

10 Survey and Excavations along the Kwilu River

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Introduction

The Kwilu River flows for approximately 965 km in a northwestwardly direction from its headwaters in the Angolan highlands to its confluence with the Kasai River at Bandundu ([Munene Mbimbi Mayi & Stiassny 2011](#)). Over the course of its journey, the Kwilu flows from approximately 1000 meters above sea level (masl) in Angola to 300 masl at Bandundu, crossing through numerous environmental zones ([Figure 10.1](#)). While the Kwilu does not flow directly into the Kasai River, as it joins the Kwango just below Bandundu, it is still one of its major sources. Indeed, the Kwilu has a massive 93,360 km² watershed and has a width reaching 1 km in some places ([Van Pul 2023](#)). Despite its size and importance, the Kwilu River has received little interest from researchers until the present study. Around the turn of the 20th century CE, [Frobenius \(1907\)](#) and [Torday \(1913\)](#) conducted ethnographic research along the Kwilu, largely between Bandundu and Mitshakila. However, the closest archaeological investigations were lithic collections along the Lower Kasai ([Van Moorsel 1970](#)) and the investigations by [Bequaert \(1955, 1956\)](#) further to the east along the Kwango River.

Therefore, over the course of the BantuFirst project, our archaeology team conducted two seasons of survey and excavations along the Kwilu River between Kikwit and its confluence with the Kwango near Bandundu, and identifying sixty-two new archaeological sites ([Figure 10.2](#)). The first mission, between September and October 2021, was a preliminary reconnaissance to identify sites and select promising areas to return. The second mission, between August and September 2022, took a more targeted approach by focusing on regions neglected by the previous mission as well as revisited several promising locations. This also included a short exploration of the area along the Lower Kwango for ~5 km upriver from its confluence with the Kwilu River to where it joins the Kasai at Bandundu, which yielded two sites (BF 53 and 54), and for ~10 km upriver along the Lower Kwenge, a major tributary of the Kwilu, which also yielded two sites (BF 13 and 14). In total, the Kwilu/Kwango/Kwenge portion of the survey resulted in the identification of sixty-two new sites – thirteen of which were excavated.



Figure 10.1 View along the Kwilu River.

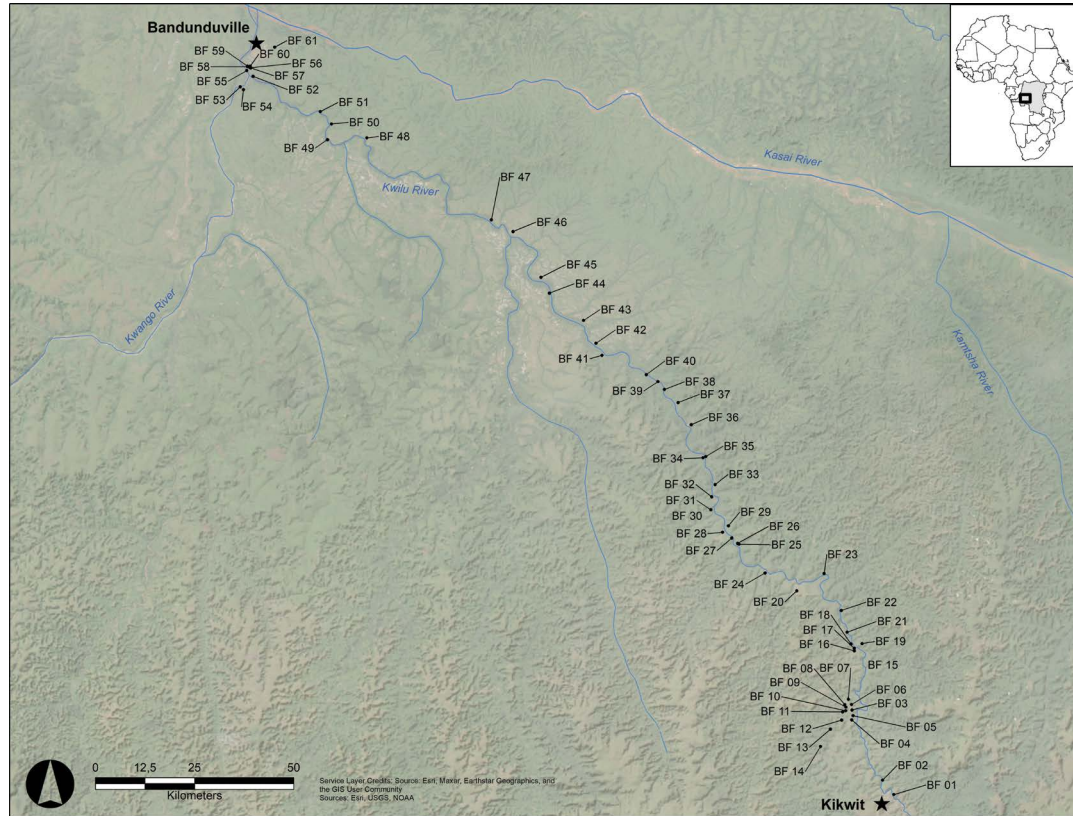


Figure 10.2 Map of the archaeological sites identified along the Kwilu River.

Excavated Sites

Presented here are the descriptions of the thirteen excavated sites along the Kwilu River, with a particular focus on the stratigraphy and context of the archaeological finds. For descriptions of the analysis and interpretations of the recovered materials, see [Chapters 18](#) (lithics), [19](#) (pottery), [20](#) (phytoliths), [21](#) (soil stable isotopes), [22](#) (charcoal), and [23](#) (human remains) in this volume. Likewise, detailed data can be found in the appendices for the locations ([Appendix 1](#)), dates ([Appendix 2](#)), and pottery (Appendices 3–4) from each site. Sites are presented below in order of site number, which generally corresponds to the movement of the archaeological team downriver from Kikwit to the city of Bandundu. Radiocarbon dates were processed by Beta Analytic and the Radiocarbon Dating Laboratory at the Belgian Royal Institute for Cultural Heritage (KIK-IRPA) and were calibrated using OxCal 4.4 with the SHCal20 calibration curve for the southern hemisphere within 2σ ([Bronk Ramsey 2009](#); [Hogg *et al.* 2020](#)).

Kintambu (BF 03)

Description

The site of Kintambu is located on the southwestern edge of the city of Lusanga. Formerly known as Leverville, Lusanga was the administrative centre of Unilever's palm plantation holdings during the early 20th century CE ([Ndaywel è Nziem 1998](#)). As such, the area has seen large amounts of construction and disturbance of archaeological deposits. During survey of the fields and roadcuts in Lusanga, our team was approached by a local landowner who informed us that he had recovered pottery while digging a sand/clay quarry on his property. After negotiations, we were invited to investigate the profiles, which confirmed the presence of these subsurface deposits. Two excavation trenches (Tr) were opened at Kintambu, including Tr 1 (1 × 2 m) and Tr 2 (1 × 1 m), approximately 50 cm apart ([Figure 10.3a](#)). Although the units were placed within the relatively open front yard of a home, the surrounding area is covered in dense vegetation, including palms and high grasses.

