

# History of rice in Kenya: When was rice first introduced in Kenya?

Apollo Uma

*Department of Agricultural Economics and Agribusiness Management, Egerton University, P.o Box 13357 - 20100, Nakuru-Kenya*

**Abstract:** Rice is the third most important cereal crop in Kenya after maize and wheat. In regards to its introduction in Kenya, the year 1907 is quoted by the majority of contemporary authors and documents. This is so unlikely because the same Asians and Arab traders who introduced the crop in Kenya had already introduced the crop in Uganda by the 1870s. Remember, the Asian and Arab traders had their headquarters in Kenya (Mombasa), and it is arguably true, that they spent most of their time in Kenya than in Uganda. Therefore, they must have cultivated or promoted the cultivation of rice in Kenya earlier than in Uganda. As rightly said by Maya Angelou in 1997, you can't know where you are going unless you understand where you came from. This prompted the review of literature from various corners of the world about the history of colonial and pre-colonial Kenya. The review was aimed at finding out other dates and the exact period when rice was introduced in Kenya and why authors were citing 1907 as the introductory year of rice cultivation in Kenya. Delving deeper into the accounts of history reveals that one of the reasons for citing 1907 could be that it is the period that marked the end of the slave trade period. And also, it is the period beyond which the production of rice was being promoted by Kenyan communities such as the Luo. As to when rice was introduced to Kenya, one would find four possible dates in literature, i.e., 1900 to 1905, 1907, the early 1800s (1800 to 1850), and the latter half of the 1800s (1851 to 1899). Following through all the accounts that have been reviewed, quoting the 19<sup>th</sup> century (considering the period from 1800 to 1899) provides a much stronger and evidence-based meaning as far as the introduction of rice cultivation in Kenya is concerned.

**Keywords:** rice; coast; Kenya; Giriama; Mijikenda; Mombasa; Tana river; colonial Kenya

## I. INTRODUCTION

Rice is the third most important cereal crop in Kenya after maize and wheat (Ndirangu & Oyange, 2019). It is mainly produced by small-scale farmers for food and cash in Central (Mwea), Western (Bunyala), Coast (Tana delta, Msambweni), and Nyanza provinces (Ahero, West Kano, Migori, and Kuria) (Vishnu & Mukami, 2020). About 80% of the rice crop is grown on irrigation schemes and 20% under rainfed conditions (MOA, 2008). The average on-farm rice yields in Kenya is currently estimated at 4.25 t/ha (Atera et al., 2018). According to KNBS economic survey, (2018), the total land area under rice production was estimated at 39,095 hectares in 2018. The Government of Kenya is tirelessly working towards increasing this to 104,000 hectares by 2030 with a view to attaining rice self-sufficiency (Ndirangu & Oyange, 2019). Interestingly, the country has a potential of

about 540,000 hectares of irrigable land and 1.0 million hectares of rain-fed land suitable for rice production (Ndirangu & Oyange, 2019).

Rice plays a major role in ensuring food security, given the country's reliance on maize and wheat. About 300,000 rice farmers provide labour and also earn their livelihood out of the crop's production (Vishnu & Mukami, 2020). The improved incomes through employment and entrepreneurship from rice mills greatly contribute in supporting food security (Ndirangu & Oyange, 2019). Rice consumption in Kenya continues to increase rapidly at an estimated 11 percent per year (Obura et al., 2017). The increasing consumption can be traced to a combination of factors; population growth, urbanization, changing consumer preferences and economic development (Kilimo trust, 2019). Currently, the demand for rice outstrips its production, this has made it the most expensive cereal in the country, retailing at about Ksh.80 to 100 kg-1 (US\$0.84 to 1.05 kg-1) for non-aromatic and Ksh.150 to 200 kg-1 (US\$1.58 to 2.11 kg-1) for aromatic type (Atera et al., 2018).

Rice is not the very most important crop in Kenya, yet its cultivation and importance have shown a remarkable increase in recent decades. It is often said that rice is not a new crop in Kenya and its production can be traced as far as decades ago. Yet, the country still grapples with production to an extent that over 80% of the volumes consumed per year is imported, even when the country has the potential to produce the crop (AGRA, 2018). As rightly said by Maya Angelou in 1997, you can't know where you are going unless you understand where you came from (AZ quotes, 2022). In that manner then, when did rice cultivation start and how has it been diffused in Kenya? It may be difficult to answer such a question based on solid literature on the history of rice cultivation in Kenya, yet at the end of the day, the same question has to be answered by someone. Therefore, the purpose of this brief note is to draw a sketch of rice cultivation history in Kenya, based on a quick review of the related literature and statistics with more emphasis on when its cultivation started. The review was intended to find out the most appropriate date as of when rice was introduced in Kenya and find out why a majority of the authors quote 1907 as the introductory year of rice in Kenya.

