

Supplementary Materials for
Intentional creation of carbon-rich dark earth soils in the Amazon

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Supplementary Text 1: Additional Background on Amazonian Dark Earth

Amazonian dark earth (ADE) is a soil horizon found throughout the Amazon Basin associated with archaeological sites. It has garnered attention from scientists and the media because of its extraordinary fertility and high carbon stocks. Modern farmers in Indigenous and traditional communities frequently prefer to plant crops in dark earth because of their fertility and resilience (72–76). Dark earth typically displays higher levels of certain elements and available plant nutrients. Enriched elements can include Ba, Ca, Cu, K, Mg, Mn, N, Na, P, Sr, and Zn (77–80). It also has an elevated soil pH, low exchangeable aluminum, and elevated carbon content, including charcoal, contributing to its high fertility and demonstrating the potential of the soil as a carbon sink (35). Carbon in dark earth is recalcitrant, which explains its long-term persistence despite the warm and wet climate (81). A number of studies have endeavored to map the extent of dark earth at archaeological sites (25, 36, 82, 83), but few have attempted to measure the total inventory of carbon (37).

Areas of dark earth are found throughout Amazonia on a wide range of soil types and in different cultural and geographic contexts (24). Although the largest and deepest dark earth sites known so far generally occur on the bluffs of major rivers, they are also found on floodplains (84), around lakes (85, 86), and in interfluvial and headwater areas (61, 62, 87–89), including the Upper Xingu (90). These settings contain different naturally occurring soil properties, with floodplains featuring substantially more fertile soils than bluffs or interfluves due to continued inputs from riverine sediments (84). At least four edited volumes (10, 91–93) and several review papers are dedicated specifically to Amazonian dark earth (21, 22, 94, 95), and it is a major example in historical ecological thought of how human actions can create new niches that can increase rather than diminish diversity and productivity (96, 97).

There is evidence of lasting soil modification associated with human activities since the Early Holocene at both cave and open-air sites in the Carajás Mountains (61, 62). Research in southwest Amazonia has pushed back the earliest known dates for substantial dark earth formation to ca. 6000 years BP, associated with the Massangana-phase deposits of lithic artifacts at the Teotônio site on the Upper Madeira River (98–100). Research in the Guianas has also uncovered some of the earliest known deposits of dark earth, dating to ca. 6000 years BP (101). These early sites of dark earth formation are found at locations that are especially productive for fishing (100). It is likely that other early to mid-Holocene sites located on the Amazon main stem or lower courses of tributaries were inundated by sea level rise that began in the terminal Pleistocene and continued to a maximum at ca. 5000 years BP (102, 103).

Archaeologists have inferred a substantial increase in the occurrence of dark earth beginning ca. 2500 BP (104). Dark earth with younger ages occurs in archaeological sites with diverse ceramic traditions, such as the Polychrome Tradition, Incised Rim Tradition, and Incised Punctate Tradition, and in sites with differing settlement structures (105). Occupations and reoccupations of sites by people with different ceramic traditions occur in many sites (106).

In early reports, scientists suggested that dark earth formed as a result of human activities (107, 108), but later studies proposed alternative, purely geological mechanisms (15, 109–112). Geographer Nigel Smith presented arguments against these non-anthropogenic hypotheses in a 1980

publication (15), and there has been a consensus since that time among archaeologists and other scientists who have studied dark earth sites that they are anthropic (18, 113). Most researchers have long agreed that the presence of pottery fragments and other artifacts indicates that humans contributed to dark earth formation (10, 15, 25, 26). Yet, it is still unknown how they did so and whether they did so intentionally (14, 19, 21, 22). Hypothesized origins include domestic waste management (15), agricultural activities (13, 25, 26), and an unknown technology (13).

Modern Amazonian farmers seek out areas of dark earth for crop cultivation. A number of studies have been published on the use and management of dark earths by people who do not identify as Indigenous but have lived in the Amazon for generations and use a mix of Indigenous and imported practices (15, 72–76, 114–116). Some information has been gathered on agricultural use and management of dark earth by the Indigenous Kuikuro community (27, 48). The crops planted in dark earth include corn, papaya, bananas, sugarcane, sweet potatoes, cotton, tobacco, annatto, and manioc. Middens behind homes in the current village are used for cultivating the same diverse range of crops in home gardens. A survey was carried out in three home gardens of all plant species that had been planted (27, 48). The three gardens contained 21, 15, and 10 useful species. These species included sweet potatoes, squash, corn, beans, sweet and bitter manioc, chili peppers, bottle gourd, calabash gourd, sugar cane, mango, papaya, piquí, cashew, banana, guava, orange, Antilles cherry, cotton, tobacco, and several native fruits from the region, including species from fallows, floodplain savannah, and gallery forests. In the ethnographic interviews in this study (tables S5, S6, Supplementary Text 2), farmers reported having planted the following in backyards: mangaba, geküjü (native fruit), piquí, bananas, mangoes, black pepper, chili peppers, annatto, bottle gourd, and cotton. They also reported that manioc is very productive on dark earth, growing fast and to a large size, and that weeds also grow fast. The forest regenerates quickly when left fallow.

Ethnographic research on dark earth formation in the Kuikuro Indigenous community in the Upper Xingu of southeastern Amazonia (27, 41–43, 48, 54, 117, 118) has revealed the main materials that modern people discard in refuse disposal heaps known as trash middens. These materials include organic waste of ash and charcoal, fish waste, manioc waste, fruit waste, leaves and branches, grass, and woodchips. Discarded materials also include other solid waste such as traditional ceramic potsherds and lithic artifacts, metal, and plastic, but the proportion of inorganic to organic waste is very low (27, 48). Glaser and Birk showed that 5β -stanols are present in dark earth in the central Amazon indicating the addition of feces that is likely human (119). Observations in the Kuikuro village indicate that feces are deposited in small amounts within the village but do not make up a substantial part of dark earth formation (27). However, they may have a substantial effect on soil and landscape ecology, notably as insects carry them into the soil (27, 61). Most feces are deposited in secondary regrowth just outside the village or along paths leading to bathing areas. Animals are raised as pets but not for livestock (27).

There is evidence that some dark earth soil was created unintentionally (27, 84), but few studies have been carried out that address the question of whether some dark earth in Amazonia was created intentionally. An ethnographic study was carried out with a Tupi Indigenous group in southern Brazil that examined the formation of anthropic soils (120). Research among the Kayapó Indigenous community brought to light the deliberate micro-management of fire and ash for planting crops and hypothesized the intentional creation of forest islands (20, 121, 122).

Studies have been carried out to highlight the practices of “slash and char” and “sweep and char” among non-Indigenous farmers in the Amazon (114, 123). Archaeological research in the Caquetá River of the Colombian Amazon reported algae in the soil high on a bluff as evidence for soil amendments transported there from the floodplain below (124, 125). A previous study (84) argued for non-intentional dark earth formation as a by-product of agricultural practices in a floodplain setting, because the natural soils are sufficiently fertile for crop cultivation even without human inputs and the formation of dark earth. However, this conclusion is not necessarily generalizable to upland regions with extensively weathered and infertile soils. The research with the Kuikuro reported here is the first to use ethnoarchaeological and ethnographic methods to investigate the question of intentionality.

Forested archaeological sites with dark earth are “islands” rich in resources for flora and fauna (96, 126, 127). They are typically enriched in plants useful for humans (8, 60, 126–133), sometimes under continual management (43, 76, 96, 126, 127), offering fruit, medicinal plants, and raw materials for construction and the manufacture of handicrafts, and can influence the structure of the forest (132, 134). The concentrated resources also attract game animals and are often preferred habitats for hunting (43, 127). The soil itself is more productive and offers habitats for plants that require higher nutrient levels, as well as soil organisms, with the possibility of biota that live exclusively in dark earth (135–137). This evidence has led to thinking of Amazonia as a “domesticated landscape” with anthropic legacies like dark earth that are much more extensive than previously thought (1–5, 8, 45, 60, 76, 96, 105, 127–131, 138). With the triple threats of climate change, soil depletion, and biodiversity loss, land management modeled after traditional practices that store carbon, build soil, and promote biodiversity could be a triple win for humanity and the Earth (16, 19, 35, 48, 51, 52, 139).

Supplementary Text 2: Transcripts of Ethnographic Interviews

The following transcripts include English and Portuguese translations of interviews conducted in the Kuikuro language. Quotations relevant to soil modification are enclosed in brackets ([]), with superscript numbers (^{S5-#}) corresponding to the numbering in table S5. Quotations relevant to dark earth fertility and cultivation of crops in dark earth are enclosed in braces ({}), with superscript numbers (^{S6-#}) corresponding to the numbering in table S6. Kuikuro terms are in italics. Words in parentheses are for clarification.

Interviewees: Kanu Kuikuro, Haitsehü Kuikuro, Kusai Kuikuro, Tago Kuikuro, Kamihu Kuikuro, Moisé Kuikuro, Kamankgagü Kuikuro, and Omoge Kuikuro.

Interviewers: Huke Kuikuro, Kumessi Waura, Yamalui Kuikuro, Takumā Kuikuro, Carlos Fausto, and Morgan Schmidt

Video: Bob Kuikuro and Takumā Kuikuro

Kuikuro to Portuguese translation: Yamalui Kuikuro, Kumessi Kuikuro, and Maricá Kuikuro

Portuguese to English translation: Morgan Schmidt

Kuikuro terms

egepe – dark earth

ilübepe – place for ash disposal (literally “what was ashes”)

ngiholo ilubegüpe – *ilübepe* of the ancestors

ilübe egepütipügü – a place where ash that was dumped has already turned into dark earth

itsulo – waste or waste disposal area

itsuni – old-growth forest on red soil, non-dark earth

hihitsingoho – field on a dark earth archaeological site where diverse crops are grown and where people may stay during planting and harvest

Interview 1: Kanu Kuikuro (female elder, farmer)

Interviewers: Huke Kuikuro and Carlos Fausto

Video: Bob Kuikuro

Kuikuro to Portuguese translation: Yamalui Kuikuro

Date: July 21, 2018

Speaker	English	Português
Huke	After you built your house here, tell me how you began to plant. You can also tell me how you threw away your trash.	Depois você construiu sua casa aqui, conte como você começou plantar. Também pode contar como você jogou seu lixo.
Kanu	You want me to tell you about this custom?	É para contar o costume disso?
Huke	Tell about this custom.	Relate costume disso.

Kanu	[To take care of this place, for me to sweep, I come over here. I don't like to have trash. That is not good. That is why I come over here. I always sweep.] ^{S5-1}	Para eu cuidar este lugar, para eu varrer, eu vim para cá. Eu não gosto de ficar com lixo. Isso não é boa. Por isso que eu vim aqui. Eu sempre varro.
Kanu	[This is where my house used to be. Look how it is now. It is clean where my house used to be. That is why I come here. To cultivate, I always sweep. We sweep.] ^{S5-2}	Aqui era onde minha casa ficava. Olha lá como esta agora, está limpo onde ficava minha casa. Por isso que eu vim aqui. Para eu cultivar, eu sempre varro. Varremos.
Kanu	[After we sweep, we throw it outside to become <i>egepe</i> (dark earth) for us to plant. Principally ash, ash is what works. We throw a bunch of ashes. It is there that we can plant.] ^{S5-3}	Depois que varremos e jogamos lá fora para virar <i>egepe</i> (terra preta). Para nós plantamos. Principalmente cinza, cinza mesmo que serve. Jogamos cinza e juntamos um monte. La que podemos plantar.
Kanu	[Manioc peelings...we are in the manioc harvest. We throw manioc peelings so we can plant. So we can plant.] ^{S5-4} When we want to plant mango. And we can plant.	Casca de mandioca...estamos na colheita de mandioca. Jogamos casca de mandioca para nós plantamos. Para nós plantamos. Quando queremos plantar a manga. E podemos plantar.
Kanu	[There is a mango tree planted over there. It was planted where we threw ashes. Our crops are where we have thrown ashes. That is why the plants grow well.] ^{S5-5}	Tem uma lá plantada pé de manga. Foi plantando onde jogamos a cinza. Nosso plantio esta onde tínhamos jogado a cinza. Por isso que planta cresce bem.
Kanu	[I planted that bamboo where I had thrown ashes. I threw manioc peelings to fertilize it so it would grow well.] ^{S5-6}	Eu plantei aquele bambu onde tinha jogado a cinza. Eu joguei casca de mandioca para adubar e crescer bem.
Kanu	After it went well, I was content. I brought the bamboo.	Depois que deu certo eu fiquei contente. Eu trouxe bambu.
Huke	Where did you bring the bamboo from?	De onde você trouxe bamboo?
Kanu	{From the city of Ribeirão Preto (São Paulo). I brought it from the city of Ribeirão Preto. I brought it from far away, I took care of it until it grew. I watered it, I suffered to take care of it.} ^{S6-79}	Da cidade de Ribeirão Preto (SP). Eu trouxe de lá da cidade de Ribeirão Preto. Trouxe de longe, eu cuidei até crescer. Joguei água, eu sofri para cuidar.
Kanu	It didn't grow fast. Even when I don't have a mango tree, [I threw (organic) fertilizer and watered.] ^{S5-7} There wasn't a mango tree to water. I got water to throw on top.	Não cresceu rápido. Mesmo que não tenho mangueira eu jogava adubo (orgânico), jogava água. Não tinha mangueira para jogar água. Eu pegava água para jogar em cima.

Kanu	I watered it in the morning, as is the habit to cultivate. I water in the morning. In the afternoon too. I don't water at mid-day because it is not good for the plants.	Jogava água bem de manhã, assim que é costume de cultivo. De manhã joga água. A tarde também, não jogava meio-dia porque não dar certo para planta.
Kanu	[That is why I threw the ashes over there, so I can plant this year. We threw them to plant (sweet) potato. What we swept up and threw. Our ashes.] ^{SS-8}	Por isso que eu joguei a cinza para lá, para eu plantar este ano. Jogamos para plantar batata (doce). O que nos varremos e jogamos. A nossa cinza.
Kanu	I can't say the name of that because it has to do with the name of my father-in-law. Charcoal, exactly.	Eu não posso falar aquele porque tem a ver com nome do meu sogro. Carvão, exatamente.
Huke	To mix it into the soil?	Para misturar com a terra?
Kanu	It's hard for me to say, the name of my father-in-law. We can't say the name of our father-in-law.	Difícil eu chamar, o nome do meu sogro. Não podemos chamar o nome do nosso sogro.
Kanu	[That is why I always threw charcoal and ash, ash we sweep, gather up, and then throw it where we will plant. To turn into beautiful dark earth, there we can plant sweet potatoes.] ^{SS-9}	Por isso que eu sempre joguei carvão e cinza, cinza que varremos, juntamos e depois jogamos onde será o plantio para virar <i>eegepe</i> bonito lá podemos plantar batata.
Kanu	We plant sweet potatoes, we plant. Sweet potatoes are very delicious.	Plantamos batata doce, plantamos. Batata é muito gostoso.
Huke	You planted before the rain?	Você plantou antes de chuva?
Kanu	Before the rains, we plant before the rains. It rained, at the first rain we can plant. We plant sweet potatoes.	Antes de chuva, plantamos antes de chover. Choveu, na primeira chuva nós podemos plantar. Plantamos batata.
Kanu	Planting sweet potatoes is not easy, we can stick our fingers in our nose. We have to move our backs. We have our nose in the air, this way, and it stays on the surface. That is how we plant sweet potatoes.	Plantio de batata não é fácil, podemos enfiar nossos dedos no nariz. Movimentamos a nossas costas. Ficamos nariz para cima. Fazemos desse jeito. Aí fica na superfície. Assim fica quando plantamos a batata.
Kanu	[It is already <i>eegepe</i> , <i>eegepe</i> . When you plant where there is no <i>eegepe</i> , it is weak. That is why we throw the ash, manioc peelings, and we throw manioc pulp, and then it turns into beautiful <i>eegepe</i> .] ^{SS-10} It turns into <i>eegepe</i> .	Já é <i>eegepe</i> , <i>eegepe</i> . Quando voce planta onde não tem <i>eegepe</i> fica fraca. Por isso que jogamos a cinza, casca de mandioca e massa de mandioca, ai vira <i>eegepe</i> bonito, vira <i>eegepe</i> .
Kanu	[Look over there at Talan's field where they threw ash and it turned	Olhe lá a roça do Talan onde jogaram a cinza e virou <i>eegepe</i> .

	into eegepe. We cultivate banana, a banana grove.]} ^{S5-11}	Cultivamos a banana, plantio de banana.
Huke	Ash thrown there?	Cinza jogado?
Kanu	{We cultivate bananas. They are planted where we threw ashes.} ^{S6-80}	Cultivamos a banana. Está plantado onde foi jogado a cinza.
Huke	What will be planted at the beginning of the rainy season?	Os que será plantado no início da época da chuva?
Kanu	The beginning of the rainy season has arrived, the first has to do with the name of my sister-in-law. We planted corn, we planted corn.	Chegou o início da chuva, na primeira tem a ver com nome da minha cunhada. Nós plantamos o milho, plantamos o milho.
Kanu	[After the first rain, I always plant here at the corner of my house. It turned into eegepe, that is why the plants grow well. It really turned into eegepe.]} ^{S5-12} At the first rain, we plant.	Depois da primeira a chuva eu sempre planto aqui no canto da minha casa. Virou a <i>eegepe</i> por isso que a planta cresce bem. Virou <i>eegepe</i> mesmo. Na primeira a chuva plantamos.
Kanu	After that I plant bottle gourd. I am a planter of bottle gourd. The people here don't plant anything. Just me, I've always planted.	Depois eu planto cabaça. Eu sou plantador de cabaça. O pessoal daqui não planta, nada. Apenas eu. Eu sempre plantei.
Kanu	{In the rainy season, I make a design. I've always looked for <i>eegepe</i> to cultivate, it makes it beautiful. I've always planted. That is how I make a design.} ^{S6-81}	Na época da chuva faço desenho. Eu sempre procurei <i>eegepe</i> para eu cultivar, fica bonito. Lá sempre plantei. Assim eu faço desenho.
Kanu	I always tell the bottle gourd to get this big, get just like this. I design the neck very beautiful. I always offer it to the spirit Ahasa. He is the owner, the owner of the bottle gourd.	Falo sempre para cabaça fica deste tamanho, fica desse jeito. Eu desenho pescoço bem bonito. Eu sempre ofereço para bicho espírito Ahasa. Ele é o dono, o dono da cabaça.
Kanu	Kuginda tutu, come and take care of our bottle gourd so it gets this big. Keep your neck very straight. Like this, before you plant, bend your neck so the bottle gourd grows curved.	Kuginda tutu, venha cuidar a nossa cabaça, para ficar deste tamanho. Deixar seu pescoço bem reto. Assim, antes de plantar entorta seu pescoço para cabaça ficar torto.
Kanu	Before you plant bottle gourd, don't look backward otherwise it will grow ugly. This way it will grow beautiful. That is how we plant. We can't look behind us. Don't look backward or the fruit will be small. That is how you plant bottle gourd.	Antes de plantar cabaça não olhe para atrás senão ficar feio. Assim ficar bonito. Assim que plantamos, não podemos olhar pra atrás. Não olhe para atrás, senão a fruta fica pequena. Assim que plantar a cabaça.
Kanu	When I return, I don't look backward. {It quickly grows very strong. After	Quando volto, fico sem olhar para atrás. Logo cresceu bem forte.

	that, the rainy season begins and it turns into <i>eegepe</i> , turned into <i>eegepe</i> . It grows fast in the <i>eegepe</i> . ^{S6-82}	Depois começa início da chuva e vira logo a <i>eegepe</i> , virou a <i>eegepe</i> . Cresce logo na <i>eegepe</i> .
Kanu	Then, after that the planting of annatto begins during the rainy season. In this season we can't plant it or it will die. We are in the dry season so we can't plant.	Ai depois começa plantio de urucum durante a chuva. Nessa época não podemos plantar senão morre. Estamos na época da seca não podemos plantar.
Kanu	Jaua has annatto seeds. I have, women's annatto and the seeds of that become annatto. Women's annatto is the same. It's what I painted myself with. It is the same as men's annatto. We use men's annatto only for painting our foreheads.	Jaua tem semente de urucum. Eu tenho, urucum de mulher e semente de aquele vira urucum. Urucum de mulher a mesma, com isso que eu me pinte. Urucum a mesma coisa do urucum do homem. Usamos urucum do homem para pintar somente nossa testa.
Kanu	{We can plant it in the corner of the field and we look for where it was burned well. We look for ash.} ^{S6-83} When we take out the seeds of the men's annatto we can't look backwards. If you look backwards the annatto will turn into women's annatto.	Podemos plantar no canto da roça e procuramos onde foi queimado bem Procuramos cinza. Na hora do tirar semente do urucum do homem não podemos olhar para atrás. Se você olhasse para atrás urucum vira para urucum da mulher.
Kanu	You have to drink a lot until you get full and feel like you have no air. Look, it's to get many seeds.	Você tem que beber muito até fica abafado e se sentiria sem ar. Veja, é para ter muito semente.
Kanu	We plant in a row and measure with our steps. We can't plant in a zigzag. We plant the field with nice straight rows. And we can't look backwards.	Plantamos do centímetro do nosso passo, em fila. Não podemos plantar em zigue zague. Plantamos na roça bem enfileirado mesmo. E não podemos olhar para atrás.
Kanu	When you finish planting you can return without looking backwards. In this way, it begins to bear fruit. Soon you will have a lot of annatto, really a lot. It will fill with seeds.	Quando termina de plantar você já pode vir sem olhar para atrás. Assim, começa ter a fruta. Logo urucum ter muito, muito mesmo. Enche ter muito semente.
Kanu	Do you know why you got a lot of fruit? Because you drank a lot. You have to drink until you are really full. The annatto will be the same way. If you don't drink before you plant annatto, it will not produce seeds.	Sabe por que teve muito fruta? Porque você bebeu muito. Você tem que beber bem cheio mesmo. Mesma coisa urucum fica. Se você não beber antes de plantar urucum ficar sem semente.
Kanu	Another thing, we are in the season that the pequi trees flower. We are going to choose good pequi seeds for	Outra coisa, estamos na época do pequi florescer. Nós vamos escolher

	our crop. It has to be a large pequi. If we want to choose white piqui, we can get those.	semente do pequi boa para nosso plantio. Tem que ser pequi grande. Se a gente quer escolher pequi branco podemos pegar.
Kanu	Big pequi, this size. We have to choose the good ones. We have to choose good pequi without spines. We cannot plant bad pequi without spines.	Pequi grande deste tamanho. Nós temos que escolher o que é bom. Temos que escolher pequi boa sem espinho. Pequi sem espinho ruim não podemos plantar.
Kanu	We can plant good ones for our crop to be good. When you go to plant, you have to dig a hole in the form of a caiman. There, we can put them until they sprout and after that we move them to a different place.	Podemos plantar os que são boas para nosso plantio ser boa. Quando você vai plantar tem que cavar buraco como formato de jacaré. Lá podemos colocar até brotar e depois mudamos de lugar.
Kanu	You also cannot look backwards. Every time we plant, we cannot look backwards. We plant sweet potatoes just like that. It's the same with papaya. You can't look backwards.	Também você não pode olhar para atrás. Toda vez que plantamos não podemos olhar para atrás. Nós plantamos batata assim mesmo sem fazer nada. Mesma coisa mamão não pode olhar para atrás.
Kanu	Squash is like that, without doing anything. We also cultivate squash during the rainy season. {Here is where I plant, at the corner of my house where has already become <i>egepe</i> .	Plantio de abóbora assim mesmo em fazer nada. Também nós cultivamos abóbora durante a chuva. Aqui nós cultivamos, o canto da minha casa já virou <i>egepe</i> . Como eu sempre joga meu lixo lá.
Kanu	In the rainy season there is abundant squash here. I've always cultivated it for my grandchildren. I've always planted watermelon. I plant a little at a time.} ^{S6-84}	Na época da chuva aqui ficar fartura de abóbora. Eu sempre cultivei para meus netos. Sempre plantei melancia.
Kanu	I plant a little at a time. I never plant too much otherwise we won't consume it all. That is why I know about cultivation. Fava bean is something of the old-timers.	Planto um pouco de vez. Eu nunca plantei muito senão não dar conto pra consumir. Por isso que eu tenho conhecimento de plantio. Fava já é coisa dos antigos.
Carlos Fausto	Fava bean too?	Fava também?
Kanu	Fava bean is something of the old-timers. Nowadays it doesn't exist anymore, there's no more. There are still beans. Itsanhü still has them.	Fava já é coisa dos antigos. Atualmente não existe mais já acabou. Ainda existe feijão, Itsanhü ainda tem.
Carlos Fausto	Can you plant it behind your house?	Pode plantar atrás da casa?
Kanu	You can plant it behind the house or in the field. {The plant climbs and it grows well in <i>egepe</i> . We plant beans	Pode plantar atrás da casa e na roça. Planta sobe é isso combina com a <i>egepe</i> . A gente planta feijão na

	in <i>egepe</i> .} ^{S6-85} The beans climb up on the dry branches. Kuantá beans climbs the branches.	<i>egepe</i> . Feijão sobe nos galhos secas. Feijão kuantá sobe nos galhos.
Carlos Fausto	Did the old-timers have kumanai beans?	Feijão kumanai antigos tinha?
Kanu	We still have kumanai beans. Here they are.	Ainda nós temos feijão kumanai. Aqui fica.
Carlos Fausto	Is this new?	Isso é novo?
Kanu	No, real beans are old. Beans from the white people are something else, striped beans. Carlos, I plant all of these.	Não, feijão de verdade, antigo. Feijão do branco é outra coisa, feijão listrado. Carlos, eu planto tudo isso.
Kanu	Another one, I also plant sugar cane. We plant it the same as manioc. {When I plant there, I always look for charcoal where I plant but it never turns out right, it always dies. When we take too long to water it, it dies right away.} ^{S6-86}	Outro, eu também planto cana de açúcar. Plantamos igual plantio de mandioca. Aquele, eu sempre procuro carvão lá que eu planto, mas nunca dar certo, sempre morre. Quando a gente demora um pouco de jogar água nele e logo morre.
Carlos Fausto	What do you call that thing of the old-timers?	Como é que chama aquela coisa de antigo?
Kanu	Ahaga? It seems that it is really extinct. It is a plant of the old-timers. It was used for weaving mats.	Ahaga? Parece já foi extinto mesmo. É uma planta dos antigos. Era para tecer esteira.
Kanu	I saw it when my aunt had it. It was in nice straight rows. After we pick it, we can squeeze the liquid out. We can strain it on top of a board. The cord is a white color. We even drank the juice. It was a custom of the old-timers.	Eu tinha visto quando minha tia tinha, era muito enfileirado. Depois de pegar podemos sugar. Podemos coar em cima da tábuá. Corda ficar cor branca. A gente até tomava caldo. Era costume de antigo.
Kanu	{When the field is burned, there will be ash there. There is a lot of ash where a tree has burned. That is where we can plant, where a large tree has burned. There, we can plant ahaga and pineapple. For the plant to grow well.} ^{S6-87}	Quando a roça será queimada, terá cinza lá. A cinza fica muito onde árvore foi queimado. Lá no meio podemos plantar. Onde uma árvore grande foi queimada. Lá podemos plantar ahaga e abacaxi. Para planta ficar boa.
Kanu	{We can't plant on the bare soil. We can plant where the fire really burned and where there is ash. There it is like <i>egepe</i> .} ^{S6-88}	Não podemos plantar na terra limpa. Onde fogo queimou mesmo e onde tem cinza lá podemos plantar. Ali fica como a <i>egepe</i> .
Kanu	{If we planted watermelon in the wrong place it wouldn't grow. If we planted bottle gourd there it wouldn't grow. Neither would pineapple. It	Se a gente plantasse melancia no lugar errado não iria dar certo naquele lugar. Se plantasse cabaça lá não daria certo. E nem abacaxi não