Contexts and Finds

The stratigraphy of both units at Kintambu was identical and can be divided into four natural layers, including: (1) an A Horizon, (2) an orangey light brown sandy loam, (3) a second grey horizon, and (4) an orange sand ([Figure 10.3b](#)). The two ceramic phases identified during the ceramic analysis ([Chapter 19](#) in this volume) were recovered from two distinct horizons within this natural stratigraphy. The Early Phase material was found exclusively in the orange sand at 70–100 cm and was dated to between the 1st century BCE and the 2nd century CE ([Table 10.1](#)). The Late Phase material was found between 10 and 50 cm; while this horizon was centred on the orangey light brown sandy loam layer, some pottery was found in the strata above and below. A single wood charcoal sample from the base of the Late Phase material

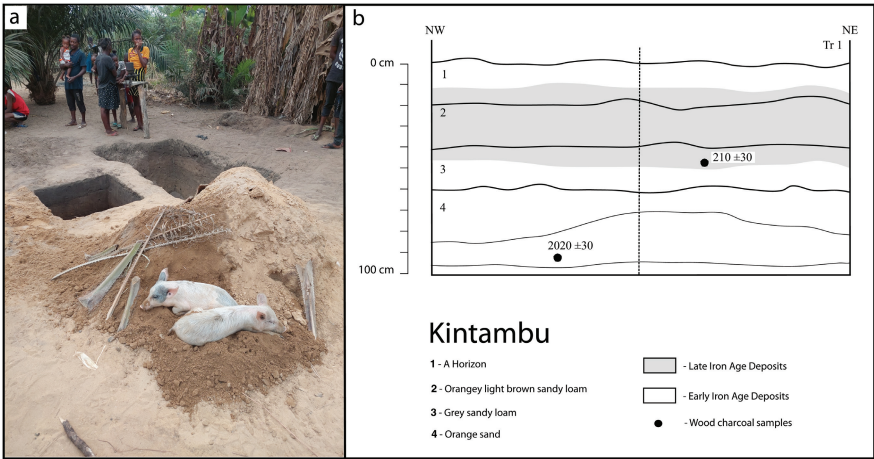


Figure 10.3 (a) Photograph of Kintambu post-excavation, and (b) Stratigraphy of Kintambu Tr 1 (BF 03).

Table 10.1 Radiocarbon dates from Kintambu excavations.

Lab number	Unit	Depth (cm)	Material	Date BP	Calibrated date (2σ)
Beta-630483	Tr 1	40–60	Wood Charcoal	210 ± 30	1656 CE–Present
Beta-630481	Tr 1	80–100	Wood Charcoal	2020 ± 30	54 BCE–111 CE

horizon produced a date from the mid-17th century CE to the present. In addition, 1 L of soil was collected at 20 cm vertical intervals from the profile of Tr 1 for phytolith and soil stable isotope analysis (Chapters 20 and 21 in this volume).

Lukolo (BF 13)

Description

The site of Lukolo is located along the Kwenge River, approximately 6 km southwest of Lusanga. The site is situated within a large agricultural field associated with the village of Kikamba. After a brief visit with the local authorities at Kikamba, we were informed of an area of potential archaeological significance. Our team travelled to this location with several local guides and workmen. A brief survey was conducted around the location, where only an iron slag heap was identified within a manioc field (Figure 10.4a). One excavation unit (2 × 2 m) was opened directly over the feature.

Contexts and Finds

The stratigraphy of Lukolo can be divided into three layers, including: (1) a small A Horizon, (2) a feature with charcoal, ash, and iron slag, and (3) a reddish-brown sandy loam (Figure 10.4b). The feature resembled either a destroyed iron furnace or a refuse heap related to iron production. Large amounts of burnt earth, iron slag

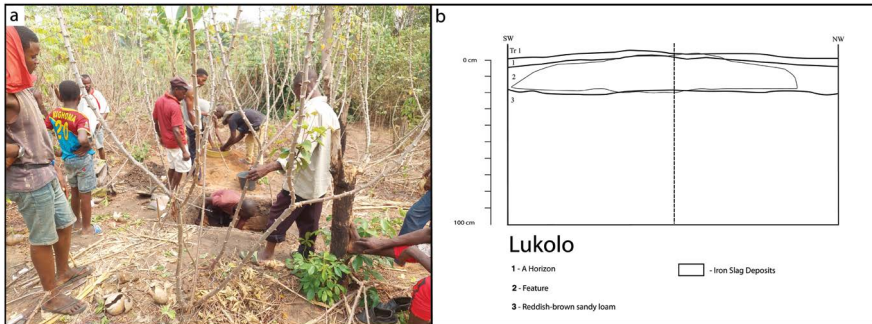


Figure 10.4 (a) Photograph of Lukolo, and (b) Stratigraphy of Lukolo Tr 1.

and tuyère fragments were recovered. However, no pottery or lithics were present in either the feature or the surrounding area, and there are currently no dates for the site.

Kikundi (BF 17)

Description

Kikundi is located on the left bank of the Kwilu River, on top of a relatively steep escarpment approximately 50 m above the river (401 masl). The site is located between the village of Kikundi (~1.8 km southwest) further inland and the village port (~0.5 km northeast) along the river. Investigations here were conducted over the course of the 2021 and 2022 field missions. In 2021, survey of the area revealed a large concentration of surface material within the agricultural fields associated with Kikundi village. Therefore, we opened up three excavation units, including Tr 1 (1 × 1 m), Tr 2 (1 × 1 m) and Tr 3 (1 × 2 m). In 2022, we returned and expanded the scope of the investigations, including further survey of the area closer to the village and additional excavations. Six units were excavated in 2022, including Tr 4-9 – all measured 2 × 2 m and were excavated in 20 cm artificial spits (Figure 10.5).

The excavation units were arranged in two main groups: Tr 1-5 were situated at the summit of the escarpment, and Tr 6-9 were arranged in a line down the initial slope in intervals of ~15 m. The location of the first group of units was selected to collect an undisturbed sequence from an area that contained a large amount of surface material. The second grouping was designed to map the stratigraphy of the escarpment and assess the degree to which natural erosion had moved material downslope. After the excavations, 1 l of soil was collected at 20 cm vertical intervals from the profiles from one trench in the upper (Tr 3) and lower (Tr 6) groups for phytolith and soil stable isotope analysis (Chapters 20 and 21 in this volume).

Contexts and Finds

The stratigraphy of Kikundi can be divided into four natural layers: (1) a greyish loamy sand, (2) brown loamy sand, (3) dark grey loamy sand with charcoal, and (4) orange (Figure 10.6). While all of the excavated units contained the same



Figure 10.5 Photograph of Kikundi excavations.

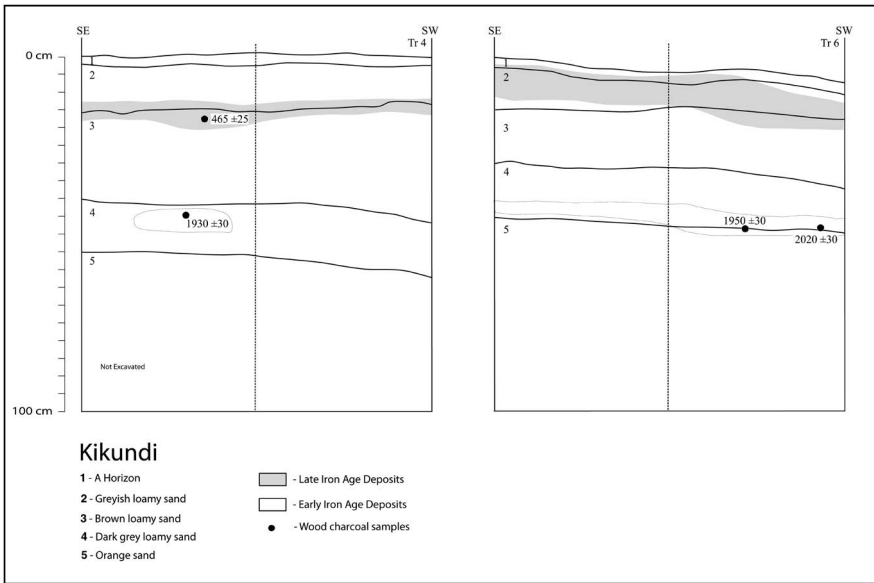


Figure 10.6 Stratigraphy of Kikundi Tr 4 and Tr 6.