## II. MATERIALS AND METHODS

This brief employed a monographic method, and the literature reviewed ranged from mainly journal articles, documents,

historical books, notes from explorers and missionaries, archeological evidence, and book chapters. These were studied purposely to document the history of rice cultivation in Kenya, to find out why a majority of authors quote 1907 as the introductory year of rice cultivation. The literature included both published and unpublished sources accessed from colonial government documents, explorers' records, missionary records, agricultural websites, government records, archeological records, and cultural reports. The literature reviewed ranged across a number of years to depict the history of rice introduction and cultivation in Kenya.

### III. RESULTS AND DISCUSSIONS.

As of when rice production was introduced in Kenya, one will find the majority of the currently published documents citing 1907. However, delving deeper into the colonial history and pre-colonial periods of Kenya, interesting facts are revealed about rice cultivation, consumption and trade in areas around Mombasa, Tana river, Lamu, the main coastal areas and among the Gariama and Wajikenda communities.

To create a strong argument about the history of rice introduction and cultivation in Kenya, a discussion about 1907 is presented and the reasons against its validity as the introductory year. The periods have been divided into 1900 to 1905, the late 1800s (considering the period from 1851 to 1899), early 1800s (considering the period from 1800 to 1850) and others (considering all the other periods that have been mentioned by different authors).

#### 3.1 *The 1907:*

Rice production in Kenya dates back to 1907 when it was introduced by Europeans at the Coast (Atera et al., 2018; MOA, 2008; Ndirangu & Oyange, 2019; Ngige, 2004; Obura et al., 2017; Onyango, 2014). The year 1907 is quoted by the majority of contemporary authors and documents as the introductory year of rice cultivation in Kenya. The contemporary authors in this regard are those who released articles/papers between 1995 to date. What baffles my mind is that Reid (2002) asserts that at the end of the 1870s in Uganda, wheat and rice were grown solely by the Arab community; the production of these crops was still in the hands of the traders and the Ganda remained untutored in their cultivation. In 1875 Stanley was offered a 'basket of rice' alongside bananas and sweet potatoes upon his arrival in Buganda, and rice seems to have been common enough by this time. This is proof that rice was already being cultivated in Uganda by the 1870s and was introduced by Arabs and Asians. The main bases or headquarters for the Arab and Asian traders were in the coastal areas of Kenya, and since their major food was rice, they must have grown it there by then. Therefore, it is so unlikely that Arabs and Asians introduced rice cultivation in Uganda before doing the same in Kenya where they lived most of the time.

3.2 *Between 1900 – 1905.* East African Protectorate report of 1905, reported that rice of excellent quality was being raised

in considerable quantities on the shores of Lake Victoria in Kenya, the banks of the Tana River, and along the sea coast. The report also noted that there were large coconut plantations and the cultivation of rice was being much extended. The report also proved that Mountain rice proved successful, half an acre was planted on the 31st March 1905, and reaped on the 16th and 28th August; 15 lbs. of seed was planted, and 140 lbs. of good rice reaped (East Africa Protectorate, 1905).

