments led to modest growth in the shea export trade in the early colonial period in Upper Volta, which served primarily as a labour reserve for French West Africa. Trade in shea by women continued in local periodic markets in Upper Volta and across borders in neighbouring territories.

Upper Volta as a 'nation state' had a chequered history after its creation in 1919 (Izard, Bonnefond and d'Huart 1967, Engberg-Pedersen 1993, McFarland and Rupley 1998, Englebert 1996, Duperray 1999, and Chafer 2002), following advice from Maurice Delafosse<sup>18</sup> to separate the vast Haut Sénégal-Niger territory (Royer 2003: 44). The country was suppressed in 1932 and the territory was redistributed between Haute-Côte d'Ivoire, Niger and Soudan Français

(Mali) (Kobi 2019).<sup>19</sup> In the same year, Colonial Inspector Bernard Sol noted that "...one part of the Agricultural Service appeared to have been completely neglected: we are referring to the forestry sector".<sup>20</sup> The first Code Forestier for GGAOF was adopted during this period in 1935. Haute Volta was reconstituted in 1947 and gained full independence in 1960. The country adopted its new name, Burkina Faso, after Thomas Sankara came to power in 1983 (Rothschild and Gyimah Boadi 1989). After World War II, the colonial state's interests shifted towards groundnuts and cotton as the priority crops to underpin the colony's economic development. Low investment, limited transport infrastructure, changing metropolitan demands for oilseeds, and the ability of local producers to continue to use their own local and regional marketing networks also contributed to the decline of the shea nut export trade in the late colonial period. In essence, the production and supply of shea products remained central to servicing the needs of Burkinabe and West African consumers throughout the colonial period.

The Burkinabe population was, inevitably, affected by the establishment of colonial states, and institutions such as Forestry Departments, as well as efforts to integrate local production systems into the global economy. These forces interacted continuously, however, with long-established patterns of customary land and resource use, migration, social change, and internal trade (Gregory 1974, Cordell and Gregory 1982, and Cordell, Gregory and Piche 1996). Early and violent resistance to colonial rule was substituted by persistent migration from the region as a form of protest by local communities to avoid the cumulative burdens of capitation tax, forced labour, military conscription, corporal punishment, and forest policies (Asiwaju 1976, Saul and Royer 2001, see also Dresch 1945 and Rouch 1956).

Lieutenant Governor Hesling considered the territory of Haute Volta to be devoid of *real* forests shortly before its suppression in 1932<sup>21</sup> before the belated introduction of the 'empire forestry mix'<sup>22</sup> (Barton 2002) in Haute Volta. This led

<sup>17</sup> Lettre de la maison Eduard de Val and Co., 3, East India Avenue, London EC, 30 January 1907 a M. le Gouverneur du Haut-Senegal-Niger cited in Pehaut, 1974: 444.

<sup>18</sup> Maurice Delafosse headed the Bureau of Indigenous Affairs in Dakar and was renowned for his cultural approach to African history.

<sup>19</sup> Prior to the recognition of Haute Volta, it was known as the 2<sup>nd</sup> Military Territory of the Soudan (1898–1902), then formed part of the colony of Sénégal-Niger (1902–1904), and subsequently, part of the colony of Haut-Sénégal-Niger (1904–1919). Haute Volta was not a unified colonial territory throughout its existence (1919–1960) as it was suppressed and divided between 1932–1947. The Décret 5 septembre 1932 portant suppression de la colonie de la Haute-Volta et répartition de son territoire entre les colonies du Niger, du Soudan français et de la Côte-d'Ivoire, publié au Journal officiel de la République française du 10 septembre 1932; and Décret du 13 juillet 1937 créant en Afrique occidentale française une région administrative dite *région de la Haute-Côte-d'Ivoire*, publiée au Journal officiel de la République française du 21 juillet 1937, p. 8273, suivi d'un rectificatif publié au Journal officiel de la République française du 30 juillet 1937, p. 8611. Multiple reasons have been advanced for the decision to suppress Haute-Volta including the need to stop the exodus of Burkinabe to the Northern Territories of the Gold Coast Colony; the growing need for labour to develop infrastructure and plantations in Cote d'Ivoire, the large-scale irrigated agriculture project under the *Office du Niger* and the building of GGAOF railways; and the perceived rise of communism.

<sup>20</sup> Rapports sur la Situation Economique, le Service de l'Agriculture et la Cercle de Koudougou de la mission d'inspection 1931–1932 (Sol, B.F., Rapports Nos. 25, 37 and 39, June 1932. Quotation from Report No. 37: 35. CNAOM, Aix en Provence, France. Earlier missions were conducted by Vuillet, 1907 and Mangin, 1924.

<sup>21</sup> Lettre du M. Le Lieutenant-Gouverneur de la Haute Volta a M. Le Directeur du Museum des Sciences et Industries, Chicago. 4 May 1932. E. 342 Archives Nationales du Cote d'Ivoire, Abidjan 4 RR 25.

<sup>22</sup> The 'empire forestry mix' was first developed in colonial India and Burma prior to being exported to other anglophone colonies around the world. It comprised three key elements viz. the appropriation of large areas of land to establish national networks of protected areas (National Parks, Forest Reserves, Game Controlled Areas etc); the regulation of timber and Non Timber Forest Products to generate revenues to help pay for colonial administration; and the introduction of 'scientific forestry' to manage forest resources by a state administration (Barton, 2002, see also Grove, 1995 and Wardell, 2020).

to the appropriation of large areas of land by the colonial state: seventy protected areas were gazetted in accordance with the 1935 federal *Code Forestier* before the country gained independence in 1960 (Ribot 1995 and 1999a, Wardell and Reenberg 2006).<sup>23</sup> As renowned Burkinabe researcher Edouard Bounkougou noted in 2005: “Dry forests in arid and semi-arid regions were viewed with disdain as scrublands of slow-growing twisted bushes, which benefited from little attention as they represented no value to the commercial timber trade” (Bounkougou 2005: 3–4). In contrast, the country’s agroforestry parklands remained a critical source of shea kernels which continued to sustain women’s livelihoods by supplying local periodic markets and meeting regional demand for shea butter. Archival records did not enable us to ascertain how out-migration from Upper Volta or *corvée* may have affected internal labour and market networks.

### Colonial trading firms

During the colonial period, large colonial trading firms such as the *Compagnie Française d’Afrique Occidentale* (C.F.A.O.) and the *Société Commerciale de l’Ouest Africain* (S.C.O.A.) bartered local agricultural products for cheap and over-priced manufactured (imported) goods across all GGAOF territories, albeit with a limited presence in Haute Volta (Table 1). Large profits were made in a trading system characterized as being “close to pillage” (Coquery-Vidrovitch 1975: 597). C.F.A.O., the older Marseille-based company, enjoyed a virtual monopoly on GGAOF trade in groundnuts from Senegambia, although the origins of the trade were associated with the port of Bordeaux (Pehaut 1974: 302–366). S.C.O.A., in contrast, traded in palm oil, cocoa and timber, which represented 75%

of the volume of exports from GGAOF in the 1920s. Both companies were also involved in the cocoa trade with the Gold Coast Colony.<sup>24</sup>

By 1930, three companies (C.F.A.O., S.C.O.A. and the British United Africa Company, owned by Unilever) controlled up to 75% of all West African trade (Hopkins 1973). Recent research based on estimating the gap between the prices paid to African producers by French trading companies and prices that should have been paid in a counterfactual competitive market showed that African prices were only a small fraction of competitive prices, implying an annual loss of almost 2% of GDP during colonial rule (Tadei 2020). By the outbreak of World War II, their share of total trade increased further, reaching up to 90% for some commodities (Suret-Canale 1971).<sup>25</sup>

The colonial trading firm exchange system relied on a regional hierarchical network of local trade posts working with local traders. During this early period, Voltaic wholesalers were not at the head of the regional value chain.

After the economic crises of 1920–21 and 1927–1934, the French colonial administration offered preferential tariffs and incentives to stimulate the production of oilseeds and nuts focusing on groundnuts and copra to reduce France’s reliance on foreign, including British, products (Olukoju 2009: 123, Seka 2018). This largely benefited the colonial trading firms and not the farmers. Such protectionism in importing countries and competition from whale oil, Indian Coromandel groundnuts and Sumatran palm produce (which had replaced Nigeria as the world’s major exporter of palm oil by 1934, see Martin 2003: 67–68) resulted in negligible interest or investment in shea by the French colonial administration throughout the colonial period.

TABLE 1 Value of oilseeds exported from GGAOF in 1895 and 1930

GGAOF Exports	1895		1930 <sup>1</sup>	
	Francs ('000)	Valeur en francs 1914 ('000)	Francs ('000)	Valeur en francs 1914 ('000)
Total exports	40.000	48.000	1.097.598	197.568
Total oilseed exports	28.840	34.600	691.314	124.437
<b>Groundnuts</b>	<b>11.357</b>	<b>13.628 (39%)</b>	<b>507.174</b>	<b>91.291 (73%)</b>
Palm nuts	6.547	7.857	96.402	17.352
<b>Shea nuts</b>	-	-	<b>1.425</b>	<b>257 (0.2%)</b>
Palm oil	10.852	13.023	55.920	10.066
Groundnut oil	-	-	16.489	2.968
<b>Shea butter</b>	-	-	<b>8.091</b>	<b>1.456 (1%)</b>

Source: Based on Pehaut, 1974: 420 (% of total oilseed exports)

<sup>1</sup> Bulletin mensuel de l’Agence économique de l’AOF No. 133, janvier 1932 cited in Pehaut, 1976: 420

<sup>23</sup> 53 Forest Reserves, 2 National Parks and 14 Total or Partial Faunal Reserves were gazetted in Haute Volta with a total area of 2.935.000 hectares representing ca. 13 per cent of the national territory. However, several conflicting estimates exist of the total area of state protected areas in Burkina Faso.

<sup>24</sup> S.C.O.A. commissioned a study in 1918 to promote cotton and palm oil production, the same year C.F.A.O. joined the *British Nigerian Company* (Coquery-Vidrovitch, 1975: 600). Groundnut production in 1924 was 315.000 tonnes of which 78% was exported to France. This had increased to 535.000 tonnes by 1936.

<sup>25</sup> This represented primarily trade in seven key commodities viz. cocoa, coffee, cotton, groundnut, palm kernel, palm oil and rubber.

Annual exports of shea nuts and shea butter from AOF were irregular between 1906–1930 (Pehaut 1974: 440–447, Figure 3). Haute Volta averaged 670 tons per year prior to the Great Depression, with large annual variations (Table 2). The large colonial trading firms did, however, start to open new offices in remote markets such as Haute Volta and shea nuts were initially traded by C.F.A.O. in 1939–40 (Coquery-Vidrovitch 1975: 608). The transportation costs from Haute Volta remained high until the Abidjan-Ouagadougou railway opened up in 1955 (Debrie 2010, see also d’Almeida Topor, Chanson-Jabeur and Lakroum 1992).