Table 10.2 Radiocarbon dates from Kikundi.

Lab number	Unit	Depth (cm)	Material	Date BP	Calibrated date (2σ)
Beta-648814	Tr 9	100	Wood Charcoal	2060 ± 30	101 BCE–AD 61 CE
Beta-648812	Tr 6	80–100	Wood Charcoal	2020 ± 30	54 BCE–111 CE
Beta-648813	Tr 6	100–120	Wood Charcoal	1950 ± 30	23–204 CE
Beta-648811	Tr 4	90	Wood Charcoal	1930 ± 30	34–215 CE
Beta-648810	Tr 3	30–40	Wood Charcoal	1910 ± 30	69–224 CE
RICH-30968	Tr 1	60–80	Wood Charcoal	1896 ± 25	81–231 CE
RICH-35103	Tr 4	40	Wood Charcoal	465 ± 25	1434–1612 CE

layers, they were of varying thicknesses and found at varying depths. Importantly, however, the assessment of the stratigraphy from Tr 6–9 suggests that there was little to no downslope movement of materials and no mixing of deposits. This is likely due to the fact that, in this area, the slope is relatively gentle – with the elevation decreasing only ~4 m over 50 m (8% slope gradient). The lack of movement was evident in that the material from the two phases of occupation were recovered from two distinct horizons within different strata – often separated by ~40 cm of sterile soil. The Early Phase horizon was recovered from the dark grey loamy sand and was dated between the 1st century BCE and 3rd century CE with six wood charcoal samples (Table 10.2). The Late Phase horizon was largely restricted to the greyish loamy sand and brown loamy sand layers. One additional wood charcoal sample from this horizon was dated to between the 15th and 17th centuries CE.

Kimvula (BF 18)

Description

Like Kikundi, Kimvula is on the left bank of the Kwilu River on the summit of a steep hilltop. Indeed, Kimvula is only ~1.5 km to the northwest of Kikundi on an adjacent hill separated by a small stream. The area is dominated by tall grasses and manioc fields (Figure 10.7a). Initial survey of Kimvula revealed a large amount of Late Iron Age pottery on the surface, particularly in the manioc fields. The site itself is quite large, with dense pottery scatters being found across most of the eastern portion of the hilltop within a radius of at least 300 m – but likely much further. One 1 × 1 m unit (Tr 1) was excavated here to a depth of 1 m.

Contexts and Finds

The stratigraphy of Kimvula can be divided into four layers: (1) a thick dark brown A Horizon, (2) greyish loam, (3) a small intrusion of dark charcoal-rich soil, ash, and burnt earth in the southern portion of the unit, and (4) orange sand for the deepest 50 cm (Figure 10.7b). Archaeological material, including pottery and iron slag, were recovered from the uppermost 35 cm, exclusively in the A Horizon. Two wood charcoal samples taken from the bottom of this horizon produced dates that

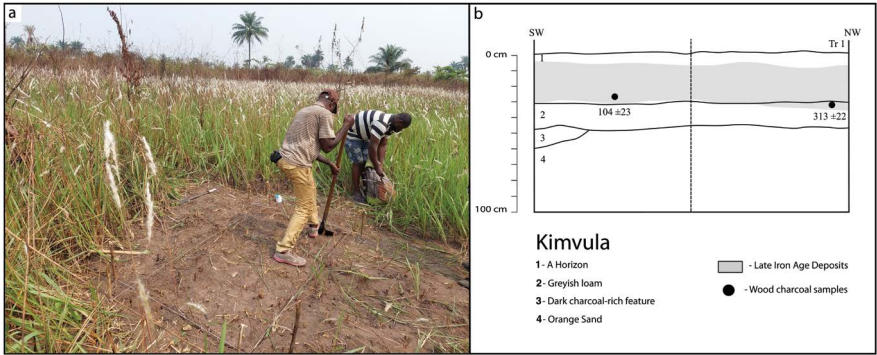


Figure 10.7 (a) Photograph of Kimvula, and (b) Stratigraphy of Kimvula Tr 1.

Table 10.3. Radiocarbon dates from Kimvula.

Lab number	Unit	Depth (cm)	Material	Date BP	Calibrated date (2σ)
RICH-30963	Tr 1	30–40	Wood Charcoal	313 ± 22	1509–1662 CE
RICH-35104	Tr 1	20–30	Wood Charcoal	104 ± 23	1699–1945 CE

span the 16th and 20th centuries CE (Table 10.3). However, the pottery recovered from Kimvula shares many attributes with the Late Phase Kikundi material which is dated to 15th and late 17th centuries CE. Therefore, we estimate a similar occupation date for Kimvula.

Mitshakila (BF 19)

Description

Mitshakila lays on the left bank of the Kwilu River, directly across from Kikundi, approximately 40 km downriver from the city of Kikwit. The village of Mitshakila was once a trade post for the *Compagnie du Kasai* during the colonial period (Smith 1987). While the village is approximately 1 km inland, the archaeological efforts were focused on the small settlement around the port along the river. Survey of the port area yielded very few ceramics (all similar to those of Late Phase Kikundi) and lithics (Chapter 18 in this volume). However, an inspection of a relatively small (10 m dia.) and shallow (~60 cm) clay/sand quarry within the centre of the settlement revealed the presence of lithic artefacts within the north-west and eastern profiles. A total of three units were excavated around the edges of the clay/sand quarry, including Tr 1 (1 × 2 m), Tr 2 (1 × 2 m), and Tr 3 (1 × 1 m) (Figure 10.8a). Tr 1 and Tr 2 were installed along the edge of the quarry above the northwestern and eastern deposits respectively (Figure 10.8a). A third excavation unit (1 × 1 m) was then installed along the southeastern profile – despite no apparent evidence of subsurface material – in order to test the dimensions of the deposits.

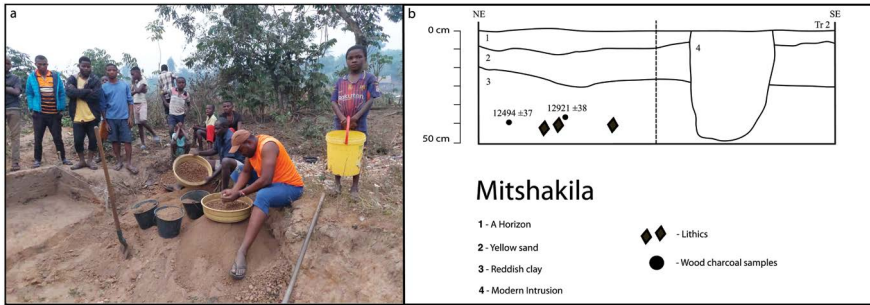


Figure 10.8 (a) Photograph of Mitshakila Tr 2 and (b) Stratigraphy of Mitshakila Tr 2.

Table 10.4 Radiocarbon dates from Mitshakila.

Lab number	Unit	Depth (cm)	Material	Date BP	Calibrated date (2σ)
RICH-30972	Tr 1	30–40	Wood Charcoal	195 ± 21	1667 CE–Present
RICH-30973	Tr 2	30–40	Wood Charcoal	12921 ± 38	13630–13297 BCE
RICH-30974	Tr 2	40–50	Wood Charcoal	12494 ± 37	13007–12369 BCE

Each unit was excavated in arbitrary 10 cm spits and all sediment passed through a 0.5 cm sieve. In addition, samples of soil were collected at 10 cm vertical intervals from the profile of Tr 2 for phytolith and soil stable isotope analysis (Chapters 20 and 21 in this volume).