3.3 *Late 1800 (from 1851 – 1899).* According to Luckham (1959), the first report by the Commissioner and Consul-General of British East Africa (Sir. A. Hardinge) in 1897 stated that rice was being grown at the Coastal areas of Kenya. Infact, he mentioned rice, maize, and various native grains to be very abundant. According to Willis (1947), one of his informants Chonyi Man-26 was born in 1908, by the time he was born his father was an established longtime farmer of rice and maize. Therefore, basing on that statement, it is unlikely that Chonyi Man's father had started rice farming in the previous year of 1907. He must have started rice cultivation earlier, probably towards the end of 1800. Informant 44-Kambe man was born in 1910 but his grandfather was a long-time merchant producing and selling rice and millet in Mombasa. This in connection with Chonyi man's statement reveals that the parents and the grandparents of these informants had started engaging in rice production way before 1900. Probably they could have started cultivating rice towards the end of 1800. Gamble (1939) reports that rice was introduced in Central Kavirondo, near the Kavirondo Gulf, by officers of the former British Administration in the early days of the colonial period. According to Ndege (2009), the British Government founded the East African Protectorate (Kenya and Uganda) in 1895 and soon after, opened the fertile highlands to white settlers. An objective interpretation here can point introduction of rice cultivation in Kavirondo during the same period of 1895 but before 1900. Molntosh (1969) reports that using the rice obtained from the coast in 1889, Watson (Scottish missionary) was distributing rice only in return for labour, but by December he distributed rice to all the famine stricken Kikuyus. This is an indication that rice was being bought from those cultivating it around the coastal areas of Kenya. It is further supported by Ochieng (1943) who affirms that in 1898 and 1899, rice was shipped from the coast where it was grown to the people of Machakos during famine. According to Thomson (1887), the Pokomo of the Tana Basin farmed rice, relying on the annual floods of the Tana River. All the cereals of the coast such as rice (the favorite food), millet and maize were grown extensively around the slopes of MT Kenya and Nyanza areas of Lake Victoria. Allen (1974) reported that rice was among the crops that were grown around Lamu areas in 1870. According to Waaijens (1994), rice was spotted by the first missionaries in the mid-19<sup>th</sup> century as one of the crops grown around Mombasa and present day Kwale and Kilifi Districts of Coast Province. Jacob Erhardt a German missionary and explorer listed rice, sorghum, maize, and other crops as those that were cultivated

around the coastal areas of Mombasa between 1850 – 1900. In the 19th century these cereals were largely replaced by maize and rice (Waaijens, 1994). McKay, (1975); Miracle, (1965); New, (1971) agrees that rice was introduced in Mombasa in 1863 among the Mijikenda and McKay (1975) asserts that it was a major crop of the Vumba of Wasini and Vanga, who taught the Digo how to grow it. The Vumba people occupied south east of the present day Kenya between Kilwa and Mombasa (Ajayi, 1995). James de Vere (1993) confirms this by reporting that before 1863, the vumba consulted their witch on such questions as the best day to begin rice-planting and harvesting. By the mid-19th century rice had become one of the chief cereals of the Wanika, and it was grown for sale at the coast markets (New, 1971). Krapf (1860) asserts that he was received by Sheikh Ibrahim, a Muslim at Mwakirunge, who had "flourishing plantations of rice, cassava, maize, etc. and was "much respected by the few pagan families which have fixed their huts around him: The same was observed by Krapf all over Tsimba and Kwale. He further asserts that, in the mid-1880s and 1890s a number of Muslim immigrants came to settle at Diani. They came for business, but were given land to cultivate and they helped the people. During times of famine (which were frequent between 1884 and 1900), they were able to supply maize, rice and millet as part of the produce that they had harvested.

**3.4 Early 1800 (from 1800 – 1850).** To best understand the history of rice cultivation in the coastal areas of Kenya before 1850, it is imperative to have a basic context for the history of the Giriama community. The Giriama (also called Giryama) are one of the nine and largest ethnic groups that make up the Mijikenda (which literally translates to "nine towns") (Patterson, 1970). They are believed to have migrated from Shungwaya and reached their present home in Kenya sometime in the 16th century (Walsh et al., 1993). They were agriculturalists, traders, livestock keepers who dominated the woodland plateau in Kenya's immediate hinterland between the town of Mombasa and malindi/mambrui complex who occupied 2500 square miles, today they occupy mainly Kilifi district, a coastal province of Kenya (Brantley, 1979). Barrett (1911) reported that rice constituted the chief crops found in the Giriama country and east coast between Kilifi and the Sabaki River that had been grown for a long period of time for consumption and trade. Patterson (1970) reports that the great expansion of commerce in the nineteenth century increased the contacts of the Giriama with the outside world where they traded rice grains and other crops. This, therefore, points to the early 1800s as the period of the commencement of its production at the Kenyan coastal areas. After earmarking Mombasa as an area with limited agricultural potential by the British observers in 1824, the Mombasa population began extensive maize and rice fields using large forces of slaves residing in small communities on the mainland to an extent of encroaching on the Mijikenda lowland farms (Brantley, 1979). Willis (1947) reports that in 1844, Abdalai/Abdullah a Muslim Indian native had settled 20 years earlier in Mombasa where he erected a cottage and cultivated coconut and rice.