	would not produce fruit. It would go just like this, not grow, not go forward. } ^{S6-89}	daria certo. Não daria fruta. Vai assim mesmo não cresce, não arrasta mais.
Kanu	{When we plant here near the house, we customarily take very good care of the plants. } ^{S6-90} [Every time we sweep we have to bring it to the base of the plant. And the leaves that disintegrate mix with the earth and turns into eegepe if you mix it with ash.] ^{S5-13}	O costume de plantio daqui do canto da casa é cuidar muito. Toda vez que varremos temos que levar na base da planta. E a folha que derrete mistura com a terra e vira <i>eegepe</i> . Se mistura junto com a cinza.
Kanu	[When the field burns, when you clean the field, you leave the trash at the base of the manioc plants. This mixes with the earth and turns into <i>eegepe</i> . Then your manioc field doesn't die.	Quando a roça queima. Quando você limpa na roça deixa o lixo na base da mandioca. É isso estraga mistura com a terra e vira <i>eegepe</i> . Aí que sua roça de mandioca não morre.
Kanu	That's how it is. Then it is beautiful. Look, that is the custom for cultivating.] ^{S5-14}	Assim que é. Aí que fica bonito. Veja, assim que costume de plantação.
Huke	Can you throw manioc peelings at the base of the plants?	Pode jogar casca de mandioca na base da planta?
Kanu	[We only throw them when we plant behind the house. We throw manioc peelings to feed our crops.] ^{S5-15} {Manioc peelings have one issue, they can poison the plants. They can poison our crops.	Somente jogamos quando nós plantamos atrás da casa. Jogamos casca de mandioca para alimentar o nosso plantio. Casca de mandioca tem um pouco erro, pode envenenar a planta. Pode envenenar o nosso plantio.
Kanu	After they disintegrate well, they don't hurt the plants. } ^{S6-91} [Look at my garden, I threw manioc peelings to feed it. Now it is like eegepe.] ^{S5-16}	Depois derrete bem não faz mais mal para a planta. Veja como está o meu plantio, eu joguei casca de mandioca para alimentar. Agora ficou como <i>eegepe</i> .
Carlos Fausto	Do you plant mangaba (fruit tree)?	Você planta mangaba?
Kanu	We also plant mangaba. It takes two people to plant. We take out the seeds and then we plant. You can swallow the seed and then defecate and then it will sprout. That way it grows in a line.	Mangaba também é plantado. Tem que ser duas pessoas para plantar. Tiramos semente e depois plantamos. Você pode engolir depois faz cocô e nasce. Assim brota enfileirado.
Kanu	I take cashew seeds. I choose them for planting. You can't plant bitter cashew. We choose the seeds from those that are delicious.	Eu tiro semente de caju. Escolho para eu plantar. Não pode plantar caju amargo. Escolhemos semente de aquilo que é gostoso.
Kanu	We call it "the testicle of the cashew on the butt". That is what we take off. That we can plant. {Out in my field	Nós chamamos de "testículo de caju que fica na bunda". Aquilo que podemos tirar. Aquele lá podemos

	they are planted in a row.} ^{S6-92} There was one here, but it burned.	plantar. Lá na minha roça está enfileirado. Aqui tinha, mas já queimou.
Carlos Fausto	Do you plant seriguela (fruit tree)?	Será que você planta seriguela?
Kanu	I don't plant it. I don't like seriguela. It was food of the old-timers. I don't like it and that's why I don't plant it.	Eu não planto. Eu não gosto seriguela. Era comida do antigo. Não gosto por isso que não planto.
Kanu	Look there, Undipi planted it. She likes it. {She brought it here to plant and it grew.} ^{S6-93} I didn't plant it and I don't like it. I like cashew.	Veja lá Undipi plantou. Ela gosta. Ela trouxe para plantar e brotou. Eu não plantei e não gosto. Eu gosto caju.
Kanu	It's what you can see right here. Beans, sweet potatoes, squash. Watermelon. I plant all this for my grandchildren to eat.	Daqui mesmo é isso que você está vendo aqui. O feijão, as batatas e abóboras. As melancia. Tudo isso que eu planto para meus netos se alimentarem.
Kanu	I even planted katamu pepper. Over there is a pepper that's called tooth of the jaguar, another pepper that's called the same as the fruit of the uhitsa tree. The pepper is called the same as the fruit of the uhitsa tree. The name of the pepper is tooth of the jaguar. The other is katamu. This year I will plant atugua pepper. It is big, this size.	Eu até plantei pimenta katamu. Ali tem pimenta que chama dente de onça, outra pimenta que chama igual fruta da árvore uhitsa. Pimenta chama igual da fruta da árvore uhitsa. Nome da pimenta dente de onça. Outro que é katamu. Esse ano eu vou plantar pimenta do atugua. É grande, deste tamanho.
Huke	How often do you throw away your ash (from the house fire hearth)?	Quantos e quantos dias você pode jogar a cinza (da fogueira)?
Kanu	[I throw it after 3 or 4 days. If you wait 5 days, there will be a lot. When we cook perereba (manioc porridge).] ^{S5-17}	Jogo depois de 3 ou 4 dias. Fica um montão quando faz 5 dias. Quando cozinhamos perereba.
Kanu	[We work making beiju (manioc flat bread) all the time. In the morning, mid-day, afternoon, whenever we run out of food.	Tacho de beiju é que trabalha direto, De manhã, meio-dia, e a tarde quando falta a comida.
Kanu	Then it produces a lot of ash and charcoal. So that is why we must sweep very well. Afterward, we have to throw it away.] ^{S5-18}	Aí que cinza fica um montão e carvão. Então por isso que podemos varrer bem-feito. Depois temos que jogar para fora.
Kanu	[My house yard is big and I throw it here. I've always thrown ash to serve as a place for planting. It is there that they grow well. Once in a while we throw it when there is still not too much.] ^{S5-19}	Meu canto da casa é grande e jogo nessa. Eu sempre joguei a cinza para serve de lugar de plantação. Lá que dar certo. De vez em quando podemos jogar quando ainda está pouco.

Kanu	[We have a fire (in the hearth) and afterward we wait for it to cool. The next morning, we can sweep. We can also throw it out every day even if it is a small amount. When there is just a little ash and charcoal.	Tocamos fogo e depois esperamos esfriar. No dia seguinte de manhã. Podemos varrer. Também podemos jogar todo dia assim que está ainda pouco. Enquanto a cinza ainda está pouco e não tem muito carvão.
Kanu	When we are feeling lazy we leave it for 3 or 5 days before we throw it away. When it's been 5 days, then it is a lot.] ^{S5-20}	Quando estamos com preguiça deixa ficar 3 dias e 5 dias para jogar. Quando faz 5 dias aí que fica muito.
Carlos Fausto	Do you throw away fish bones?	Será que você joga espinha do peixe?
Kanu	[We throw fish bones into the ash, to mix with it, for the bones to burn together and mix. If we're not careful, the bones can hurt someone. They could hurt my grandchildren.	Jogamos espinha do peixe na cinza, para se misturar com a cinza. Para espinha queimar junto e se misturar. Se a gente não cuidar bem espinha vai machucar. Iria machucar os meus netos.
Kanu	That is why we have to sweep, and we have to keep throwing them together with the ash.] ^{S5-21}	Por isso que temos que varrer, tem que ficar jogando junto a cinza.
Carlos Fausto	At present, do you throw away manioc pulp?	Atualmente vocês jogam massa de mandioca?
Kanu	[At present, we are like this. We don't save the manioc pulp anymore. We always throw it away.	Atualmente somos desse jeito. A gente não conserva mais a massa de mandioca. Nós sempre jogamos.
Kanu	After we squeeze the manioc pulp, we throw it away together with the peelings. We throw it together with the ash. We used to save the pulp. It got rotten a lot; it was ugly.	Depois de espremer massa de mandioca nós jogamos junto com a casca de mandioca. Jogamos junto com a cinza. Antigamente nós conservávamos massa de mandioca. Estragava muito, era coisa feio.
Kanu	Flour (tapioca) is what's good. That is why today we have changed our custom. Otherwise, the bugs give you diarrhea.	Polvilho que é bom. Por isso que hoje nós mudamos uma forma. Senão bichinho dar uma diarreia.
Kanu	The old-timers ate that. That is why they often got diarrhea. We also no longer have <i>gepaha</i> (manioc pulp or dough). Other ethnic groups still have it.] ^{S5-22}	Pessoas antigos que se alimentavam com isso. Por isso que eles pegavam muito diarreia. <i>Gepaha</i> (massa) também não temos mais. Outras etnias ainda têm.
Kanu	Once in a while we make manioc dough to mix with <i>beiju</i> (manioc flat bread). We used to make <i>kujau</i> (type of manioc pulp or dough), <i>gepaha</i> and <i>akututu</i> (owl pulp or dough).	De vez em quando a gente faz a massa para misturar com beiju. Antigamente a gente fazia Kujau (tipo de massa) gepaha e akututu (massa coruja).

Kanu	<i>Timbuku</i> dough is another type. <i>Gepaha</i> is another. There are various names. [Nowadays we don't eat it anymore. Now we throw it away.] ^{S5-22} There it is there, later I will throw it all away.	Timbuku massa é outro tipo. Nome do gepaha é outro. Tem vários os nomes. Atualmente nós não alimentamos mais. Hoje nós jogamos. Este lá, depois eu vou jogar tudo.
Carlos Fausto	Do you think that manioc pulp makes the plants grow well?	Será que massa de mandioca deixa a planta fica boa?
Kanu	[Yes, that is why we throw it and afterward burn it together. Today we are throwing it out and then when it dries, we will burn it. It will disintegrate and turn into <i>egepe</i> . That's what you wanted to know, right? It will disintegrate into the earth, the earth will be good, it will turn into <i>egepe</i> .] ^{S5-23}	Sim, por isso que jogamos e depois queimamos junto. Hoje nós estamos jogando, depois de secar nós vamos queimar. Vai derrete e vai virar <i>egepe</i> . É isso que você queria saber ne? Vai derreter na terra, terra será boa vai virar <i>egepe</i> . Assim que fica.
Huke	What do you do with the water (from manioc processing)? Can you dump that in the cultivation area?	Como é que vocês fazem com água (do processamento de mandioca), será que pode regar no lugar de plantio?
Kanu	[You can dump it anywhere. We throw it in sandy spots so the wind doesn't blow the sand into our water, or into our manioc flour. That is why we throw it anywhere.	Pode jogar qualquer lugar. Nós regamos onde tem areia para o vento não levar na água, para não suja polvilho. Por isso que podemos jogar em qualquer lugar.
Kanu	It also kills ants. We can dump it on the ants and a lot of them will die. Manioc juice is bitter (poisonous).	Aí que mata formiguinha. Podemos jogar nas formiguinhas, aí morrem muito. Caldo de mandioca é amargo (veneno).
Kanu	We can't dump it inside the house or it will kill us. We can dump it outside. Look here where I dumped it. Look how it is now, white. I just dumped it here because of the sand, it will be hard and beautiful.] ^{S5-24} What else?	Não podemos jogar dentro de casa, senão nos mata. A gente pode jogar fora de casa. Veja aqui que eu joguei, olha como está agora, branca. Apenas joguei por causa de areia aqui, vai ficar duro e bonito. O que mais?
Huke	Do you move good soil to other locations?	Será que vocês deslocam terra boa para outro lugar?
Kanu	That I don't know. [We only move ashes. It is your (outsiders) custom to transport <i>egepe</i> for you to plant. Not us, we plant where there is ash.] ^{S5-25} What else?	Isso eu não sei. Somente que nós deslocamos as cinzas. A costume de vocês levar <i>egepe</i> para vocês plantarem. Nós não, plantamos onde tem a cinza. O que mais?
Huke	Do you think we can move the burnt house somewhere to plant?	Será que podemos levar a casa queimado para nós plantamos?

Kanu	[Exactly, this house was burnt. It was burnt very black. That is what I threw over there so I could plant. Look there at the ashes.] ^{S5-26}	Exatamente, esta casa tinha queimado. Estava queimado bem preta. É isso que eu joguei lá para eu plantar, olhe lá a cinza.
Kanu	[We threw <i>eegepe</i> just like this here, over there so that the rain could wet it down. After that we can plant there where there will already be <i>eegepe</i> .] ^{S5-27}	Jogamos <i>eegepe</i> igual este aqui, jogamos ali. Pra a chuva molhar. Depois disso podemos plantar lá onde já tem <i>eegepe</i> .
Kanu	[It can't stay here. We don't like it (burnt house debris) close to us. So our yard can be beautiful.] ^{S5-28}	Não pode ser aqui. A gente não gosta disso ficar aqui perto de nós. Para o canto da nossa fique bonito.
Huke	What did the old-timers use to sweep?	O que é que os antigos usavam para varrer?
Kanu	This is the backyard. We can sweep with a small tree. What is it called? Giküti. It's a small tree. We can remove the leaves and use it to sweep.	Este e o canto da casa, podemos varrer com árvore pequena, como é que chama mesmo? Giküti, árvore pequena, podemos tirar folha dela. Com isso podemos varrer.
Kanu	After that we can fasten a handle and use it as a broom. With this we can sweep and keep it looking beautiful. Inside the house we use buriti palm fronds to sweep. We tie the buriti palm frond to a handle. We can sweep very nicely with the buriti palm frond. The old timers used this to sweep.	Depois podemos amarrar um cabo e fica como se fosse uma vassoura. Com isso podemos varrer e fica bonito. Dentro de casa usamos folha de buriti para varrer. Amarramos folha de buriti no cabo. Com a folha de buriti nós varreremos bonito, os antigos usavam para varrer.
Kanu	Nowadays we always sweep with something from the Whites; a rake. Today we have hoes to clean our yard. The things we use today clean very well.	Atualmente nós sempre varremos com coisa de branco, com a rastelo. Hoje tem enxada para a gente limpar o canto da nossa casa. Com aquelas coisas que usamos hoje, aí fica limpo.
Kanu	Things the old-timers used were also good. We can also use buriti fronds to sweep. We take a frond off a small tree and then tie a handle to it. We can sweep here with that and it will be clean.	Coisa dos antigos também eras boas. Também podemos usar folha de buriti para varrer. A gente tirava galho de árvore pequena e depois amarrámos. Com isso, se a gente varrer aqui e fica limpo.

Interview 2: Haitsehü Kuikuro (male elder, farmer)

Interviewer: Yamalui Kuikuro

Kuikuro to Portuguese translation: Yamalui Kuikuro

Date: June 20, 2019

Speaker	English	Português
Yamalui	Tell me the story of <i>eegepe</i> (dark earth). Why does <i>eegepe</i> exist? Who made it?	Conte história da <i>eegepe</i> . Por que existe <i>eegepe</i> ? Quem fez?
Haitsehü	[Sure, it was Tãugi (the Sun). To serve as a place for planting, planting corn.] ^{S5-29}	Claro, foi Tãugi (sol). Para servir um lugar para plantio, plantio de milho.
Haitsehü	{Nowadays, nobody makes fields to plant corn. We always made our field on the <i>eegepe</i> at Tehukugu. There is <i>eegepe</i> there.	Atualmente ninguém faz roça para plantar milho. Nós sempre fazíamos roça na <i>eegepe</i> do Tehukugu. Lá tem <i>eegepe</i> .
Haitsehü	My great grandfather Hinaku always opened his field on <i>eegepe</i> . Always, every year. To plant corn.	Meu bisavô Hinaku sempre abria roça na <i>eegepe</i> , Era sempre, todo ano. Para plantar o milho.
Haitsehü	There, you have to plant various types of plants, squashes. That is why we did it.} ^{S6-94} [<i>Eegepe</i> was made by Tãugi.] ^{S5-30}	Lá tem que ser plantado vários tipos de plantas, abóboras. É para isso que foi feito isso. <i>Eegepe</i> foi feito por Tãugi.
Yamalui	What did he throw there?	O que é que ele jogou para lá?
Haitsehü	[I don't know what he threw, maybe he threw ashes. This was spread around all over the place. If you go to look at (Lake) Tafununu, there are many beautiful areas of <i>eegepe</i> . There are a number of areas of <i>eegepe</i> there.] ^{S5-31}	Não sei o que ele jogou, talvez jogou cinza. É isso foi espalhado por toda parte. Se você ver no Tafununu lá tem cada <i>eegepe</i> bonito. Vários <i>eegepe</i> lá.
Yamalui	Is that all that was planted there, can one also plant manioc?	Era só isso plantado por lá, também pode plantar mandioca?
Haitsehü	{Yes, manioc grows very well there, very large indeed. You know that here in the red soil manioc does not grow well. In the <i>eegepe</i> , it does, produces very well.} ^{S6-95}	Sim, mandioca cresce muito bem lá, grande mesmo. Você sabe que aqui na terra vermelha mandioca não cresce bem. Na <i>eegepe</i> sim, dar muito bem.
Yamalui	Why are there ceramics there?	Por que existe cerâmica lá?
Haitsehü	[Yes, ceramics from Nakaso fell from the sky. I'm scared, she said. She broke them and spread them over the <i>eegepe</i> . Nakaso's ceramics.	Sim, a cerâmica de Nakaso caiu do céu. Estou com medo, ela disse. Quebrou e se espalhou toda parte da <i>eegepe</i> . Cerâmica de Nakaso.
Haitsehü	What fear older brother. It escaped her head and fell. It was spread all over the <i>eegepe</i> .] ^{S5-32}	Que medo irmão mais velho. Escapou da cabeça dela e caiu. Ficou espalhado por toda parte da <i>eegepe</i> .
Haitsehü	{That is why plants do really well there, manioc, sweet potato, corn and	Por isso que planta dar muito certo lá, mandioca, batata, milho e

	watermelon. When we plant bananas there, they produce really well.} ^{S6-96}	melancia. Quando plantamos banana lá dar muito certo.
Yamalui	Is that why our great grandfathers looked for <i>eegepe</i> , so they could plant there?	Por isso que nossos bisavôs procuravam <i>eegepe</i> pra eles plantarem lá?
Haitsehü	{Yes, that is why they opened their field in that place.} ^{S6-97}	Sim, por isso que eles abriam roça naquele lugar.
Yamalui	Who dug the ditches?	Quem cavou a valeta?
Haitsehü	It was Hitsihitsi who dug them.	Foi Hitsihitsi que cavou.
Yamalui	Why did he dig them?	Porquer ele cavou?
Haitsehü	It was his hiding place. He went to each village and dug ditches around each area of <i>eegepe</i> . In the <i>eegepe</i> of Itsagahütü he dug a very big ditch.	Era seu esconderijo. Ele andou cada aldeia, andou cavando valeta cada parte da <i>eegepe</i> . Na <i>eegepe</i> do lugar Itsagahütü onde cavou valeta muito grande.
Yamalui	Why did he dig the ditch?	Por que ele abriu valeta?
Haitsehü	He dug it for a path, to try to escape. During this time, his brother's-in-law were chasing him. It didn't work so he prayed to be saved.	Ele abriu pra ser caminho dele, para tentar se salvar. Enquanto isso os cunhados dele seguiram ele. Não deu, aí rezou pra se salvar.
Haitsehü	Because he killed his sister-in-law. He escaped and passed each village and each <i>eegepe</i> digging. That is how it happened. If you see the <i>eegepe</i> at Inha it is really beautiful.	Por causa que ele matou cunhada dele. Ele fugiu e passou cada aldeia e cada <i>eegepe</i> ando cavando. Assim que aconteceu. Se você ver o <i>eegepe</i> do Inha é bonito demais.
Yamalui	When you were at the village of Lahatua, did you have fields in <i>eegepe</i> ?	Na aldeia Lahatua vocês tinham roça na <i>eegepe</i> ?
Haitsehü	[Yes, the field was at Sehu. They made a large field there. Seku also had a field.] ^{S5-33}	Sim, a roça ficava no Sehu. Fizeram roça grande lá. No Seku também tinha.
Yamalui	They opened a field for the manioc to grow quickly?	Abriam roça para mandioca crescer logo?
Haitsehü	[For the manioc to grow fast and also to get really large. That is why they made <i>eegepe</i> , to have a good crop.] ^{S5-33}	Para mandioca crescer logo e também ficar grande mesmo. Para isso que fizeram <i>eegepe</i> , para ter plantio boa.
Yamalui	Did you (plural) plant where you had thrown manioc peelings?	Será que vocês plantavam onde tinha jogado casca de mandioca?
Haitsehü	[Yes, here behind the house.] ^{S5-34}	Sim, aqui atrás da casa.
Yamalui	What did you plant?	O que vocês plantavam?
Haitsehü	{We planted corn, (sweet) potatoes, and others.} ^{S6-98} [Planting produces very well where there is ash, where there used to be a village.] ^{S5-35} {We planted (sweet) potatoes, bananas,	Plantavamos milho, batata e outros. Planta dar muito bem aqui onde tem cinza, onde era aldeia. Plantamos batata, banana, cana e outros. Tinha muito plantio de cana atrás da casa.

	sugarcane, and others. There was a lot of sugarcane planted behind the house. Chili peppers could also grow. } ^{S6-98}	Lá pode brotar pimenta.
Yamalui	Did you throw ash before you planted?	Antes de plantar vocês jogavam cinza?
Haitsehü	[Yes, we threw charcoal and ash. Ash fertilizes the Earth behind the house and it turns into <i>eegepe</i> .] ^{S5-36}	Sim, jogávamos carvão e cinza. Cinza aduba a terra da atrás da casa e vira <i>eegepe</i> .
Yamalui	Grandfather, do you think that in the future it will turn into <i>eegepe</i> behind our house?	Avô, será que daqui para frente atrás da nossa casa vai virar a <i>eegepe</i> ?
Haitsehü	[Yes, maybe it will, when there is no more village here. There is <i>eegepe</i> at Kuikugu. There is <i>eegepe</i> where their village used to be.] ^{S5-37}	Talvez vai virar sim, assim que não estive mais aldeia aqui. <i>Eegepe</i> do Kuikugu. Tem <i>eegepe</i> onde ficava aldeia deles.
Haitsehü	{The path to the place where we bathed is <i>eegepe</i> . And it expands as you move forward. There is <i>eegepe</i> where our field used to be. From there it expands until here. It is a very large <i>eegepe</i> .} ^{S6-99}	No caminho do lugar onde banhamos é <i>eegepe</i> . E isso vai aumentar pra frente. Onde ficava nossa roça lá é <i>eegepe</i> . De lá vai aumentando até aqui, é um <i>eegepe</i> grande.
Yamalui	He (Morgan) is asking, how do you identify <i>eegepe</i> ?	Ele (Morgan) está perguntando como vocês identifica <i>eegepe</i> ?
Haitsehü	{It's very easy to identify by the black color of the soil. Under the trees it is very clean. In the forest (outside of <i>eegepe</i>) it is bad.} ^{S6-100}	É muito fácil de identificar, pela cor preta da terra. De baixo da árvore fica bem limpo. Debaixo do mato (fora do <i>eegepe</i>) que é ruim.
Haitsehü	{There you find large jatobá, sagatsuegü, and other trees. You've been to Netungu. My parents had a field there in the large <i>eegepe</i> .} ^{S6-101}	Lá tem árvore grande de jatobá, sagatsuegü e mais. Você já conheceu Netunugu. Meus pais tinham roça lá na <i>eegepe</i> grande.
Haitsehü	Hinaku, Jahugi, Juahula, Kagahügü was a shaman, and Amatihuta makes six people. That's how it was there. They came there from Kuhikugu. There they stayed.	Hinaku, Jahugi, Juahula, Kagahügü era pajé e Amatihuta são 6 pessoas. Era assim lá. Eles vieram de lá do Kuhikugu. Lá eles ficaram.
Haitsehü	{I lived there in my childhood until I became an adult. There we had a field of corn and manioc together. They opened the field for the crops to grow quickly, for the manioc to grow quickly.} ^{S6-102}	Na minha infância fiquei lá até eu virei adulto. Lá tinha plantaço de milho junto com mandioca. Por isso que eles abriram roça para plantio crescer logo, para mandioca crescer rápido.
Haitsehü	{We can open a field in <i>eegepe</i> when we are needing food. Manioc grows fast so we can eat. The corn gets... If	Quando estamos necessitando alimento podemos abrir roça na

	you see Inha, the place of the ancestors.	<i>eegepe</i> . Mandioca cresce logo para nos alimentar. O milho fica... Se você ver o lugar Inha, lugar do antigos.
Haitsehü	There is an enormous <i>eegepe</i> there.} ^{S6-103} If I was in good health we would go there, for you to see Inha.	Lá tem <i>eegepe</i> enorme. Se eu fosse boa de saúde iríamos até lá, para você ver mesmo Inha.
Haitsehü	We would go by canoe on the stream fishing for armoured fish. On this side there used to be the village of Ilumbe Gitagü. There is some forest there. The <i>eegepe</i> is big there.	A gente ia de canoa no igarapé pegando peixe cascudo. Lado de cá onde era aldeia do Ilumbe Gitagü. Lá tem mato um pouco. <i>Eegepe</i> é grande lá.
Haitsehü	The residents of Ilumbe Gitagü, there weren't any chiefs there. At Inha there were many chiefs.	Moradores do Ilumbe Gitagü, lá não tinha chefes. Na Inha tinha muito chefes.
Yamalui	People like <i>eegepe</i> and animals too?	As pessoas gostam <i>eegepe</i> e animais também?
Haitsehü	{Peccaries, monkeys, and spider monkeys live there.} ^{S6-104}	Moram lá, caititu, macacos e macacos aranha.
Yamalui	What do the animals eat in the <i>eegepe</i> ?	O que os animais comem na <i>eegepe</i> ?
Haitsehü	{Wild fruits. Mangaba fruit, geküjü, and others. There is all this in the <i>eegepe</i> . There is genipap there.} ^{S6-105}	Frutas silvestres. Fruta de mangaba, geküjü e outros. Existe tudo isso na <i>eegepe</i> . Lá tem jenipapo.

Interview 3: Kusai (Ihijü) Kuikuro (female elder, farmer)

Interviewers: Kumessi Waura and Carlos Fausto

Video: Bob Kuikuro

Kuikuro to Portuguese translation: Kumessi Waura and Maricá Kuikuro

Date: July 23, 2018

Speaker	English	Português
Kumessi	Grandmother, we came to ask you about the trash. Why do you throw trash in this area here? What happens for it to turn into <i>eegepe</i> ?	Vó, nós viemos perguntar você sobre o lixo. Por que é que joga lixo nesta parte aqui? O que acontece para ela virar <i>eegepe</i> ?
Kusai	[We throw the waste and then the little creatures eat it. When we sweep, we throw it right here because we are lazy to throw it far away. And then, it gets all dark.] ^{S5-38}	Nós jogamos lixo, e depois os bichinhos come. Quando varremos, nós jogamos aqui mesmo porque a gente fica com preguiça de jogar longe. E depois, fica tudo preto.
Kumessi	And then you plant there?	E depois planta lá?
Kusai	[And then the plants are all happy.] ^{S5-38}	E depois as plantas ficam tudo feliz.

Kumessi	I'm seeing where you threw ash over there, the manioc grew very large.	Estou vendo onde foi jogado cinzas lá a mandioca já cresceu bem grande.
Kusai	[I first had my field right here. We threw our ash right here in our back yard. I made my field here and it grew very beautifully.] ^{S5-39} You saw it, right?	Eu tinha roça primeiro aqui. A gente jogava cinzas aqui mesmo no nosso quintal. Eu fiz minha roça aqui e cresceu bem bonito. Você viu ne?
Kumessi	Yes, I saw it.	Sim, eu vi.
Kusai	[That is why we throw our ash (in our <i>ilubepe</i>). We also throw fish bones right here (pointing to a place in the backyard). And then the plants grow very happily.] ^{S5-40}	Isso é porque a gente joga cinza (no nosso <i>ilubepe</i>). A gente joga também espinho de peixe aqui mesmo (ela aponta para o lugar no quintal). E depois a planta cresce bem feliz.
Kumessi	Is that your field?	Aquela é sua roça?
Kusai	Yes, that is my field.	Sim, é minha roça.
Kumessi	What type of manioc did you plant?	Qual tipo de mandioca você plantou?
Kusai	There is just tühehisugenhü (a variety of manioc with a red stem).	Só tem tühehisugenhü (variedade de mandioca com rama vermelha).
Kumessi	Are there others? I can see a very tall one over there. What is the name of it?	Tem outros? Estou vendo uma bem alta lá, qual é o nome?
Kusai	That is mesahalu (sweet manioc). The name of that mesahalu is kumigi. We call that one kumigi. That one there is gapisü tuhi (variety of manioc). There aren't any more varieties of manioc here. There is no longer kuigi hekugu (variety of manioc).	Aquela é mesahalu (variedade de mandioca doce que não tem veneno). O nome do mesahalu é kumigi. Nos chamávamos de kumigi aquela ali. Aquela ali é gapisü tuhi (variedade de mandioca). Aqui não tem mais variedades de mandioca. Já acabou kuigi hekugu (variedade de mandioca).
Kumessi	Did they have kuigi hekugu in the fields of the old-timers?	E a roça dos antigos, tinha muito kuigi hekugu?
Kusai	There were many varieties of manioc.	Tinha muitas variedades de mandioca.
Kumessi	Do you know their names?	Você sabe os nomes de cada um?
Kusai	Kuigi hekugu, tihage tuhi, it has a very red stem, kumatage tuhi, it has a very white root. Gapisü tuhi, it can have very large roots. Mesahalu, doesn't exist anymore. The true mesahalu was lost a long time ago. Now we call kujui mesahalu. Mesahalu is very sweet. It doesn't have poison.	Kuigi hekugu, tihage tuhi, ela tem raiz bem avermelhada, kumatage tuhi, ela tem raiz bem branca. Gapisü tuhi, ela pode ter raiz bem grande. Mesahalu, já acabou. Mesahalu verdadeiro já acabou muito tempo. Agora nós chamamos kujui de mesahalu. Mesahalu é bem doce. Não tem veneno.