Contexts and Finds

The stratigraphy of all three excavation units at Mitshakila can be divided into three natural layers: (1) a brownish sandy loam layer, (2) yellowish sand, and (3) a compact reddish clay (Figure 10.8b). However, both Tr 1 and Tr 2 also showed some evidence of recent pit digging. One wood charcoal sample was taken from the recent pit in Tr 1, which produced a date between the mid-17th century CE and present (Table 10.4). No pottery was recovered during excavations – even from the intrusive pits – but several lithics made of *grès polymorphes* were recovered from Tr 1 and Tr 2. All of this material was found in the compact reddish clay layer between ~30 and 45 cm. Two dates taken from this layer, and directly associated with the lithics in Tr 2, produced a date of approximately 15 kya (Table 10.4). Tr 3 produced no archaeological material.

Kondji (BF 29)

Description

The site of Kondji is located on a low plain on the right side of the Kwilu River, opposite the modern town of Vanga. Due to the low elevation (348 masl) the banks

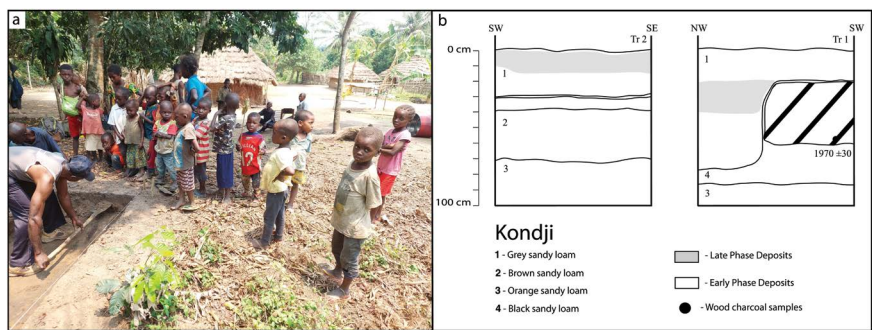


Figure 10.9 (a) Photograph of Kondji and (b) Stratigraphy of Kondji Tr 1-2.

of the river here are swampy and a pirogue is required to traverse particularly deep portions in order to access the village. The village itself is covered in relatively dense tree cover that includes large numbers of palm and mango trees. Survey of the area revealed a large amount of surface material, while local informants described finding ceramics and slag in holes dug for toilets. Two 1 × 2 m excavation units were opened at Kondji, with both being opened at locations identified by our local informants and being particularly promising. The first excavation unit (Tr 1) was established over a surface scatter of pottery near the centre of the village (Figure 10.9a). The second unit was placed at the top of a large rise in the northern sector of the village, within the property of the village chief.

Contexts and Finds

The stratigraphy of Kondji can be divided into four layers: (1) a grey sandy loam layer, (2) brown sandy loam, (3) orange sandy loam, and – in Tr 1 only – (4) a black sandy loam layer with large amounts of charcoal (Figure 10.9b). Excavations in both units produced two cultural horizons within distinct stratigraphic units. The Late Phase pottery, which is reminiscent of the Kikundi Late Phase (Chapter 19 in this volume), was exclusively recovered from the grey sandy loam layer between 0 and 40 cm. In Tr 2, the Early Phase pottery was recovered from the brown sandy loam, while in Tr 1 it was found in the black sandy loam layer. One wood charcoal sample from the latter layer of Tr 1 produced a date for the Early Phase context between the 1st century BCE and 3rd century CE (Table 10.5).

Table 10.5 Radiocarbon dates from Kondji.

Lab number	Unit	Depth (cm)	Material	Date BP	Calibrated date (2σ)
Beta-648827	Tr 1	60	Wood Charcoal	1970 ± 30	44 BCE–200 CE

Lukombe (BF 35)*Description*

Lukombe is located along the very edge of the left bank of the Lower Kwilu River. The village is on an extremely low portion of the bank, on a rise within the floodplain. The area is enclosed in dense tree cover, although palms dominate around the village. The site itself is a “pit” feature that we identified from the boat while traveling downriver. This was possible because the bank was in the process of being eroded by a river meander exposing the feature. We excavated one 1×2 m unit here (Tr 1), and placed it just above the feature. Because of the position of the unit along the edge of the river bank, we were forced to excavate from a pirogue (Figure 10.10a). In addition, we conducted a pedestrian survey of the village which yielded surface pottery and lithic artefacts.

Contexts and Finds

As the site is located within the floodplain, the soil is dominated by dense grey clay with orange mottling. Indeed, the stratigraphy can be divided into three layers: (1) a hardened clayey sand, (2) greyish clay with orange mottling, and (3) a pit feature made up of charcoal-rich loamy clay (Figure 10.10b). We excavated to a depth of 150 cm and incorporated a series of steps into the southern and western profiles. The subsurface deposits were restricted to a single 20 cm thick pit feature oriented in a south-north slight decline. Ceramics, lithics, and burnt clay were all recovered from within the feature. Three wood charcoal samples were also collected, which date the feature to be between the 4th and 1st centuries BCE (Table 10.6). In addition, two 1 L soil samples were collected from the unit profile for phytolith and soil stable isotope analysis (Chapters 20 and 21 in this volume).

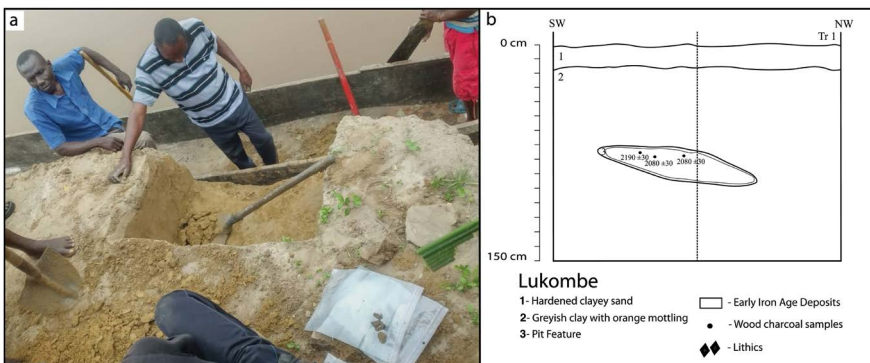


Figure 10.10 (a) Photograph of Lukombe and (b) Stratigraphy of Lukombe Tr 1.

Table 10.6 Radiocarbon dates from Lukombe.

Lab number	Unit	Depth (cm)	Material	Date BP	Calibrated date (2σ)
Beta-648807	Tr 1	75	Wood Charcoal	2190 ± 30	357–166 BCE
Beta-648808	Tr 1	77	Wood Charcoal	2080 ± 30	140–27 BCE
Beta-648809	Tr 1	78	Wood Charcoal	2080 ± 30	140–27 BCE

Tshimbane (BF 41)

Description

Tshimbane is a large town on the left bank of the Kwilu River. The town is in a relatively open environment, with agricultural fields and grasses dominating. However, two small, semi-permanent stream channels – one defining the western edge of the town and the other crossing through its centre – host dense vegetation and thick tree cover. Survey here yielded a moderate amount of iron slag and Late Iron Age pottery that shares multiple attributes with the Kikundi Late Phase material. In total, three excavation units (1 × 2 m) were opened up at Tshimbane. The first two were placed over a large surface pottery scatter approximately 10 m apart. Local informants notified us that they had also recovered pottery while digging a trash pit