### Decline in the shea trade in the late colonial period

Industrialisation was not a priority of GGOAF, particularly in Haute Volta whilst the “pacte colonial” remained in force (Compaore 1984: 11). The first oilseed extraction factory was constructed in 1928 by another colonial trading firm, the Compagnie Française de la Côte d’Ivoire (C.F.C.I.) (Pehaut 1974: 500). It primarily processed groundnuts and exported 1.301 tonnes of oil in 1931. The Director of C.F.C.I. published a review of shea in AOF in which he estimated annual production of shea butter in AOF could reach 15.000–20.000 tonnes if the “rational culture of shea”, originally proposed by Emile Perrot and Jean Vuillet in 1907 and 1911 respectively, were introduced (Annet 1930: 920). Annet also proposed fixing the purchase price of shea each season through tripartite agreements between local shea producing communities, the colonial administration, and industrial or trading interests (Annet 1930: 920).

TABLE 2 Exports of shea nuts and shea butter from AOF, 1926–1928 (tonnes)

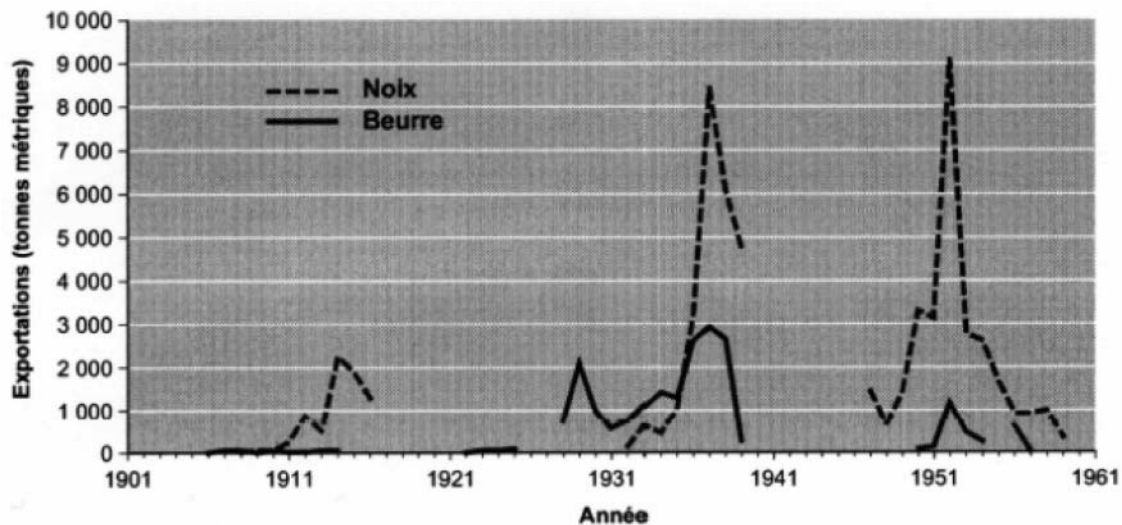
Product	1926	1927	1928
Shea nuts	1.366	565	1.429
Shea butter	4.003	2.369	1.973

Source: Annet, 1930: 917

By 1937 the shea export trade had increased to 8.451 tons of shea nuts, and 2.927 tons of shea butter. Two other factories were subsequently built by the *Compagnie Industrielle de BadiaKaha* (CACIB) in Koudougou and the *Société des Huiles et Savons de Haute-Volta* (SHSHV), a subsidiary of the *Comptoir des Industries Textiles et Cotonnières* (CITEC) in Bobo Dioulasso. After 1942, AOF became a vast territory to supply the allies during World War II as the first factories started to transform raw materials into exportable products. In practice, industrialization of the country’s two key towns – Ouagadougou and Bobo Dioulasso – only started in earnest after the adoption of the first Investment Code in 1962. The majority of exports from Burkina Faso to the present-day are as unprocessed kernels (AAK is the largest exporter). Limited industrialization took place during the colonial period. Although shea exports did increase in the 1930s, by the time the country gained independence shea production for export had declined again.

As part of preparations to participate in ‘the (French) empire and national defense’ (Michel 1982), a heavily subsidized ‘colonial petroleum’ project was developed<sup>27</sup> and was

FIGURE 3 Exports of shea nuts and shea butter from Haute Volta, 1901–1961<sup>26</sup>



Source: Pehaut, 1974 cited in Elias and Carney 2004: 74

<sup>26</sup> The figures for the years 1906–1918 represent total exports from Haut Senegal, Niger and Ivory Coast as the productive regions of Haute Volta were included in these colonial territories. Between 1919 and 1932, exports from Haute Volta are included in the figures for Ivory Coast due to the lack of credible sources of customs data which could determine the exact origins of shea exported via ports on the West African coast. These figures, therefore, probably underestimate the actual exports from Haute-Volta during the colonial period.

<sup>27</sup> Louis Broders managed a family-owned company in France, CARBUSOL and was granted a patent in September 1939 to develop and test a technique to extract petroleum products from plants including shea. France had learned important lessons on securing raw material supplies after WWI.

perceived to be of particular interest for landlocked colonies such as Upper Volta.<sup>28</sup> A third factory was eventually built near Boromo by the Société d'Exploitation des Carburants Coloniaux (SECACO). SECACO obtained credit, initially, through the French Fonds de Solidarité established in 1940.<sup>29</sup> An additional four-years of funding was provided through the post-World War II Fonds d'Investissement pour le Développement Economique et Social (FIDES).<sup>30</sup> After extraction, shea butter was sold to the colonial trading firms based on prices fixed by an Arrêté of the Governor of the colony. After the re-constitution of Haute Volta in 1947, relations between SECACO and the new governor of Haute Volta deteriorated, although the factory did continue to produce biofuels using shea oil for three years between 1950–53 before it was liquidated in 1956 (see also Massa and Madiéga 1995: 279–280) (Table 3). By this stage, metropolitan France had also changed its strategy to diversify its sources of oilseeds.

Following an article by Auguste Chevalier (Chevalier 1946), additional research on shea was conducted in the late colonial period (1949–1958) at the Niangoloko research station in the extreme south-west of the country under the auspices of the *Institut de Recherches pour les Huiles et Oléagineux* (IRHO) (see for example, Servant 1956, Ruysen 1957 and Desmarest 1958). This research focused on biological studies and the distribution of shea across the country, propagation techniques and the establishment of shea plantations, and technologies to conserve, dry and extract shea butter. Despite an initiative to develop a new shea research programme (Peperty and Coudeau 1959), IRHO research was suspended before the country gained independence (Picasso

1984). Little additional research on shea was conducted until after the post-2000 boom in the global trade in shea. Picasso noted in 1984 that “in addition to a lack of extension of the first results obtained, the absence of interest and means ensured that little follow-up occurred (Picasso 1984: 43).

In 1956, in an attempt to put an end to marked fluctuations in shea prices in French West Africa due, in part, to the typical three-year cycle in shea production, a first price stabilization fund (*Caisse de Stabilisation des Prix*) for shea exports was created. Yet, low shea production in the late 1950s counteracted these endeavours and the fund was liquidated in 1959 (Pehaut 1974). Women shea collectors and transformers preferred to use the nuts and processed butter for their own domestic consumption, and/or for sale in local periodic markets and to meet regional (cross-border) demand. A second price stabilization fund *Caisse de Stabilisation des Prix des Produits Agricoles*) operated between 1968 to 1994 (Government of Burkina Faso/ITC 2015). This is explored in the second paper (Wardell et al. 2021).

After World War II, the colonial state's interests shifted towards groundnuts and cotton as the priority crops to underpin the colony's economic development. Low investment, limited transport infrastructure, changing metropolitan demands for oilseeds, and the ability of local producers to continue to use their own local and regional marketing networks also contributed to the decline of the shea nut export trade in the late colonial period. In essence, the production and supply of shea products remained central to servicing the needs of Burkinabé and West African consumers throughout the colonial period.

TABLE 3 Exports of shea nuts and shea butter from AOF, 1937–1953 (tonnes)

Product	1937	1948	1952	1953	
				SECACO <sup>1</sup>	CITEC
Shea nuts	15.874	45.000	9.109		
Shea butter	6.657	1.529	n/a	199	855

Sources: Chevalier, 1943: 100; Sissao, 2010: 285; and Pehaut, 1974

<sup>1</sup> Supplies of shea nuts were provided to the factory either using forced labour from villages neighbouring the site (until 1946 when force labour was abolished), or by the colonial trading companies which depended on a network of local traders to purchase from local periodic markets up to 150 km from the site. Sissao suggests that SECACO only produced 1.529 tonnes of shea butter from 45.000 tonnes of shea nuts (Sissao, 2010: 283).

## OUTCOMES OF COLONIAL EFFORTS TO DEVELOP THE SHEA TRADE

The efforts to incorporate Haute Volta, a French colonial backwater, into the world economy was drawn out, heterogeneous, and messy, and, seen from the perspective of the colonial administration and metropole, ultimately, a failure. The colonial state assumed erroneously that little shea trade existed, and that producers would respond positively to admittedly weak market incentives. We suggest that French colonial policies also failed due to a composite of factors including the limited investment in either the colony or shea as an oilseed crop, the prohibitive costs of road transport and limited transport infrastructure, the adaptation by women shea producers to the extraction of male labour<sup>31</sup> and the trade

<sup>28</sup> In metropolitan France, a Comité d'Organisation de carburants et lubrifiants de remplacement was created by decree on 29 September 1942.

<sup>29</sup> The isolated site selected was close to the River Mohoun and the then (still) planned extension of the Abidjan-Ouagadougou railway line. The factory only started oil extraction in 1944 but with disappointing results and a low extraction rate (Sissao, 2010). Only a third of the funds released by the Fonds de Solidarité were disbursed in Haute Cote d'Ivoire (Sissao, 2010: 282).

<sup>30</sup> This followed additional research conducted by Professor Canac's laboratory at a Scientific Research Centre in Marseille to develop an improved shea butter refining process. AFFECO/904, dossier SECACO. Archives du Centre National d'Outre-Mer, Aix en Provence, France.

<sup>31</sup> Haute Volta served as a labour reserve for other colonies in GGAOF. The extraction of male labour left women-headed households with reduced labour for agricultural operations. The collecting, processing and transformation of shea nuts enabled women to spread their labour demand throughout the year to generate both edible oil for their own consumption but as a consistent source of revenues through sales in local periodic markets (Wardell and Fold, 2013).

opportunities created by new international borders, and the ‘blindness’ of colonial officials to the economic, social and cultural functions of periodic local markets used by women shea traders. Ultimately, the production and supply of shea nuts and shea butter remained central to servicing the needs of Burkinabe and West African consumers throughout the colonial period. Most recent scholarship on the shea trade has focused on relatively recent events and actions, detached from the broader historical context in which it is embedded. This paper emphasizes the emergence of globalized trade which was forged out of distinctive local experiences of production and transformation and local and regional circuits of shea trade controlled by women. By understanding the patterns of pre-colonial and colonial trade in the commodity this helps to explain the gendered nature of the contemporary shea economy in Burkina Faso.