Kumessi	That is why we drink it.	Por isso que nós tomamos.
Kusai	That is why you cook it and it is ready right away. It doesn't have poison and we drink it right away. The Trumai (a different ethnic group) don't have manioc crops anymore.	Por isso que cozinha e já fica pronto logo. Ela não tem veneno e tomamos logo. A roça dos Trumai (outra etnia) já acabou também. Isso era mandioca também.
Kumessi	Was it manioc?	Isso era mandioca?
Kusai	Yes, it was manioc. And there was also jali hutisü (tapir's leg). Your grandfather called it jali hutisü. That's what we called it.	Sim, era mandioca. E tinha também jali hutisü (perna da anta). Seu avô chamava de jali hutisü. Assim que nos chamávamos.
Kumessi	We don't have it anymore?	Agora não tem mais?
Kusai	That's right. It no longer exists. All of these here are new. It sprouted by itself and now there is a lot.	Isso, já acabou, não existe mais. Esses daqui é tudo novo. Ela nasceu sozinha e agora tem muito.
Kumessi	Which one is agaka (variety of manioc)?	Qual é o agaka (variedade de mandioca)?
Kusai	It doesn't exist anymore. We haven't had it for a long time.	Não existe mais. Faz muito tempo que já acabou.
Kumessi	What about nhakahingo (variety of manioc)?	E o nhakahingo (variedade de mandioca)?
Kusai	Nhakahingo doesn't exist anymore.	Nhakahingo não existe mais.
Kumessi	Was that a variety of the old-timers?	Isso era roça dos antigos?
Kusai	Nhakahingo was their variety. Agaka, kuatagi, kuigi hekugu, trumai, tihagi. They are finished. There aren't any more here. This red one took their place, right?	Nhakahingo era roça deles. Agaka, kuatagi, kuigi hekugu, trumai, tihagi. Isso já acabou. Não tem mais aqui. No lugar, ficou esse vermelho aí ne?
Kumessi	Where was the red one obtained?	Onde foi encontrado a rama vermelha?
Kusai	It was Haitsehü who found it.	Foi Haitsehü que encontrou.
Kumessi	It was Haitsehü?	Foi Haitsehü?
Kusai	It was in his field for a long time. Now it has spread around all over. We don't have kuatage, mesahalu, anymore, it's gone. I made my field there.	Ficou na roça dele por muito tempo. Agora espalhou por toda parte. Agora não tem mais kuatage, mesahalu, isso já acabou. Eu rocei ali.
Kumessi	Let's go see the <i>gapisü tuhi</i> ?	Vamos lá ver <i>gapisü tuhi</i> ?
Kusai	Yes, let's go.	Sim, vamos lá.
Kumessi	Did you plant chili peppers? (walking to her field) Is this a tobacco plant? Is it grandfather's?	Você plantou pimenta? (andando para roça dela) Isso é pé de fumo? É do vovô?
Kusai	Yes, it is grandfather's.	Sim é do vovô.
Kusai	Let's go look over there.	Vamos olhar ali.

Kumessi	I want to ask you more about waste. When you throw the waste, who eats it? Would it be ants or something?	Eu estou querendo perguntar mais sobre o lixo. Quando lixo é jogado, quem que come? Pode ser formiguinhas ou alguma coisa?
Kusai	{Yes, insects, ants.} ^{S6-106}	Sim, bichinhos, dela mesmo.
Kumessi	And then it becomes like this?	Ai, então fica desse jeito?
Kusai	Look at this.	Isto aqui oh.
Kumessi	What is that one?	Qual que é essa ai?
Kusai	We call this one traíra's (type of fish) manioc (manioc variety).	Isso nós chamamos de mandioca traíra.
Kumessi	This is traíra's manioc?	Isso é mandioca traíra?
Kusai	This one here.	Isto aqui.
Kumessi	Wow, it's big.	Nossa, é grande!
Kusai	It's traíra. There isn't another variety, just this one.	É mandioca traíra. Não tem outro tipo, só tem elas.
Kumessi	Is this the red one?	Isso que é avermelhada?
Kusai	{This is my pineapple crop. That is mangaba.} ^{S6-107}	Isto aqui é minha plantação de abacaxi. Isso é mangaba.
Kumessi	Did you plant it?	Você quem plantou?
Kusai	Yes, I planted it. This one here is geküjü.	Sim, foi eu quem plantou. Isto aqui é geküjü.
Carlos	Is this ugukumi?	Isto é ugukumi?
Kumessi	It's geküjü.	É geküjü.
Kusai	Ugukumi is another one.	É outra que é ugukumi
Kumessi	There is the traíra's manioc?	Onde esta mandioca do traíra?
Kusai	The traíra's manioc is over there.	Mandioca do traíra está ali.
Kumessi	Oh, ok, what was I saying?	Ah sim, o que eu estava falando mesmo?
Kusai	There is some over there too. This one is mangaba. It's planted.	Ali tem também. Isto aqui é mangaba, é plantada
Kusai	Is that all you have in your garden field? You don't have anything else?	Só isso que tem na sua roça, não tem mais outra coisa?
Kusai	No, that's it. This one is Traíra's manioc. Its root is enormous. It likes those who plant well.	Nada só essas mesmas. Isto aqui é mandioca do traíra, raiz dela é enorme. Pra quem planta bem que ele gosta.
Kumessi	Imagine if it would like me.	Imagina se ela ia gostar de mim.
Kusai	I planted here and that's all I have. You see here, I'm going to change the place to over here.	Eu plantei aqui e só tem elas mesma. Está vendo aqui, eu vou mudar de lugar por aqui.
Kumessi	It's big too.	É grande também.
Kusai	So it doesn't lose its stems.	Pra não perder rama dela.
Kumessi	Ah, yes, you're right.	A sim está certo.

Kusai	So I don't lose its stems. That's it. And the peelings, you see that there are none here.	Pra eu não perder rama dela. É isso. É a casca, ta vendo não tem aqui.
Kumessi	This is mangaba isn't it?	Isso é mangaba, não é?
Kusai	{All of this is mangaba. This is geküjü.} ^{S6-108}	Isso tudo aqui é mangaba. Isso é geküjü.
Carlos	What's it called?	Como é nome disso?
Kusai	{Geküjü. When it ripens we eat it. It's very delicious. It is edible. That's why it was planted.} ^{S6-108}	Geküjü. Quando madurece comemos. É bem gostoso. Isto é comestível por isso que foi plantado.
Carlos	Geküjü.	Geküjü.
Kusai	Yes, Geküjü is what we call it.	Sim, geküjü nós chamamos assim
Carlos	Is this it?	Isto aqui é?
Kusai	Yes, that's it. These are my crops.	Sim, isso aí. Isto aqui é minha plantação.
Kumessi	Grandmother, when we plant in the waste over there the crops grow very beautifully?	Vó quando plantamos no lixo aí ela nasce bem bonito?
Kusai	You know why? [Because we throw waste and ash here and that is why they grow very happy.] ^{S5-41}	Por causa de quê? Porque jogamos lixo e cinza aqui e por isso que elas nascem bem alegre.
Kumessi	That's why they grow so beautifully? When we plant over in the red earth they don't grow beautifully.	Por isso que nascem bem bonito? Quando plantamos ali na terra vermelha não nascem bonito?
Kusai	No, that's right.	Não mesmo.
Kumessi	Is it because it is sweet and salty?	Porque ela é bem doce e salgada, por isso?
Kusai	[Look here, we threw this here and afterwards the crops will be very happy here.] ^{S5-42}	Olha só, nós jogamos isso aqui e depois a plantação vai ficar muito alegre aqui.
Kumessi	They will be happy.	Vai ficar alegre
Kusai	[Those are sprouting around them because we threw it here and they are sprouting happily.] ^{S5-43}	Isso está nascendo em volta delas porque nós jogamos aqui e estão nascendo alegre.
Kumessi	Oh, that's how it is? I'm going to plant it too.	Ah ta é bem assim? Eu vou plantar também.
Kusai	It's very good. We gathered it up and put it here.	É muito bom. Nos ajuntamos aqui.
Kumessi	Is that waste you gathered up?	Isso é lixo que você ajuntou?
Kusai	[Yes, it is waste that I swept right here.] ^{S5-44}	Sim era lixo que eu varri bem aqui.
Kumessi	Where are you going to throw it?	Pra a onde você vai jogar?
Kusai	[I am going to throw it right there. After that, the rain will wet it down and it will be very dark.] ^{S5-44}	Eu vou jogar ela bem ali, depois chuva vai molhar e vai ficar bem escuro

Kusai	Is it these waste products that that are thrown away that turn very dark like this?	São desses lixos que é jogado que se torna assim bem escuro?
Kusai	[Exactly. That's how it is. We put it here and then we throw it over there and the rain wets it down. Afterward, we plant there, and they do very well.] ^{S5-45}	Exatamente. É desse jeito. Colocamos aqui e depois jogamos ali e a chuva a molha. Depois plantamos isso e fica muito bem.
Kusai	[It is very good to throw it away in this place. After the rain wets it down and we plant. It is very good. We throw it away, that's how it is.] ^{S5-46}	Isso é muito bom jogar nesse lugar. Depois chuva a molha e plantamos. Fica muito bem. Isso que jogamos, é desse jeito.

Interview 4: Tago (male elder, farmer, shaman)

Interviewers: Morgan Schmidt and Carlos Fausto

Video: Bob Kuikuro

Kuikuro to Portuguese translation: Maricá Kuikuro

Date: July 22, 2018

Speaker	English	Português
Tago	Carlos, what are you doing here and what is Morgan saying to me?	Carlos o que está fazendo aqui e que é que o Morgan o que está dizendo pra mim?
Tago	[It's not good to throw garbage in the corner; this attracts the spirits. Listen Carlos and Morgan, it's not good to throw trash; we throw trash again and again; When there is a pile like this, it attracts the spirits.] ^{S5-47}	Não é bom nós jogamos lixo no canto, isso chama os espíritos. Ouça Carlos ouça Morgan, não é bom jogarmos lixo, jogamos lixo mais outra vez mais outra vez, quando fica monte assim isso está chamando espírito.
Tago	“Saupüko”, here will be our house, here will be our house, then the Spirits get together, like us, “this is my house” super centipede said. Because of the waste, this is my house, yes I can stay.	“Saupüko”, aqui será nossa casa, aqui será nossa casa, ai os espíritos se juntam, como nós, ‘isso é minha casa’, hiper centopeia falou, por causa do lixo, isso é minha casa, sim posso ficar.
Tago	Centipede is the owner of the waste. He is the owner of all the waste. Centipede, “lice of the snake”. At this moment, the piles of waste are there saying, “come, come, come”, calling the spirits.	Centopeia é o dono do lixo, ele é dono desses lixos todos, centopeia “piolho da cobra”. Nesse momento os montes de lixos está ali dizendo “venha venham, venha venham”, fica chamando espírito.
Tago	And so the spirit goes to a very large pile and says, “great, this can be my	Aí espírito vai lá “que legal isso poderia ser minha casa” um monte

	house". Who do you think said that? It was Nhagü Kuengü. Who do you think this Nhagü Kuengü is?	bem grande. Quem será que falou isso? É Nhagü Kuengü. Quem será que é esse Nhagü Kuengü?
Carlos	I don't know.	Eu não sei.
Tago	It's the snake, he is the snake, the rattlesnake, Nhagü Kuengü. "And let's stay here", this becomes his house, "our house will be here". [That is why the piles of waste are very dangerous.] ^{S5-48}	É a cobra, ele é cobra, ele é cobra cascavel Nhagü Kuengü. E vamos ficar aqui isso se torna a casa dele, a nossa casa vai ser aqui. Por isso monte é muito perigoso.
Carlos	That is dangerous.	Isso é perigoso.
Carlos	[That was our ancestors who threw away (trash), all in mounds.] ^{S5-48}	Isso foi antepassado quem jogou, todos montes.
Tago	{He stays under the jatobá tree.} ^{S6-109} "Come, come" he calls. He stays under the jatobá.	Ele fica de baixo da árvore jatobá. "Venha, venha", ele chama. Ele fica de baixo de jatobá.
Tago	"Uiti this will be our house, it is fitting for you" he said to Tugua (mask). This becomes his house, the mound (of waste). {When a black patch is under a jatobá tree, it is he who is there.} ^{S6-109}	"Uiti isso será nossa casa, isso vai combinar com você" disse pra Tugua (Mascara). Isso se torna a casa dele, o monte. Quando uma mancha preta fica no jatobá é ele quem está lá.
Carlos	It is he who is there?	É ele quem está lá?
Tago	It is he who is there.	Ele quem está lá.
Carlos	Is it Tugua?	É Tugua?
Tago	"Tugua, I will be the owner" said Agijamani.	"Tugua, eu vou ser dono" disse Agijamani.
Carlos	Agijamani?	Agijamani?
Tago	Agijamani, "I will keep it", he kept it. Another place has a lot of jatobá. "This will be my house", who do you think said that? His name is Tugua.	Agijamani, "Deixa-me ficar com ela", ele ficou. Outro lugar tem um monte de jatobá. "Isso vai ser minha casa". Quem será quem disse isso? O nome é Tugua?
Carlos	One is Agijamani and who is the other?	Um é Agijamani e outro é?
Tago	"Yes, this is going to be my house". Who do you think said that Carlos? It was Gahütanga.	Sim, isso vai ser minha casa, quem será quem falou isso Carlos? É Gahütanga.
Carlos	It was Gahütanga.	É Gahütanga.
Tago	"This is going to be my house, ok?" And here there are piles Hehuko (Carlos). This is what I am explaining to you Hehuko, about the spirits. Later I will explain our customs. {Here is a jatobá. They are spirits and owners of the piles.} ^{S6-110}	"Isso vai ser minha casa, está bém." E aqui estão montes Hehuko (Carlos), isso que estou explicando Hehuko, sobre espírito. Depois vou explicar nosso costume. Aqui está jatobá, eles são espíritos os donos de montes.

Tago	And so he came, “this is going to be my house, it will make me famous.” Who is Tugua? He is Eginkgokuengü. These are Tugua that I am talking about.	Aí ele veio, “essa vai ser minha casa, isso vai me deixar famoso.” Quem que é Tugua? Ele é Eginkgokuengü. Esses são Tugua que estou falando.
Tago	And so, here is jatobá. He came, “this will be my house”. What is this? It’s jatobá. I’m going to live here”, said Asuti Kuengü (super pipa frog). So then, jatobá found it, “it will be my house, this will be my house”. Which Tugua was it that said that?	E então, aqui está uagi (jatobá), ele veio, “isso será minha casa”. O que será isso? É Uagi. Eu vou ficar com ela disse Asuti Kuengü (Hiper Sapo Pipa). Aí então Uagi encontrado, seria minha casa, isso vai ser minha casa. Quem Tugua foi que disse isso?
Carlos	I don’t know.	Não sei.
Tago	It was Tüngonginhü.	É o Tüngonginhü.
Carlos	Tüngonginhü?	Tüngonginhü?
Tago	It was Tüngonginhü. That is the end.	É o Tüngonginhü. Esse é o fim.
Carlos	That’s the end?	Esse é o fim?
Tago	That’s the end. That’s the end of those. After that, ah yes, “Saunpüko, let’s go to the village of Aha” they said. “Yes, I will stay here” he said of the waste pile.	Esse é o fim. Aí acabou aqueles, Depois, aí sim, “Saunpüko, vamos na aldeia do Aha”, isso que eles falaram, isso aqui. Sim vou ficar com isso ele disse do monte.
Tago	Owner of convulsion.	Dono de convulsão.
Carlos	Owner of what?	Dono de quê?
Tago	Owner of convulsion. Owner of convulsion is that way. He is a spirit. He is the owner of this here.	Dono de convulsão. Dono de ficar com convulsão fica assim desse jeito. Ele é espírito dono de convulsão. Ele fica dono disso aqui.
Tago	When he causes harm to us, we have to find the soul. Right here close to the waste. When he harms a child as well. Who harmed him? It is their grandmother spirit who harmed him.	Quando ele faz mal na gente tem que buscar alma. Bem aqui perto do lixo. Quando faz mal na criança também. Quem fez mal nele? Sua vó espírita que fez maldade nele.
Carlos	Grandmother?	Avó?
Tago	Yes, grandmother. She took him just over there in the waste.	Isso, avó. Ela o levou bem ali no lixo.
Carlos	To the waste?	No lixo?
Tago	It’s very dangerous for us. It’s dangerous. That is why I want to throw this away; it’s very dangerous.	Isso é muito perigoso pra nós. Perigoso. É perigoso. Por isso que eu quero jogar isso, é muito perigoso.
Tago	Then when we get the soul back, the child gets well. When we become sick, they attack. It’s they that do it.	Ai quando a gente pega alma ele fica bom. Quando a gente adoce eles atacam. É eles quem faz.
Carlos	It’s they that do that?	Eles quem faz isso?

Tago	It's they that do it. The owner of this here. Cempé.	Eles quem faz. Dono disso aqui. Cempé.
Carlos	What?	Como?
Tago	Cempé	Cempé.
Carlos	Cempé!	Cempé!
Tago	Cempé. Sim Cempé. So, who else is an owner? So, who else is an owner?	Cempé. Sim Cempé. Então quem que é dono também? Então quem que é dono também?
Carlos	Who else is an owner?	Quem que é dono também?
Tago	The Blind Snake.	Cobra sega.
Carlos	What?	Como?
Tago	Blind Snake.	Cobra sega.
Carlos	Blind Snake?	Cobra sega?
Tago	Blind Snake. Blind Snake.	Cobra sega. Cobra sega.
Carlos	Who is he?	Quem é ele?
Tago	A spirit. An ugly snake that has a head over here and over here, like that. What is the name?	Espírito. Cobra feia que tem cabeça pra cá e pra cá é desse jeito. Como é que é o nome?
Carlos	I don't know. Is it Blind Snake?	Não sei, é cobra cega?
Tago	A white blind snake that doesn't shed; it's this long. He is the Blind Snake, the owner of this here. He is a spirit.	Cobra sega branca que não escama, desse comprimento. Ele é Cobra sega, dono disso aqui. Ele é espírito.
Tago	When he attacks we get a seizure. That is why it is very dangerous for us.	Quando ele ataca ficamos com convulsão. Por esse motivo que isso pra nós é muito perigoso.
Carlos	Where do you throw the waste then?	Para onde joga lixo então?
Tago	[When we throw out waste, brother-in-law, it's far away. Far Away. If we throw it far away, we will be fine. We will be fine if we throw it far away.] ^{S5-49}	Quando jogamos lixo Hehuko, é bem longe. Bem longe. Se jogássemos longe nós ficaríamos bem. Ficaríamos bem se jogássemos longe.
Tago	[Look here, it's all around close by. It's in all of the places of the ancestors too.] ^{S5-50}	Olha aqui está tudo por aqui. Nos lugares dos antepassados, tá em todos também.
Carlos	Is it the same thing in the places of the ancestors?	No lugar dos antepassados também é a mesma coisa?
Tago	[Exactly. You can see at Ngokugu (archaeological site) that it's very old, these things.] ^{S5-50}	Exato! Você pode ver no Ngokugu que é bem antigo, dessas coisas.

Interview 5: Tago Kuikuro (male elder, farmer, shaman)

Interviewer: Morgan Schmidt

Video: Bob Kuikuro

Kuikuro to Portuguese translation: Maricá Kuikuro
Date: July 24, 2018

Speaker	English	Português
Morgan	You were calling me. Did you say something to me? What did he (Tago) say to me?	Você estava me chamando. Você falou alguma coisa pra mim? O quê é que ele falou pra mim aquela hora?
Tago	[This is how it was at Ngokugu (archaeological site). It was like this, it turned into <i>eegepe</i> (dark earth).	É desse jeito que era Ngkugu. Desse jeito, ficou como <i>eegepe</i> (terra preta).
Tago	We're (living) here now and we're going to move to the other side (move to a new village adjacent to this one).] ^{S5-51}	Estamos aqui agora e vamos mudar para outro lado (para uma aldeia nova do lado dessa).
Tago	{The trees will sprout here, tinhaho will grow, jatobá will grow, agi will grow.} ^{S6-111} [Right here will turn into <i>eegepe</i> .	Aqui as arvores vão nascer, tinhaho vai nascer, jatobá vai nascer, agi vai nascer. Isso vai se tornar <i>eegepe</i> bem aqui.
Tago	When the village was on the other side, look at our former village, it became <i>eegepe</i> .] ^{S5-51}	Quando aldeia estava no outro lado, olha onde era nossa aldeia, ficou como <i>eegepe</i> .
Tago	Where is Hehuko (brother-in-law)?	Onde está Hehuko (cunhado)?

Interview 6: Kamihu (female elder, farmer)

Interviewers: Takuma Kuikuro and Carlos Fausto

Video: Bob Kuikuro

Kuikuro to Portuguese translation: Yamalui Kuikuro

Date: July 21, 2018

Speaker	English	Português
Takuma	Grandma, where were you born?	Vô, onde você nasceu?
Kamihu	Over in Lahatua. I was born in Lahatua.	Lá em Lahatua, eu nasci em Lahatua.
Kamihu	I grew up there until I was big. It was there that I had my first menstruation.	Eu fui crescendo lá mesmo até fica grande, lá mesmo teve primeiro minha menstruação.
Kamihu	I stayed in seclusion at Lahatua. I grew up there.	Eu fiquei na reclusão em Lahatua. Lá eu cresci.
Takuma	Did they have any <i>hihitsingoho</i> (field on a dark earth archaeological site where diverse crops are grown)?	Será que lá tinha <i>hihitsingoho</i> (roça no <i>eegepe</i> (terra preta) onde plantam diversos cultivos)?
Kamihu	Yes, there was over at Akagaho, Ajuahütü, over at Tehukupege, and more. There the Tugua ritual walked	Sim, tinha lá em Akagaho, Ajuahütü, lá em Tehukupege e mais. Lá que ritual Tugua andava cada

	over each site. They walked to each site, Tugua walked on each site. From there they brought many fish. Tugua would bring <i>beiju</i> (manioc flatbread) and bring it to the centre of the village. The people would walk inside him.	sítio. Andava cada sítio, Tugua anda cada sítio, de lá ele trazia muitos peixes. Ele (Tugua) trazia beiju e levava para centro da aldeia, levava para o centro da aldeia. As pessoas andavam dentro dele.
Takuma	Why did they open up <i>hihitsingoho</i> ? What did they do there? What did they plant there?	Porque que eles abriam <i>hihitsingoho</i> ? O que é que eles faziam lá? O que que eles plantavam lá?
Kamihu	{Manioc, of course. They planted manioc. Each one had their own field.} ^{S6-112} Then they stored the manioc flour in a basket this size.	Claro, mandioca. Eles plantavam mandioca. Cada um tinha sua roça. Aí que eles armazenavam polvilho dentro de cesto deste tamanho.
Kamihu	At the end of the harvest, they transported all the manioc flour from the people who stayed at the <i>hihitsingoho</i> . Everyone carried it to the village.	No fim de colheita eles transportavam cada polvilho de pessoas que ficavam no <i>hihitsingoho</i> . Todos eles transportavam para aldeia.
Kamihu	{At Ajuahütü there were a lot of fish; really a lot. Their main crop was manioc. They planted various types of crops.} ^{S6-113}	Em Ajuahütü tinha muito peixe traíra, muito mesmo. Principal plantio deles era mandioca. Eles plantavam vários tipos de produto da roça.
Takuma	What was it they planted in the <i>hihitsingoho</i> ?	O que mesmo eles plantavam lá em <i>hihitsingoho</i> ?
Kamihu	{Varieties of chili peppers and pineapple. They planted various crops. They planted a lot of large beans, beans, and maize.} ^{S6-114}	Variedades de pimenta e abacaxis. Eles plantavam vários tipos de produto da roça. Eles plantavam muito feijão grande, feijão e milho.
Kamihu	When they started the maize harvest, they put it in a basket and brought it to the centre of the village. The owner of the maize offered it to the chiefs. Then they distributed it to their followers. That's how it was.	Assim eles iniciavam colheita de milho, colocavam no cesto e levavam no centro da aldeia. O dono do milho oferecia para os caciques. Depois eles distribuía para seus seguidores, era assim.
Carlos	Was there <i>egepe</i> there?	Será que lá tinha <i>egepe</i> ?
Kamihu	Yes, there is a large <i>egepe</i> .	Lá tem sim, <i>egepe</i> grande.
Takuma	Did they go to make their <i>hihitsingoho</i> in the good black soil (<i>egepe</i>)?	Eles iam para plantar mandioca na terra preta boa (<i>egepe</i>)?
Kamihu	{No, they really only planted squash, beans and watermelon.} ^{S6-115}	Não, na verdade eles apenas plantavam, abóbora, feijão e melancia.
Kamihu	{I had a field at Agitsiu. There, I planted a lot of watermelon, it	Eu tinha sítio lá em Agitsiu. Lá eu plantei muito melancia, é uma

	produced very abundantly. This size, many. I planted a lot.} ^{S6-116}	fatura. Deste tamanho, muitos. Eu plantava muito.
Kamihu	Look at my garden here, this is my garden. [Here I throw ashes.] ^{S5-52}	Veja, o meu plantio aqui, isto é meu plantio. Aqui eu joga cinza, poun poun.
Carlos	Why do you throw ashes?	Por que você joga cinza?
Kamihu	[For the plants to grow nice and strong and not be weak. When it rained the crop grew fast to get big.] ^{S5-52}	Para planta crescer bem forte e não ficar fraco. Quando chovia a plantava crescia rápido para ficar grande.
Kamihu	Look at this. This is a basket. We used to fill this up nice and full with manioc flour. They transported the flour from everyone who stayed at the <i>hihitsingoho</i> .	Veja aqui, isto é o cesto, o cesto. Dentro deste aqui colocávamos polvilho bem cheio. Eles transportavam polvilho de cada pessoa que ficava no <i>hihitsingoho</i> .
Kamihu	This is how much manioc flour was stored in the silo. It was harvested from the <i>hihitsingoho</i> . This right here is my chili pepper crop. Over there I have a lot of piqui orchards; really a lot.	Deste tamanho polvilho ficavam no armazém (silo), era colhido no <i>hihitsingoho</i> . Este aqui é meu plantio pimenta. Para lá tem muito meu pequizal, muito mesmo meu pequizal.
Carlos	Were there piqui orchards in the <i>hihitsingoho</i> ?	Será que tem plantação de pequi no <i>hihitsingoho</i> ?
Kamihu	No, they are only found here close by. There are many, over that way. I have a lot of piqui orchard. There is really a lot of piqui here.	Não, apenas existe aqui mesmo perto. Aqui tem muito, para lá. Eu tenho muito pequizal. Aqui tem muito mesmo pequi.
Takuma	What variety of manioc did you plant?	Qual tipo de mandioca vocês plantavam, qual tipo de rama de mandioca vocês plantavam?
Kamihu	Curimatã's (type of fish) manioc, matrichã's (type of fish) manioc. Matrichã's manioc is beautiful. That is what was called Uagiti Hekügisü.	Mandioca de peixe curimatã e mandioca de matrichã. Mandioca de matrichã é bonito, mandioca bonito. É isso chamava Uagiti Hekügisü.
Kamihu	Another one was called Trumai's (another ethnic group) manioc; that's what it was called.	Outro chamava mandioca de Trumai (outra etnia), chamavam desse jeito. Outro era mandioca de Arraia. Mingua de mandioca dele é muito doce.
Kamihu	White stem, inhakahingo and hopijongo. Matrichã's manioc was their manioc. It produced a lot. Now it is with the Trumai.	Rama branca, inhakahingo e hopijongo. Rama de mandioca de matrichã era mandioca deles. Dava muito mandioca. Agora está com esse povo.
Carlos	You don't have it? Why not?	Não tem, por quê?