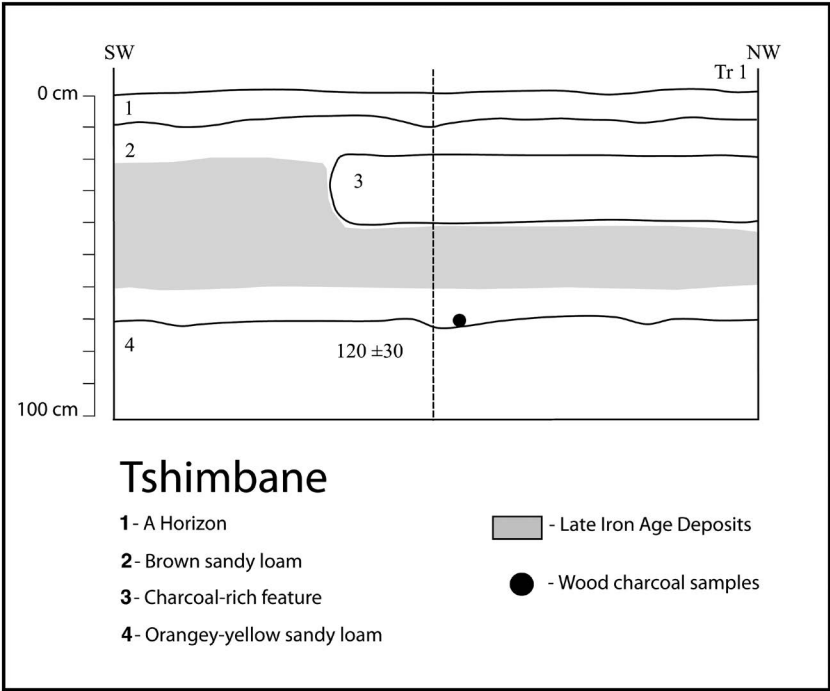


Figure 10.11 Stratigraphy of Tshimbane Tr 1.

Table 10.7 Radiocarbon dates from Tshimbane.

Lab number	Unit	Depth (cm)	Material	Date BP	Calibrated date (2 σ)
Beta-648825	Tr 1	73	Wood Charcoal	120 $\pm$ 30	1696 CE – Present

on a parcel approximately 100 m to the northeast of the first two units. Therefore, the third unit (Tr 3) was opened up ~2 m from the modern trash pit with the hope that the cultural layer would continue.

Contexts and Finds

The stratigraphy of Tshimbane Tr 1-2 was relatively similar, and can be divided into four layers: (1) a thin A Horizon, (2) brown sandy loam, (3) a charcoal rich pit feature, and (4) orangey yellow sandy loam (Figure 10.11). Interestingly, the pit feature was devoid of any archaeological materials, and the pottery came exclusively from the brown sandy loam layer. One wood charcoal sample provided a date for these deposits between the end of the 17th century CE and present (Table 10.7). Unfortunately, no material was recovered from Tr 3.

Mfubakwan (BF 45)

Description

The village is located on a white sandy dune on the right bank of the Kwilu River. Initial survey and reports by local informants confirmed the widespread presence of archaeological material. A total of six (1 $\times$ 2 m) units were excavated at Mfubakwan in three separate groups. The first two units (Tr 1-2) were located approximately 3 km northeast of the village. Local informants notified us of surface pottery within the dense grasses of several abandoned agricultural fields. The second group of units (Tr 3-5) were excavated within the village itself. Due to the presence of lithics and pottery on the surface here, it was hoped that these units may locate undisturbed subsurface contexts. The last unit (Tr 6) was excavated in the fields approximately 250 m north of the village (Figure 10.12a). The area is on a small hill within an open plain with scattered surface pottery.

Contexts and Finds

Both Tr 3 and 4 produced the most amount of material. Stratigraphy of both of these units was similar and can be divided into three layers: (1) a dark greyish brown sand layer, (2) white sand, and – in Tr 3 only, (3) a dark grey pit feature (Figure 10.12b). Interestingly, no archaeological material was recovered from the pit feature, and all of the pottery was found in the dark greyish brown sand layer – particularly between 40 and 60 cm. One wood charcoal sample from the base of this layer produced a modern date between the 19th and 20th centuries CE (Table 10.8). No material was recovered from Tr 5-6.

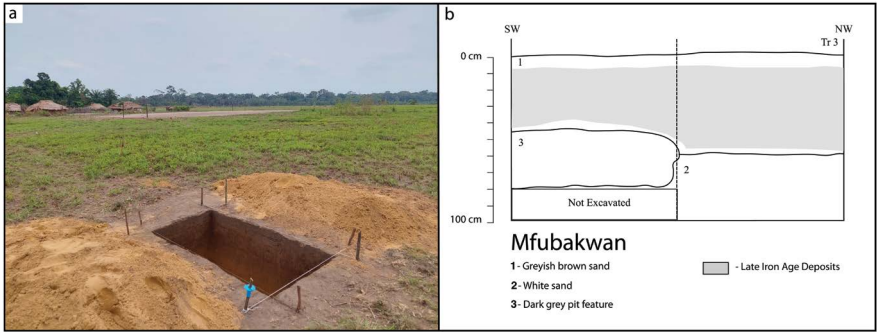


Figure 10.12 (a) Photograph of Mfubakwan and (b) stratigraphy of Mfubakwan Tr 3.

Table 10.8 Radiocarbon dates from Mfubakwan

Lab number	Unit	Depth (cm)	Material	Date BP	Calibrated date (2σ)
Beta-648815	Tr 1	40	Wood Charcoal	170 ± 30	1672 CE–Present
Beta-648821	Tr 2	51	Wood Charcoal	170 ± 30	1672 CE–Present
Beta-648830	Tr 4	60	Wood Charcoal	105 ± 0.39pMC	1893–1923 CE

Bagata (BF 46)

Description

Bagata is a large town on the right bank of the Kwilu River and is the seat of the administrative headquarters for Bagata Territory. The site is located on the southern margin of the town, where a large clay/sand quarry is being excavated to produce bricks for construction within Bagata proper. The quarry is visible from the river, and attracted the attention of our team for its obvious archaeological potential (Figure 10.13a). Survey here yielded an extraordinarily large amount of lithic material and few pottery sherds. The local workmen informed us that they often recover lithic artefacts from a significant depth – more than 2 m. In an attempt to identify undisturbed contexts, three (1 × 1 m) units were excavated at Bagata approximately 30 m apart around the perimeter of the sand/clay quarry. Tr 1 and 2 were placed over portions of the northeast section of the quarry, as our informants suggested we may recover pottery there. The final unit, Tr 3, was placed to the southeast because the workmen had routinely removed large amounts of lithic material from this section of the quarry.

Contexts and Finds

The stratigraphy of Bagata is quite homogeneous, but can be divided into three layers: (1) an A Horizon, (2) dark grey sandy loam, and (3) orange sand (Figure 10.13b). The finds from Bagata were found in two distinct horizons – pottery and lithics – from



Figure 10.13 (a) Photograph of Bagata and (b) profile of Bagata Tr 3.

Table 10.9 Radiocarbon dates from Bagata

Lab number	Unit	Depth (cm)	Material	Date BP	Calibrated date (2σ)
RICH-30965	Tr 3	220–230	Wood Charcoal	19866 ± 62	22087–21796 BCE
RICH-30964	Tr 3	40–50	Wood Charcoal	336 ± 23	1503–1649 CE

two different layers. Despite being quite different, the pottery from both Tr 1 and 3 was recovered from within the dark grey sandy loam between 40 and 80 cm. In addition to the pottery, Tr 1 yielded one associated lithic artefact from the base of this undated level. Excavations were concluded in Tr 1 at 1 m. In Tr 3, however, one wood charcoal sample directly associated with the pottery was collected, which dated this deposit to between the 16th and 17th centuries CE (Table 10.9). Excavations here were continued, based on our informants' suggestion, to a depth of 2.5 m. Approximately 1.5 m below the pottery in Tr 3, at a depth of 2.25 m, a large concentration of lithics was encountered. The lithic artefacts recovered include cores, blades, bladelets, and debitage made of *grès polymorphes* (Chapter 18 in this volume). One wood charcoal sample taken from within the lithic concentration produced a date of ~24 kya. No material was recovered from Tr 2.