### Negligible investment in a French colonial backwater

French West Africa (GGAOF) covered an area nine times the size of France comprising ‘coastal’ spaces with a population of 5 million which exported 91% of exported products. The other ‘continental’ spaces including Haute Volta had a total population of 12 million but accounted for less than 10% of agricultural exports (Suret-Canal 1972). The generally low investment in French West Africa, after the 13 April 1900 law removed subsidies to the colonies, was acute in Haute Volta and typified by the belated completion of the railway line linking Abidjan and Ouagadougou in 1955. More than half of the total expenditure on transport infrastructure under the Investment Fund for Economic and Social Development (FIDES) was allocated to Sénégal and Côte d’Ivoire (Debrie 2010: 296).<sup>32</sup> Recent research has highlighted the long-term impacts of early colonial public investments (or lack thereof) in French West Africa (Huillery 2009).

Distances to coastal ports and the prices offered for a high-volume low-value commodity such as shea kernels rendered global trade uneconomic. The delays in completing the Abidjan to Ouagadougou railway did not help this situation. Other ambitious, large scale, capital-intensive projects such as the Office du Niger saw Haute Volta primarily as a labour reserve, as was the case with earlier infrastructural and plantation investments in Sénégal and Côte d’Ivoire (Kobi 2019: 47). Colonial efforts to transform indigenous systems of

(agricultural) production were, in general, unsuccessful, and probably led to further marginalization of the colony. An estimated 60% of colonies’ budgets in French West Africa came from capitation tax. Direct taxes (capitation tax, trading tax and property tax) represented 89% of the total resources of the colonies (Huillery 2009: 181). Local budgets in each colony had to cover all expenses except for military expenses and some of the large-scale public works.

Two initiatives to use shea as a source of gutta-percha and later as a raw material for the production of biodiesel were unsuccessful. The heavily subsidized ‘colonial petroleum’ project which tried to use shea oil as a feedstock for biofuel production was liquidated in the mid-1950s. A decade of investment in research on shea as a potential oilseed in the late colonial period was abandoned shortly before the country’s independence in 1960. Groundnuts and cotton remained the priority export crops in the early and late colonial periods, respectively.

### Haute Volta as a labour reserve for other GGAOF colonies

The colonial ‘labour reserve’ policy in Haute Volta systematically extracted able-bodied men from the territory to provide labour for infrastructural investments in transport infrastructure, cocoa plantations and the timber industry, notably in Côte d’Ivoire and Sénégal. The chiefs (‘Chef de Cercle’) imposed by the French colonial administration became *de facto* labour agents for the colonial government and were responsible for encouraging labour migration (Osborn 2003).<sup>33</sup> This left Burkinabe households short of male labour for agricultural production, and heightened the importance to women of value-added processing of shea kernels, and the marketing of kernels and shea butter, all of which they managed themselves. Shea enabled women to spread labour demand for processing and selling shea products throughout the year, and to use the opportunities provided by an elaborate network of periodic markets and trade relays to the south and north of the (new) international boundaries between Burkina Faso and neighbouring countries such as Ghana, Côte d’Ivoire and Benin (Chalfin 2004b, Fold and Reenberg 1999, Wardell and Fold 2013). Hence, the constancy of three-day periodic markets enabled women to sustain their livelihoods and to reproduce social relations devoid of ‘boom and bust’ cycles,

<sup>32</sup> Rene Dumont (1969: 46) noted that “within the framework of FIDES very large sums were granted to French-speaking Africa. In face of the immense needs, however, they seemed quite modest. The aid could in fact have been increased many times without a corresponding tax pressure, had France the courage politically to decolonize more rapidly. Forty-six percent of the FIDES grants, particularly in the first four-year plan, were used to build roads, ports and airports. These were indispensable to open up the countries, but could have been achieved at less cost.” In contrast, Paul Nugent (2004) suggests that “the consensus among historians is that FIDES amounted to much more than an ideological fig leaf. It did channel substantial resources into the African colonies – initially (as in the British case) into infrastructural development, but later also into industrial enterprises and agricultural projects.”

<sup>33</sup> French District Administrators were the real chiefs of the French empire (Delavignette, 1939) and oversaw tax collection, counting people, developing maps, schools, planning and supervising the building of roads, bridges, wells and tracks, arresting criminals and judging them in accordance with the ‘native population code’ (Code de l’Indigenat). The official tasks of African chiefs were to collect taxes, recruit the workforce for forced labour and recruit military reservists. The amounts to be collected and numbers to recruit were defined by the French administrators (based on Huillery, 2009: 181).

price wars and ‘hold-ups’ which characterized other globally traded commodities such as palm oil and cocoa in southern Ghana (Milbourn 1970, Lynn 1998).

Women were instrumental in sustaining rural livelihoods by using periodic markets on both sides of the border to trade in shea kernels and butter (Fold and Reenberg 1999, Chalfin 2001, Chalfin 2004a, and Wardell and Fold 2013). Hence, colonial labour extraction policies in Haute Volta, mirroring those in the neighbouring Northern Territories of the Gold Coast Colony, may have reinforced the ‘gendering’ of agroforestry parkland landscapes (Merchant 1990, Norwood 2001, Carney and Elias 2006).

### Shea as a peripheral imperial commodity

French tropical agronomy formed part of the “global project for the rational and intensive exploitation of colonial resources” (Sarraut 1923), which specialized in the large-scale production of some priority agricultural products to supply mainland France. Botanical gardens and experimental stations represented the early interface between scientists and colonial administrators. The most important commodities to the French colonial administration, French scientists and French colonial trading firms in French West Africa were groundnuts, palm oil, cocoa, timber and later cotton. Shea was a peripheral ‘imperial commodity’ throughout the colonial period (Hazareesingh and Curry-Machado 2009, and Curry-Machado 2013) despite the early interest shown in it during the Colonial Exposition in Marseille in 1905 (Henry 1907: 239).

Colonial agricultural development in the GGAOF colonies focused on plant breeding, agronomy, and phytopathology of other prioritized commodities such as groundnuts in Senegal (Bonneuil 1999), cocoa in Côte d’Ivoire (Tourte 2019), and after 1920, cotton in Haute Volta (Tourte 2019c: 431–433, see also Roberts 1996).<sup>34</sup> Some efforts were made to rationalize shea production for exports and included proposals to produce latex as a substitute for gutta-percha (Vuillet 1901) and to establish managed forest reserves of shea trees and shea plantations in Katibougou in present-day Mali (Vuillet 1911, Bonneuil and Kleich 2003, and Tourte 2019a). These early initiatives were thwarted, however, as violent resistance to colonial rule culminated in the Volta-Bani War 1915–1916 across Burkina Faso and Mali. 5,000 troops under French authority were deployed to end the anticolonial movement and resulted in the death of an estimated 30,000 Africans, and the destruction of more than a hundred villages (Vennes 2018: 87, Saul and Royer 2001).

This event triggered the cumulative migration and settlement of an estimated 1.3 million Burkinabe migrants into the

neighbouring Protectorate of the Northern Territories of the Gold Coast Colony (Marchal 1999: 222, see also Dresch 1945 and Rouch 1956). Migration was to avoid the cumulative burdens of military conscription after 1915 (Echenburg 1975), French capitation tax, forced labour on, for example, collective farms until 1946,<sup>35</sup> and corporal punishment (Asiwaju 1976, Royer 2003). This was compounded by increasingly restrictive land and forest policies that created a ‘history of fear’ for Burkinabe resource users (Ribot 1995 and 1999a).

Research on shea conducted by the *Institut de Recherches pour les Huiles et Oléagineux* (IRHO) in the late colonial period yielded some promising results before IRHO was suspended in 1958. By this time metropolitan France had changed its strategy to diversify its sources of oilseeds. Little or no investment in additional research on shea was conducted until after the post-2000 boom in the global trade in shea. The volume and value of the shea trade continued to remain insignificant in relation to the dominant French trading firms’ interests in groundnuts, timber, and cocoa, and after 1920, the colonial administration’s interest in developing cotton production. The volatility of annual shea nut exports varied between 0.5 and 2.9 metric tons during the colonial period. Exports declined in the late 1950s due to over-production of other vegetable oils.

### The blindness of colonial officials and scientists

Throughout the colonial era, little effort was made by either the colonial administration or French scientists to understand customary land and resource tenure arrangements, the socio-cultural and economic functions of local periodic 3–4 day markets or cross-border trade, and the role of women in either the management of shea parklands or the collection and processing of shea. Colonial officials and scientists alike had little, if any, understanding of either the social functions of periodic markets or the dominant role of women in shea production and marketing processes. In addition, “Colonial officials did not consider the human agency involved in *V. paradoxa* selection” (Carney and Elias, 2006: 237). The colonial administration and scientists relied on a “world on paper” (Hawkins 2002) determined by maps, laws, decrees and *arrêtés*, writing a linear concept of history in stark contrast to the knowledge, practices and oral histories of women shea collectors. Local profligate practices including the use of fire as a land management tool were frequently critiqued by colonial officials (see, for example, Laris and Wardell 2006). Women were, furthermore, rarely favoured interlocutors by colonial administrators, scientists or technicians, and the colonial state assumed erroneously that producers would

<sup>34</sup> The 20,000 tonnes of cotton set as an annual production objective by Governor Edouard Hesling in 1925 was finally achieved in 1968. This increased to over 400,000 tonnes in the early 2000s (Tourte, 2019c: 433).

<sup>35</sup> Collective farms to produce cotton using forced labour were replaced by “model farms” of between 20–60 hectares and by 1930, by “family farms”. In 1931, 93 family farms were supervised by the Service de l’Agriculture which, by then, comprised only ten staff. In addition, an experimental cotton farm was established at the Saria Agricultural Station in 1929: by 1934 133 hectares of demonstrations plots of millet, maize, groundnuts and cotton were being used to train young farmers who after two years were expected to establish their own family farms (Tourte, 2019a: 235–237).

respond positively to world market incentives. The French colonial state (and its post-independence successor – see Wardell *et al* 2021) attempted to regulate indigenous forms of knowledge, gender relations, and social reckoning through legislation. Women shea nut producers and shea nut processing in Haute Volta lived in a “world that didn’t count” (McMichael 2004: 7), and remained in the shadow of cocoa growers in Cote d’Ivoire and Ghana until the post-2000 boom in the global shea trade. Women remained, nevertheless, firmly in control of the local and regional shea trade.

### The creation of a subversive borderland economy?

We suggest that despite – or perhaps in response to – neglect by the French colonial state, women were instrumental in sustaining rural livelihoods by using local periodic markets to trade in shea kernels and butter on both sides of the new borders separating Haute Volta from its neighbouring territories. These emerged as new international boundaries around the formerly contested Neutral Zone (see Figure 2) were recognized and helped to create ‘subversive economies’ in the borderlands (Donnan and Wilson 1998, see also Wardell *et al* 2003). The 11<sup>th</sup> parallel separating Haute Volta and the Protectorate of the Northern Territories of the Gold Coast Colony has been described as a phantom frontier (Duperray 1999). After the Volta-Bani War, the cumulative exodus of a third of the total estimated Burkinabe population in 1920 (Marchal 1999: 222) and historically embedded patterns of trade and migration in the region (Cordell, Gregory and Piché 1996) helped to create this subversive economy. Ironically, the key factor which influenced the placement of the border separating British and French territories was the protection of metropolitan trading interests.