Huxley (1939) reports that from about 1820 until the Civil War, American ships were constantly plying in East African waters, carrying back to Massachusetts such varied articles of commerce rice and other merchandise. Sperling (1947) confirms that around 1825, the Vumba from Wasini (island southeast of Mombasa) settled at Vanga, where they continued with rice cultivation using water from the Unga river for irrigation. This literally represents that they already cultivated rice before migrating to Vanga. In the nineteenth century, two crops were grown which were the mainstays of the Lamu district population: mtama which was variously described by European observers as millet, sorghum or guinea corn, and mpunga which literally means rice (Ylvisaker, 1979). In this regard, it is important to note that the European observers visited the coastal areas in 1824. This is a clear indication that in the early 19<sup>th</sup> century, rice was already being cultivated in the coastal areas of Kenya.

**3.5 Others:** Rezende in 1634 reported that there were large supplies of corn, rice and cows in Mombasa (Brantley, 1979). In line with this, Orchardson (1986) shows that the Mijikenda traditions indicate that they were driven southwards to the coast of what is now Kenya in the beginning of the 17th century. After settling, rice was among the crops that they cultivated for trading purposes and for home use. Asian cultivated rice *Oryza Sativa* is believed to have been introduced in East Africa 2000 years ago when sea trade between east African Ports and India was flourishing (Alexander, 1978). This is supported by Bakker (1974) who agrees that the cultivation of *O.sativa* (rice) spread to East African coast before the arrival of the Portuguese i.e. about 1500. Chang 1976 and Carpenter 1978 agree that Asian rice was introduced in East Africa probably in the latter days of the 10<sup>th</sup> century by Polynesians. Bakker (1974) also hinted at the fact that between the 9<sup>th</sup> and 10<sup>th</sup> centuries, rice, among other crops was being cultivated around Tana ware at Manda (coastal Kenya). According to GRISP (2013), rice has been grown in many East and Southern African (ESA) countries for more than 500 years. According to ricepedia, *Oryza glaberrima* was propagated from its original centre between 1500 and 800 BC which never developed far from its original region. Its cultivation even declined in favour of the Asian species, which was introduced to East Africa early in the common era and spread westward. Seddon (1968) reports that a pattern basic to food production was, therefore, present in parts of East and Southern Africa at least as early as 15,000 B.C and possibly even before that. This account provides a possibility that rice existed in East Africa particularly coastal areas of Kenya long before the birth of Jesus Christ.

#### IV. WHY THEN DO AUTHORS QUOTE 1907?

According to Brantley(1979), after the slave trade was abolished in 1907, all exported grain including rice came from Giriama and other Mijikenda. In 1909/11, Malindi exported 49,742 cwt of grain worth 135,462 rupees. Brantley asserts that although some rice was brought from the sea, Giriama rice fed the inhabitants of Malindi, Mambrui, as well as

Takaungu and the workers on European farms (Brantley, 1979). So, could it mean that 1907 is cited because it marked the end of the slave trade? or rice cultivation during the slave trade period was tainted with some dark history i.e. forced labour and torture or even use of slaves in the production of the crop. Or could there have been some unfair barter exchanges where Coastal areas of Kenya were offering large amounts of rice for meager and unbelievable volumes of other goods such as mirrors?

(Ogot (1981) asserts that Akang'o Odera a Luo enlightened despot who tried to modernize Luoland, especially Gem, during the early stages of British rule in Kenya was born about 1878, when the first Europeans were arriving in Western Kenya. He was the son of a Luo ruoth or chief and he was appointed by the British as a sub-chief. By 1910, his power and influence was felt throughout Gem and even beyond. He promoted agriculture by making it compulsory for all adults to work on their farms and idlers were severely punished. Akang'o set an example by establishing several large farms where he planted new crops such as rice, sugar cane, and maize. Following this account, it is evident that periods beyond 1907, rice cultivation was being promoted by Kenyan communities such as the Luo. This may also explain the reason for quoting 1907 since the promotion of the crop was for economic and consumption purposes.

#### V. CONCLUSION.

The year 1907 is quoted by the majority of contemporary authors and documents as the introductory year of rice cultivation in Kenya. This is so unlikely because the same Asians and Arab traders who introduced the crop in Kenya had already introduced the crop in Uganda by 1870s. Remember, the Asian and Arab traders had their headquarters in Kenya (Mombasa), and it is arguably true, that they spent most of their time in Kenya than in Uganda. Therefore, they must have cultivated or promoted the cultivation of rice in Kenya earlier than in Uganda. Delving deeper into the accounts of history, we realize that one of the reasons for citing 1907 could be that it is the period that marked the end of the slave trade period. And also, it is the period beyond which the production of rice was being promoted by Kenyan communities such as the Luo.