Bagata Mukea (BF 47)

Description

The village of Bagata Mukea is located on the top of a moderately high escarpment on the right bank of the Kwilu River. The area is a relatively open plain with, aside from a thin band of trees along the riverbank, tall grasses and agricultural fields dominating. The approach to the village includes walking up a steep hill flanked



Figure 10.14 Photograph of excavations at Bagata Mukea.

on the north by a small clay quarry. Survey along the perimeter of the road and the village revealed a moderate amount of surface pottery and a few quartz flakes. In addition, inspection of the southern profile of the clay quarry revealed the presence of a pit feature between 40 and 70 cm.

Three 1×2 m excavation units were opened up at Bagata Mukea, with the first (Tr 1) approximately 25 m to the north (and uphill) of the quarry and the second (Tr 2) 40 m to the east of Tr 1. After approximately 35 cm, it became apparent that Tr 1 was crosscutting a quite large refuse pit feature. Therefore, the unit was expanded to the west (to measure 2×2 m) and excavated until sterile soil was reached at 2 m ([Figure 10.14](#)). The final unit (Tr 3) was opened along the southeastern portion of the clay quarry itself, directly above the pit feature.

Contexts and Finds

The stratigraphy of Bagata Mukea was relatively similar across the three different excavation units – each had the same layers, but were at varying depths and were of varying thicknesses. Overall, it can be divided into six anthropogenic and natural layers: (1) a greyish A Horizon, (2) brownish grey sandy loam, (3) dark brown loam, (4) dark orange compact sand with mottling of lighter sand, (5) reddish-brown sandy loam, and (6) a pit feature ([Figure 10.15](#)).

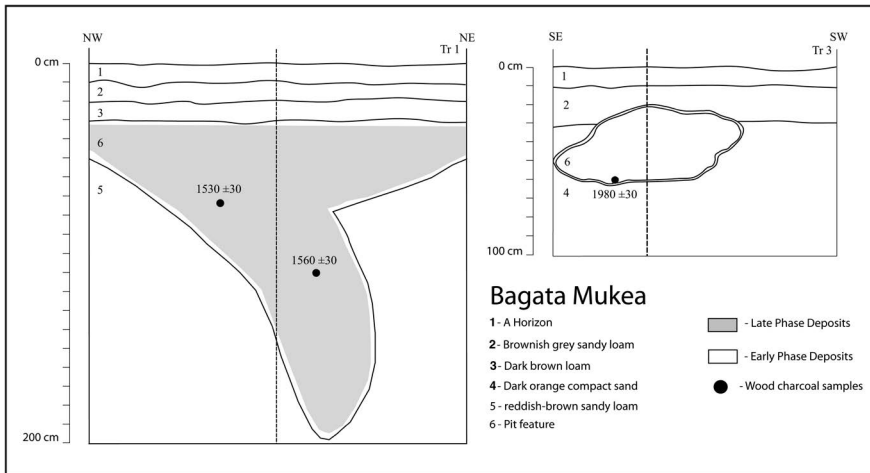


Figure 10.15 Stratigraphy of Bagata Mukea Tr 1 and 3.

Table 10.10 Radiocarbon dates from Bagata Mukea

Lab number	Unit	Depth (cm)	Material	Date BP	Calibrated date (2σ)
Beta-648824	Tr 3	65	Wood Charcoal	1980 ± 30	45 BCE–195 CE
Beta-648822	Tr 1	110	Wood Charcoal	1560 ± 30	437–635 CE
Beta-648823	Tr 1	70	Wood Charcoal	1530 ± 30	529–643 CE

Tr 1 revealed a quite large funnel-shaped refuse pit cut into the reddish-brown sandy loam that extended down to ~160 cm. The top of the pit was at ~30 cm below the surface measured 120 × 80 cm in diameter and all of the pottery was found within this pit feature. Furthermore, two wood charcoal dates were taken from the feature that date the deposits between the 5th and 7th centuries CE (Table 10.10). Tr 2 did not contain a pit feature, yet a moderate amount of similar pottery was recovered from within the brownish-grey sandy loam layer between 20 and 90 cm. Excavations at Tr 3 targeted a second pit feature that had been cut into the dark orange compact sand layer and contained a very different type of pottery (Chapter 19 in this volume). This feature was dated with one wood charcoal sample to between the 1st century BCE and the 2nd century CE. In addition, 1 l of soil was collected at 20 cm vertical intervals from the profile of Tr 1 for phytolith and soil stable isotope analysis (Chapters 20 and 21 in this volume).

Luani (BF 57)

Description

The BantuFirst team conducted investigations around Bandundu during three field seasons (2018, 2021, and 2022). The initial reconnaissance here focused on the



Figure 10.16 Map of Luani excavation units from the 2021 and 2022 field seasons.

northeastern portion of the city along the Kasai River, and produced a wealth of pottery and lithic artefacts (Chapter 18 in this volume). Our investigations in 2021 and 2022, therefore, targeted the southern and western hinterlands of the city. In particular, we focused our efforts within the Luani District of the southwestern Disasi commune of Bandundu. This included additional survey work and excavations at ten locations (Figure 10.16). In general, the region is at a comparatively low elevation (290 masl) and sits at the confluence of the Kwilu, Kwango, and Kasai Rivers. As such, the soils are alluvial gleyic silty-clays (Jones *et al.* 2013). The landscape is open, and somewhat marshy, and covered by tall grasses and agricultural fields. As with the reconnaissance of the northern areas around Bandundu, the 2021/2022 surveys revealed significant amounts of surface pottery and lithic artefacts, both within agricultural fields and the profiles of clay quarries. Four excavation units (Tr 1-4) were opened up during 2021 and an additional six (Tr 5-10) were excavated in 2022.

Contexts and Finds

During the first season of excavations, we divided our attention between the edge of the Luani settlement (Tr 1 and 2) and the agricultural fields between the settlement and the Kwilu River (Tr 3 and 4). Tr 1 (1 × 1 m) was opened in an empty field of grass approximately 10 m south of the nearest home. The area had a moderate amount of Luani Late Phase ceramics (Chapter 19 in this volume) covering the

Table 10.11 Radiocarbon dates from Luani.

Lab number	Unit	Depth (cm)	Material	Date BP	Calibrated date (2σ)
Beta-648804	Tr 5	68	Wood Charcoal	3910 ± 30	2466–2206 BCE
Beta-648805	Tr 5	75	Wood Charcoal	3890 ± 30	2460–2203 BCE
Beta-648803	Tr 5	76	Wood Charcoal	3880 ± 30	2459–2200 BCE
RICH-30960	Tr 2	60	Wood Charcoal	3778 ± 26	2284–2032 BCE
Beta-648806	Tr 9	60	Wood Charcoal	3500 ± 30	1886–1689 BCE
RICH-35105	Tr 7	37	Wood Charcoal	2223 ± 23	371–148 BCE
RICH-35106	Tr 1	20–40	Wood Charcoal	2082 ± 25	138 BCE–24 CE
RICH-30962	Tr 4	40–60	Wood Charcoal	1922 ± 24	69–205 CE
RICH-35108	Tr 4	40–60	Wood Charcoal	1926 ± 25	65–205 CE
RICH-30961	Tr 3	60–80	Wood Charcoal	1812 ± 23	212–342 CE
RICH-35107	Tr 3	40–60	Wood Charcoal	1796 ± 25	228–362 CE

surface. The stratigraphy of the unit consisted of three natural layers, including: (1) a brownish grey A Horizon, (2) brown sandy loam, and (3) grey clay with orange mottling. Excavations here revealed two distinct cultural horizons, both from within the brown sandy loam layer. The upper horizon remains undated but was found from the surface through ~25 cm. Interestingly, in addition to Luani Late Phase ceramics, this layer also produced several lithics (Chapter 18 in this volume). The lower material came from a deposit between 30 and 50 cm from which one wood charcoal sample was dated that yielded a date between the 1st centuries BCE and CE (Table 10.11). Excavations here were finalised after 80 cm.