Early attempts by the British to control and regulate the transit trade through the (then) North East Frontier District were abandoned by 1915.<sup>36</sup> In practice, border zones with Ghana, Côte d’Ivoire, Togo and Benin are all distinguished by their ethno-linguistic, cultural, ecological and commercial affinities which has fostered the strengthening of economic alliances and networks outside the formal boundaries of the nation state. State boundaries separating compatible local periodic market systems, differential currency rates and pricing regimes all provided new (and changing) opportunities for women shea nut and shea butter traders to develop and sustain their production and marketing systems to the north and south of the borders. Women also benefited from the immutability of ‘marginalized locales’ (Chalfin 2001), which remained largely free from both state regulation and the vagaries of global commodity chains.

### CONCLUDING REMARKS

West Africa’s agroforestry parklands provide a broad range of goods and services at the local, national, and regional levels

throughout the region. They constitute part of a complex mosaic of different land uses in landscapes often characterised by many resource users. Their extent and composition have been moulded for centuries by the complex interactions between humans and their biophysical environment. Humans and livestock use land and forest resources, and by doing so they become an integral component of the parkland system, influencing the patterns and processes of change. Human-induced processes have a strong ‘random’ element as people tend to adapt continuously to changing conditions and priorities in an unpredictable way (Berry 1993). The shea tree (*Vitellaria paradoxa*) is still the most commonly occurring species in the parklands of Burkina Faso.

In the early part of the 20th century, the French (and neighbouring British) colonial administrations considered the possibilities of starting large-scale exports of shea kernels to Europe. Early interest focused on the potential use of shea latex as a substitute for gutta-percha. The interest of colonial trading firms led to modest growth in the shea trade in the early colonial period in Haute Volta.

Thereafter, violent resistance to colonial rule during the Volta-Bani War was replaced by persistent migration into the (British) Protectorate of the Northern Territories of the Gold Coast Colony, as a form of protest by local Burkinabé communities to avoid the cumulative burdens of capitation tax, forced labour, military conscription, corporal punishment, and restrictive forest policies. Multiple initiatives to improve the extraction of shea butter (mechanically and chemically), to protect shea parklands or to establish shea plantations, as well as early industrialization efforts, including a French ‘colonial petroleum’ project, were not successful.

The colonial state assumed erroneously that little shea trade existed, and that producers would respond positively to market incentives. Shea remained a peripheral imperial commodity throughout the colonial era. Women shea collectors and processors played a critical role as agents in this part of the French West African empire as “instigators and promoters” (Curry-Machado 2013: ix) in terms of their capacity to use (or not) the forces of globalization to serve their own interests of local autonomy. French colonial policies also failed due to a composite of factors including the limited investment in either the colony or shea as an oilseed crop, the prohibitive costs of road transport and limited transport infrastructure, the adaptation by women shea producers to the extraction of male labour and the trade opportunities created by new international borders, and the ‘blindness’ of colonial officials to the economic, social and cultural functions of periodic local markets used by women shea traders.

During the late colonial period, a first attempt was made to put an end to marked fluctuations in shea prices in French West Africa by creating a first price stabilization fund (*Caisse de Stabilisation des Prix*), but low shea production in the late 1950s counteracted these endeavours and the fund was

<sup>36</sup> A District Supervisor of the Kunkwa (customs) collecting station on the north-east border (between present-day Ghana and Burkina Faso) suggested that “...as far as I can see they not only lack initiative, but also appear to be devoid of all business instinct...”. Trade Report for the quarter ending 30 June 1914, Kunkwa Preventive Service Collecting Station, North East Frontier District. NAG/ADM/56/1/131.

liquidated in 1959 (Pehaut 1974). Shea collectors and transformers preferred to use the nuts and processed butter for their own domestic food consumption, and/or for sale in local periodic markets including cross-border local markets. Ultimately, the production and supply of shea nuts and shea butter remained central to servicing the needs of Burkinabe and West African consumers throughout the colonial period.

Most recent scholarship on the shea trade has focused on relatively recent events and actions, detached from the broader historical context in which it is embedded. Little scholarly work has been published on the history of shea as a colonial commodity. Women were instrumental in sustaining their rural livelihoods by using local periodic markets to trade in shea kernels and butter on both sides of the new borders separating Upper Volta from its neighbouring territories.

The continuities and changes in the governance of shea supply chains in Burkina Faso after independence in 1960 are explored in a second paper 'Shea – the emergence of global production networks, 1960–2021'. By adopting a Global Production Network approach to the evolution of the shea trade in Burkina Faso, the two papers emphasize the emergence of globalized trade which was forged out of distinctive local experiences of production and transformation and local and regional circuits of shea trade controlled by women. Our intention is to demonstrate that one way of dealing with the complexity of globally, regionally and locally traded commodities such as shea nuts and shea butter, is to expand the period under scrutiny to compare the effects of present and previous waves of globalization. The separation of economic processes from social arrangements cannot easily be done, especially not in the *longue-durée* of socio-economic development.

## REFERENCES

- ABAKA, E. 2005. *Kola is God's Gift. Agricultural Production, Export Initiatives & the Kola Industry of Asante & the Gold Coast c. 1820–1950*. Athens: Ohio University Press.
- d'ALMEIDA TOPOR, H., CHANSON-JABEUR, C., and LAKROUM, M. (Eds.) 1992. *Les Transports en Afrique XIX–XX Siècles*. Actes du colloques organise les 16 et 17 janvier 1990 à Paris. Paris: Editions l'Harmattan (Villes et Entreprises). 365 pp.
- AL-'UMARI. 1927. Ibn Fadl Allah Al Omari Masalik El Absar Fi Mammalik El Amsar I – *L'Afrique moins l'Egypte*. Translated by Gaudefroy-Demonbynes. Volume II. Paris, Librairie Orientaliste, Paul Geuthner. 282 pp.
- ANDERSON, D., and GROVE, R. (Eds.) 1987. *Conservation in Africa. People, Policies and Practice*. Cambridge University Press, Cambridge.
- ANDERSSON, J., and LAZAKU, V. 2019. Long-term drivers of taxation in francophone West Africa 1893–2010. *World Development* **114**(2019): 294–313. <https://doi.org/10.1016/j.worlddev.2018.10.008>
- ANGLO-FRENCH FORESTRY COMMISSION 1973. Rapport de la mission forestière Anglo-Francaise Nigeria-Niger (décembre 1936 – février 1937) *Bois et Forêts des Tropiques* **148**: 3–26.
- ANGOULVANT, G. 1919. L'arachide et le palmier à huile en Afrique occidentale. *Bulletin des matières grasses* **1**: 498–503.
- ANNET, C. 1906. La France colonisatrice en Afrique. Principales missions d'explorateurs et militaires *Revue coloniale* No. **34**: 114–128.
- ANNET, E. 1930. Le karité en Afrique Occidentale française. *Revue de botanique appliquée et d'agriculture coloniale*, 10 année, Bulletin No. **112**, décembre 1930: 913–921.
- ANON 1892. Exhaustion of gutta-percha. *India Rubber Journal* **9**(5): 137.
- ACQUAAH, B. 1999. *Cocoa Development in West Africa. The Early Period with Particular Reference to Ghana*. Accra: Ghana Universities Press.
- ARHIN, K. 1972. The Ashanti Rubber Trade with the Gold Coast in the Eighteen-Nineties. *Africa* **LII**(1): 32–43.
- ARHIN, K. 1974. *The papers of George Ekem Ferguson, a Fanti official of the Government of the Gold Coast 1890–1897*. African Social Research Documents Vol. 7. African Studies Centre, Leiden and Cambridge.
- ARHIN, K. 1980. *West African Traders in Ghana in the Nineteenth and Twentieth Centuries*. London: Longman.
- ARHIN, K. (Ed.) 1985. 'George Ekem Ferguson of the Gold Coast Colony 1864–1897'. *West African Colonial Civil Servants in the Nineteenth Century. African Participation in British Colonial Expansion in West Africa*. Research Report No. 25/1985. African Studies Centre, Leiden, The Netherlands: 1–20.
- ARMITAGE, D., and GULDI, J. 2015. The return of the *longue durée*, an Anglo-American perspective. *Annales Histoire, Sciences Sociales* **70**, No. 2 (April-June 2015): 289–318.
- ASIWAJU, A.I. 1976. Migrations as revolt: the example of the Ivory Coast and the Upper Volta before 1945. *Journal of African History* **XVII**(4): 577–594.
- AUBREVILLE, A. 1938. *La forêt coloniale: les forêts de l'Afrique occidentale française*. Annales d'Académie des Sciences Coloniales, IX. Société d'Editions Géographiques, Maritimes et Coloniales, Paris.
- BAIR, J. 2008. Global Commodity Chains. Genealogy and Review. In: Jennifer Bair (Ed.) *Frontiers of Commodity Chain Research*. Stanford, CA: 1–34.
- BAKER, K.M. 2000. *Indigenous Land Management in West Africa. An Environmental Balancing Act*. Oxford University Press, Oxford.
- BARTH, H. 1965 (1857). *Travels and Discoveries in North and Central Africa Being a Journal of an Expedition Undertaken....in the years 1849–1855*. Vol. III, London, F. Cass.
- BARTON, G.A. 2002. *Empire forestry and the origins of environmentalism*. Cambridge University Press, Cambridge.
- BATTERBURY, S.P.J., and BEBBINGTON, A.J. 1998. Environmental Histories, Access to Resources and Landscape Changes: An Introduction. Special Issue, *Land Degradation and Development* **10**: 279–291.