As to when rice was introduced to Kenya, one would find four possible dates in literature, i.e., 1900 to 1905, 1907, the early 1800s (1800 to 1850), and the latter half of the 1800s (1851 to 1899). Following through all the accounts that have been reviewed, quoting the 19<sup>th</sup> century (considering the period from 1800 to 1899) provides a much stronger and evidence-based meaning as far as the introduction of rice cultivation in Kenya is concerned.

#### ACKNOWLEDGMENT

This study was made possible by The “Transforming African Agricultural Universities to Meaningfully Contribute to Africa's Growth and Development” (TAGDev) program from

the MasterCard Foundation (MCF) implemented through the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM).

#### CONFLICTS OF INTEREST

The author declares no conflict of interest.

#### REFERENCES

- [1] AGRA. (2018). Komboka rice to put in check cheap imports that thrive on the name of pishori variety. *Komboka Rice*. <https://agra.org/news/komboka-rice-to-put-in-check-cheap-imports-that-thrive-on-the-name-of-pishori-variety/>
- [2] Ajayi, J. F. A. (Ed.). (1995). *Africa in the nineteenth century until the 1880s* (Repr). Heinemann
- [3] Alexander, J. (1978). Origins of African Plant Domestication. Edited by J. Harlan, J. De Wet and B. L. Stemler. The Hague: Mouton, 1976. Pp. xiii, 498, bibl., ill., tables, maps. n.p. *Africa*, 48(4), 418–420. <https://doi.org/10.2307/1158820>
- [4] Allen, J. de V. (1974). Swahili Culture Reconsidered: Some Historical Implications of the Material Culture of the Northern Kenya Coast in the Eighteenth and Nineteenth Centuries. *Azania: Archaeological Research in Africa*, 9(1), 105–138. <https://doi.org/10.1080/00672707409511719>
- [5] Atera, E., Florence, N. O., & Eucabeth, B. O. M. (2018). Production and marketing of rice in Kenya: Challenges and opportunities. *Journal of Development and Agricultural Economics*, 10(3), 64–70. <https://doi.org/10.5897/JDAE2017.0881>
- [6] AZ quotes. (2022). You can't really know where you are going until you know where you have been. *Quotes › Authors › M › Maya Angelou › You Can't Really Know Where You...* <https://www.azquotes.com/quote/1294870>
- [7] Bakker, W. (1974). *Characterization and ecological aspects of rice yellow mottle virus in Kenya*. Centre for Agricultural Publ. and Documentation, PUDOC.
- [8] Barrett, W. E. H. (1911). Notes on the Customs and Beliefs of the Wa-Giriama, etc., British East Africa. *The Journal of the Royal Anthropological Institute of Great Britain and Ireland*, 41, 20. <https://doi.org/10.2307/2843332>
- [9] Brantley, C. (1979). An Historical Perspective of the Giriama and Witchcraft Control. *Africa*, 49(2), 112–133. <https://doi.org/10.2307/1158669>
- [10] East Africa Protectorate. (1905). *EAST AFRICA PROTECTORATE. REPORT FOR 1905-6*. BT DARLIN G & SON, 1/n>., 8440 / BACON STBEE\*. E.
- [11] Gamble, G. (1939). Rice-Growing in Central Kavirondo. *The East African Agricultural Journal*, 5(3), 216–218. <https://doi.org/10.1080/03670074.1939.11663971>
- [12] GRISP, Gr. (Global R. S. P. (2013). *Rice almanac: Source book for the most important economic activities on Earth* (Fourth Edition). IRRI.
- [13] Huxley, E. (1939). THE BOOK OF THE QUARTER: THE INVADERS OF EAST AFRICA I. *African Affairs*, XXXVIII(CLII), 347–356. <https://doi.org/10.1093/oxfordjournals.afraf.a101216>
- [14] James de Vere, A. (1993). *Swahili origins: Swahili culture and the Shungwaya phenomenon*.
- [15] Kilimo trust. (2019). *Characteristics of Rice End Markets in the East African Community: REGIONAL EAST AFRICAN COMMUNITY TRADE IN STAPLES-II (REACTS-II) PROJECT*. Kilimo Trust.
- [16] Krapf, L. (1860). *TRAVELS, RESEARCHES, AND MISSIONARY LABORS, DURING~ AN EIGHTEEN YEARS' RESIDENCE IN EASTERN AFRICA; TOGETHER WITH JOURNEYS T O JAGGA, USAMBARA, UKAMBANI, SHOA, ABESSINIA, AND KHARTUM; AND A COASTING VOYAGE FROM MOMBAS T O CAPE DELGADO*.
- [17] Luckham, M. E. (1959). The Early History of the Kenya Department of Agriculture. *The East African Agricultural Journal*, 25(2), 97–105. <https://doi.org/10.1080/03670074.1959.11665245>