Approximately 450 m inland (east) from the Kwilu River, survey revealed an exposed feature in the profile of a small clay quarry. Therefore, Tr 2 (1 × 2 m) was placed on the western edge of the quarry, just above the feature and oriented in an east-west direction. As the feature produced both pottery and osseous remains Tr 2 was extended by an additional 1 m to the east (Tr 2'). In 2022, we placed Tr 5 (1 × 2 m) immediately adjacent to the western profile of Tr 2, and oriented it north-south in order to target the bulk of the feature that was still deeper into the wall. The stratigraphy of these units is similar to the other Luani excavations, and can be divided into three natural layers: (1) a greyish A Horizon, (2) brownish grey sandy loam, and (3) grey clay with orange mottling (Figure 10.17). Within this natural stratigraphy, there was a single feature that was defined at its base by a thin (5 cm) burnt clay layer (4) and filled with an ashy and charcoal rich matrix (5). Within this matrix, the feature contained lithics (Chapter 18 in this volume), one nearly complete vessel (Chapter 19 in this volume), burnt food remains (Chapter 20 in this volume), and heavily burnt human remains (Chapter 23 in this volume). Three wood charcoal samples were taken from the feature provided a date range between 4.4 and 4.1 kya BP, including one (Beta-648805) that was recovered from inside a nearly complete ceramic vessel, one that was directly associated with the human remains (Beta-648803), and another from the ashy matrix of the feature (Beta-648804).

Analysis of the stratigraphy makes it clear that the feature was cut into the grey clay, filled with human remains and several objects, and burnt at an extremely high temperature *in situ*. Indeed, the burnt clay layer at the bottom of the feature is evidence for this. The pit was then covered – relatively soon thereafter – with the

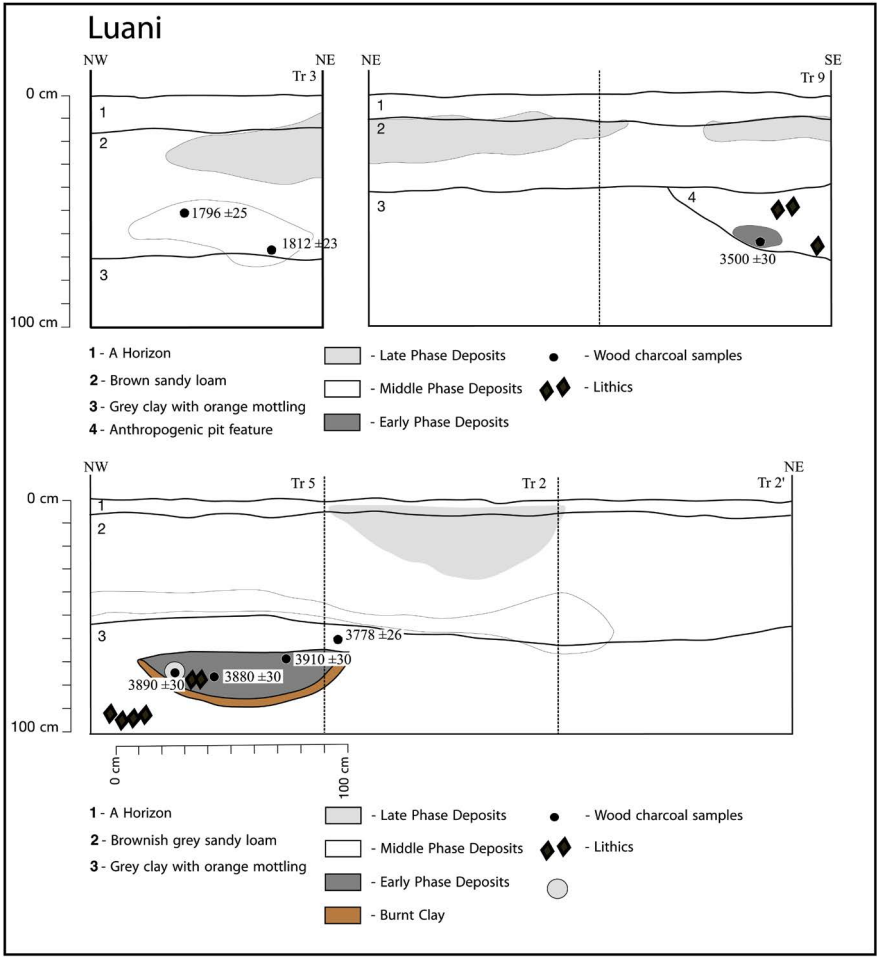


Figure 10.17 Stratigraphy of Luani excavation units, including: Tr2 and Tr 5, Tr 3, and Tr 9.

same grey clay soil. One wood charcoal sample (RICH-30960) from just above the feature (60 cm) within the grey clay used to rebury the feature produced a date of between 4.2 and 3.9 kya BP, which post-dates the feature and provides a *terminus ante quem* for the deposition of the remains. This grey layer was then covered by brown alluvial sandy loam through natural processes. The fact that there is no disturbance within this alluvium or the grey clay above the feature, demonstrates that there is no evidence for a reburial or mixing of the material at a later point, as has been argued for other sites in the Kongo Central Province (Clist 2018). Furthermore, the brown sandy loam layer contains a separate cultural horizon of quite different material – the Luani Middle Phase dated to 2.3–1.8 kya in several other units. Indeed, the combination of all four dates – which correspond extremely well – and the clear stratigraphic deposition, provide a tight chronological control for the feature.

The presence of osseous material and pottery dating to the 3rd millennium BCE is perhaps the most striking element of the feature. The acidic and humid soils of Central Africa make the preservation of bone something that is otherwise quite rare. It is likely that both the burning of the bone and the anoxic environment of the local gleysols produced conditions suited to the preservation of this material. However, the orange and grey mottling suggests that the soil must have undergone redoximorphosis in the past – likely due to cracking of the clay rich soil during dry period(s). In addition to the high temperature burning, this redoximorphosis likely explains the fragility of the osseous material (Tabor *et al.* 2017).

Both Tr 3 and Tr 4 were excavated within the agricultural fields approximately 250 m east of the banks of the Kwilu River. The stratigraphy of Tr 3 (1 × 1 m) was divided into (1) a relatively thick A Horizon, (2) brown sandy loam, and (3) grey clay with orange mottling (Figure 10.17). Here, two distinct cultural horizons were again identified within the brown sandy loam. The upper horizon consisted of Luani Late Phase pottery between the surface and ~35 cm. The lower cultural horizon, including pottery belonging to the Luani Middle Phase and lithics, was recovered between 40 and 70 cm. Two wood charcoal samples were recovered from the lower cultural horizon in Tr 3, which yielded dates between the 2nd and 4th centuries CE. Tr 4 (1 × 1 m) was placed approximately 60 m to the north of Tr 3, which yielded a nearly identical stratigraphy. While only one pottery sherd from the upper cultural horizon was recovered from Tr 4, a moderate amount of older material was found between 40 and 60 cm. Two dates associated with this material spanned the 1st–3rd centuries CE. Below this horizon, several lithics were recovered between 60 and 100 cm. Excavations both Tr 3 and Tr 4 were concluded at 1 m.