- BECKER, L.C. 2001. Seeing Green in Mali's Woods: Colonial Legacy, Forest Use, and Local Control. *Annals of the Association of American Geographers* **91**(3): 504–526.
- BEGUE, L. 1937. *Contribution à l'Etude de la Végétation Forestière de la Haute-Côte d'Ivoire*. Librairie Larouse, Paris.
- BEINART, W. 1996. 'Environmental destruction in Southern Africa'. In: Leach and Mearns, (eds.), *The Lie of the Land. Challenging received wisdom on the African environment*: 79.
- BEINART, W. 2000. African History and Environmental History. *African Affairs* **99**: 269–302.
- BEINART, W., and COATES, W. 1995. *Environment and History. The taming of nature in the USA and South Africa*. Routledge: London and New York.
- BEINART, W., and MCGREGOR, J. (Eds.) 2003. *Social History & African Environments*. James Currey: Oxford.
- BERNSTEIN, H., and WOODHOUSE, P. 2001. Telling environmental change like it is? Reflections on a study in Sub-Saharan Africa. *Journal of Agrarian Change* **1**(2): 283–324.
- BERRY, S. 1993. *No Condition is Permanent. The Social Dynamics of Agrarian Change in Sub-Saharan Africa*. University of Wisconsin Press: Madison.
- BINGER 1980 (1892). *Du Niger au Golfe de Guinée par le pays de Kong et le Mossi (1887–1889)*. Paris, Hachette, réédition Société des Africanistes.
- BOFFA, J-M. 2015. *Opportunities and challenges in the improvement of the shea (Vitellaria paradoxa) resource and its management*. Report submitted to the Global Shea Alliance. World Agroforestry Centre Occasional Paper No. 24. Nairobi, World Agroforestry Centre.
- BONKOUNGOU, E.G. 1987. Monographie du Karité (*Butyrospermum paradoxum* (Gaertn. f. Hepper), espèce agroforestière à usages multiples. Ouagadougou, Burkina Faso, IRBET/CNRST, 67 p.
- BONKOUNGOU, E.G. 2005. Preface. In: Kabore, C., *Aménagement des forêts au Sahel Point sur vingt années de pratiques au Burkina Faso*. Ministère de l'Environnement, de l'Economie Vert et du Changement Climatique, Ouagadougou.
- BONNEUIL, C., and KLEICHE, M. 1993. *Du jardin d'essai colonial à la station expérimentale 1880–1930. Eléments pour une histoire du CIRAD*. Autrefois l'Agronomie. CNRS, Paris VII.
- BONNEUIL, C. 1999. «Pénétrer l'indigène»: arachides, paysans, agronomes et administrateurs coloniaux au Sénégal (1897–1950). *Etudes Rurales* juillet-décembre 1999, **151–152**: 199–223.
- BROMLEY, R.J. 1971. Markets in the Developing Countries: A Review. *Geography* **56**(2): 124–132.
- BROOKS, G.E. 1970. *Yankee Traders, Old Coasters and African Middlemen: A History of American Legitimate Trade with West Africa in the Nineteenth Century*. Boston: Boston University Press.
- BROOKS, G.E. 1993. *Landlords and Strangers: Ecology Society and Trade in Western Africa, 1000–1630*. Boulder, CO: Westview Press.
- BROWN, K. 2003. 'Trees, Forests and communities': some historiographical approaches to environmental history on Africa. *Area* (2003) **35**(4): 343–356.
- BRUKUM, N.J.K. 1997. 'The Northern Territories of the Gold Coast under British colonial rule, 1897–1956: A study in political change'. Doctoral thesis, Graduate Department of History, University of Toronto
- BUTTOUD, G. 1997. The influence of history in African forest policies: a comparison between Anglophone and Francophone countries. *Commonwealth Forestry Review* **76**(1): 43–46.
- CAILLIE, R. 1965 (1830). *Journal d'un voyage à Tombouctou et à Jenné*. 3 Tomes et 1 atlas. Edition Anthropos, Paris.
- CARNEY, J., and ELIAS, M. 2006. Revealing gendered landscapes: Indigenous female knowledge and agroforestry of African shea. *Canadian Journal of African Studies* **40**(2), 2006: 235–267.
- CARNEY, J., and ELIAS, M. 2014. Gendered knowledge and the African Shea-Nut Tree.' In: Hecht, S.B., Morrison, K.D. and Padoch, C. (Eds.) *The Social Lives of Forests. Past, Present and Future of Woodland Resurgence*. Chicago and London, The University of Chicago Press: 231–238.
- CENTRE FOR INTERNATIONAL FORESTRY RESEARCH (CIFOR) 2002. Africa's tropical dry forests – time to re-engage. An agenda for priority research. CIFOR: Bogor.
- CHAFER, T. 2002. *The End of Empire in French West Africa France's Successful Decolonization?* Berg: Oxford.
- CHALFIN, B. 2001. Border Zone Trade and the Economic Boundaries of the State in North-East Ghana. *Africa* **71**(2): 202–224.
- CHALFIN, B. 2004a. *Shea Butter Republic: State Power, Global Markets and the Making of an Indigenous Commodity*. New York, NY: Routledge.
- CHALFIN, B. 2004b. Old Commodities in New Niches: The Case of Shea. *African Economic History* **32**: 51–63.
- CHAMBERLAIN, C. 1979. Bulk Exports, Trade Tiers, Regulation, and Development: an Economic Approach to the Study of West Africa's "Legitimate Trade". *Journal of Economic History* **XXXIX**(2): 419–438.
- CHAMPION, L., FULLER, D.Q., OZAINNE, S., HUYSECOM, E., and MAYOR, A. 2021. Agricultural diversification in West Africa: an archaeobotanical study of the site of Sadia (Dogon Country, Mali). *Archaeological and Anthropological Sciences* (2021) 13:60 <https://doi.org/10.1007/s12520-021-01293-5>
- CHEVALIER, A. 1900. Les cultures indigènes dans l'Afrique occidentale française. *Revue des Cultures coloniales*, 4eme année, tome **VI**, No. 52: 257–374.
- CHEVALIER, A. 1902. Un voyage scientifique à travers l'Afrique occidentale, Soudan français, Sénégal, Casamance en 1899. Extrait de la mission de 17 mois en AOF. *Annales du Musée colonial de Marseille. Revue des cultures coloniales*, Vol. **IX**.
- CHEVALIER, A. 1905. *Les végétaux utiles de l'Afrique tropicale française* (en collaboration avec Emile Perrot). Paris, Muséum national d'Histoire naturelle, 152 pp.

- CHEVALIER, A. 1912. Mission dans l'Ouest africain, Guinée, Cote d'Ivoire, Dahomey, Haute Sénégal, Niger, Sénégal (1908–1910) avec carte mission au début + carte Congo français et Cameoun allemand. Itinéraire de A. Chevalier en 1902–1904. *Nouvelles Archives des missions scientifiques et littéraires* No. 5: 131pp + cartes
- CHEVALIER, A. 1917. *Les végétaux utiles d'Afrique tropicale*. Paris, Augustin Challamel, 478pp.
- CHEVALIER, A. 1943. Les Sapotacees a graines oleagineuses et leur avenir en culture. *Revue de botanique appliquée et d'agriculture coloniale*, 23eme année, Bulletin No. 260–262, avril-mai-juin 1943: 97–159.
- CHEVALIER, A. 1946. L'arbre à beurre d'Afrique et l'avenir de sa culture. *Oléagineux* 1: 7–11.
- CHEVALIER, A. 1948. Nouvelles recherches sur l'arbre a beurre du Soudan *Butyrospermum parkii*. *Revue de botanique appliquée et d'agriculture coloniale*, 28 année, Bulletin No. 307–308, mai-juin 1948: 241–256.
- CLARK, G. 1994. *Onions are My Husband: Survival and Accumulation by West African Market Women*. Chicago and London: The University of Chicago Press.
- COE, N.M., DICKEN, P., and HESS, M. 2008. Introduction: global production networks – debates and challenges. *Journal of Economic Geography* 8(3), May 2008: 267–269. <https://doi.org/10.1093/jeg/lbn006>
- COHEN, W.B. 1971. *Rulers of Empire: the French Colonial Service in Africa*. Stanford University, Hoover Institution Press: Stanford.
- COMPOARE, G. 1984. L'Industrialisation de la Haute Volta. Thèse de Doctorat de 3eme cycle en Géographie et Ecologie Tropicales. Université de Bordeaux III, UER de Géographie, juin 1984. 281 pp.
- COQUERY-VIDROVITCH, C. 1975. L'impact des intérêts coloniaux: S.C.O.A. et C.F.A.O. dans l'Ouest Africain, 1910–1965. *Journal of African History* XVI, 4(1975): 595–621.
- COQUERY-VIDROVITCH, C. 1976. L'Afrique de la Crise de 1930 (1924–1938). *Revue Francaise d'Histoire d'Outre-Mer* 63(232–233): 375–784.
- COQUERY-VIDROVITCH, C., and GEORG, O. 1992. *L'Afrique Occidentale au temps des Français Colonisateurs et Colonises, 1860–1960*. Paris, Agence de Coopération culturelle et technique. 460 pp.
- COQUERY-VIDROVITCH, C., and MONIOT, H. 1993. *L'Afrique Noire de 1800 à nos jours*. Paris, Presses Universitaires de France.
- CORDELL, D.D., and GREGORY, J.W. 1982. Labour reserves and population: French colonial strategies in Koudougou, Upper Volta, 1914–1939. *Journal of African History* 23(2): 205–224.
- CORDELL, D.D., GREGORY, J.W., and PICHE, V. 1996. *Hoe & Wage. A Social History of a Circular Migration System in West Africa*. Westview Press, Boulder.
- COWLEY, M., (Ed.) 1928. *Adventures of an African Slaver: Being a True Account of the Life of Captain Theodore Canot*. New York: Albert and Charles Boni.
- CURRY-MACHADO, J., (Ed.) 2013 *Global Histories, Imperial Commodities, Local Interactions*. Palgrave Macmillan, London.
- CURTIN, P. 1971. “Pre-colonial Trading Networks and Traders: The Diahanke.” In *The Development of Indigenous Trade and Markets in West Africa*, edited by C. Meillassoux, 228–39. London: Oxford University Press.
- DAAKU, K.Y. 1970. *Trade and Politics on the Gold Coast 1600–1720*. Oxford: Oxford University Press.
- DASTRE, A. 1901. Questions scientifiques: le caoutchouc et la gutta-percha. *Revue des Deux Mondes*, 5eme Période, Tome 2, No. 1 (mars 1901): 188–202.
- DAVIES, P., (Ed.) 1976. *Trading in West Africa 1840–1920*. London: Croom Helm.
- DEBRIE, J. 2010. From colonization to national territories in continental West Africa: the historical geography of a transport infrastructure network. *Journal of Transport Geography* 18(2010): 292–300.
- DELAVIGNETTE, R. 1939. *Les vrais chefs de l'Empire*, Gallimard. Collection «Esprit». Réédité sous le titre *Service africain*, Gallimard, 1946. Translated as *Freedom and Authority in French West Africa*, Oxford University Press, 1950.
- DESMAREST, J. 1958. Observations sur la population de karité de Niangoloko 1953–1957; *Oléagineux* 13(5): 449–455.
- DONNAN, H., and T.M. WILSON. 1998. The Subversive Economy. In *Borders. Frontiers of Identity, Nation and State*, Eds. H. Donnan and T. M. Wilson, 87–106. London: Berg.
- DOVERS, S.R. 1994. Sustainability and ‘Pragmatic’ Environmental History: A Note from Australia. *Environmental History Review* 18(3): 21–36.
- DOVERS, S.R. 2000. On the Contribution of Environmental History to Current Debate and Policy. *Environment and History* 6: 131–150.
- DRESCH, J. 1945. Les migrations des populations des colonies françaises vers la Gold Coast. Bulletin de l'Association des Géographes Françaises 171–2: 84–92.
- DUMONT, R. 1969. False Start in Africa. Translated by Phyllis Nauts Ott. London, Deutsch. 288 pp.
- DUPERRAY, A.-M. 1978. Les Gourounsi de Haute-Volta: Conquête et Colonisation 1896–1933. Thèse de 3eme cycle. Université de Paris I, Paris.
- DUPERRAY, A. 1999. Une frontière fantôme: le 11<sup>e</sup> parallèle entre Gold Coast et Haute Volta. In: Bernault, F. *Enferme-ment, prison et châtements en Afrique du 19<sup>e</sup> siècle à nos jours*. Editions Karthala, Paris: 133–162.
- DUPUIS, J., 1824. *Journal of a Residence in Ashantee. Notes and Researches relative to the Gold Coast and the Interior of Western Africa; chiefly collected from Arabic mss and information communicated by the Moslems of Guinea*. Department of Special Collections, Edinburgh University Library [S.B. 91 (6674) Dup.].
- ECHENBURG, M.J. 1975. Paying the blood tax: military conscription in French West Africa, 1914–1929. *Canadian Journal of African Studies* IX(2): 171–192.