Kamihu	I don't know; they're the ones who know. They don't plant it. They have a lot of sweet manioc. They got sweet manioc for the community to consume.	Não sei, eles que sabem. Eles que não planta. Muito mesmo, mandioca doce. Ele buscava mandioca doce para a comunidade tomar.
Kamihu	They cook it. They take it off the fire in the afternoon. The next night they prepare really good, sweet manioc porridge. They offer it to each chief in the village. That's how it was; there were varieties of crops. It was old.	Eles cozinham. A tarde elas tiravam do fogo. No dia seguinte madrugada elas preparavam mingau de mandioca doce bem bonito. Lhes ofereciam para cada liderança da aldeia (caciques). Eram é assim, tinham variedades de produtos da roça. Era antigo.
Takuma	Grandmother, you know the story of manioc; who are the owners?	Vó, você conhece história da mandioca, quem são os donos?
Kamihu	I don't know about this; ask your mother later.	Não tenho conhecimento disso, depois pergunta sua mãe.
Takuma	Did my great grandfather, your father, have a <i>hihitsingoho</i> ?	Será que meu bisavô, seu pai, tinha <i>hihitsingoho</i> ?
Kamihu	Yes, they were the ones who opened a <i>hihitsingoho</i> . They left the village for the <i>hihitsingoho</i> . They left their houses made. Each house was closed up; everyone went to the <i>hihitsingoho</i> .	Sim, eles eram mesmo que abria <i>hihitsingoho</i> . Eles saiam da aldeia para <i>hihitsingoho</i> , deixavam suas casas feitas. Cada casa ficava fechada, todos iam para <i>hihitsingoho</i> .
Kamihu	A few months later they returned to their homes. The village filled up with people. They harvested manioc. They travelled far.	Alguns meses depois eles voltavam para aldeia para suas casas. A aldeia enchia de pessoas. Eles colhiam mandioca. Eles andavam longe.
Takuma	What month did they leave for their <i>hihitsingoho</i> ?	Que mês que eles partiam para sítio deles?
Kamihu	In the month of Ogo (rainy season). At the end of the month of Ogo, it rained a lot and gave them a lot of work. At the end of the rainy season, there was abundant manioc flour. In the month that the 'deer's smell' Started to bloom; that's how it was.	No mês de Ogo (jirau, estrela) (época da cheia/chuva). No final do mês de Ogo chovia muito e dava trabalho para eles. Depois que a chuva chegava no final mesmo, aí que polvilho começava ficar ter muito. No mês que cheiro de veado começava florescer, era assim.
Takuma	Did they open fields in the village?	Será que eles abriam roça na aldeia?
Kamihu	Yes, it sustains them in the village. Mainly Agatsipa was the one who opened a field at Maju Halu; it's far. They travelled far; that's how it was.	Sim, sustento deles na aldeia. Principalmente Agatsipa que abria roça no Maju Halu, ela é longe. Eles andavam longe, era assim.
Takuma	How do you prepare the soil before planting?	Como é que você prepara a terra antes você plantar?

Kamihu	[First of all, I throw manioc peelings. Look over there where I threw them; I threw manioc pulp. Later, I will burn it then shortly after that I will plant my plants.	Primeiro lugar, eu joga casca de mandioca. Veja lá que eu joguei, joguei massa de mandioca. Depois vou queimar, logo após plantarei as plantas.
Kamihu	Like that, for the plants to grow very quickly. There, the plant will not be weak. Look over there where I planted some; look. } ^{S5-53}	Assim mesmo, para as plantas crescem bem rápido. Lá a planta não fica fraca. Veja lá que eu plantei algumas, veja.
Carlos	What do you have here in your garden?	O que você tem aqui no seu plantio?
Kamihu	{Chili peppers; this is banana. } ^{S6-117}	Pimenta, isto é banana.
Carlos	What kind of peppers.	Pimenta de que?
Kamihu	My crop. {This is a large pepper, long. This one here is black pepper, the old timer's pepper. } ^{S6-117} This is the old timer's food; they harvested it.	Meu, meu plantio. Isto é pimenta grande, comprido. Este aqui é pimenta do reino, pimenta do antigo. Alimento do antigos, eles colhiam.
Kamihu	Look, I harvested a lot. It's stored in there. Afterward you can grind it to eat; very delicious. That one over there is jaguar's tooth pepper.	Veja, eu colhi muito, está guardado dentro daquele. Depois pode socar para comer, muito gostoso. Aquela lá é pimenta de dente de onça.
Carlos	What else do you have? Mango too?	O que você tem mais, manga também?
Kamihu	{This here is mango; there is a lot. It produces a lot of fruit. } ^{S6-117}	Este aqui é manga meu plantio, é muito. Dar muito fruta.
Carlos	Is it from the Leonardo (FUNAI post)?	Era do Leonardo (Posto do FUNAI)?
Kamihu	Exactly, {I brought it from Leonardo; I brought a lot. I planted it there, planted it there. } ^{S6-117} They come here to get mango, the people from Lahatua and Afukuri.	Exatamente, eu trouxe do Leonardo, trouxe muito. Plantei aí, plantei ali. Eles vêm buscar manga, pessoal da aldeia Lahatua e Afukuri.
Kamihu	Look, it's starting to fruit. A lot of ripe yellow fruit will fall. That's when they will come to get them, to get my mangoes.	Veja, está começando dar fruta. Fruta madura amarela vai cair muito. Aí que eles vão vir buscar, buscar minha manga.
Takuma	In Lahatua, did you plant mango? What did you plant there?	Em Lahatua, será que vocês plantavam manga? O que vocês plantavam lá?
Kamihu	No, mango is a recent thing. Mango is recent. You know that there weren't any whites before. It's something new that the population of whites is larger. It was their crop that we obtained.	Nada, manga é uma coisa recente. Manga é recente, você sabe que antes não tinha branco. É uma nova que população do branca está maior. Era plantio deles que a gente pegou.
Takuma	What did you plant in Lahatua when there weren't yet any white people.	O que vocês plantavam em Lahatua quando ainda não tina branco?

Kamihu	{We didn't have anything, nothing. Only pequi trees that were behind every house; after the fruit was ripe, it fell.} ^{S6-118}	Não tinha nada, não tinha. Apenas pé de pequi que ficava atrás de cada casa, depois fruta ficava maduro e caía.
Takuma	A mango tree grew here. What do you do under this tree?	Pé de manga cresceu aqui. O que vocês fazem debaixo dele?
Kamihu	{We work under here. All of us; every house. We used to plant pequi (in the backyard instead of mango).} ^{S6-119}	Aqui debaixo que a gente trabalha. Todos nós, cada casa. Nós plantávamos pequi.
Takuma	Before you planted this here, did you imagine that it would help you?	Antes de plantar isto aqui, você imaginou que iria te ajudar?
Kamihu	{Yes, now it is for us to stay under. "Let's go work under that" (mango tree), we always say. Look at the shade here now. Look over there where it is behind that house. We always roast fish here.} ^{S6-120}	Sim, agora ficou para nós ficamos debaixo. Vamos trabalhar debaixo daquele, sempre falamos. Veja a sombra que ficou aqui. Olha lá como ficou atrás daquela casa. Sempre assamos peixe aqui.
Takuma	What about watermelon? Did you plant it? Where did you get it?	E melancia, vocês plantavam, onde vocês arranjaram?
Kamihu	It is something from the whites.	É coisa do branco mesmo.
Takuma	How did you get it?	Como é que vocês conseguiram?
Kamihu	It was a white who gave it to us. I went to a place called Batovi. We left here in a canoe together with the white guy. It took a long time to get there.	Foi branco que deu para nós. Eu fui em lugar que chamava Batovi. Saímos daqui de canoa junto o branco. Demoramos muito para chegar.
Kamihu	We travelled between rocks on the way and took a long time to reach Batovi. That is why I speak and try to remember where we passed.	Andamos entre pedras no caminho e demoramos chegar em Batovi. Por isso que eu falo e tento lembrar onde nós passamos.
Kamihu	We came to a mountain, and then another one; there were several. We went on our way and it was very fun. The stones gave us many blisters on our feet.	Encontramos montanha, mais uma vez encontramos, tinham vários. Nós andamos no caminho foi muito divertido. Pedrinha deu muito bolha no nosso pé.
Carlos	Do you think you went to the Bakairi?	Será que você foi em Bakairi?
Kamihu	Yes, I went there. This is what I'm telling you. Eventually we arrived in a town. The house of the whites was there.	Sim, lá que eu fui. É isso que estou falando. Depois nós chegamos na cidade. Lá tinha casa do branco, ali there.
Kamihu	There were many Bakairi houses. Understand? There were many Bakairi.	Tinha muito casa dos Bakairi. Está entendendo? Lá tinha muito Bakairi.
Kamihu	Then, the white guy gave us many presents. I didn't think you (white people) would change; would start	Depois, o branco deu muito presente para nós. Não pensei que vocês (brancos) iriam mudar, iria cobrar

	charging us. When we ask for something from you (plural), you charge us, “where is the money”, you say. This didn’t exist there.	nós. Quando a gente pedi coisa para vocês e cobra nós, cadê dinheiro, vocês falam isso. Lá não tinha isso.
Kamihu	We received presents; there were many things. We were choosing things and gathering them into our arms. Nowadays you ask for payment, “where is the money, where is the money”.	Nós recebemos presentes, ali tinha um montão de coisas. É isso que nós estávamos escolhendo e colocávamos no braço. Hoje em dia vocês pedem pagamento, cadê dinheiro, cadê dinheiro.
Kamihu	That day we did not pay. We brought many things. Knives, we brought knives and many axes that we did not pay for. Now you (whites) ask for payment when you give something.	Naquele dia nós não pagamos. Nós trazemos muitos. Faca, trazemos faca e cheio de machados que não pagamos. Agora vocês pedem pagamento quando você der alguma coisa.
Kamihu	We didn’t have to pay for the things. We brought many things. There was no payment.	Não precisava pagar as coisas. Trazemos muitas coisas. Não existe pagamento, não existe.
Kamihu	After that, we came back from there. We went together with the whites; we went with Nilo Veloso. Do you know him?	Depois voltamos de lá. Nós fomos junto com os brancos, fomos com Nilo Veloso. Você o conheceu?
Carlos	No, I’ve only seen him in a photo.	Não, apenas vi numa foto.
Kamihu	He was with us. Nilo was there, Jairo, and several whites. Many Bakairi were with us. His boat pilot. That’s how we went there.	Ele estava com agente. Nilo estava, Jairo e tinha vários brancos. Muitos Bakairi estavam com a gente. Condutor do barco dele. Assim que fomos lá.
Carlos	You brought the watermelon seeds from there?	De lá que você trouxe semente de melancia?
Kamihu	Yes, sure, it was from there that I brought the watermelon seeds. That’s what we planted and it turned out well.	Sim, claro de lá mesmo que trouxe semente de melancia. É isso que plantamos e deu certo.
Takuma	Did you plant them in <i>eegepe</i> ?	Plantou na <i>eegepe</i> ?
Kamihu	{Yes, sure, in the <i>eegepe</i> . I once planted them in my field at Agitsiu (<i>eegepe</i>) and it produced a lot. Over there. The people collectively tried to harvest it all but couldn’t; there was still a lot left.	Sim, claro, na terra preta. Uma vez plantei na roça em Agitsiu deu muito lá. Ali, ali. Pessoal tentou colher em coletivo, mas não adiantou, ainda ficou muito lá.
Kamihu	There were still some fruits in the field. I planted it over at Hatsikugi too and it produced many fruits. We couldn’t pick them all and some were	Ainda ficou algumas frutas na roça. La na Hatsikugi, plantei também e deu muito frutas. Não conseguimos juntar e ficou lá mesmo. As pessoas

	left there.} ^{S6-121} People were bringing them for themselves. I really love to plant.	estavam trazendo para si mesmo. Adoro plantar mesmo.
Takuma	Did you plant manioc?	Vocês plantavam mandioca?
Kamihu	{Yes, in the <i>eegepe</i> . Over at Asahütü they also planted maize. They opened up fields to plant maize. Maize really grew over there.} ^{S6-122}	Sim, no <i>eegepe</i> . Lá em Asahütü eles também plantavam milho. Eles abriam roça para plantar milho. Lá que milho crescia muito mesmo.
Carlos	How many varieties of maize?	Quantos variedade do milho?
Kamihu	{Several. Everyone had their field; there were many. The real maize, red corn or Ahua; I don't remember anymore. Your (whites) maize is different.} ^{S6-122}	Vários, cada um tinha sua roça, tinha muito. O milho de verdade, milho vermelho ou Ahua, não lembra mais. O milho de vocês é diferente.
Kamihu	But ours is the real maize. Your maize is recent. You have super maize. I think you know. But this is different. There were many fields.	Mas nosso é o milho de verdade. O milho de vocês é recente. Vocês tem hiper milho. Eu acho que você sabe. Mas isso é diferente. Tinham muito plantios.
Takuma	How long have we thrown ashes in the cultivation areas?	Desde quando jogamos cinza no lugar de plantação?
Kamihu	[Yes, it is old. In the <i>eegepe</i> they threw them; ashes of the ancestors. It was there that they planted and it produced abundantly.] ^{S5-54}	Sim, era antigo. No <i>eegepe</i> eles jogavam, cinza dos antigos. Lá que eles plantavam e dava uma fartura.
Kamihu	{There was abundant maize. They even planted a lot of maize behind the house.} ^{S6-122}	Lá que ficava uma fartura de milho. Até plantavam muitos milhos atrás da casa.
Carlos	Does it grow well?	Cresce bem?
Kamihu	[Yes, it produced very well. Ears of maize this size; there was really a lot. That is why we have to throw ash.] ^{S5-55}	Sim, dava muito bem. Deste tamanho espiga de milho, tem e muito mesmo. Por isso tem que jogar a cinza.
Kamihu	[Look, what we throw away is so that it will be the same as that (same as ancient <i>eegepe</i> of archaeological sites). This here will be the same. We love to burn this stuff.] ^{S5-56}	Veja, o que nós jogamos é para ficar igual daquele (igual do <i>eegepe</i> dos antigos nos sítios arqueológicos). Isto aqui vai ser igual. Nós amos queimar isso.
Kamihu	Kajutigu is the creator of manioc, this size. Cut at the base and the juice comes out and then you get the flour. The manioc stems were this size. I don't know where the stems are, maybe in the village of some other Indigenous group. Ahanta already brought it back.	Kajutigu é aquele que deu origem à mandioca, deste tamanho. Cortava na base e saía o caldo e depois dava polvilho. Rama de mandioca era deste tamanho, não sei onde fica rama, talvez na aldeia dos outros índios. Ahanta já levou de volta.

Interview 7: Moisé and Tapualu (elders, husband and wife, farmers)

Note: This took place on a field visit where they were harvesting manioc located at the Hialugihütü archaeological site.

Interviewers: Kumessi Waura, Takuma Kuikuro, Carlos Fausto, and Morgan Schmidt

Video: Takuma Kuikuro

Kuikuro to Portuguese translation: Maricá Kuikuro

Date: July 23, 2018

Speaker	English	Português
Moisé	[This is <i>egepe</i> (dark earth). You shouldn't clean up all of the leaves, so they serve as fertilizer.] ^{S5-57} That's right. That one is red.	Isso é <i>egepe</i> (terra preta). As folhas não podem ser totalmente limpas, pra ficar como adubo. Isso mesmo. Isso é vermelha.
Carlos	That one is red (manioc stems)?	Isso é vermelha (rama)?
Tapualu	Yes, there aren't any others together with them. They have a lot of flour.	Sim, não tem as outras juntos. Tem muito polvilho.
Moisé	It has a lot of flour. Look, there are a lot of roots. The great grandson of the monkey, oh, it has a lot of roots.	Tem bastante polvilho. Olha, tem bastante raiz. O bisneto do macaco, oh tem bastante raiz.
Carlos	It has a lot?	Tem muito?
Moisé	Yes, sure.	Sim é claro.
Carlos	Is that Haitsehü's field?	Isso é da roça do seu Haitsehü?
Moisé	Haitsehü's field. Yes, that's right. This red variety is very fragile and short. There is another that is tall, it's not good. You see? Its root is very weak.	Da roça do Haitsehü. Isso mesmo. Essa avermelhada é bem frágil e baixinha. Tem outro que é alto, não é bom. Está vendo? A raiz dela é muita fraca.
Moisé	This here is something new I discovered. This here, all because it wasn't working well for me. I changed it like this. It comes out easily. It's all like this.	Isto aqui é novidade que eu descobri. Isto aqui, tudo isso porque não estava dando certo pra mim. Eu mudei assim. Ela sai fácil. Está tudo desse jeito.
Kumessi	Wow, I like it. I think I am going to change like that.	Nossa eu gostei, acho que eu vou mudar assim.
Moisé	You can change like this. It goes around it. Look at that.	Pode mudar assim. Fica em volta, olha só.
Kumessi	Is that right?	É mesmo?
Tapualu	This ground is hard; when the ground is soft it comes out easily.	Esse chão é duro, quando tem chão mole fica fácil de sair.
Kumessi	That's good; it comes out very easily. This is a new way to plant. It doesn't break. Very good.	Muito bom, ela sai muito fácil. Isso é novo jeito de plantar. Ela não quebra, muito bom.

Moisé	I was thinking, when people see it, they are going to make fun of me.	Eu estava pensando, quando o pessoal veja, eles vão me sacanear.
Carlos	Is it small?	É pequeno?
Moisé	Yes, sure.	Sim é claro.
Carlos	A young one?	Filhote?
Moisé	Yes, a young one. {There are many ants here.} ^{S6-123}	Sim filhote. Aqui tem muitas formigas.
Kumessi	Is that right? I like it a lot.	É mesmo? Eu gostei muito.
Moisé	You can change like that.	Pode mudar assim.
Kumessi	What's it called?	Como é nome?
Moisé	What?	Como?
Kumessi	What is that way of doing it called?	Como é nome desse jeito?
Moisé	I don't know. Ajahi, yes, ajahi. When we want to do it like this, we do ajahi. This here is ajahi.	Não sei, Ajahi, é Ajahi. Quando queremos fazer desse jeito, fazemos Ajahi. Isto aqui é Ajahi
Kumessi	I really like it.	Eu gostei muito.
Moisé	This here, I was just playing around. {But there is a lot of sapé (grass) here.} ^{S6-124}	Isto aqui eu fui brincando. Só que aqui tem muito sapé (capim).
Heuügü	What variety of manioc is this?	Qual mandioca é esse?
Moisé	I don't know who the owner of that one is. This reddish one here is from a seed that sprouted. I don't know the name. That was a seed that sprouted. Listen up, it comes out very easily.	Não sei quem é dono desse. Isto aqui é semente que nasceu, que é avermelhado. Não sei o nome. Isso é semente que nasceu. Escute só, ela sai muito fácil.
Kumessi	It comes out very easily.	Sai muito fácil.
Moisé	It's all this way on top.	Está tudo desse jeito por cima.
Tapualu	I have to bend down a lot so I don't do that. It gives me a headache.	Eu agacho muito, por isso que eu não faço isso. Me dá dor de cabeça.
Heuügü	Was this the way they produced it for a long time?	Desse jeito que produzia por muito tempo?
Moisé	What?	Como?
Heuügü	Did the ancestors do it this way?	Os antepassados faziam isso?
Moisé	Yes, sure. There are some who put it on top and others who put it underneath. However is best for them.	Sim é claro. Tem alguns que coloca em cima tem alguns que coloca por baixo. Do jeito da melhor para eles.
Heuügü	Can a menstruating woman harvest manioc?	Mulher menstruada pode colher mandioca?
Moisé	No, she can't.	Não pode.
Takuma	She can't?	Não pode?
Moisé	No.	Não.
Takuma	Like, pull it out of the ground?	Tipo arrancar?
Moisé	Yes, she can pull it out and peel it, but she cannot strain it. It's not allowed.	Sim ela pode arrancar, pode descascar, mas ela não pode coar. Não pode.

Kumessi	<i>Eegepe</i> has a lot of weeds and brush?	<i>Eegepe</i> tem muito matinho?
Moisé	{Yes, <i>eegepe</i> has a lot of weeds and brush.} ^{S6-125} Because I spent a lot of time at CASAI (Indigenous health clinic).	Sim <i>eegepe</i> tem bastante matinhos. Porque fiquei muito tempo na CASAI (clínica de saúde indígena).
Tapualu	Kupei cleared everything and it all sprouted again.	Kupei limpou tudo e nasceu tudo de novo.
Moisé	Look, it all comes out.	Olha, ela sai tudinho.
Kumessi	Very good.	Muito bom.
Moisé	Sure, it's going to work very well for you. This used to be the field of Kujame Ayahulu when he lived here a long time in Hialugihütü (archaeological site). This was their field. All of this was their field. It was Melo's. They had their house here.	Pois é, vai dar tudo certo pra você. Aqui era roça do Kujame Ayahulu, quando ele morava aqui muito tempo, no Hialugihütü, aqui era roça deles. Aqui era tudo roça deles, era do Melo, aqui eles tinham casa deles.
Carlos	Was it on the other side?	Era no outro lado?
Moisé	Yes. There are a lot of <i>egiho</i> (archaeological ceramics) here.	Sim. <i>Egiho</i> (archaeological ceramics); aqui tem bastante <i>egiho</i> .
Carlos	What?	Como?
Moisé	Ceramics, there are a lot of ceramics. This here is ceramics. Everytime you have <i>eegepe</i> there is ceramics all over.	Cerâmica, tem muito cerâmica. Isto aqui é cerâmica. Toda vez que tem <i>eegepe</i> tem cerâmica em toda parte.
Carlos	Is that normal?	Isso é costume dela?
Moisé	Yes, that is normal. This is ceramics of the ancestors.	Sim costume dela. Isso era cerâmica dos antepassados.
Morgan	Are there a lot of ceramics or few ceramics here?	Aqui tem muito cerâmica ou pouco cerâmica?
Moisé	There are a lot here.	Tem muito aqui.
Morgan	There are a lot.	Tem muito.
Moisé	It is all around this part. Yes, this is <i>eegepe</i> . Look at this Morgan. This is ceramics.	Ela fica bem aqui essa parte. Sim é <i>eegepe</i> . Olha isto aqui Morgan. Isto aqui é cerâmica.
Carlos	Is it big?	É grande?
Moisé	It's big.	É grande
Carlos	Let me see.	Deixa-me olhar?
Moisé	Yes, come quick.	Sim venha logo.
Moisé	There is a lot of <i>eegepe</i> like this around here.	Aqui tem bastante <i>eegepe</i> , desse jeito.
Carlos	A lot? You see there is decoration here? That was for your film.	Bastante? Está vendo, tem decoração aqui? Esse foi para o seu filme.
Morgan	Where is there a <i>hitsihitsingoho</i> , where?	Onde tem <i>hitsihitsingoho</i> ? A onde tem?
Moisé	There isn't.	Não tem.

Morgan	Close by?	Aqui perto?
Moisé	No, there isn't. No.	Não, não tem. Não.
Moisé	[This <i>itsulo</i> (waste) that is behind the house, just waste, is thrown out and afterward used for cultivation, when manioc peelings are thrown there. When you plant there, they grow very well and happy. I don't know why. These places are good for the plants.] ^{S5-58}	Esses lixos (<i>itsulo</i>) que ficam atrás da casa, lixo mesmo, quando é jogado, depois faz plantio por lá, quando casca de mandioca jogado por lá. Quando plantam por lá nascem muito bem e feliz, não sei por quê? Nesses lugares assim dá bem para as plantas.
Takuma	Do you call it waste (<i>itsulo</i>)?	Isso chama de lixo (<i>itsulo</i>)?
Moisé	It's called waste (<i>itsulo</i>).	Chama de lixo (<i>itsulo</i>).
Takuma	And in this place too (Hialugihütü)?	E nesse lugar assim?
Moisé	{It is called waste (<i>itsulo</i>) too. That is called <i>itsulo</i> .	Se chama de lixo (<i>itsulo</i>) também. Isso chamamos de <i>itsulo</i> .
Moisé	This is <i>eegepe</i> , good soil, black soil. That is why it produces a lot of manioc.	Isto aqui é <i>eegepe</i> , terra boa, terra preta. Por isso que dá muito mandioca.
Moisé	This soil is black. In the other forest, <i>itsuni</i> (old-growth forest on red soil). That is why it produces less manioc there.	Essa terra é preta, na outra mata <i>itsuni</i> (floresta em solo vermelho) é terra vermelha. Por isso dá pouca mandioca por lá.
Moisé	Here in the <i>eegepe</i> it produces a lot of manioc. It produces a lot of flour, this much. That is why we like the <i>eegepe</i> , good earth. That's right, that's the way it is, this good earth. That's it.} ^{S6-126}	Aqui no <i>eegepe</i> que dá muito mandioca. Ela dá muito polvilho desse tamanho. Por isso que gostamos de <i>eegepe</i> , terra boa. Isso mesmo, é desse jeito, essa terra boa. Só isso.

Interview 8: Kamankgagü (male elder, shaman, farmer)

Interviewers: Kumessi Waura, Carlos Fausto, and Morgan Schmidt

Video: Bob Kuikuro

Kuikuro to Portuguese translation: Kumessi Waura

Date: July 21, 2018

Speaker	English	Português
Kumessi	When we eat, do we have to throw the fish bones in a specific place?	Quando nós comemos, tem que jogar só num lugar, os espinhos de peixe?
Kamankgagü	[No.] ^{S5-59}	Não.
Kumessi	When we sweep, why do we throw it over there (pointing to the <i>itsulo</i> (waste disposal area in the backyard))?	Quando varremos, porque que nós jogamos ali (apontando para <i>itsulo</i> no quintal)?

Kamankgagü	[Yes, that is the place to throw away waste.] ^{S5-60}	Sim, ali é o lugar para jogar lixo.
Kumessi	That's the place?	Ali é o lugar?
Kamankgagü	[Yes, that is the place. Our backyard is full of <i>itsulo</i> (waste or waste disposal area). We have to go far if we want to go to the bathroom. Only children can defecate close by, because they don't know anything yet.] ^{S5-60}	Sim, ali é o lugar. Nosso quintal é cheio de <i>itsulo</i> (lixo ou área de descartar lixo). Para nos ir ao banheiro, nós temos que ir longe. Só criança pode fazer cocô aqui perto, porque eles não sabem de nada ainda.
Kumessi	When the women peel the manioc, afterward they throw the peelings over there, right?	Quando as mulheres descascam mandioca, depois elas jogam ali ne?
Kamankgagü	[Yes, that's how it has been for a long time.] ^{S5-61}	Sim, é assim mesmo, para muito tempo.
Kumessi	That is part of it.	Isso faz parte?
Kamankgagü	Yes, that's how it is. The old-timers did it like that. They (women) brought <i>tatohongo</i> and <i>hete</i> (women's baskets). [The women peeled (manioc) right out there (in the field).] ^{S5-62} Then they put them (the peeled roots) into the <i>tatohongo</i> . They put the large roots on top. When they finished, they asked their husbands for help putting it on top of their heads.	Sim, é assim mesmo. Os antigos faziam assim. Elas levavam <i>tatohongo</i> e <i>hete</i> (sextas de mulher). Lá (na roça) as mulheres descascavam mesmo. E depois colocavam dentro do <i>tatohongo</i> . As grandes raízes colocavam em cima. Assim que terminar, falava para o marido ajudar colocar na cabeça dela.
Kamankgagü	It was very far away. The husband had the <i>asagu</i> (men's basket). He would put inside all of the large ones that had been separated. He would look for a piece of wood to put it on top and carry it on his back then go behind his wife.	Era longe demais. O marido tinha <i>asagu</i> (cesto de homem). Ele colocava todos os grandes que já foram separados. Ele procura madeira e coloca em cima e carrega nas costas e vai atrás da mulher dele.
Kamankgagü	He keeps going until he gets back home. When he gets home, he puts the <i>asagu</i> down.	Ele vai até ele chegar em casa. Quando chega em casa ele desce o <i>asagu</i> .
Kamankgagü	When she arrives before him, she takes the <i>asagu</i> off his back and puts it on top of the drying rack called an <i>ogo</i> (a high drying rack that no one uses any more). After that, she looks for someone to help her take it down from the <i>ogo</i> .	Quando chega mais cedo, ela desce em cima do jirau (usado para secar polvilho) (jirau bem alto que hoje em dia ninguém faz, se chama <i>ogo</i>). Depois ela procura outra pessoa e chama para descer (tirar do <i>ogo</i>).
Kamankgagü	She says, "let's get the <i>tigigü</i> down". The person responds, "ok". The	Ela fala "vamos descer <i>tigigü</i> ". A pessoa responde "está bem". A

	person says, “Are you still arriving?” She responds, “Yes”.	pessoa fala, “Você está chegando ainda?”. E ela responde “sim”.
Kamankgagü	She arrives all sweaty and tired and then she puts the <i>tatohongo</i> on the ground. Without resting, she takes the <i>hukugu</i> (water pot) to go get water.	Ela chega toda suada. E ela chega toda cansada e depois desce <i>tatohongo</i> no chão. Sem descansar, ela pega <i>hukugu</i> . (panela para carregar água) e ela vai buscar água.
Kamankgagü	The owners of Kuhikugu (archaeological settlement) used to get water from the lake far away. They had <i>hukugu, taha</i> (large bottle gourd) and others had <i>taha</i> too. They went out into the water and filled the <i>taha</i> . She puts it under and then lifts it out. The water is very heavy.	Os donos do Kuhikugu, eles buscavam água bem longe na lagoa. Eles tinham <i>hukugu, taha</i> (cabaça grande) e outros tinham <i>taha</i> também. Enche <i>taha</i> de água e vai lá no meio encher de água. Ela afunda e depois ela levanta. A água fica bem pesado.
Kamankgagü	And she has a shell necklace and the one that has <i>dehegeko</i> (a kind of shell found in the streams that is hard to find). She comes, adjusting her belt. She comes very quickly. Then she arrives where she will work.	E ela tem colar de caramujo e aquele que tem <i>dehegeko</i> (tipo de caramujo que fica no córrego (muito difícil de encontrar)). E ela vem arrumando o sinto dela. E ela vem bem rápido. Aí ela chega onde vai trabalhar.
Kamankgagü	Inside the <i>taha</i> is the water that she’ll use to wash the manioc and the pot. She looks for <i>tinthagülü apo</i> (sticks to use for supports for the mat she uses to strain the manioc). And while she is doing this, her husband arrives. She says, “Are you arriving?” Her husband responds, “yes”.	Dentro da <i>taha</i> fica outra água com que ela vai lavar mandioca e lavar a panela. Ela procura <i>tinthagülü apo</i> (pãozinhos que apoiam a esteira). E na hora que a esposa está arrumando, chega o marido. Ela fala, “Está chegando ainda?”. O Marido responde “sim”.
Kamankgagü	[The large manioc roots were peeled at home. These peelings were thrown into the <i>itsulo</i> “waste area”. Nowadays, manioc is peeled at home. The old-timers used to peel it in the field.] ^{S5-63}	As mandiocas grandes que eram descascadas em casa. Essa casca que era jogado no lixo. Hoje em dia, é descascada em casa. Na roça que (os antigos) descascavam a mandioca.
Kumessi	Did they throw manioc peelings so they could plant there afterward?	Jogava casca de mandioca para plantar depois?
Kamankgagü	[No, they threw it in the <i>itsulo</i> (waste or waste area). No, you just have to throw it in the <i>itsulo</i> . If you have a fire hearth, you have to throw it in the <i>itsulo</i> too.] ^{S5-64}	Não, já jogava no lixo mesmo. Não joga não. Só tem que jogar no lixo mesmo. Se tiver fogueira, tem que jogar no lixo também.
Kumessi	You don’t spread manioc peeling in the field?	Não espalha casca de mandioca na roça, não?
Kamankgagü	[No, you throw it directly into the <i>itsulo</i> . You find an old hammock and	Não já joga direito no <i>itsulo</i> (lixo). Procura rede antigo e descasca em