Based on the results of the 2021 investigations, the 2022 field season at Luani focused on the areas around the modern settlement. Tr 6 (1 × 2 m) was placed 20 m to the northeast of Tr 2 in an effort to identify additional features or cultural horizons associated with the pit feature found in Tr 2 and Tr 5. Unfortunately, however, no archaeological material of any phase was recovered and the unit was closed at 60 cm. Approximately 120 m to the south, we placed Tr 7 (1 × 2 m) within an abandoned agricultural field that had a moderate amount of Luani Late Phase pottery on the surface. Excavations here revealed a stratigraphy similar to the majority of the Luani site, including (1) a greyish brown A Horizon, (2) brown sandy loam, and (3) grey clay with orange mottling. The majority of material from this unit was found in the upper 30 cm and belonged to the Luani Late Phase. However, a small amount of Luani Middle Phase pottery was also recovered between 35 and 45 cm with an associated wood charcoal sample that produced a date between the 4th and 2nd centuries BCE.

Approximately 150 m to the northeast of Tr 2 we identified a lithic concentration in the profile of a large clay quarry at a depth of ~1 m. We therefore placed Tr 8 (1 × 2) along the edge of the quarry just above the lithics. This unit had a stratigraphy consisting of (1) a thin A Horizon, (2) brown loamy sand, (3) grey clay with orange mottling, (4) a second thin layer of brown sandy loam, and (5) a further layer of grey clay with orange mottling. Very little ceramic material was collected from Tr 8, and was restricted to two pottery sherds from the Luani Middle Phase found in association with two lithic artefacts between 20 and 40 cm. However, a large number

of Late Stone Age (LSA) lithics were exclusively recovered from the lower layer of grey clay between 90 and 135 cm, below the second layer of brown loamy sand. No charcoal was recovered from this unit and excavations were finalised at 1.5 m.

To the southwest of Tr 2, we inspected a smaller clay quarry that revealed the presence of a pit feature along the eastern profile. Unfortunately, the property line of the plot we had permission to excavate bisected the feature and we were unable to excavate on the adjacent property. Therefore, Tr 9 (1 × 2 m) was placed along the edge of the clay quarry over the northern half of the feature. The stratigraphy here revealed four natural and anthropogenic layers, including: (1) a brownish grey A Horizon, (2) brown loamy sand, (3) grey clay with orange mottling, and (4) a dark brown pit feature (Figure 10.17). Two concentrations of Luani Late Phase pottery were identified at a depth of 20–30 cm within the brown loamy sand. Below these concentrations, the pit feature began at a depth of ~40 cm. As with the funerary feature identified in Tr 2 and Tr 5, this pit feature was dug into the grey clay layer and contained both lithic artefacts and pottery sherds. One wood charcoal sample associated with the pottery sherds was recovered from a depth of 60 cm, which yielded a date from the early 2nd millennium BCE. We concluded excavations at Tr 9 at 1 m.

Tr 10 (1 × 2 m) was placed 10 m to the north of Tr 9 along the same eastern profile of the clay quarry just above a visible concentration of pottery sherds at ~30 cm. The stratigraphy of Tr 10 consisted of (1) a grey A Horizon, (2) a thin (20 cm) brown loamy sand layer, and (3) grey clay with orange mottling. The excavations yielded Late Luani Phase ceramic material recovered from the brown loamy sand between a depth of 10 and 35 cm. The grey clay layer was encountered relatively high up in the soil column (30 cm) and no material was recovered from within this layer.

Conclusion

In comparison to the other areas surveyed within the Kwilu-Kasai region, the earliest pottery-bearing sites are located along the lower Kwilu and Kwango Rivers. Of these, the earliest pottery-using communities, by far, were settled on the alluvial plain of Luani by the mid-third millennium BCE. This date predates all other examples of pottery use in Central Africa outside of Cameroon by more than a millennium. The earliest recorded pottery south of the Congo rainforest within the present-day distribution area of West-Coastal Bantu languages is dated to between 800 and 400 BCE from the site of Tchissanga along the coast of the Republic of the Congo (de Maret 1990; Denbow 1990), and the earliest pottery in the Inner Congo Basin is the Imbonga pottery that dates between 400 and 100 BCE (Wotzka 1995).

While some (e.g., Clist 2018) have argued for mixing or reburial of deposits as an explanation for exceptionally early dates at various Central African sites, both the stratigraphic data and distribution of the Luani Early Phase pottery make their contexts quite clear. The stratigraphic evidence for a closed, undisturbed context in Tr 2/5 is fourfold. Of primary importance here is the fact that the funerary feature in Tr 2/5 is lined along the bottom with burnt clay. This indicates that the fire which burnt the human remains – and resulted in the wood charcoal that was dated – was burnt *in situ*. Likewise, this burnt clay bottom would have prevented earlier LSA

materials, including charcoal and lithics, from traveling through the soil column and contaminating the pottery-bearing deposits. Indeed, one of the wood charcoal samples (Beta-648805) was recovered from inside the vessel found in the Tr 2/5 feature. Second, the position of the feature within the grey clay layer – sealed with additional grey clay – suggests the feature was buried relatively quickly after burning with the same sediment. Both the overlying deposits of brown sandy loam and the clay overlaying the feature show no evidence of disturbance post-burial, demonstrating that the association between the wood charcoal samples and pottery is not the result of more recent activity including reburial. Third, the tight grouping of the four dates – including the three from inside the feature and the one from just above it – is significant. After sending the samples to two different laboratories – Beta Analytic and KIK-IRPA – there are no outliers or inverted dates. Importantly, the date taken from the thin grey clay layer overlaying the feature (RICH-30960) post-dates the three from within it. Lastly, the fact that two different features (in Tr 2/5 and Tr 9), approximately 200 m apart and both dug into the grey clay layer, have produced similar dates for their pottery-bearing deposits adds yet further evidence for the association between the Luani Early Phase pottery and the 3rd/2nd millennium BCE dates.

As both the Luani funerary feature and the 3rd/2nd millennium BCE pottery are currently outliers, it is unclear if the communities there were fabricating pottery or importing completed vessels from outside of the rainforest. There is, of course, precedent for African hunter-gatherer groups producing pottery (Mercader *et al.* 2000). Moreover, the earliest pottery in West Africa – and indeed all of Africa – dates back to ~12 kya BP (Huysecom *et al.* 2009; Watson 2017), while the earliest attested pottery in Central Africa dates to 7 kya BP at Shum Laka (Lavachery 2001). As agriculture only emerged ~5 kya BP in Africa (Fuller *et al.* 2021), hunter-gatherer groups were clearly the inventors of pottery in Africa and there is no reason to believe that those living in Central Africa were incapable of replicating the technology.

Interestingly, the earliest sites in the Kwilu basin, i.e., Lukombe and Luani, are both found within the grey clay with orange mottling. This is likely due to the fact that this alluvium was either the surface – or near the surface – during the earliest periods of occupation. Later groups to occupy the region during the 1st century CE, e.g., Luani Middle Phase, and the Bagata Mukea, Kondji, Kikundi, and Kintambu Early Phases, did so on the sandy loam deposited in the intervening periods. At present, however, there is no evidence to link these groups based on material culture (Chapter 19 in this volume). Still, the high distribution of early sites dating to before the 1st century CE along the Kwilu River, in comparison to the neighbouring rivers, suggests that it was a major axis during the earliest settlement of the region by pottery-using peoples.

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