- EHRET, C. 2002. *The Civilisations of Africa. A History to 1800*. Charlottesville, University Press of Virginia. 481 pp.
- ELIAS, M., and CARNEY, J. 2004. The female commodity chain of shea butter: Burkinabe producers, Western green consumers and Fair Trade. *Cahiers de géographie du Québec* Vol. 48, No. 133, avril 2004: 71–88.
- ELIAS, M., and ARORA-JONSSON, S. 2017. Negotiating across difference: Gendered exclusions and cooperation in the shea value chain. *Environment and Planning D: Society and Space* 35(1): 107–125.
- ELLIS, S., and MACGAFFEY, J. 1996. Research on Sub-Saharan Africa's Unrecorded International Trade: Some Methodological and Conceptual Problems. *African Studies Review* 39(2): 19–41.
- ENGBERG-PEDERSON, L. 2003. *Endangering Development: Politics, Projects, and Environment in Burkina Faso*. Praeger Publishers.
- ENGLEBERT, P. 1996. *Burkina Faso: Unsteady Statehood in West Africa*. Nations of the Modern World: Africa. Westview Press, Boulder.
- FAGE, J.D. 1969. Slavery and the Slave Trade in the Context of West African History. *Journal of African History* X(3): 393–404.
- FAIRHEAD, J. and LEACH, M. 1995. Reading forest history backwards: the interaction of policy and local land use in Guinea's forest savanna mosaic, 1893–1993. *Environment and History* 1: 55–91.
- FAIRHEAD, J., and LEACH, M. 1996. *Misreading the African Landscape: Society and Ecology in a Forest-Savanna Mosaic*. Cambridge University Press, Cambridge.
- FAIRHEAD, J., and LEACH, M. 1998. *Reframing Deforestation. Global analysis and local realities: studies in West Africa*. Routledge, London and New York.
- FELIX, J.H. 1963. Contribution de R. Caillié à l'ethnobotanique africaine. *J. Agric. Trop. et Bot. Appl.*, t. X: 449–520.
- FIRMIN-SELLERS, K. 2000. Institutions, context and outcomes. Explaining French and British rule in West Africa. *Comparative Politics* 32(3): 253–272.
- FOLD and REENBERG, A. 1999. In the shadow of the 'chocolate war': local marketing of shea nut products around Tenkodogo, Burkina Faso. *Geografisk Tidsskrift/Danish Journal of Geography* Special Issue 2: 133–123.
- GALLAGHER, D.E., DUEPPEN, S.A., and WALSH, R. 2016. The archaeology of shea butter (*Vitellaria paradoxa*) in Burkina Faso, West Africa. *Journal of Ethnobiology* 36(1): 150–171.
- GALLIENI, J.-S. 1885. *Mission d'Exploration du Haut Niger (1879–81)*. Paris: Hachette.
- GEREFFI, G., and KORNIEWICZ, M. 1994. *Commodity chains and global capitalism*. Westport, Connecticut and London, Praeger.
- GEREFFI, G., HUMPHREY, J., and STURGEON, T. 2005. The governance of global value chains. *Review of International Political Economy* 12(1): 78–104.
- GIBBON, P. 2001. Upgrading Primary Production: a Global Commodity Chain Approach. *World Development* 29(2): 345–362.
- GILLI, M, COTE, M., and WALTERS, G. 2020. Gatekeeping access: shea land formalisation and the distribution of market-based conservation benefits in Ghana's CREMA. *Land* Vol. 9 Issue 10 10.3390/land91000359
- GILLIS, M. 1988. West Africa: resource management policies and the tropical forest. In: Repetto, R. and Gillis, M. *Public policies and the misuse of forest resources*. Cambridge University Press, Cambridge: 299–351.
- GOUVERNEMENT GENERAL DE L'AFRIQUE OCCIDENTALE FRANCAIS (GGAOF), 1900. *Journal Officiel de l'Afrique Occidentale Française* (JOAOF), 25 October 1900: 418–419; JOAOF, 01 November 1900: 426–429; JOAOF, 8 November 1900: 435–438; and JOAOF, 15 November 1900: 443–444.
- GGAOF 1935. No. 1704 A.P. – Arrêté promulguant en Afrique occidentale française le décret du 4 juillet 1935, sur le régime forestier de l'Afrique occidentale française. *Journal Officiel du Sénégal* 24 July 1935: 599–606.
- GOVERNMENT OF BURKINA FASO/INTERNATIONAL TRADE CENTRE 2015. *Stratégie Nationale de Développement Durable de la Filière Karité du Burkina Faso 2015–2019*. Ministry of Commerce, Industry and Artisans, Ouagadougou: 10–11.
- GREGORY, J.W. 1974. Development and in-migration in Upper Volta. In: Amin, S. (Ed.) *Modern Migrations in Africa*. Oxford University Press, London: 305–320.
- GREWE, B-S. 2019. Global Commodities and Commodity Chains. In: Tirthankar Roy and Giorgio Riello (Eds.) *Global Economic History*. London, Bloomsbury Academic: 215–228.
- GRIFFITHS, T., and ROBIN, L. (Eds.) 1997. *Ecology and Empire Environmental History of Settler Societies*. Keele University Press/University of Natal Press, Pietermaritzburg.
- GROVE, R.H. 1995. *Green Imperialism; colonial expansion, tropical island Edens and the origins of environmentalism, 1600–1860*. Cambridge University Press, Cambridge.
- GUERNIER, E. 1949. *Afrique Occidentale Française*. Paris, Encyclopédie coloniale et maritime.
- HAGBERG, S., GOMGNIMBOU, M., and SOME, D.B. 1996. *Forêts Classées et Terres des Ancêtres au Burkina Faso*. Working Papers in Cultural Anthropology No. 3. Uppsala University: Uppsala.
- HAGBERG, S. 2003. 'Memories in the making. Ritual boundaries and resource use practices in Burkina Faso'. In: Wardell et al. (Eds.) 2003. *Negotiated frontiers in Sudano-Sahelian landscapes Implications for natural resource management strategies*. SEREIN Occasional Paper 16. Institute of Geography, University of Copenhagen: Copenhagen: 87–105.
- HAWKINS, S. 2002. *Writing and colonialism in Northern Ghana. The encounter between the Lodagaa and "the world on paper"*. University of Toronto Press, Toronto, Buffalo and London. 488 pp.
- HAYS, S.P. 2001. Toward Integration in Environmental History. *Pacific Historical Review* 70(1): 59–67.
- HAZAREESINGH, S., and CURRY-MACHADO, J. 2009. Editorial – Commodities, empires ad global history. *Journal of Global History* Special Issue (March 2009) 4: 1–5.

- HECKEL, E. 1885. Nouvelle Source de Gutta-Percha, le *Butyrospermum Parkii* et ses produits. *La Nature Revue des Sciences et de leurs applications aux arts et à l'industrie*. t.II: 321, 370, 405.
- HECKEL, E. 1897. Sur l'arbre qui donne le beurre de Galam ou de Karité et sur son produit. *Revue de cultures coloniales* 1(6): 193–198 and 1(7): 229–233.
- HECQUARD, L.H. 1855. *Voyage sur la côte et dans l'intérieur de l'Afrique Occidentale*. Paris: Imprimerie de Bénard et Co.
- HENRY, Y. 1907. *Rapport Agricole pour l'année 1906*. Paris Augustin Challamel, 300 pp.
- HILL, P., and R.H.T. SMITH. 1972. The Spatial and Temporal Synchronization of Periodic Markets: Evidence from Four Emirates in Northern Nigeria. *Economic Geography* 48(3): 345–355.
- HILL, P. 1970. *Studies in Rural Capitalism in West Africa*. Cambridge: Cambridge University Press.
- HODDER, B.W. 1971. Periodic and Daily Markets in West Africa. In *The Development of Indigenous Trade and Markets in West Africa*, Ed. C. Meillassoux. London: International African Institute, Oxford University Press.
- HOHN, A., and NEUMANN, K. 2012. Shifting cultivation and the development of a cultural landscape during the Iron Age (0-1500 AD) in the northern Sahel of Burkina Faso, West Africa: insights from archaeological charcoal. *Quat. Int.* 249(6): 72–83.
- HOPKINS, A.G. 1973. *An Economic History of West Africa*. London: Longman.
- HOPKINS, A.G. (Ed.) 2002. *Globalization in World History*. London: Pimlico.
- HOPKINS, T., and WALLERSTEIN, I. 1977. Patterns of Development of the Modern World-System. *Review (Fernand Braudel Center)* 1/2: 111–145.
- HOPKINS, T., and WALLERSTEIN, I. 1986. Commodity chains in the world economy prior to 1800. *Review (Fernand Braudel Center)* 10/1: 157–170.
- HOUSE-MIDAMBE, B., and F.K. EKECHI, Eds. 1995. *African Market Women and Economic Power: the Role of Women in African Economic Development*. Westport, CT and London: Greenwood Press.
- HUILLERY, E. 2009. History matters: The long-term impact of colonial public investments in French West Africa. *American Economic Journal: Applied Economics* 1(2): 176–215.
- HUMPHREY, J., and H. SCHMITZ. 2002. How Does Insertion in Global Value Chains Affect Upgrading in Industrial Clusters? *Regional Studies* 36(9): 1017–1028.
- HUMPHREY, J., and SCHMITZ, H. 2000. Governance and upgrading: Linking Industrial Cluster and Global Value Chain Research. IDS Working Paper 120. Brighton, Institute of Development Studies.
- IBO, J., and LEONARD, E. 1997. Forests, Farmers and the State Participatory Forest Management in the Ivory Coast: theory and practice. International Institute for Environment and Development (IIED), London.
- INTERNATIONAL FOUNDATION FOR SCIENCE 1996. *Dryland Forestry Research*. Proceedings of an IFS/IUFRO Workshop, 31 July – 4 August 1995, Hyytiälä, Finland.
- IZARD, F., BONNEFOND, Ph., and d'HUART, M. 1967. *Bibliographie General de la Haute Volta 1956–1965*. Recherches Voltaïques 7. CNRS/CVRS, Paris/Ouagadougou.
- JOHNSON, M. (Ed.) 1966. *Salaga papers*, Legon, Institute of African Studies, 1966. Unpub. Manus.
- KABORE, C. 2005. *Aménagement des forêts naturelles au Sahel. Point sur vingt années de pratiques au Burkina Faso*. Avril 2005, 2eme édition. Projet BKF/007-PAFDK. 142 pp.
- KAHLHEBER, S. 1999. Indications for agroforestry: archaeobotanical remains of crops and woody plants from medieval Souga, Burkina Faso. In: Van der Veen, M. (Ed.), *The Exploitation of Plant Resources in Ancient Africa*. Plenum Press, New York: 89–100.
- KENNEDY, P.H. 1971. Imperial cable communications and strategy, 1870–1914. *English Historical Review* 86(341): 728–752.
- KOBI, J.A. 2019. L'éclatement de la Haute Volta et de la Cote d'Ivoire de 1932–1947. *Afrika Zamani* No. 27, 2019: 45–59.
- KOTEY, E.N.A., J. FRANCOIS, J.G.K. OWUSU, R. YEBOAH, K.S. AMANOR and L. ANTWI. 1998. *Falling into Place. Policy that Works for Forests and People Ghana Country Study (No. 4)*. London: International Institute for Environment and Development.
- LANDSTEINER, E., and LANGTHALER, E. 2021. Global commodities. Special Issue of the Austrian Journal of Historical Studies. *Commodity Frontiers* 2, Spring 2021: 48–53.
- LARIS, P., and WARDELL, D.A. 2006. Good, bad or “necessary evil?”. Re-interpreting the colonial burning experiments in the savanna landscapes of West Africa. *The Geographical Journal* 172(4): 271–290.
- LEACH, M., and MEARNS, R., (Eds.) 1996. *The Lie of the Land. Challenging received wisdom on the African environment*. James Currey and The International African Institute: London.
- LEE, J., GEREFFI, G., and BEAUVAIS, J. 2012. Global value chains and agri-food standards: Challenges and possibilities for smallholders in developing countries. *P. Natl. A. Sci.* 109(31): 12326–31. doi/10.1073/pnas.0913714108
- LEVTZION, N., and HOPKINS, J.F.P. (Eds.) 2000. *Corpus Of Early Arabic Sources for West African History*. Markus Weiner Publishers, Princeton. 492 pp.
- LEWICKI, T. 1974. *West African Food in the Medieval Ages*. Cambridge University Press, Cambridge. 262 pp.
- LOVEJOY, P.E. 1980. *Caravans of Kola: The Hausa Kola Trade 1700–1900*. Zaria: Ahmadu Bello University Press in association with Oxford University Press.
- LOVEJOY, P.E. 1985. The internal trade of West Africa before 1800. In: Ajayi, J.F.A. and Crowder, M. (Eds.) *History of West Africa*. Volume 1, 3<sup>rd</sup> edition. Longman, Harlow: 648–690.
- LOVETT, P., and DENZIL-PHILLIPS, L. 2018. *Agroforestry Parklands of Sub-Saharan Africa: Threats and Solutions*. Background Paper Leveraging Agricultural Value Chains to Enhance Tropical Tree Cover and Slow Deforestation (LEAVES), PROFOR, Washington, D.C.