	peel them on top of that. Then wash it and then grate it and throw away the <i>tigibitse</i> (manioc peelings).] ^{S5-65}	cima, e depois lava, e depois rala. E joga <i>tigibitse</i> (casca de mandioca).
Kumessi	You have to throw it there.	Só lá tem que jogar?
Kamankgagü	Yes.	Sim.
Kumessi	Do you know what kind of bugs/animals are found in the <i>itsulo</i> ?	Você sabe que tipo de bichinhos ficam lá no <i>itsulo</i> (na lixeira)?
Kamankgagü	I think it is <i>ngütare</i> (a small ant). Come in! (a visitor, Ugisapa, entered the house).	Eu acho que é <i>ngütare</i> (formiguinha). Entra ai (Ugisapa entrou na casa).
Ugisapa	Let's go dance?	Vamos dançar?
Kamankgagü	Ok. I'm telling them a story here.	Tá bom. Estou cantando história para eles aqui.
Ugisapa	No, tell them another day (jokingly).	Não, você conta outro dia (falou brincando).
Kamankgagü	I don't know about the bugs/animals there. I think the flies lay their eggs there. And then the waste is full of <i>kolo</i> (maggot found in the waste area). I don't know who puts <i>kolo</i> there. I don't know who puts the bugs there. I don't know how the ants are there too. I'm telling them a story here.	Não sei como que dar os bichinhos lá. Eu acho as moscas que desovam lá. Ai, <i>kolo</i> (larva de mosca que fica na lixeira) fica cheio no lixo. Eu não sei quem coloca <i>kolo</i> lá. Eu não sei quem coloca os bichinhos. Eu não sei como as formiguinhas ficam lá também. Estou contando história para eles aqui.
Ugisapa	OK.	Tá bom.
Kamankgagü	That is our culture (<i>kügühütu hegei</i>).	É assim que é nossa cultura (<i>kügühütu hegei</i>).
Kumessi	Why is it that the plants grow well after we throw <i>itsulo</i> ?	Porque quando jogamos <i>itsulo</i> a planta cresce bem depois?
Kamankgagü	Ah, I don't know.	Ah, eu não sei.
Kumessi	That's what Morgan is asking.	Isso é que o Morgan está perguntando.
Kamankgagü	Ah, yes, that is true. It's because our earth (land/soil) is all sweet. There is a field over there that is not <i>itsuni</i> (forest on red soil) but it still produces abundant manioc. Manioc grows well anywhere because the earth is sweet.	Ah sim, isso é verdade. É porque nossa terra é tudo doce. Tem uma roça ali que não era <i>itsuni</i> , mesmo assim mandioca cresce e dar muito raiz. A mandioca nasce bem em qualquer lugar porque a terra é doce.
Kamankgagü	{When we plant in the <i>egepe</i> , it produces many roots and some of them are this big. When I planted here, they were this size, they were big.} ^{S6-127}	Quando plantamos no <i>egepe</i> , ela dar muito raiz para alguns ficam deste tamanho assim. Quando eu plantei aqui, ficou deste tamanho aqui, era grande.
Kamankgagü	It was <i>kuige hekugu</i> (manioc variety) that I planted. I had four fields. It was all <i>kuige hekugu</i> . When it was finished	Era <i>kuige hekugu</i> (variedade de mandioca) que eu plantava. Eu tinha quatro roças. Era tudo <i>kuige hekugu</i>

	here, I moved over there. I opened a field on the edge of the savannah (floodplain). I had three fields over there.	que eu tinha. Quando acabou aqui, eu mudei para lá. Roçei na beira do campo. Lá eu tinha três roças.
Kumessi	And here on the edge of the <i>eegepe</i> (in the village)?	E aqui na beira do <i>eegepe</i> (na aldeia)?
Kamankgagü	Yes.	Sim.
Kumessi	For you, what was <i>eegepe</i> ?	Para você, o que era <i>eegepe</i> ?
Kamankgagü	[It was the place where the ancestors threw their ash (<i>Ngiholo ilubegüpe</i>).] ^{S5-66}	Era cinzeiro dos antigos (<i>Ngiholo ilubegüpe</i>).
Kumessi	Is that right?	Era isso mesmo?
Kamankgagü	There were many people here grandson. Our origins are here. They lived all over these parts. And others lived here at Ngahuku and Kugitihu and others lived way down river. I thought that we were the only Indians here.	Aqui tinha várias pessoas neto. Nossa origem veio para cá. Eles moravam toda essa parte aqui. E outros moravam aqui no Ngahuku e Kugitihu e outros ficavam lá para baixo. Eu achava que só a gente era índio daqui.
Kamankgagü	[There were many ethnic groups here; Kaiabi, Juruna, Yudja, Txucahamae, Kreen-akrore. This (<i>eegepe</i>) was their <i>Ngiholo ilubegüpe</i> (ancestor's ash disposal areas). This is our place, here in the Xingu.] ^{S5-67}	Aqui tinha várias etnias, Kaiabi, Juruna, Yudja, Txucahamae, Kreen-akrore. Esse era <i>Ngiholo ilubegüpe</i> deles (área de jogar cinza dos antepassados). Aqui é nosso lugar. Aqui dentro do Xingu.
Kamankgagü	Rio de Janeiro belonged to the Indians too. When the Portuguese arrived, they took the land from the Indians. Orlando (Villas Boas) told us about it. Orlando told Nahü (Jakalo's father).	Rio de Janeiro era lugar dos Índios também. Quando os Portugueses chegaram, eles tomaram a terra dos Índios. Orlando (Villas Boas) contava. Orlando contava para Nahü (pai do Jakalo).
Kamankgagü	You will see one day, the Whites saying that the land is theirs. But this is a lie. Orlando told us that. This is what we are faced with now. Orlando said, "You are the owners of the land". The Whites don't have land. They don't have land.	Vocês vão ver um dia, os brancos falando que a terra é deles. Mais isso é mentira deles. Orlando falava isso. Isso que estamos enfrentando agora. Vocês que são dono da terra (Orlado disse). O branco não tem terra. Eles não têm terra.
Carlos	That is true.	Isso é verdade.
Kamankgagü	He told us that.	Ele falava isso.
Kumessi	It's true.	É verdade.
Kamankgagü	He really spoke the truth. He was right. The Whites really didn't have land.	Ele falava a verdade mesmo. Ele tinha razão. Os brancos não tinham terra mesmo.
Kumessi	That's right.	É isso.

Kamankgagü	[It was the <i>ilubepe</i> (ash disposal area) of the ancestors that we call <i>eegepe</i> .] ^{S5-68} There were a number of ethnic groups before.	Era <i>ilubepe do Ngiholo</i> . (área de jogar cinza dos antepassados) que nos chamávamos de <i>eegepe</i> . Aqui tinha várias etnias antes.
Kumessi	Is that where we plant manioc now?	Lá que nos plantamos mandioca agora?
Kamankgagü	{There we plant manioc, maize, squash and (sweet) potatoes. Banana is new. And it produces a lot of fruit. We are not taking advantage of anything (<i>eegepe</i>). There is only one thing we do, plant crops. (We are not taking advantage of the <i>eegepe</i> because no one is planting anything there). Do you know why we don't do it? Because it is a lot of work.} ^{S6-128}	La se planta mandioca, milho, abóbora e batatas (doce). Banana é novo. E dava muito fruta. Nós não estamos aproveitando nada (<i>o eegepe</i>). Só uma coisa que nós fazemos, roça. (A gente não está aproveitando o <i>eegepe</i> porque a gente não está plantando nada lá.) Sabe por que nós não fazemos? Dar muito trabalho.
Carlos	Is that a lot of work?	Isso dar muito trabalho?
Kamankgagü	Yes, if we do both (plant manioc fields in <i>itsuni</i> and <i>eegepe</i>) at the same time, it is a lot of work (there isn't enough time to take care of both). That is why we don't have many kinds of food. Not for the Whites, they have many people working for them.	Sim, se a gente fizer os dois (plantar roça e plantar chakra no <i>eegepe</i>) no mesmo tempo, dar muito trabalho (não dar tempo para cuidar os dois). Por isso que não temos várias comidas. Os brancos não, tem várias pessoas que trabalham para eles.
Kamankgagü	White people don't work. They are very lazy. Do you know what helps them? It's the tractor that does everything for them.	Os brancos não trabalham não. Eles são muito preguiçosos. Sabe o que ajuda eles? É o trator que faz tudo para eles.
Kamankgagü	And they make their fields very large. They do this with tractors. Not us. We work with our hands. We are very strong. The Whites are lazy.	E eles roçam bem grande. É com trator que eles fazem isso. 9:16 Nos não. Trabalhamos com as mãos mesmo. Somos bem fortes. Os brancos são preguiçosos.
Carlos	That's true.	É verdade.
Kumessi	First thing we do when we make a field, first clean the undergrowth, then cut the tree and let it dry.	Primeira coisa quando fazemos roça, primeira limpa em baixo, e depois corta as madeiras e deixa secar.
Kamankgagü	Did you see my brother-in-laws's field? It is still drying. We're in the middle of the year.	Você viu a roça do meu cunhado? Ela está secando ainda. 9:46 Nos estamos no meio do ano.
Kumessi	And when will you burn it?	E quando queima?
Kamankgagü	The ancestors (<i>Ngiholo</i>) burned their fields when the turtles are laying their eggs.	Os antigos (<i>Ngiholo</i>) queimava a roça deles quando as tartarugas estão desovando.
Kumessi	When the turtles are laying their eggs?	Quando as tartarugas estão desovando?

Kamankgagü	Yes, they burned their fields when the turtles are laying their eggs. The ones who opened large fields burn them in the middle of the year, before August.	Sim, quando as tartarugas estão desovando, eles queimavam a roça deles. Aquele que cortou a roça dele bem grande, ele queima no meio do ano, antes de agosto.
Kamankgagü	Apala and Aguja have already burned their fields. That's how they used to do it.	Apala e Aguja (2 pessoas) já queimavam a roça deles antes. É assim que eles faziam.
Kumessi	Why do you burn the field? What happens to the soil?	Por que queima a roça? O que é que acontece com a terra?
Kamankgagü	I don't know what happens with the soil.	Eu não sei o que é que acontece com a terra.
Kumessi	But, does manioc grow there?	Mas, lá a mandioca cresce?
Kamankgagü	After it burns, take out the ones that didn't burn well. Clean the whole field. Sometimes they planted when it still had not rained and the soil was still very hard for planting.	Depois de queimar, tira os que não foram queimados bem. Limpa toda a roça. Às vezes eles plantavam quando ainda não choveu e a terra era muito duro ainda para plantar.
Kamankgagü	Sometimes it rained in the middle of the year. They liked that very much. When it rained here in the Xingu, they liked it very much. The ones who planted first had crops that grew very fast.	As vezes chovia no meio do ano. Eles gostavam muito. Quando chovia aqui no Xingu, o pessoal gostava muito. Aqueles que plantavam primeiro. A roça deles cresce bem rápido.
Kamankgagü	They began working from morning until night when the rains started in order to get done fast. That grew all the same.	Quando já começava chover, eles já começavam trabalhar de manhã até a tarde, eles terminavam rápido. Isso crescia tudo igual.
Kamankgagü	If you work and then stop and then work again your planting will never be finished. The crop that was already planted (before the rains) already gets this big. Your crop doesn't grow well if you don't take care of it. Nowadays, no one thinks about going to the field.	Se você trabalhar e depois para e depois trabalhar de novo, sua roça nunca vai terminar. Aquele que já foi plantado, já fica deste tamanho. Quando você não cuida sua roça, ela nunca vai crescer bem. Hoje em dia, ninguém pensa em ir à roça.
Kumessi	That's true.	É verdade.
Kamankgagü	Only some think of the crops.	Só alguns que pensam na roça.
Aulá (Kamagagü's daughter)	[I think that <i>egepe</i> was the place of a village.] ^{S5-69}	Eu acho que <i>egepe</i> era aldeia.
Kumessi	That's what he said.	Isso que ele contou.
Kamankgagü	[Yes, they were villages.] ^{S5-69}	Sim, era aldeias.
Carlos	They were villages of the ancestors.	Era aldeia dos Ngiholo.
Aulá	Yawaki, there was <i>egepe</i> also at Hekugute (port on Lake Ipatse where they bathe). People used to live there.	Yawaki (nome do Kumessi quando era criança), ali era <i>egepe</i> também Hekugute (porto no Lago Ipatse

		onde tomam banho). Já moraram pessoas.
Kamankgagü	[I said that they were people's <i>ilubepe</i> .	Eu falei que era <i>ilubepe</i> das pessoas.
Aulá	If we leave this village, it will turn into <i>egepe</i> . And our <i>ilubepe</i> will be spread over this whole area here.}] ^{S5-70}	Se a gente deixar esta aldeia, ela vai virar <i>egepe</i> depois. E nosso <i>ilubepe</i> vai espalhar toda essa parte aqui.
Kamankgagü	At our village Kuhikugu there is a very large <i>egepe</i> where Peru put his village (Lahatua), very close to the <i>egepe</i> . I don't know which ethnic groups used to live there.	Ali na nossa aldeia Kuhikugu tem <i>egepe</i> bem grande. Onde Peru colocou a aldeia dele (Lahatua), bem perto do <i>egepe</i> . Não sei quais etnias que ficavam lá.
Kumessi	There is some on the other side too, right?	O outro lado tem também, ne?
Kamankgagü	There is another on the other side of the lake as well, Kuhugupe. They lived around the lake in three areas of <i>egepe</i> . There is Kuhu kugu, Kuhugupe, and Mayene. These were the villages of the ancestors. That's where your uncles live (Kumessi's uncles live in Mayene).	Tem no outro lado também, Kuhugupe. 3:12 Eles moravam ao redor da lagoa. Tem três egepe aqui. Tem Kuhu kugu, Kuhugupe, e Mayene. Essas eram as aldeias dos antigos. Lá que seus tios estão (em Mayene, os tios do Kumessi (Anselmo, Waranaku, Joi) estão morando lá).
Carlos	What did the ancestors plant in their backyards?	O que é que os Ngiholo (antepassados) plantavam no quintal?
Kamankgagü	{When the rains began, they started planting <i>ahiti</i> (annatto) and pequi.} ^{S6-129}	Quando começava chover, eles começavam plantar <i>ahiti</i> (urucum) e o pequi.
Kumessi	Is that all they planted?	Só isso que eles plantavam?
Kamankgagü	{We didn't used to have banana. We didn't have sweet potatoes or peanuts.} ^{S6-130} The owners of the peanuts are the Kaiabi and Juruna. It was the Juruna who planted them. It was the white people who gave it to them. That is new.	Antes não tinha banana ainda. Não tinha batata (doce). Não tinha amendoim também. Os donos do amendoim são os Kaiabi e Juruna. Banana e amendoim, são os Juruna que plantam. Quem trouxe para eles são os brancos. Isso é novo.
Aulá	What about banana?	E a banana?
Kamankgagü	It was the white people who brought them banana. It is new. The Kuhikugu people didn't plant anything. {They only planted <i>ahiti</i> (annatto) and pequi (fruit). That's all they planted, just four crops: maize, manioc, pequi, and annatto.} ^{S6-131}	Quem trouxe banana para eles são os brancos. Isso é novo. Os Kuhikugu não plantavam nada. Única coisa que eles plantavam, <i>ahiti</i> (urucum) e o pequi. Só isso que eles plantavam. Só quatro tipos que eles plantavam: milho, mandioca, pequi e urucum.
Carlos	And (sweet) potato?	E batata (doce)?

Kamankgagü	No, that belonged to the Kaiabi and Juruna.	Não, isso era dos Kaiabi e os Juruna.
Carlos	Banana too?	Banana também?
Kamankgagü	No, banana came from the city. They brought it for us. We didn't have any of the white people's food here in the Upper Xingu. The Whites' food began to arrive when Orlando moved us here. When we moved here to Ipatse, I planted a lot of bananas (at Akagahitĩ, archaeological site with dark earth). It was a little far away.	Não banana veio da cidade. Trouxeram para eles. Aqui no Alto Xingu, tinha nada de comida dos brancos. Quando Orlando mudou a gente aqui, começaram chegar as comidas dos brancos. Quando mudamos aqui no Ipatse, até eu plantei muito banana no Akagahitĩ (sítio arqueológico com terra preta). Era um pouquinho longe.
Carlos	What about bottle gourd?	É a cabaça?
Kamankgagü	{That's right, that was <i>tuku</i> (pot).} ^{S6-132}	É verdade, isso era <i>tuku</i> (panela).
Aulá	And cotton?	É o algodão?
Kamankgagü	Ah, yes. {There is cotton too.} ^{S6-133} There is <i>togokige</i> (cotton), <i>ahiti</i> , <i>ibe</i> , <i>kugida</i> (bottle gourd) and <i>ana</i> (maize). We still use <i>tüheginhü</i> (gourd cut in the middle to make bowls, spoons, and cups) today. Nothing changed with the arrival of western goods. Except for <i>taku</i> that is gone. It doesn't exist anymore. Only <i>tüheginhü</i> still exists.	Ah sim, tem algodão ainda. Tem <i>togokige</i> (algodão), <i>ahiti</i> , <i>ibe</i> , <i>kugida</i> (cabaça) e <i>ana</i> (milho). Até hoje existe <i>tüheginhü</i> (cabaça cortado no meio para fazer concha, colher, copo). Nada mudou com as coisas dos brancos. Só <i>tuku</i> que já acabou. Não existe mais. Só <i>tüheginhü</i> que existe ainda.
Kumessi	Why do you throw waste? Do you plant there? I have seen you plant sweet potatoes there. Did it produce a lot of roots?	Por que joga lixo? Você planta lá? Eu já vi você plantar batata, e aí? Deu muito raiz para você?
Kamankgagü	Yes, it produced a lot. {When you plant in the <i>ilube egepütipugü</i> (a place where a lot of ash was dumped that has already turned into <i>eegepe</i>), it produces a lot.} ^{S6-134} When you plant sweet potatoes, you have to throw soil around it and it will produce a lot of roots. (When they plant sweet potatoes in the backyard, it is a common practice to keep throwing dirt on top as they grow. This practice produces many roots concentrated in a smaller area. It is to maintain the plants in a restricted area, so it doesn't spread too much.)	Sim, deu muito. Quando você planta no <i>ilube egepütipugü</i> dar muito raiz. Quando planta batata, quando ela está começando crescer, você tem que jogar terra em volta dela e dar muito raiz (É uma prática comum quando planta batata no quintal da casa, enquanto ela cresce, vai cobrindo com terra que tira ao redor dela e ela vai crescendo. É uma prática que dar mais raiz mais concentrado num lugar, para contém a planta numa área restrita, se não ela vai espalhando demais).

Kumessi	Why do you throw waste? What happens to it afterwards?	Por que você joga lixo? O que é que acontece com ela depois?
Kamankgagü	[We just throw it away in the <i>itsulo</i> .] ^{S5-71}	A gente joga mesmo no lixo (<i>itsulo</i>).
Kumessi	What types of little creatures are in there? Is there a story about that?	Que tipos de bichinhos ficam lá? Tem história?
Kamankgagü	No, there is no story. It is the rain that produces the insects in the waste area. There is <i>amugiki</i> or <i>holo</i> (two names for the same creature that looks like a black worm). I don't know who puts them there.	Não tem história não. A chuva que dar bichinho nela. Tem <i>amugiki</i> ou <i>holo</i> (dois nomes para a mesmo bichinho, aparece uma minhoca preta). Eu não sei quem é que dar esses bichinhos.
Kamankgagü	[After a year, we can plant whenever we want, and throw squash seeds and they grow by themselves.] ^{S5-71} Squash is the only one you have to plant.	Depois que passa um ano, a gente planta quando a gente quer, joga sementes de abobora e crescem sozinho. Só abobora que tem que plantar.
Kumessi	What do you do when the houses get old? Do you burn them?	O que você faz quando a casa de vocês está velha? Vocês queimam?
Kamankgagü	Do you see my very old house? I want to change it. That is why I'm waiting for the tractor (bulldozer) clean over there (in the new village adjacent to this one). (This is the first time they've had mechanized clearing for a new village.)	Vocês estão vendo minha casa bem velha. Já quero trocar. Por isso que estou esperando o trator limpar lá (na aldeia nova) (E a primeira vez que tem máquinas para limpar o mato para uma aldeia nova).
Kumessi	What do you do with the old sapé grass? (They use sapé as thatch to cover their houses.)	O que vocês fazem com o sapé (capim usado para cobrir as casas) velho?
Kamankgagü	We used to burn it.	Antes, queimava.
Kumessi	To make another one?	Para fazer outra?
Kamankgagü	Yes, it's to tear it down. If we were going to stay here, I would build my house here. Look at the <i>sitisu</i> (pindaíba) (wood used for house stays), it's very old already. This cannot handle the rain. It is already tired. It is old. The white people's houses also get like this.	Sim, é para derrubar mesmo. Se a gente for ficar aqui ainda, eu ia fazer minha casa aqui. Olha <i>sitisu</i> (pindaíba) tudo velho já. Isso não ia aguentar chuva não. Ela já está cansada. Faz muito tempo já. As casas dos brancos também ficam assim.
Morgan	One more question. Over there is the <i>itsulo</i> (waste area). When they want to build a house back there, they are going to build it in the waste area (where there are trash middens or refuse mounds of dark earth). How do you prepare the building site?	Mais uma pergunta. Ali tem lixeira. Quando eles querem construir uma casa ali atrás, eles vão construir no lugar das lixeiras, como que eles preparam o lugar da casa?

Kumessi	When you build in a place where there is a midden, what do you do?	Quando você construí no lugar da lixeira, o que você faz?
Kamankgagü	You just clean it. You will see when I move to the new village. I will take all of the tree trunks out of there. These posts here are already old. I will go cut new ones so that they are nice and strong. I will also cut <i>njita</i> (the posts around the edge of the house) and I will put everything in. Then I will get <i>sitisu</i> (pindaíba) in the forest (supports for the sapé). And then we will build this part here.	É só limpar. Vocês vão ver quando eu mudar para a aldeia nova. Vou tirar todos os troncos que estão lá. Esses pilhares aqui já são velhos. Vou cortar novos para ficar bem duros. Vou cortar também <i>njita</i> (os postes ao redor da casa) e vou colocar tudo, e vou pegar <i>sitisu</i> (pindaíba) no mato. E depois, nós vamos fazer esta parte aqui.
Kumessi	What do you call this type of house?	Como se chama este tipo de casa aqui mesmo?
Kamankgagü	Yes, it is the house of the <i>aguta üngü</i> (type of house, house of the lizard).	Sim, é a casa do <i>aguta üngü</i> (tipo de casa, casa do lagarto).
Kumessi	And that other one over there, do you know what it's called?	E aquela outra lá, como se chama? Você sabe?
Kamankgagü	I don't know, which one? We built the house of the hornet. Their house is a real house.	Não sei, qual? Nós fazemos a casa do marimbondo. A casa deles é a casa de verdade.
Kumessi	Yes, that's the one I was talking about.	Sim, isso mesmos que estava falando.
Kamankgagü	We are the only ones who build them like that.	Só nos aqui fizemos assim.
Morgan	Did he say how they prepare the floor? Do they ever put down clay to make the house pad?	Ele falou como prepara o chão? As vezes coloca barro para fazer piso?
Kamankgagü	Sometimes people take out red soil, to make it flat. Sometimes we dig up red soil to put inside the house to make it level. Yes, we put it down to make it nice. When we do it, we dig around where the sapé will be (around the outer wall) so the rainwater doesn't enter the house and we fix up this whole part here. That's how we build a house.	Às vezes alguns tiram terra vermelha, para ficar reto. De vez em quando a gente tira terra vermelha para colocar dentro da casa, para ficar reto. Sim, colocamos para ficar bom. Quando fazemos, nos cavamos a beirada onde vai colocar o sapé para a água da chuva não entrar aqui e arruma toda essa parte aqui. Assim que faz a casa.
Morgan	I have more questions. But I think that is good for today.	Eu tenho mais perguntas. Mas por hoje já está bom.
Kumessi	He's saying that is all.	Só isso que ele está falando.
Morgan	Later, I will bring something to repay you.	Depois vou trazer um agradecimento para você.
Kamankgagü	Okay.	Tá bom.

Interview 9: Omoge Kuikuro (female elder, farmer)

Interviewer: Kumessi Kuikuro

Video: Bob Kuikuro

Kuikuro to Portuguese translation: Maricá Kuikuro

Date: July 24, 2018

Speaker	English	Português
Kumessi	Omoge are you sweeping?	Omoge você está varrendo?
Omoge	[Yes, I am sweeping, my son, so we can work and make this our eating area.] ^{S5-72}	Sim estou varrendo filho para gente trabalhar para servir como refeitório.
Kumessi	Are you going to throw this away right over there?	Você vai jogar isso bem ali?
Omoge	[I am going to throw it away over there in the waste, because there is going to be more waste too.] ^{S5-72}	Vou jogar ali no lixo, porque vai ter outro lixo também.
Kumessi	Do you separate fish bones to throw away in a different place?	Você separa espinho de peixe para jogar em outro lugar?
Omoge	[Yes, to throw away in a different place. When they eat, fish bones get separated. We throw away waste from the clay pot separately.] ^{S5-73}	Sim, para jogar em outro lugar. Quando eles comem, os espinhos de peixe ficam separados. Jogamos lixo da panela de bairro separada.
Kumessi	Why do you throw it (turtle shell) away separately?	Por que joga separada?
Omoge	To accumulate in another.	Para acumular outro.
Kumessi	To accumulate in another?	Para acumula outra?
Omoge	To accumulate another in its place.	Para acumular outro no lugar dela.
Kumessi	Is this your workplace?	Aqui é local do seu trabalho?
Omoge	This is my workplace.	Aqui é lugar do meu trabalho.
Kumessi	Do you have many things to work on?	Você tem muita coisa para trabalhar?
Omoge	Yes, I have much work to do. [Do you see this turtle shell here? You have to throw it away right here so it doesn't hurt the children. It hurts a lot when it cuts you.] ^{S5-74}	Sim tenho muita coisa para trabalhar. Está vendo aqui casca de tartaruga? Bem aqui que tem que jogar. Para não machucar criança. Dói muito quando corta.
Kumessi	Do you plant in the waste area?	Você planta no lixo?
Omoge	{Yes, it works very well in the waste area.} ^{S6-135}	Sim, dá muito certo no lixo.
Kumessi	What do you plant there?	O que você planta nela?
Omoge	{What really grows well there are chili peppers. Katamu peppers. They sprout fast. Grow fast.} ^{S6-136}	Que dá certo nela mesmo é pimenta. Pimenta Katamu. Ela nasce rápido. Vai rápido.
Kumessi	Do you have a garden here?	Você tem plantação aqui?