- [18] McKay, Wi. F. (1975). *A precolonial history of the Southern Kenyan Coast*.
- [19] MOA. (2008). *MINISTRY OF AGRICULTURE: NATIONAL RICE DEVELOPMENT STRATEGY (2008 – 2018)*. Ministry of Agriculture.
- [20] Molntosh, B. (1969). *The Scottish Mission in Kenya 1891—1923*.
- [21] Ndege, P. O. (2009). *Colonialism and its Legacies in Kenya*. 11.
- [22] Ndirangu, S. N., & Oyange, W. A. (2019). *Analysis of Millers in Kenya's Rice Value Chain*. 12, 11.
- [23] New, C. (1971). *Life, wanderings, and labours in Eastern Africa: With an account of the first successful ascent of the equatorial snow mountain, Kilima Njaro, and remarks upon East African slavery. With a new introd. by Alison Smith* (3rd ed). F. Cass.
- [24] Ngige, J. K. (2004). *An Economic Analysis of Rice Production In Mwea Irrigation Scheme*. 130.
- [25] Obura, J., Ombok, B., & Omugah, G. (2017). Analysis of Rice Supply Chain in Kenya. *International Journal of Managerial Studies and Research*, 5(8). <https://doi.org/10.20431/2349-0349.0508002>
- [26] Ochieng, W. R. (1943). *Eastern Kenya and its invaders*. Kampala: East African Literature Bureau, 1975.
- [27] Ogot, B. A. (1981). *Historical Dictionary of KENYA*. THE SCARECROW PRESS, INC. METUCHEN, N.J., & LONDON.
- [28] Onyango, O. A. (2014). Rice production, Food security, New rice for Africa, Agricultural research and development. *World Environment*, 8.
- [29] Orchardson, E. (1986). *A socio-historical perspective of the art and material culture of the Mijikenda of kenya*.
- [30] Patterson, K. D. (1970). The Giriama Risings of 1913-1914. *African Historical Studies*, 3(1), 89. <https://doi.org/10.2307/216482>
- [31] Reid. (2002). *Political Power in Pre-Colonial Buganda: Economy, Society, and Warfare in the Nineteenth Century.*: Ohio University Press. <https://doi.org/10.2307/3559405>
- [32] Seddon, D. (1968). The Origins and Development of Agriculture in East and Southern Africa. *Current Anthropology*, 9(5, Part 2), 489–509. <https://doi.org/10.1086/200947>
- [33] Sperling, C. D. (1947). The growth of Islam among the Mijikenda of the Kenya coast, 1826-1933. *School of Oriental and African Studies: University of London. Africa*, 17(2), 137–137. <https://doi.org/10.1017/S0001972000021033>
- [34] Thomson, J. (1887). *Through Masai land: a journey of exploration among the snowclad volcanic mountains and strange tribes: eastern equatorial Africa. Being the narrative of the royal geographical society's expedition to mount Kenia and Lake Victoria Nyanza, 1883- 1884*.
- [35] Vishnu, R., & Mukami, K. (2020). *Mwea Rice Growers Multipurpose Public Case Report August 2020*. USAID.
- [36] Waaijenberg, H. (1994). *Mijikenda agriculture in Coast Province of Kenya*.
- [37] Walsh, M., Willis, J., & Robinson, P. W. (1993). Reviews. *Azania: Archaeological Research in Africa*, 28(1), 143–155. <https://doi.org/10.1080/00672709309511654>
- [38] Willis, J. (1947). *School of Oriental and African Studies: University of London. Africa*, 17(2), 137–137. <https://doi.org/10.1017/S0001972000021033>
- [39] Ylvisaker, M. (1979). Full text of “Lamu in the nineteenth century: Land, trade, and politics.” *Trustees of Boston University*, 321.