- LYNN, M. 1998. *Commerce and Economic Change in West Africa: The Palm Oil Trade in the Nineteenth Century*. Cambridge: Cambridge University Press.
- MADIEGA, Y.G., and NAO, O. (Eds.) 2003. *Burkina Faso: Cent ans d'histoire 1895–1995*. 2 volumes. Paris, Karthala P.U.O. 2.206pp.
- MANGIN, M. 1924. 'Une mission forestière en Afrique-Occidentale Française'. *La Géographie* 42: 449–628.
- MARCHAL, J-Y. 1986. Prémises d'un Etat moderne ? Les projets coloniaux dans le bassin des Volta, 1897–1960. *Cahiers d'Etudes africaines* 103, XXVI-3, 1986: 403–420.
- MARCHAL, J-Y. 1999. Frontières et refuges en Afrique Occidentale française (1900–1950)'. In: Lassailly-Jacob, V., Marchal, J-Y and Quesnel, A. (Eds.) *Déplacés et réfugiés. La mobilité sous contrainte*. IRD, Paris: 209–225.
- MARTIN, S.M. 2003. *The UP Saga*. Copenhagen, Nordic Institute of Asian Studies.
- MASSA, G., and MADIEGA, Y.G. (Eds.), 1995. *La Haute-Volta colonial. Témoignages, recherches, regards*. Paris, L'Harmattan.
- MAY, E. 1985. *Exchange Controls and Parallel Market Economies in Sub-Saharan Africa: Focus on Ghana*. World Bank Staff Working Papers, No. 711. Washington, DC.
- McCANN, J.C. 1999. *Green Land, Brown Land, Black Land: An Environmental History of Africa, 1800–1990*. James Currey: London.
- McFARLAND, D.M. and RUPLEY, L.A. 1998 (1978). *Historical Dictionary of Burkina Faso*. African Historical Dictionaries No. 74. Second Edition. Maryland, Scarecrow Press, Rowman & Littlefield. 661 pp.
- McKIM, W. 1972. The periodic market system in north-eastern Ghana. *Economic Geography* 48(3): 334–344.
- McMICHAEL, P. 2004. 'Empire and Food Sovereignty'. Keynote Address for the Agri-Food XI Conference, Canberra, 9–11 June 2004. unpub. manus.
- McSHEFFREY, G.M. 1983. Slavery, Indentured Servitude, Legitimate Trade and the Impact of Abolition in the Gold Coast, 1874–1901: A Reappraisal. *Journal of African History* 24: 349–368.
- MEILLASSOUX, C., Ed. 1971. Introduction. The Development of Indigenous Trade and Markets in West Africa. London: International African Institute, Oxford University Press.
- MERCHANT, C. 1990. Gender and Environmental History. *The Journal of American History* 76(4): 1117–1121.
- METCALFE, G.E. 1964. *Great Britain and Ghana: Documents of Ghana History, 1807–1957*. London: University of Ghana. Thomas Nelson & Sons Ltd.
- MICHEL, M. 1982. La puissance par l'Empire: note sur la perception du facteur impérial dans l'élaboration de la Défense nationale (1936–1938). *Revue française d'histoire d'outre-mer*, tome 69, n°254, 1er trimestre 1982: 35–46.
- MILBOURN, J. 1970. The 1938 Gold Coast Cocoa Crisis: British Business and the Colonial Office. *African Historical Studies* 111(1): 57–74.
- MOLONEY, A. 1887. *Sketch of the Forestry of West Africa with particular reference to its present principal commercial products*. Sampson Low, Marston, Searle, & Rivington: London.
- MYLLYNTAUS, T. 2001. 'Environment in Explaining History: Restoring Humans as Part of Nature'. In: Myllyntaus and Saikku, (Eds), *Encountering the Past in Nature*. Ohio University Press: Athens: 141–160.
- MYLLYNTAUS, T., and SAIKKU, M. (Eds.) 2001. *Encountering the Past in Nature*. Ohio University Press: Athens.
- NAUGHTON, C.C., LOVETT, P.N., and MIHELICIC, J.R. 2015. Land suitability modelling of shea (*Vitellaria paradoxa*) distribution across sub-Saharan Africa. *Appl. Geogr.* 58: 217–227.
- NAUGHTON, C.C., DEUBEL, T.F., and MIHELICIC, J.R. 2017. Household food security, economic empowerment, and the social capital of women's shea butter production in Mali. *Food Security* (2017) 9: 773–784.
- NEUMANN, K., KAHLHEBER, S., and UEBEL, D. 1998. Remains of woody plants from Saouga, a medieval West African village. *Veg. Hist. Archaeobotany* 7: 57–77.
- NEWBURY, C.W. 1972. Credit in Early Nineteenth Century West Africa Trade. *Journal of African History* XIII(1): 81–95.
- NORTH, D.C. 1990. *Institutions, institutional change and economic performance*. Cambridge University Press: Cambridge.
- NORWOOD, V. 2001. Disturbed Landscape/Disturbing Processes: Environmental History for the Twenty-First Century. *Pacific Historical Review* 70(1): 77–89.
- NUGENT, P., and ASIWAJU, A.I. (Eds.) 1996. *African Boundaries. Barriers, Conduits and Opportunities*. Pinter, London.
- NUGENT, P. 2004. *Africa since independence*. Palgrave Macmillan, Basingstoke.
- OFCANSKY, T.P. 1984. Kenya forestry under British colonial administration, 1895–1963. *Journal of Forest History* 28(3): 136–143.
- OLUKOJO, A. 2009. The United Kingdom and the political economy of the global oils and fats business during the 1930s. *Journal of Global History* (2009) 4: 105–125.
- OMOSINI, O. 1975. Alfred Moloney and his strategies for economic development in Lagos Colony and hinterland, 1886–1891. *Journal of the Historical Society of Nigeria* Vol. VII., No. 4 (June 1975): 657–672.
- OSBORN, E.L. 2003. Circle of Iron: African colonial employees and the interpretation of colonial rule in French West Africa. *Journal of African History* 44: 29–50.
- PARK, M. 1983 (1799). Travels into the interior districts of Africa performed under the direction and patronage of the African Association in the Years 1795, 1796 and 1797. In: Swift, J. (Ed.) *Travels into the Interior of Africa*. Eland, London (1983).
- PARREN, M.P.E. 1994. French and British Colonial forest policies: past and present implications for Côte d'Ivoire and Ghana. Working Papers in African Studies No. 188. African Studies Centre: Boston.