Omoge	Right over there are mangos and chili peppers. They will start to get ripe in this rainy season. This will be thrown away separately.	Ali estão bem ali plantação de manga e pimenta. Nessa enchente vai começar madurecer. Isso vai ser jogada separada.
Kumessi	Will that be thrown away separately so that it won't hurt any children?	Isso vai ser jogada separada pra não machucar criança?
Omoge	[It will be thrown away separately so as not to hurt the children. So that the bones don't cut them.] ^{S5-75}	Vai ser jogada separada para não machucar criança. Para os ossos não cortarem eles.
Kumessi	Whose pot is this?	Essa panela é de quem?
Omoge	This pot belongs to my associate.	Essa panela é da minha sócia.
Kumessi	What a beautiful filhote (type of fish) stew.	Que lindinho caldeirão de filhote.
Omoge	Fish stew. Since it could not all be cooked. That is why they made another one. This is the other one.	Caldeirão de filhote. Como não dava pra cozinhar tudo. Por isso que colocaram outro. Essa é a outra.
Omoge	[I bring that over here so it doesn't hurt the children. Because this is where the children will walk.] ^{S5-75} On this fruit. I'll do that tomorrow, tomorrow so it doesn't look so messy.	Isso eu trago aqui para não machucarem as crianças. Porque aqui que as crianças vão andar. Nessa fruta. Faça isso amanhã, amanhã, amanhã para não fica assim feio.
Kumessi	Are you going to throw that in a different place?	Vai jogar isso em outro lugar?
Omoge	Yes, I'm going to throw it somewhere else. [I brought the tracajá (type of turtle) shells over to the base of the macaúba (type of palm with edible fruits) tree so they wouldn't cut the children.] ^{S5-75}	Sim, vou jogar em outro lugar. Levei a casca de tracajá no pé de macaúba. Para não cortarem as crianças.
Kumessi	What is going to happen to it afterwards?	Como isso vai ficar depois?
Omoge	[It will be there. It will dissolve. To plant.] ^{S5-76}	Depois ela vai ficar por lá. Vai dissolver. Para plantar.
Kumessi	You will plant in it?	Nela que você planta?
Omoge	[I will plant in it and they will sprout fast.] ^{S5-76}	Planto nela e nasce rápido.
Kumessi	Do you think it will turn into something like <i>eegepe</i> ?	Será que ela vira como <i>eegepe</i> ?
Omoge	[It will be like <i>eegepe</i> . That is the moment when it turns into <i>eegepe</i> .] ^{S5-76}	Fica como <i>eegepe</i> . Esse é o momento quando ela fica como <i>eegepe</i> .
Omoge	[I leave it here for the bananas to grow here. Just look, here is <i>eegepe</i> . This here will turn into <i>eegepe</i> and it will	Deixa-a ficar aqui para as bananas brotarem por aqui, olha só aqui está <i>eegepe</i> . Isso aqui vai se tornar <i>eegepe</i> e aqui vai ser lugar de

	be a place to cultivate. So it can dissolve right there.] ^{S5-77}	plantação. Para ela dissolver por lá mesmo.
Kumessi	Right there where you threw it?	Lá no mesmo lugar que você jogou?
Omoge	[Yes, that's right, for it (turtle shell) to dissolve there. For the gavião-carcará (harpy eagle) and kolo (worm or maggot) to eat.] ^{S5-77} It (fish) is being cooked to serve at the Yamurikumã festival. It's for the Tatu (armadillo). It is the Tatu's food. Your sister went to get a pan to cook it. Here she comes with nothing.	Sim, isso mesmo, para ela dissolver por lá. Para gavião-carcará e kolo comer ela (restos de peixe). Está sendo cozinhada (peixe) para servir no Yamurikumã (festival). É para o Tatu. É a comida do Tatu. Sua irmã foi buscar a panela para cozinhar. Lá vem ela sem nada.
Kumessi	I want to ask you, when you throw fish bones into the waste, do you think it helps the crops.	Quero te perguntar, quando espinho de peixe é jogado no lixo, será que dá certo para a plantação?
Omoge	[No, when we throw fishbones, the dogs eat them. It ends up an empty place; they eat them all up.] ^{S5-78}	Não mesmo, quando jogamos espinho de peixe os cachorros as comem. Só fica o lugar vazia; eles acabam comendo tudo.
Kumessi	What do you do so that the dogs won't eat them?	Como é que faz para os cachorros não comerem?
Omoge	[We have to keep watch over the place where we threw the fish bones, so the dogs don't eat them; keep the dogs away. Then our crops grow well and very happily.] ^{S5-78}	Para os cachorros não comerem, tem que ficar vigiando onde nós jogamos, não deixando cachorro chegar por perto. Assim, a plantação fica bem e nasce muito feliz.

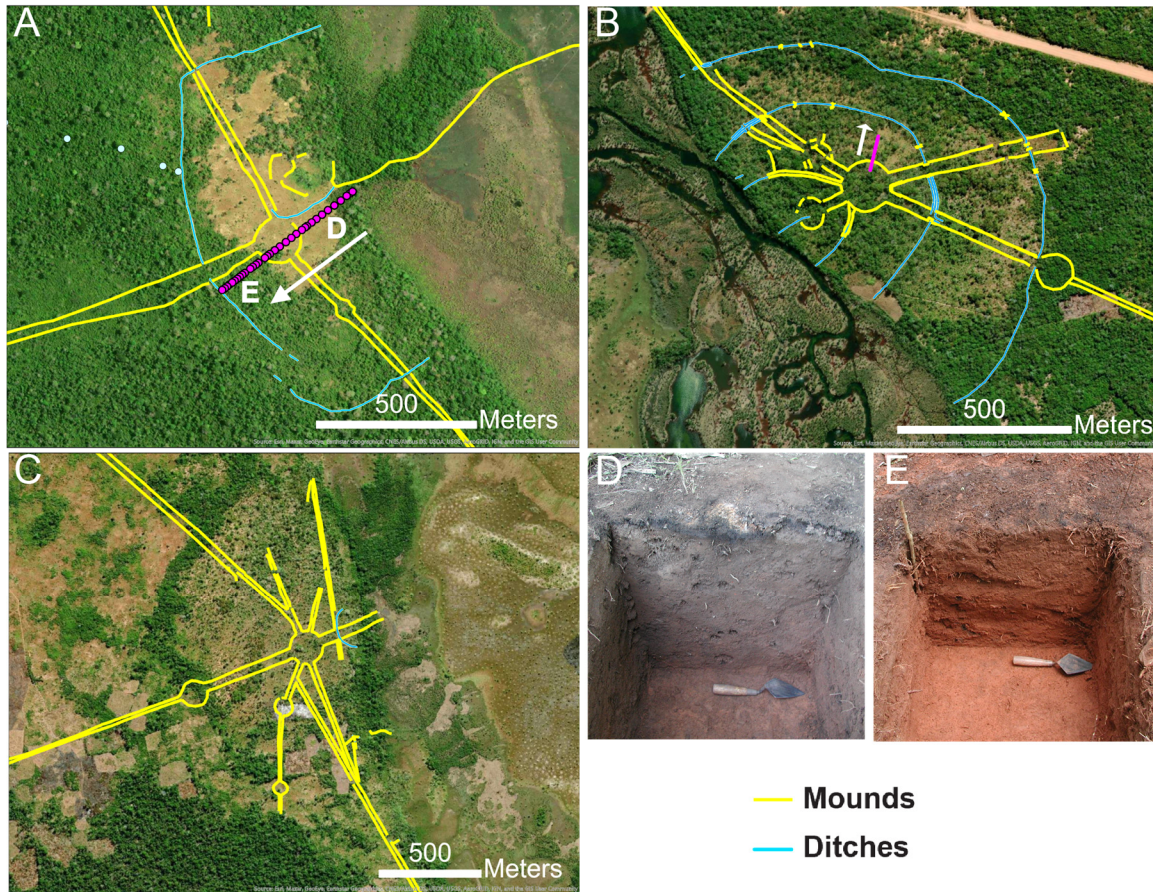


Fig. S1. Maps of additional archaeological sites in the Upper Xingu. (A) Akagahütü. The most intense soil alteration begins on the slope up from the floodplain edge, diminishing within the central plaza delineated by a circumferential mound, and then increasing again beyond the other side of the plaza before decreasing in the 80 m before reaching the circumferential ditch. Outside of the ditch, field observations from test pits revealed less-modified “brown” soil with fewer artifacts that gradually lightens in colour with distance, extending to at least 400 m outwards from the ditch. (B) Ngokugu, (C) Hialugihütü. Magenta shows sampling points and transects, and arrows show the direction of transect results shown in fig. S2. Turquoise circles show test pits outside of ditch mentioned in text. Letters in A show the locations on the transect of (D) test pit in the central area of the site, and (E) test pit near peripheral ditch.

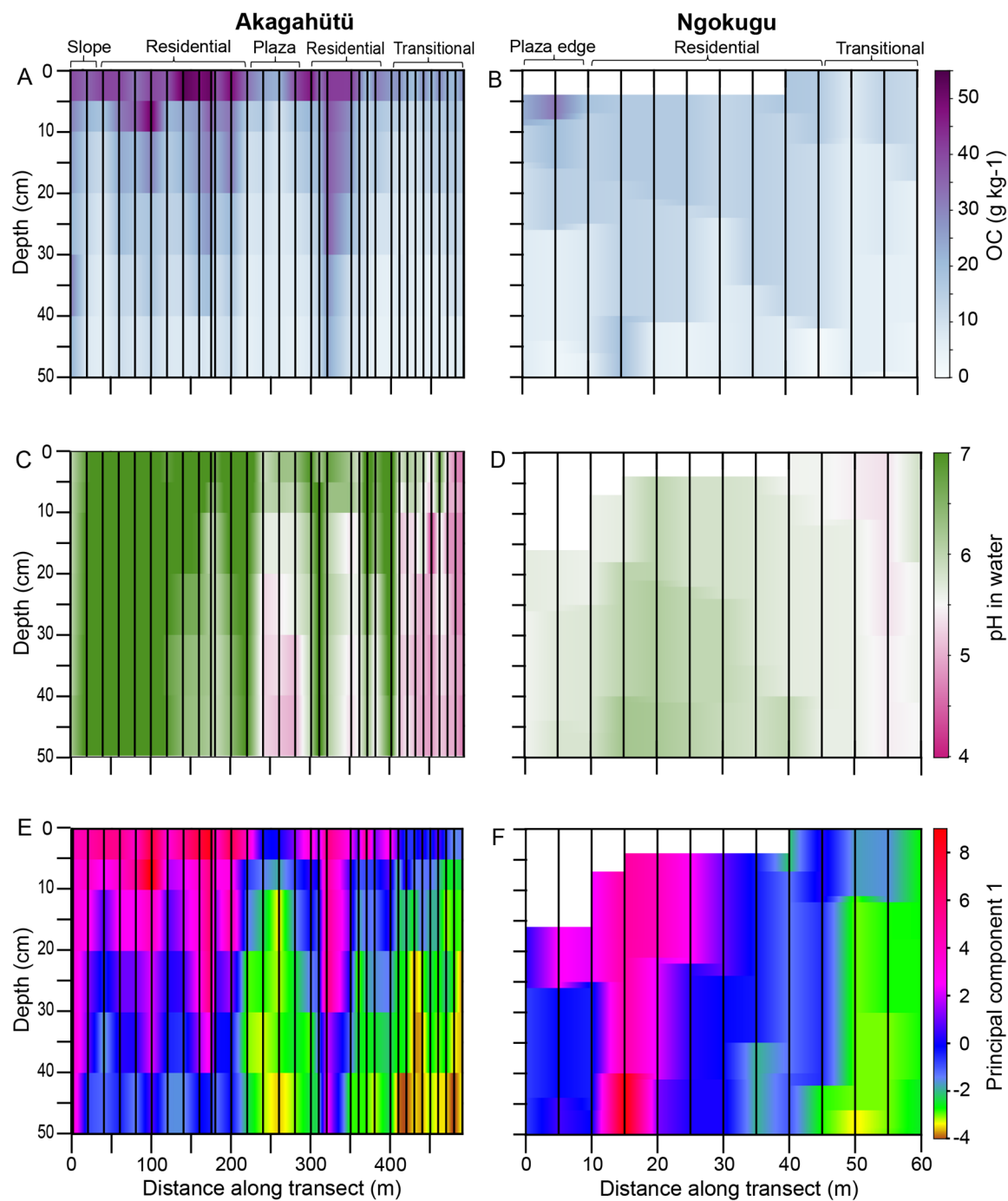


Fig. S2. Fence diagrams for the Akagahütü and Ngokugu archaeological sites. Akagahütü is shown in (A, C, E) and Ngokugu is shown in (B, D, F). (A, B) Soil organic carbon. (C, D) pH in water. (E, F) Principal Component 1 (Materials and Methods).

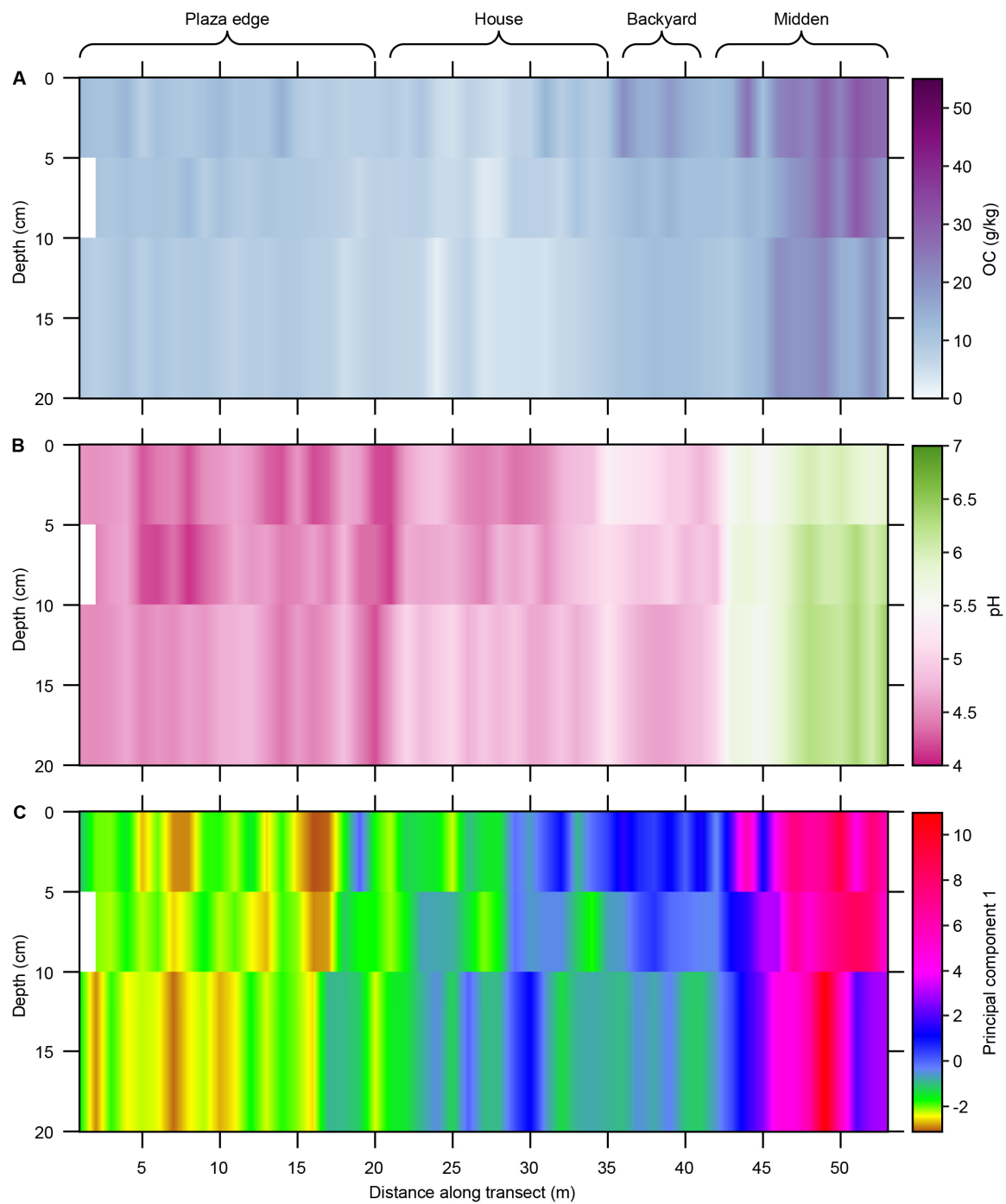


Fig. S3. Fence diagrams for the Kuikuro I village. (A) Soil organic carbon. (B) pH in water. (C) Principal Component 1 (Materials and Methods).

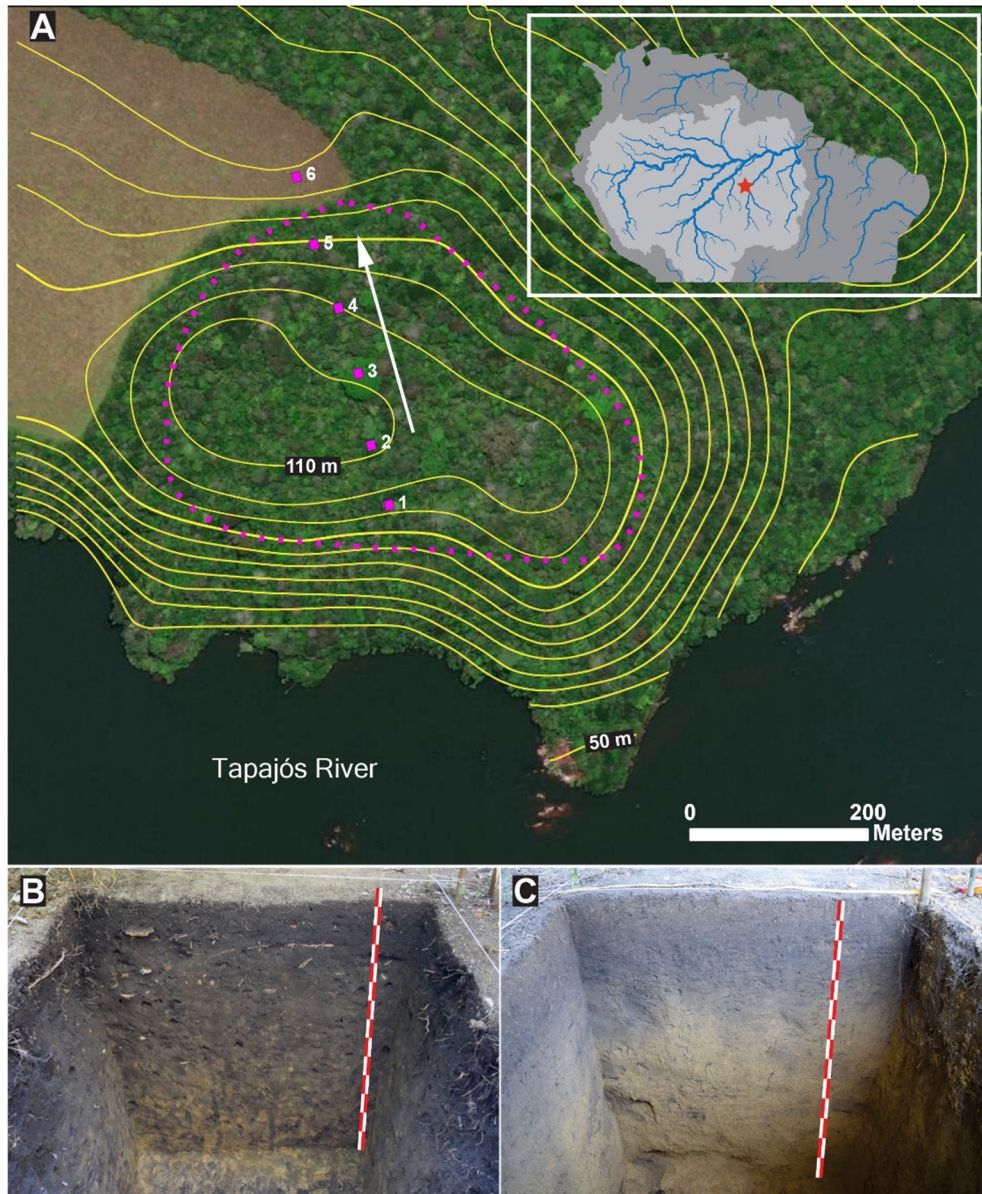


Fig. S4. Terra Preta do Mangabal site on the Upper Tapajós River. (A) Map of site showing elevation contours (5 m intervals) and sampling locations. Dotted line shows approximate extent of dark earth. Arrow shows the direction of the transect in fig. S6. Ring-shaped mounds of concentrated dark earth are found at the edge of the high forested bluff and in the central area of the site. Along the transect, modified soil deepens on the upper slope of the bluff, increases to the highest concentrations where the terrain levels off, continues with abundant artifacts but lower nutrient concentrations to at least 225 m from the bluff edge, then gradually diminishes before reaching an area of open savannah vegetation at the periphery of the site. (B) Excavation in central area of site (#3 in A) (10 cm segments on scale bar). (C) Excavation in the savannah at end of transect (#6 in A). In comparison with a profile further away in the savannah, soil data from this location (#6 in A) indicated human modification with elevated pH, SOC, and nutrients (Dataset S1).

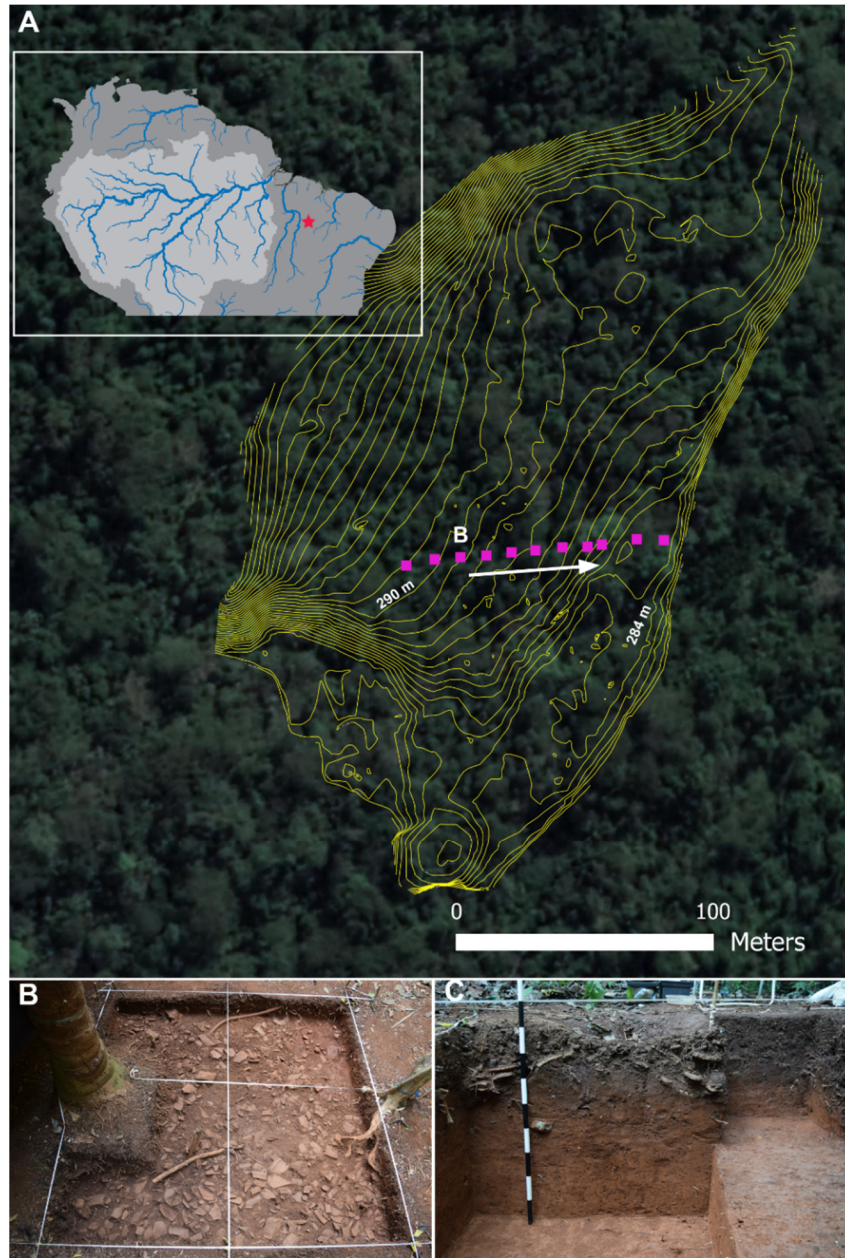


Fig. S5. Mangangá site in the Carajás Mountains. (A) Map showing elevation contours (50 cm intervals) and sample locations. Numbers show elevation. Arrow shows the direction (west to east) of the transect in fig. S6. The letter B indicates the location of the excavation unit shown in B and C. From east to west, modified dark earth increases from the river's edge as it crosses a narrow floodplain, passes through midden deposits going up a slope to a river terrace, diminishes in a flat area with scarce artifacts (possibly a small plaza or house location), increases once again in midden deposits beyond this flat area, then gradually decreases with further distance. (B) Excavation in midden at 20 cm depth showing abundant ceramic and lithic artifacts. (C) Profile of excavation in midden showing depth of dark earth and artifacts (ca. 30 cm) (10 cm segments on scale bar).

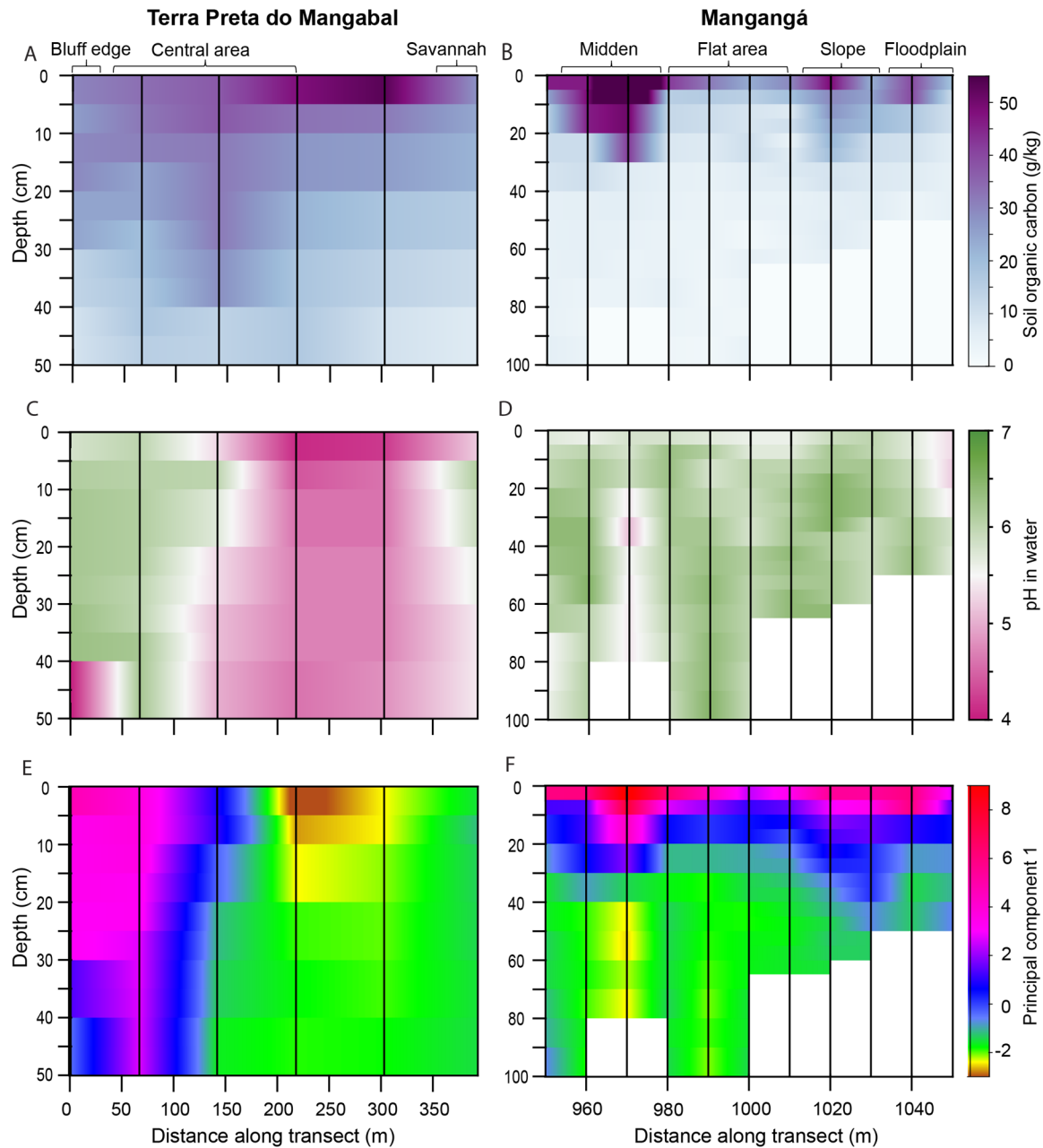


Fig. S6. Fence Diagrams for the Terra Preta do Mangabal site on the Upper Tapajós River and the Mangangá site in the Carajás Mountains. Terra Preta do Mangabal is shown in (A, C, E) and Mangangá is shown in (B, D, F). (A, B) Soil organic carbon. (C, D) pH in water. (E, F) Principal Component 1 (Materials and Methods).