- PAWSON, E. and DOVERS, S. 2003. Environmental History and the Challenges of Interdisciplinarity: An Antipodean Perspective. *Environment and History* **9**: 53–75.
- PEHAUT, Y. 1974. *Les Oléagineux dans les pays d'Afrique Occidentale associés au marché commun*. La Production, Le Commerce et la Transformation des Produits. Tome I. Thèse présentée devant l'Université de Bordeaux III le 28 avril 1973. Service de Reproduction des Thèses, Université de Lille.
- PEHAUT, Y. 1976. *Les Oléagineux dans les pays d'Afrique Occidentale associés au marché commun*. Vol. 1 et 2. Paris, Éditions Honoré Champion.
- PENNEY, J. 2019. Burkina Faso has replaced Mali at the epicenter of the Sahel's security crisis. Quartz Africa, 27 November 2019.
- PEPERTY, R., and COUDEAU, M.A. 1959. Etude en vue de l'élaboration d'un programme d'action «karité» en Haute-Volta. Mission février-mars 1959. Institut de Recherche pour les Huiles et les Oléagineux (IRHO), 38 pp.
- PERROT, É. 1915. Les grands produits végétaux des colonies françaises, état actuel, avenir. Ouvrage édité par les soins du Commissariat des colonies françaises à l'Exposition internationale du caoutchouc et des grands produits coloniaux, sous la direction de M. le professeur Perrot et avec la collaboration de MM. Adam, Capus, Fauchere, Francois, Gatin, Guillochon, Main, Vaquin, Vuillet. Paris, Emile Larouse.
- PERROT, É., and CHEVALIER, A. 1907. *Les végétaux utiles de l'Afrique tropicale française*. 2, *Le karité, l'argan et quelques autres sapotacées à graines grasses de l'Afrique: Études scientifiques et agronomiques*. Paris: A. Challamel.
- PICASSO, C. 1984. Synthèse des résultats acquis en matière de recherche sur le karité au Burkina Faso de 1950–1958. IRHO, 47 pp.
- PLANCHON, L. 1888. *Etude sur les produits des Sapotées*. Reprint Kessinger Publishing, September 2010. 121 pp.
- POTTER, L. 2005. 'Community and environment in colonial Borneo: economic value, forest conversions and concern for conservation, 1870–1940'. In: Reed L. Wadley (Ed.) *Histories of the Borneo Environment: Economic, Political and Social Dimensions of Change and Community*. Leiden: Verhandelingen van Het Koninklijk Instituut voor Taaal, Landen Volkenkunde.
- PUYO, J-Y. 2001. Sur le mythe colonial de l'inépuisable des ressources forestières (Afrique occidentale française/ Afrique équatoriale française, 1900–1940). *Cahiers de géographie du Québec* **45**(126): 479–496.
- RAIKES, P., and GIBBON, P. 2000. Globalisation and African Export Crop Agriculture. *Journal of Peasant Studies* **27**(2): 50–93.
- RAYNAULT, C. (Ed.), with Grégoire, E., Janin, P., Koechlin, J. and Lavigne Delville, P., 1997. *Societies and Nature in the Sahel*. Stockholm Environment Institute. Routledge: London.
- RIBOT, J.C. 1995. 'Local forest control in Burkina Faso, Mali, Niger, Senegal and the Gambia: a review and critique of new participatory policies'. Africa Technical Division, January 1995; The World Bank, Washington D.C.
- RIBOT, J.C. 1999a. A history of fear: imagining deforestation in the West African dryland forests. *Global Ecology and Biogeography Letters* **8**: 291–300.
- RIBOT, J.C. 1999b. Decentralisation, participation and accountability in Sahelian forestry: Legal instruments of political-administrative control. *Africa* **69**(1): 23–66.
- RICHARDS, P. 1985. *Indigenous Agricultural Revolution. Ecology and Food Production in West Africa*. Hutchinson: London.
- ROBERTS, R.L. 1996. *Two Worlds of Cotton. Colonialism and the Regional Economy in the French Soudan, 1800–1946*. Stanford University Press: Stanford.
- ROTHCHILD, D., and GYIMAH-BOADI, E. 1989. Populism in Ghana and Burkina Faso. *Current History* **88**: 538: 221–224 and 241–244.
- ROUCH, J. 1956. Migrations au Ghana (Gold Coast). *Journal de la Société des Africanistes* **26**: 133–196.
- ROUSSEAU, K., GAUTIER, D., and WARDELL, D.A. 2015. Coping with the upheavals of globalization in the value chain of shea: the maintenance and relevance of upstream shea nut supply chain organization in western Burkina Faso. *World Development* Vol. **66**: 413–427 <http://dx.doi.org/10.1016/j.worlddev.2014.09.004>
- ROYER, P. 2003. La guerre coloniale du Bani-Volta 1915–1916 *Autrepart* (2003) No. **26**: 35–51.
- RUYSSSEN, B. 1957. Le karité au Soudan. *Agronomie Tropicale* **12**: 143–172, 279–306, 415–440.
- SARRAULT, A. 1923. *La mise en valeur des colonies françaises*. Paris, Payot et Cie.
- SAUL, M., and ROYER, P. 2001. *West African Challenge to Empire: Culture and History in the Volta-Bani Anticolonial War*. Ohio University Press: Athens.
- SEKA, J-B 2018. La gouvernance des crises économiques en Côte d'Ivoire. Cas de la crise commerciale de 1927–1935; *Cahiers d'études africaines* **229** <https://doi.org/10.4000/etudesaficaines.21888>
- SERVANT, M. et al 1956. L'amélioration du karité au stade de la production paysanne. *Oléagineux* **11**(2): 89–93.
- SHEPHERD, G. 1992. *Managing Africa's Tropical Dry Forests. A Review of Indigenous Methods*. Overseas Development Institute: London.
- SILVER, J. 1981. The Failure of European Mining Companies in the Nineteenth-Century Gold Coast. *Journal of African History* **22**: 511–529.
- SISSAO, C.E. 2010. La SECACO: la creation d'une usine en temps de guerre en Haute-Volta *Outre-mers*, tome **97** No. 366–367 ? 1<sup>er</sup> trimestre 2010: 273–298.
- SMITH, R.H.T. 1971. 'West African Market-Places: Temporal Periodicity and Locational Spacing'. In *The Development of Indigenous Trade and Markets in West Africa*, Ed. C. Meillassoux. London: International African Institute, Oxford University Press.
- SOLEILLET, P. 1887. *Voyage à Ségou, 1878–79*. Paris: Challamel aîné.
- SOUTHERN, B. 1952. *The Gambia. The story of the groundnut colony*. London, George Allen & Unwin. 273 pp.
- SURET-CANAL, J. 1972. *Afrique Noire, De la colonisation aux indépendances*. Editions sociales, Paris.

- SUTTON, I.B. 1981. The Volta River Salt Trade: The Survival of an Indigenous Industry. *Journal of African History* 22: 43–61.
- TADEI, F. 2020. Measuring extractive institutions: colonial trade and prices gaps in French Africa. *European Review of Economic History* 24(1) February 2020: 1–23.
- TERPEND, M.N. 1982. La filière karité: produit de cueillette, produit de luxe. *Les dossiers Faim Développement*, février 1982: 1–91.
- THOMAS, R. 1972. George Ekem Ferguson: Civil Servant Extraordinary. *Transactions of the Historical Society of Ghana* Vol. xiii: 2.
- TOURTE, R. 2019a. *Le période coloniale et les grands moments des Jardins d'essais (1885–1890 - 1914–1918)*. Volume II. Histoire de Recherche Agricole en Afrique Tropicale francophone et de son agriculture, de la préhistoire aux temps modernes. L'Harmattan, Paris: 206, 318–320.
- TOURTE, R. 2019b. *Le temps des Stations et de la mise en valeur (1918 - 1940–1945)*. Volume III. Histoire de Recherche Agricole en Afrique Tropicale francophone et de son agriculture, de la préhistoire aux temps modernes. L'Harmattan, Paris: 153–154, 235–239, 398–399.
- TOURTE, R. 2019c. *De l'Empire colonial à l'Afrique indépendante (1945–1960) La recherche prépare le développement*. Volume IV. Histoire de Recherche Agricole en Afrique Tropicale francophone et de son agriculture, de la préhistoire aux temps modernes. L'Harmattan, Paris: 532, 771–804, 826–828.
- TULLY, J. 2009. A Victorian ecological disaster: Imperialism, the Telegraph, and Gutta-Percha. *Journal of World History* 20(4): 559–577.
- Van BEUSEKOM, M.M., and HODGSON, D.L. 2000. Lessons learned? Development experiences in the late colonial period. *Journal of African History* 41: 29–33.
- van STUYVENBERG, J.H. (Ed.) 1969. *Margarine: an Economic, Social and Scientific History, 1869–1969*. Liverpool, Liverpool University Press. 342 pp.
- VENNES, T. 2018. Understanding colonial violence: military culture, colonial context and the civilizing mission in the Volta-Bani war (1915–1916). *Strata*: 87–104.
- VUILLET, J. 1901. *Etude du karité considéré comme producteur de gutta*. Rapport adresse à Monsieur le Délégué du Gouverneur General le 4 septembre 1900. Reprint: Pranava Books, India. 37 pp.
- VUILLET, J. 1907. Mission forestière. Affaires Economiques R 24 (14 MI 1566). Centre National des Archives d'Outre-Mer, Aix-en-Provence.
- VUILLET, J. 1911. *Le karite et ses produits*. Gouvernement General de l'Afrique Occidentale Française. Paris, Larose. Reprint: Pranava Books, India. 150 pp.
- VUILLET, J., and FRANCOIS, G. 1914. Les grands produits d'origine végétale en AOF. *La Dépêche coloniale illustrée* No. 12: 154–164.
- WARDELL, D.A. 2020. 'Groundnuts and headwaters protection reserves. Tensions in colonial forest policy and practice in the Northern Territories of the Gold Coast' In: Damodaran, V. and D'Souza, R. (Eds.) *Commonwealth Forest & Environmental History. Empire Forests and Colonial Environments in Africa, the Caribbean, South Asia and New Zealand* Primus Books, Delhi: 357–401.
- WARDELL, D.A., TAPSOBA, A., LOVETT, P., N., ZIDA, M., ROUSSEAU, K., GAUTIER, D., ELIAS, M., and BAMA, T. 2021. Shea (*Vitellaria paradoxa* C.F. Gaertn.) – the emergence of global production networks in Burkina Faso, 1960–2021. *International Forestry Review* 23(4).
- WARDELL, D.A., and FOLD, N. 2013. Globalizations in a nutshell: Historical perspectives on the changing governance of the shea commodity chain in northern Ghana. *International Journal of the Commons* 7(2): August 2013: 367–405.
- WARDELL, D.A., and REENBERG, A. 2006. 'Framing field expansion strategies in the savanna biome – Land use and land cover dynamics in and around the Tiogo Forest Reserve in Burkina Faso'. In: Mistry, J. and Berardi, A. (Eds.) *Human Factors in Savannas and Dry Forests: Linking People with Nature*. Aldershot, Ashgate: 19–52.
- WARDELL, D.A., REENBERG, A., OLSEN, H., and HARPOTH, R. (Eds.) 2003. *Negotiated frontiers in Sudano-Saharan landscapes Implications for natural resource management strategies*. SEREIN Occasional Paper 16. Institute of Geography, University of Copenhagen: Copenhagen.
- WARDELL, D.A., REENBERG, A., and TOTTRUP, C. 2003. Historical footprints in contemporary land use systems: forest cover changes in savanna woodland in the Sudano-Saharan zone. *Global Environmental Change* 13(4): 234–254.
- WEBB, J.L.A., Jr. 1995. *Desert Frontier Ecological and Economic Change along the Western Sahel 1600–1850*. Wisconsin, The University of Wisconsin Press.
- WHITE, R. 1990. Environmental History, Ecology, and Meaning. *The Journal of American History* 76(4): 1111–1116.
- WILKS, I. 1993. *Forests of Gold: Essays on the Akan and the Kingdom of Asante*. Ohio University Press: Athens.
- WILKS, I. 1971. Asante Policy Towards the Hausa Trade in the Nineteenth Century. In *The Development of Indigenous Trade and Markets in West Africa*, Ed. C. Meillassoux, 124–141. London: International African Institute, Oxford University Press.
- WILKS, I. 1982. Wangara, Akan and Portuguese in the Fifteenth and Sixteenth Centuries. II. The Struggle for Trade. *Journal of African History* 23(4): 463–472.
- WILLIAMS, M. 2003. *Deforesting the Earth. From Prehistory to Global Crisis*. University of Chicago Press: Chicago.
- WORSTER, D. (Ed.) 1988. *The Ends of the Earth*. Cambridge University Press: Cambridge.
- WORSTER, D. 1994. Nature and the Disorder of History. *Environmental History Review* 18(2): 1–15.