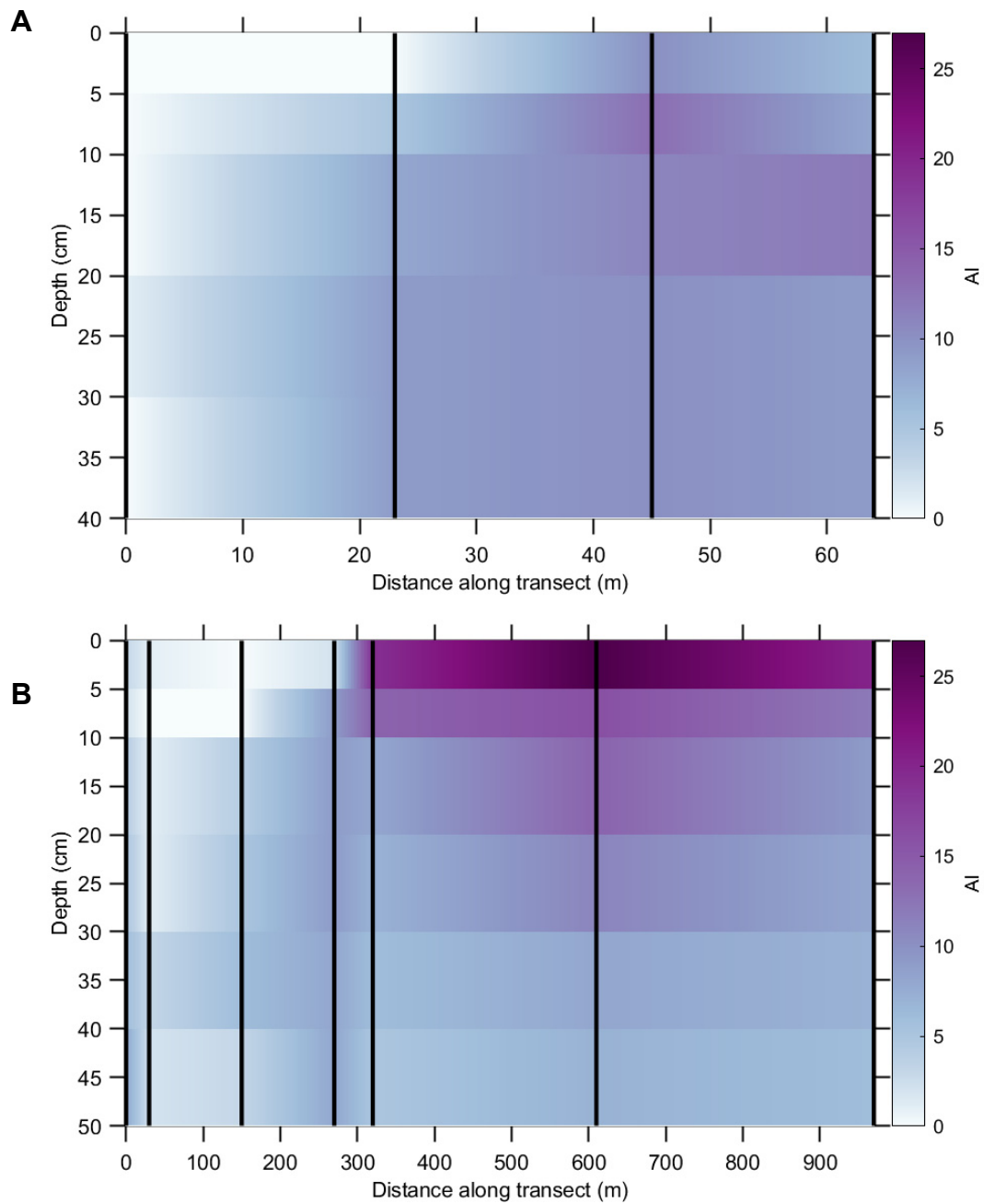


Fig. S7. Fence diagrams of aluminum concentration. (A) Concentration at Kuikuro II. (B) Concentration at Seku. Units mg kg⁻¹.

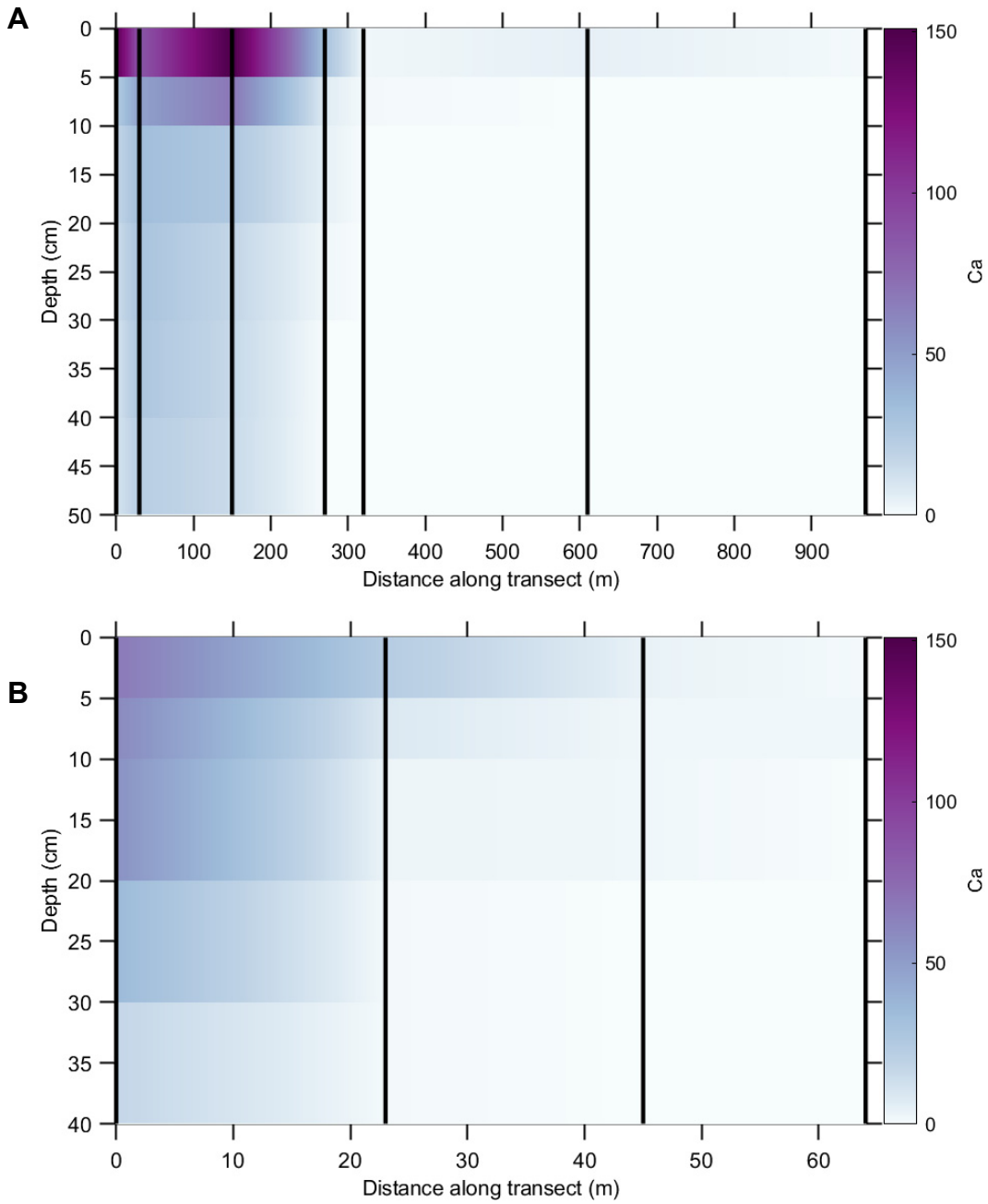


Fig. S8. Fence diagrams of calcium concentration. (A) Concentration at Kuikuro II. (B) Concentration at Seku. Units mg kg^{-1} .

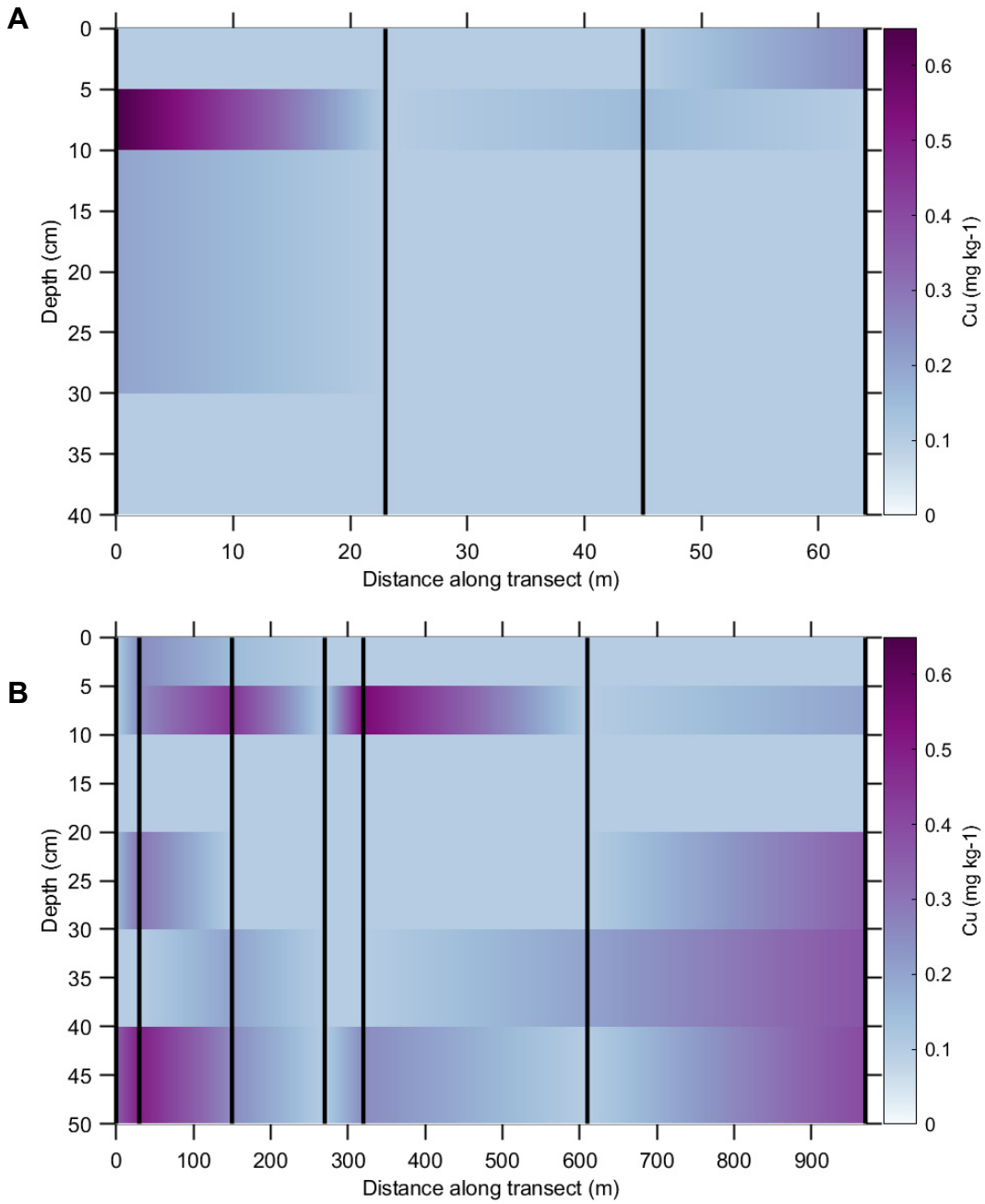


Fig. S9. Fence diagrams of copper concentration. (A) Concentration at Kuikuro II. (B) Concentration at Seku. Units mg kg⁻¹.

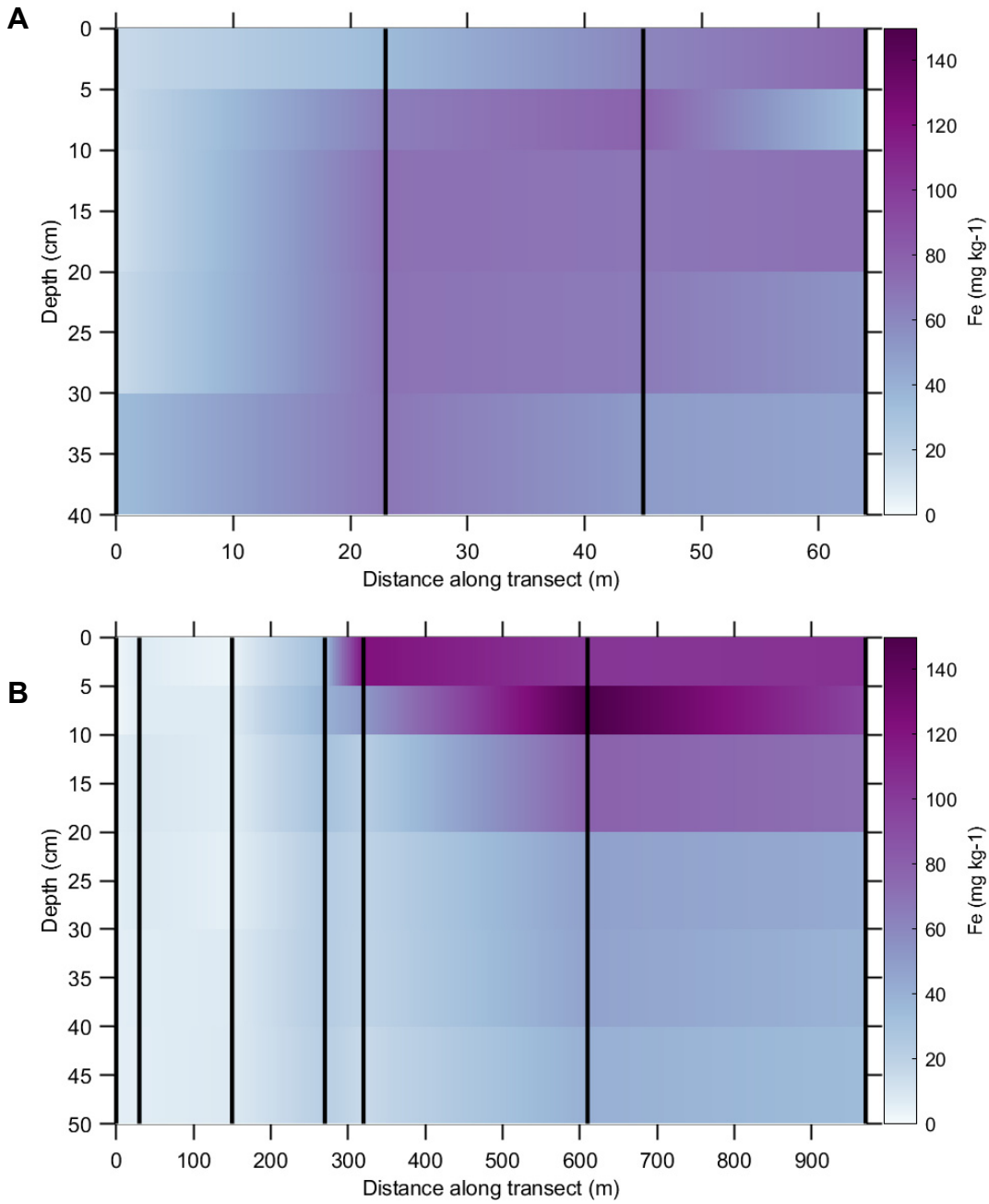


Fig. S10. Fence diagrams of iron concentration. (A) Concentration at Kuikuro II. (B) Concentration at Seku. Units mg kg⁻¹.

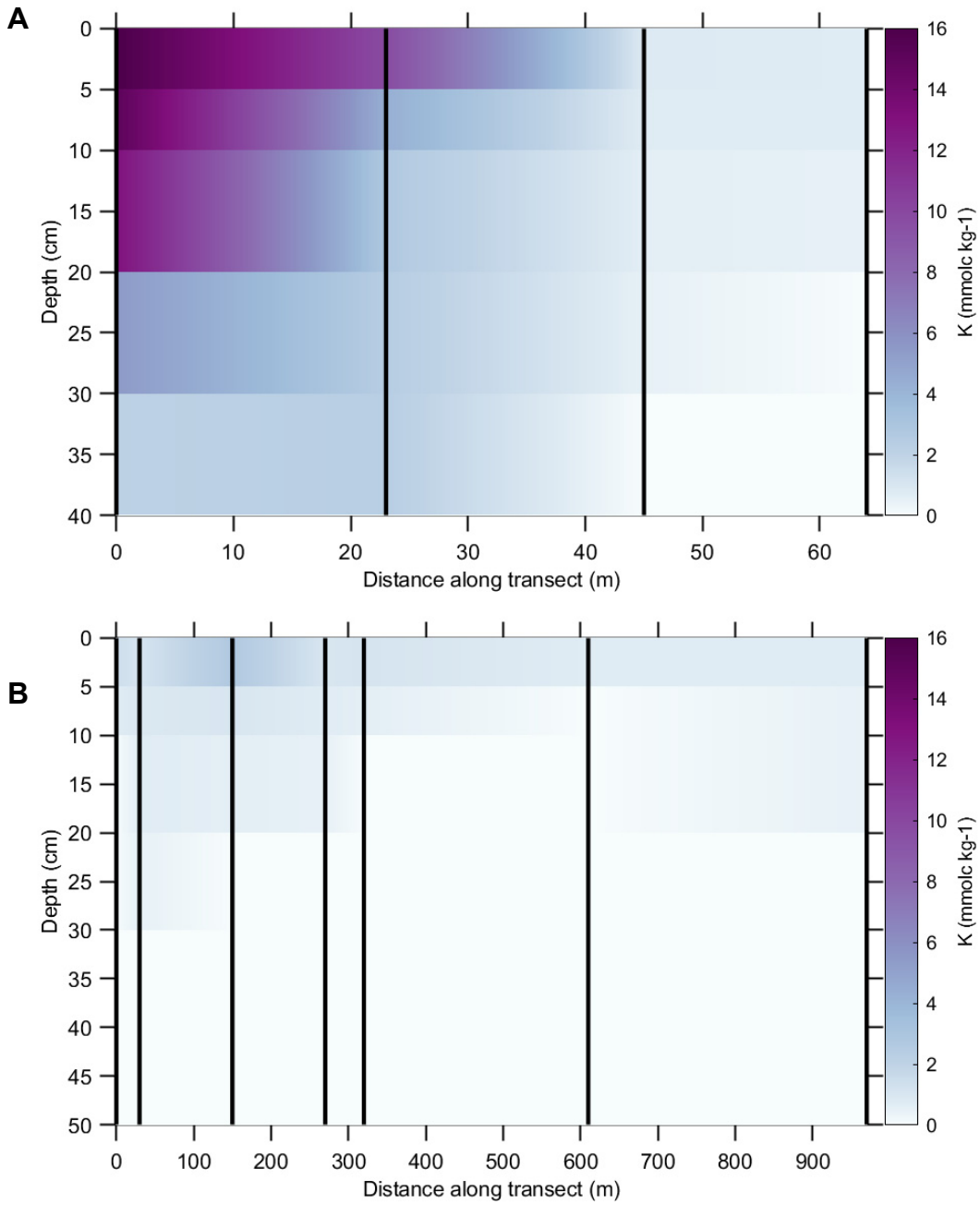


Fig. S11. Fence diagrams of potassium concentration. (A) Concentration at Kuikuro II. (B) Concentration at Seku. Units mmolc kg⁻¹.

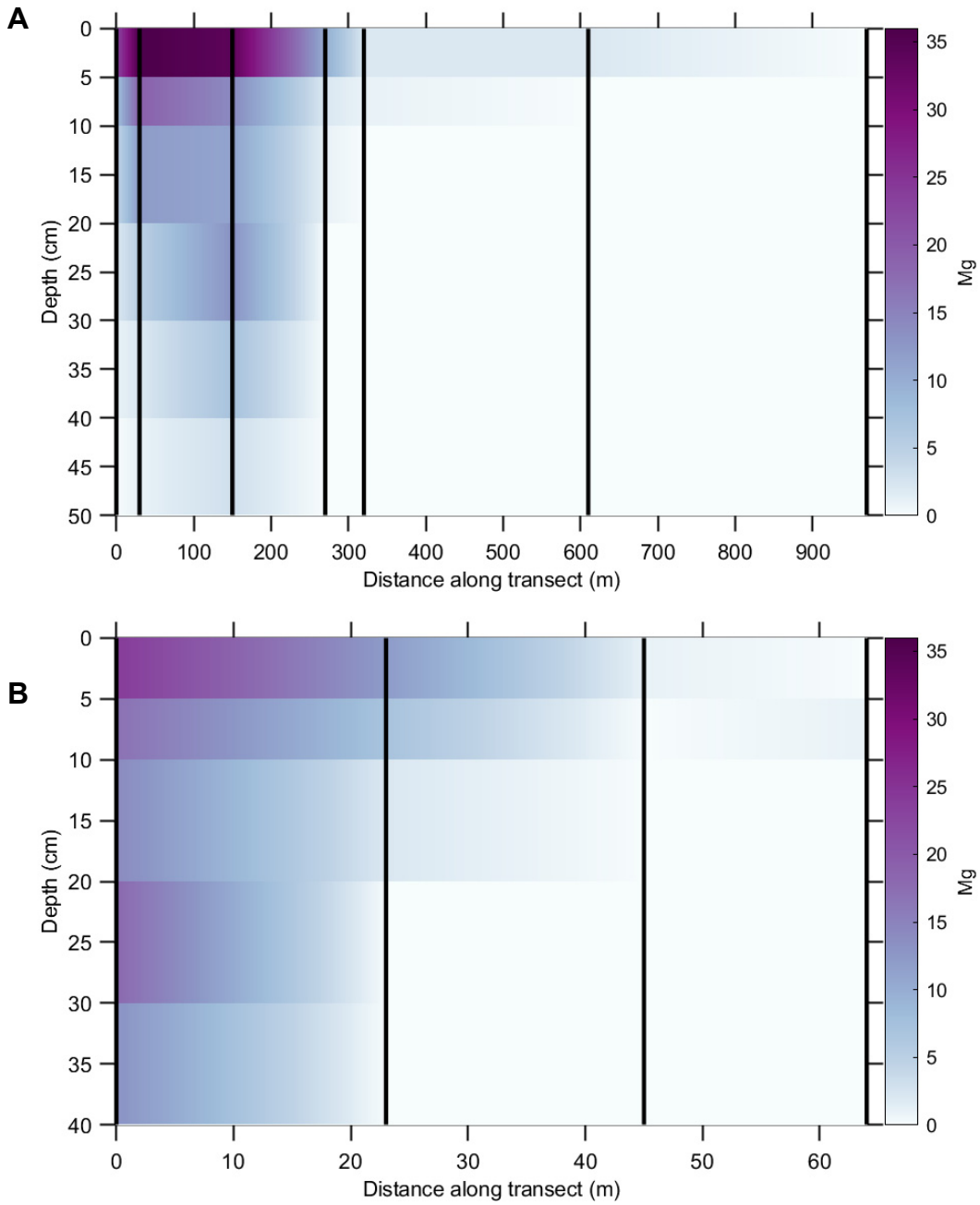


Fig. S12. Fence diagrams of magnesium concentration. (A) Concentration at Kuikuro II. (B) Concentration at Seku. Units mg kg^{-1} .

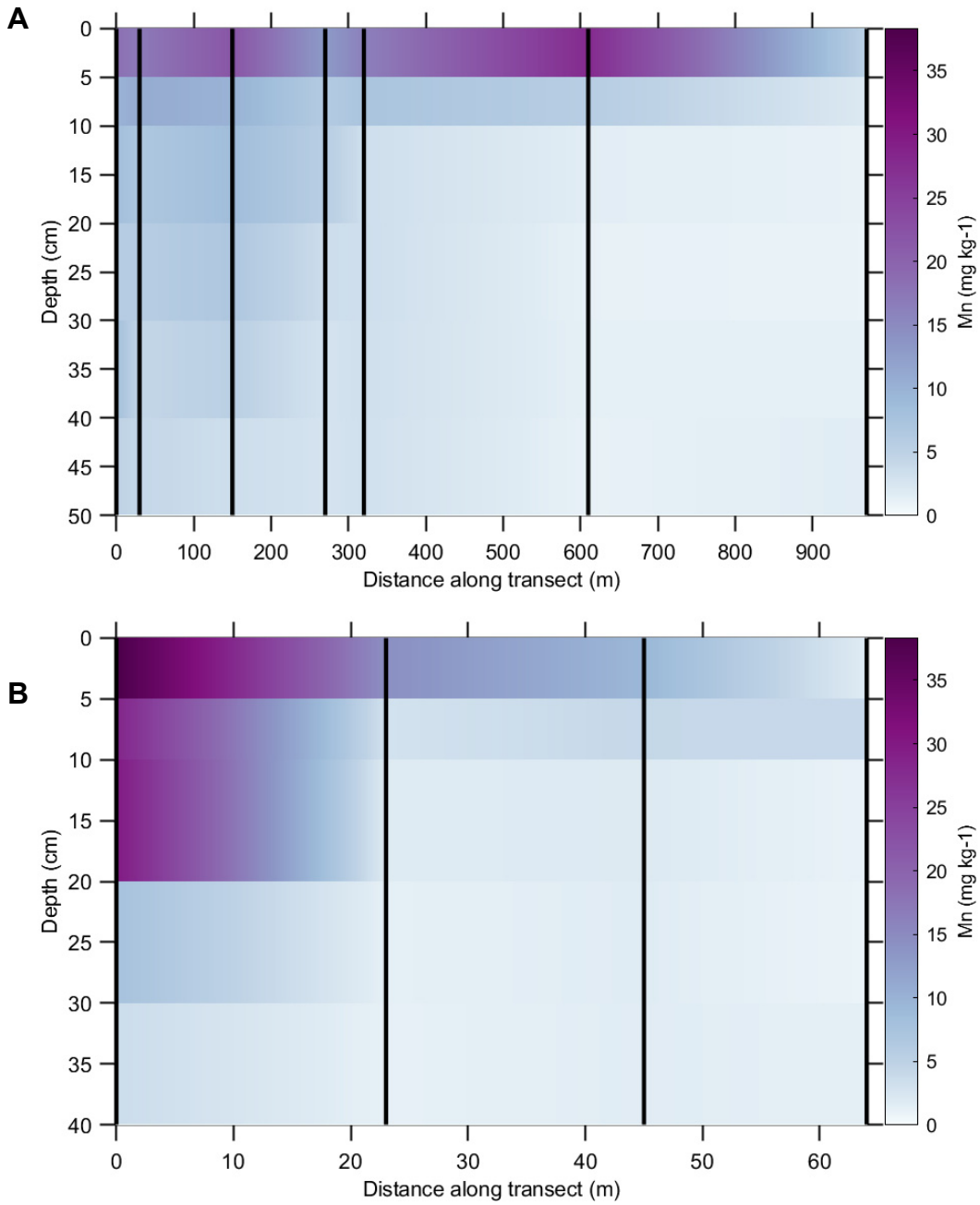


Fig. S13. Fence diagrams of manganese concentration. (A) Concentration at Kuikuro II. (B) Concentration at Seku. Units mg kg⁻¹.

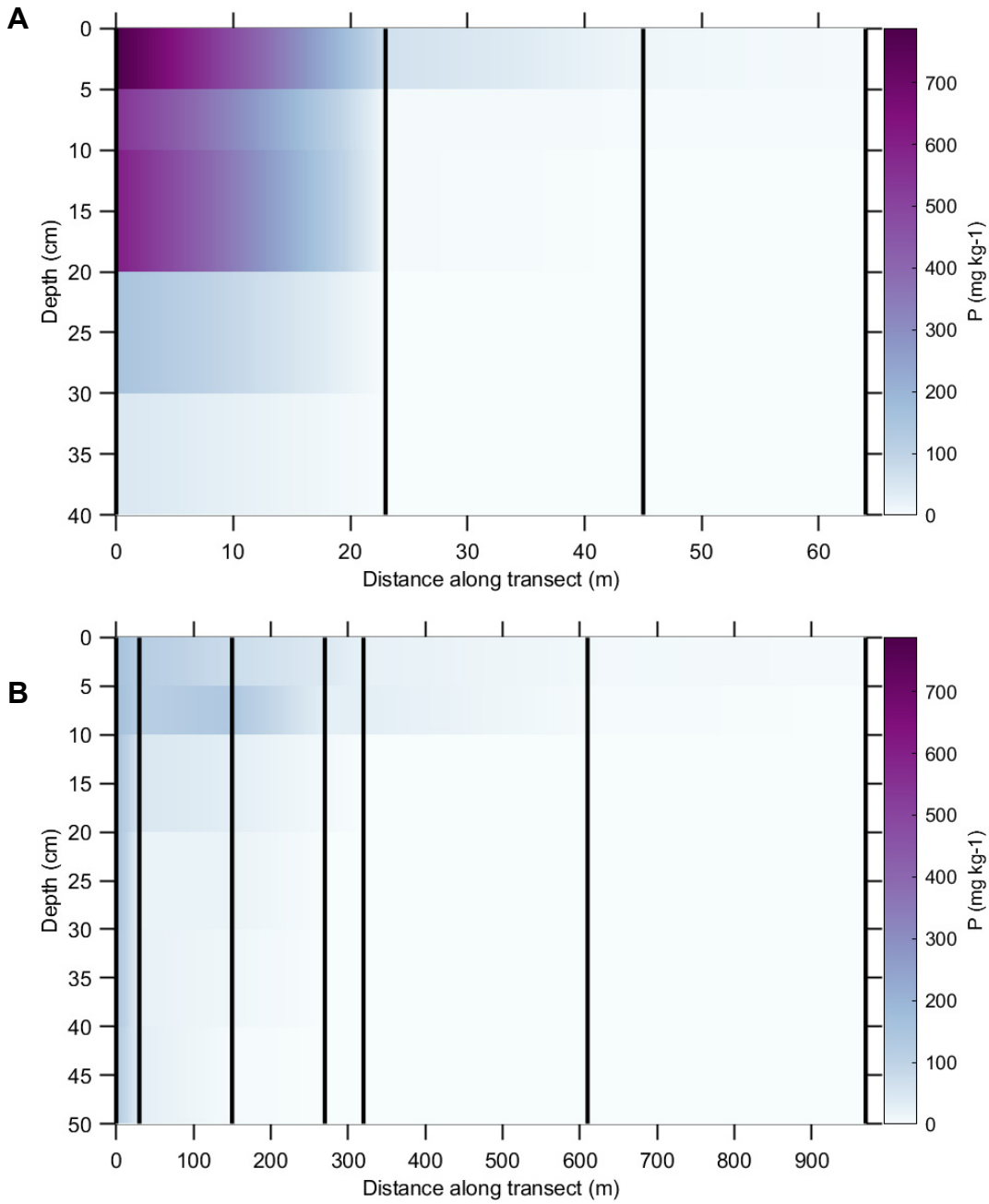


Fig. S14. Fence diagrams of phosphorus concentration. (A) Concentration at Kuikuro II. (B) Concentration at Seku. Units mg kg⁻¹.

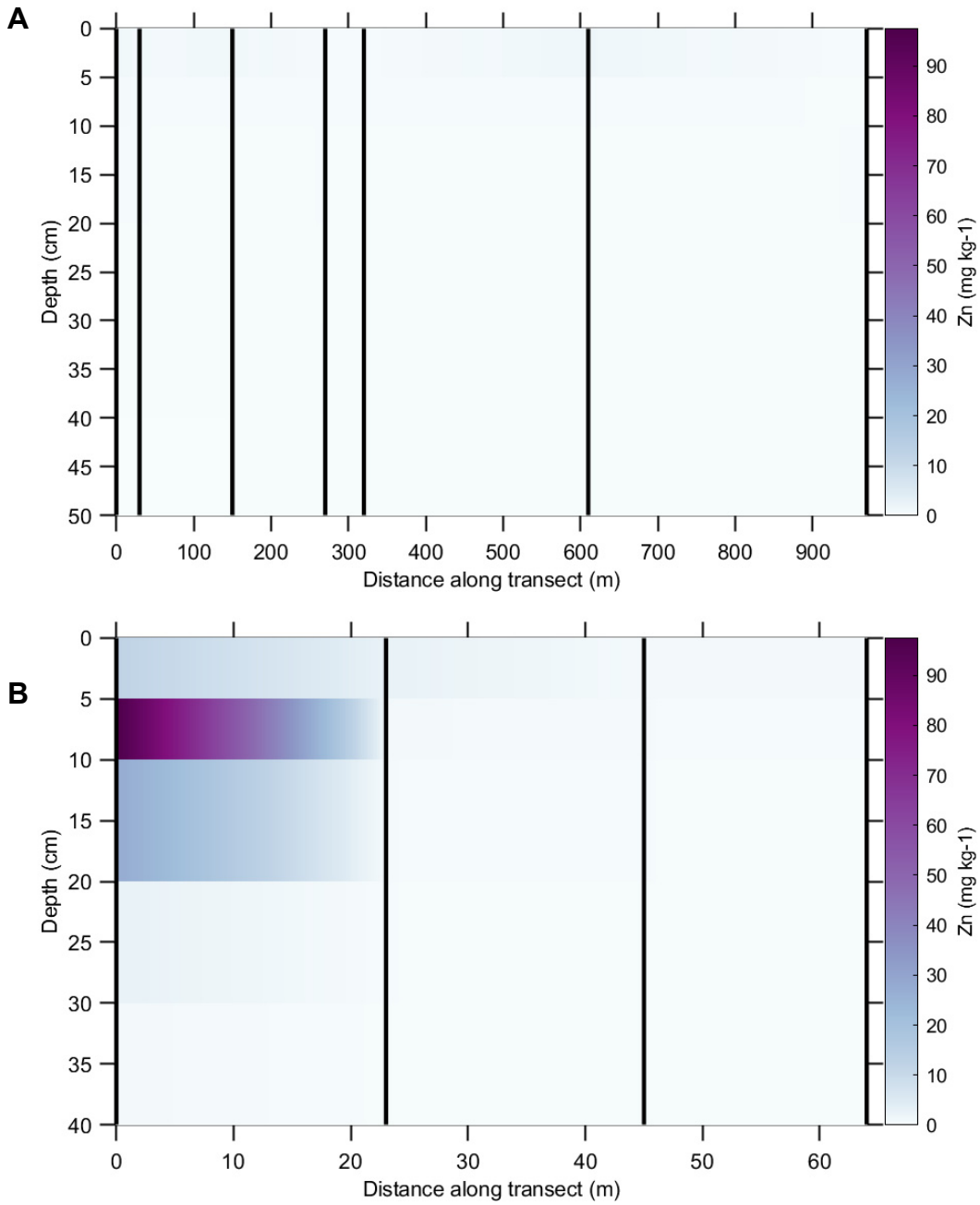


Fig. S15. Fence diagrams of zinc concentration. (A) Concentration at Kuikuro II. (B) Concentration at Seku. Units mg kg⁻¹.

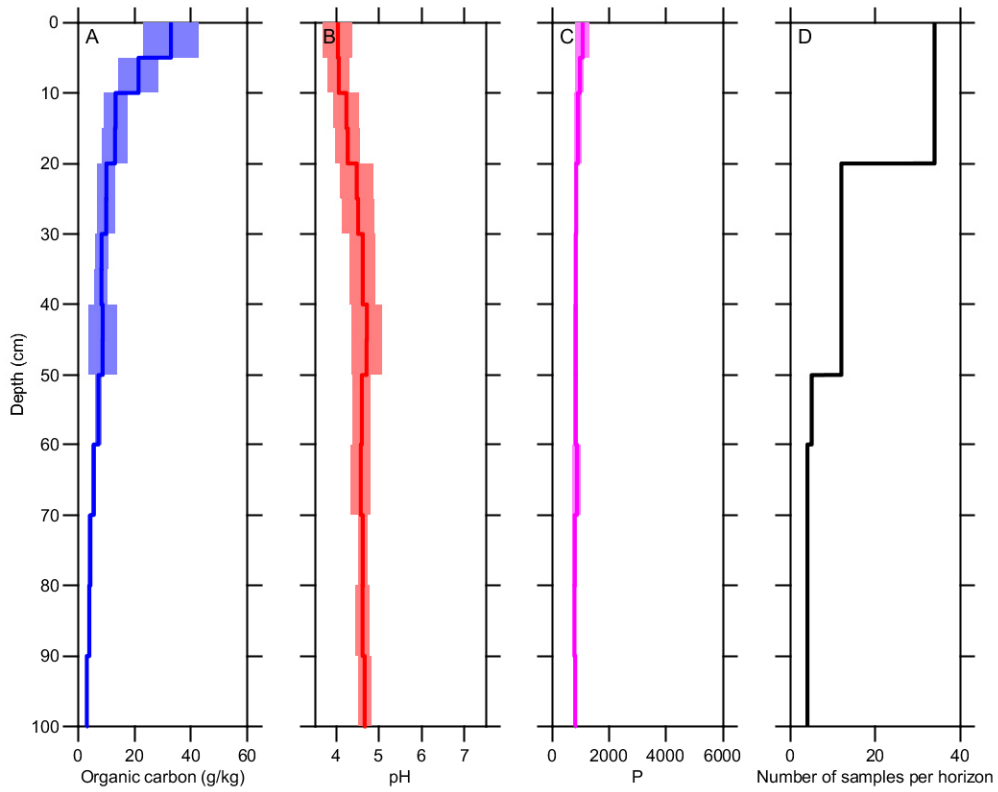


Fig. S16. Soil depth profiles for forested background. (A) Organic carbon (units g/kg). (B) pH. (C) Phosphorus (total) (units mg/kg). (D) Number of samples at each depth horizon. Solid lines show mean of each quantity as a function of depth horizon; shaded regions denote $\pm 1\sigma$.

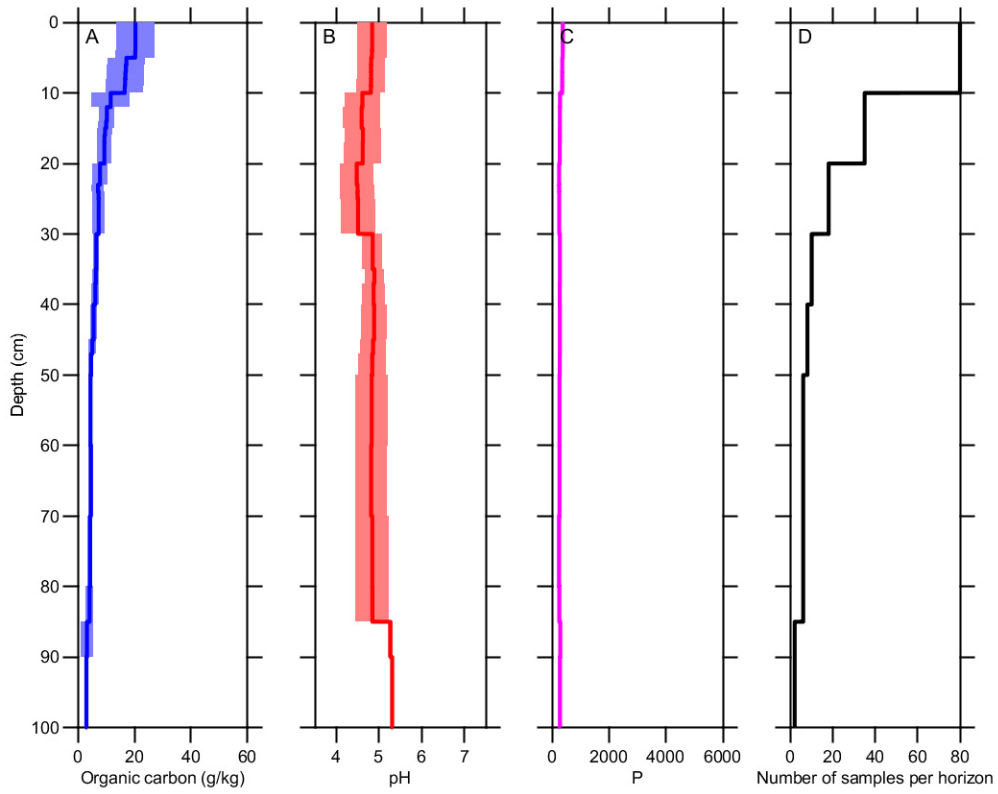


Fig. S17. Soil depth profiles for deforested background. (A) Organic carbon (units g/kg). (B) pH. (C) Phosphorus (total) (units mg/kg). (D) Number of samples at each depth horizon. Solid lines show mean of each quantity as a function of depth horizon; shaded regions denote $\pm 1\sigma$.

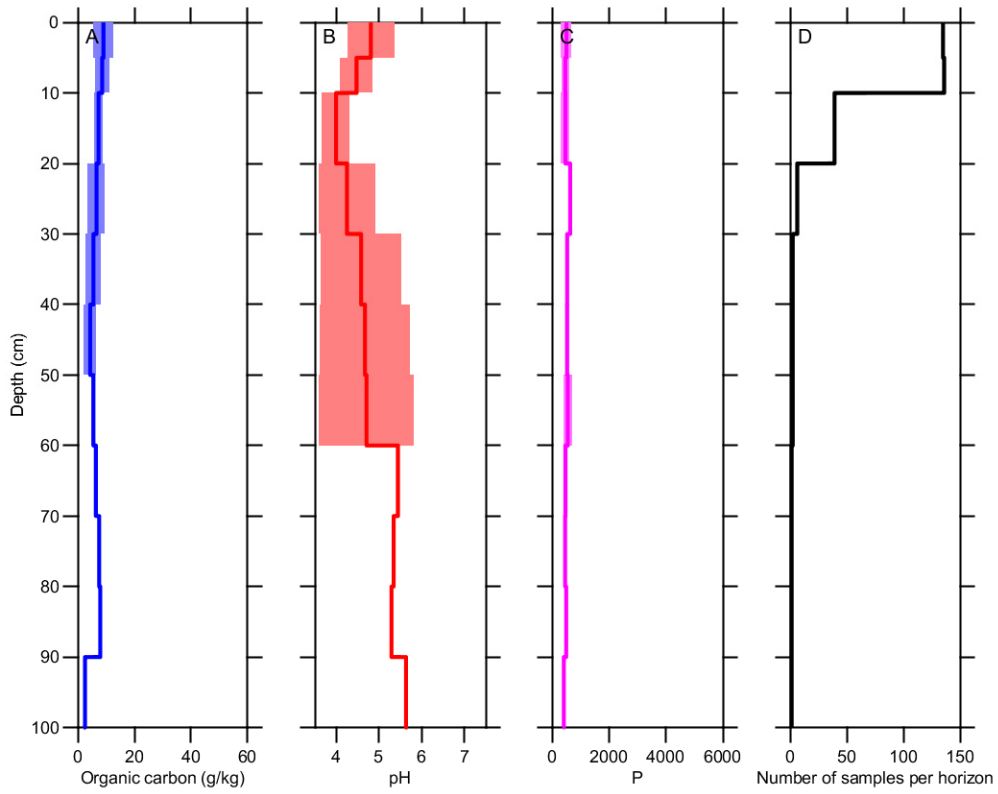


Fig. S18. Soil depth profiles for modern plaza. (A) Organic carbon (units g/kg). (B) pH. (C) Phosphorus (total) (units mg/kg). (D) Number of samples at each depth horizon. Solid lines show mean of each quantity as a function of depth horizon; shaded regions denote $\pm 1\sigma$.

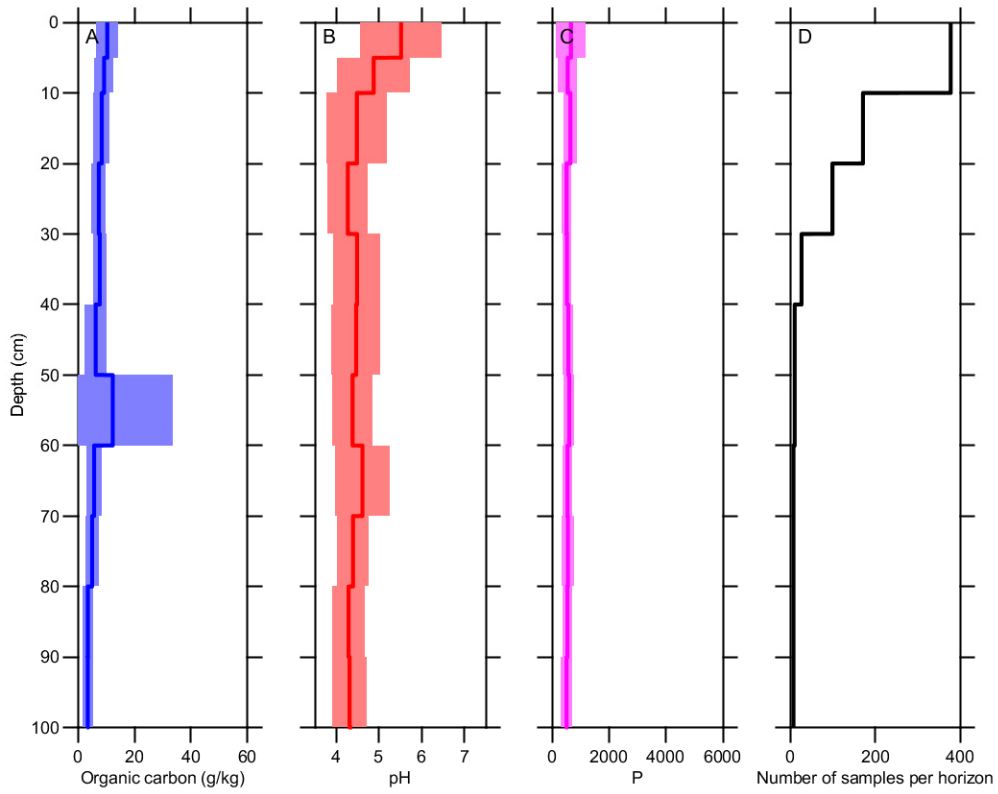


Fig. S19. Soil depth profiles for modern domestic area. (A) Organic carbon (units g/kg). (B) pH. (C) Phosphorus (total) (units mg/kg). (D) Number of samples at each depth horizon. Solid lines show mean of each quantity as a function of depth horizon; shaded regions denote $\pm 1\sigma$.

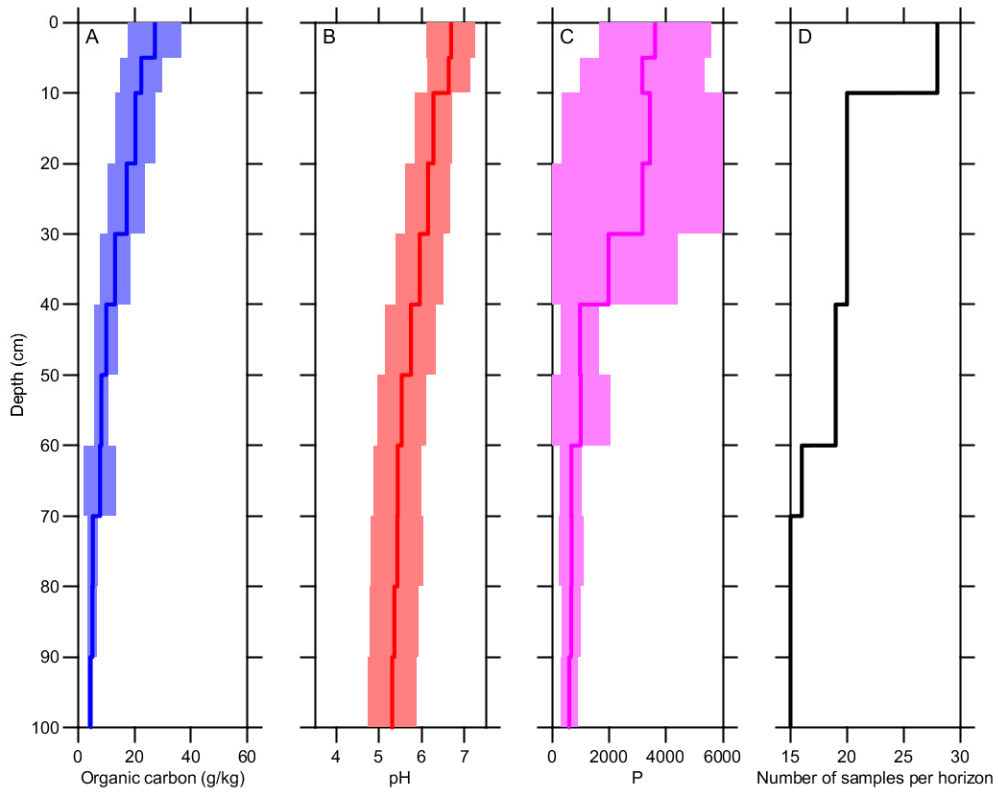


Fig. S20. Soil depth profiles for Kuikuro II midden. (A) Organic carbon (units g/kg). (B) pH. (C) Phosphorus (total) (units mg/kg). (D) Number of samples at each depth horizon. Solid lines show mean of each quantity as a function of depth horizon; shaded regions denote $\pm 1\sigma$.

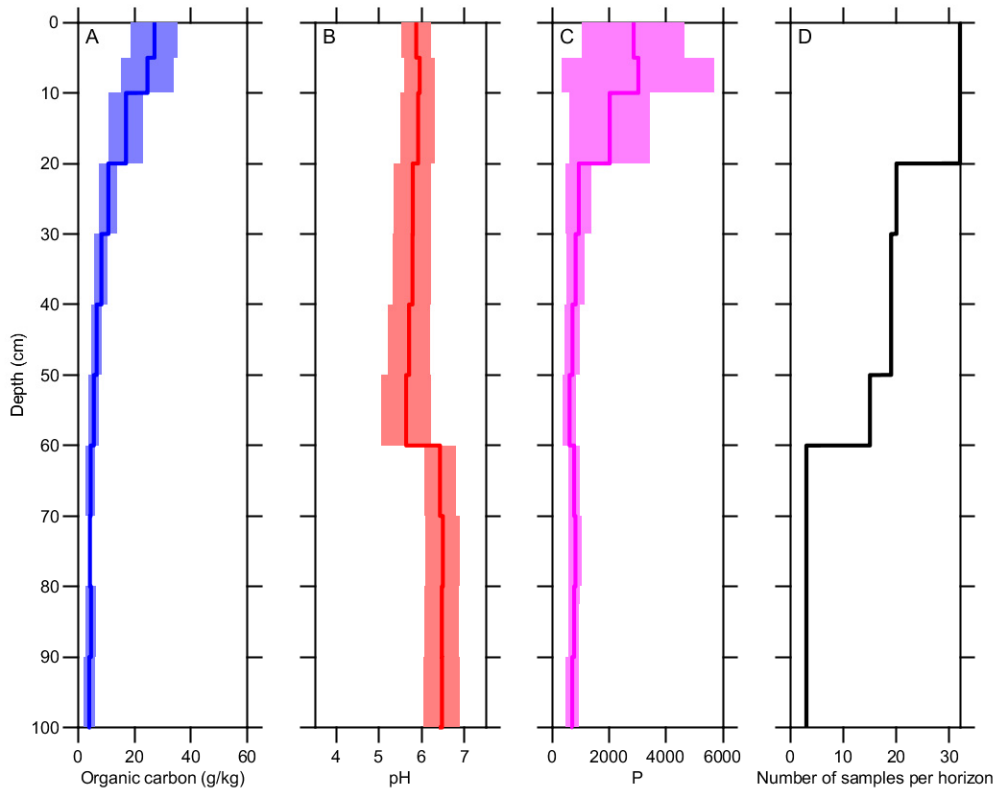


Fig. S21. Soil depth profiles for Kuikuro I and Ipatse middens. (A) Organic carbon (units g/kg). (B) pH. (C) Phosphorus (total) (units mg/kg). (D) Number of samples at each depth horizon. Solid lines show mean of each quantity as a function of depth horizon; shaded regions denote $\pm 1\sigma$.

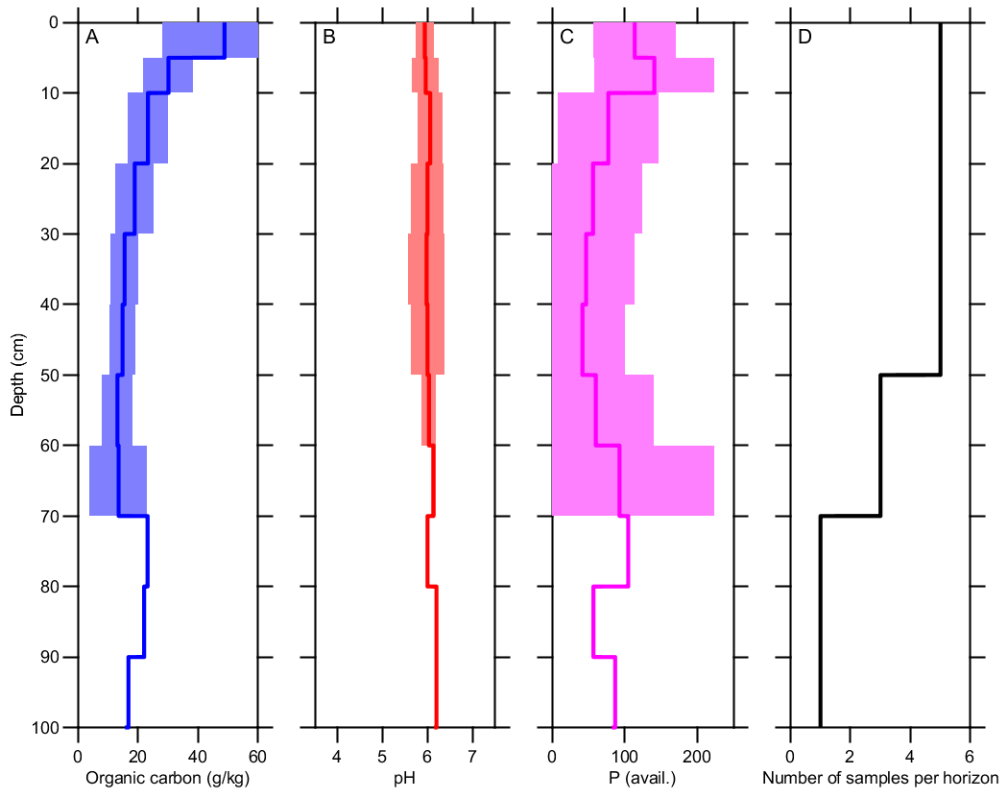


Fig. S22. Soil depth profiles for Seku. (A) Organic carbon (units g/kg). (B) pH. (C) Phosphorus (available) (units mg/kg). (D) Number of samples at each depth horizon. Solid lines show mean of each quantity as a function of depth horizon; shaded regions denote $\pm 1\sigma$.

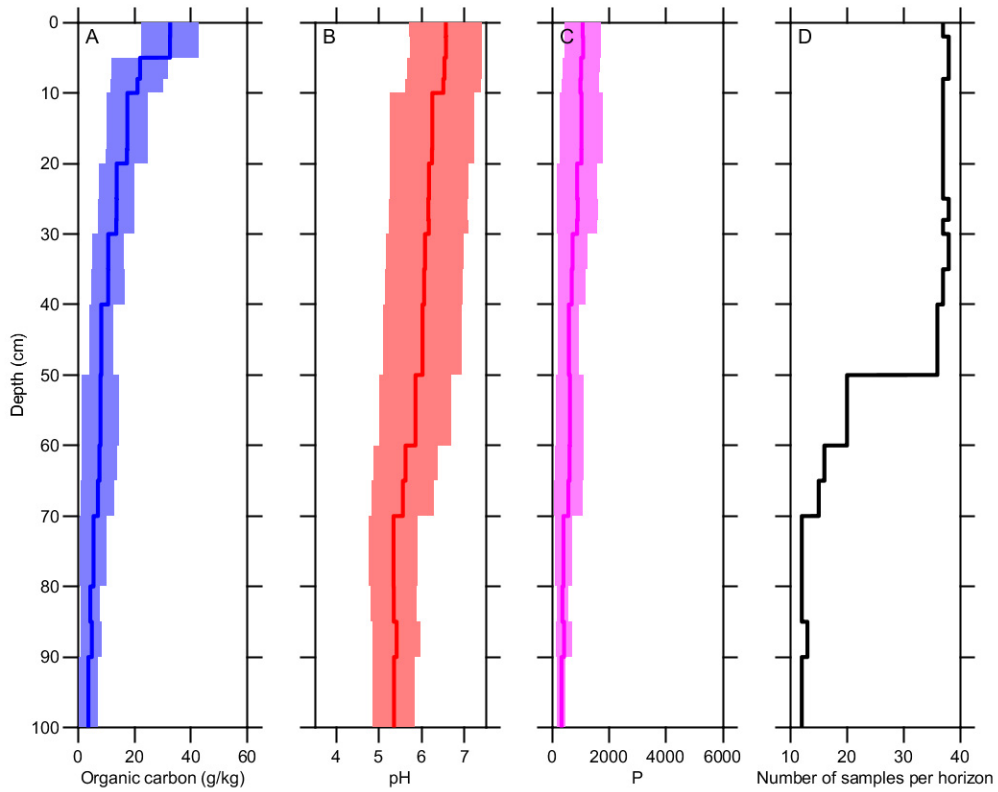


Fig. S23. Soil depth profiles for Akagahütü, within ditch. (A) Organic carbon (units g/kg). (B) pH. (C) Phosphorus (total) (units mg/kg). (D) Number of samples at each depth horizon. Solid lines show mean of each quantity as a function of depth horizon; shaded regions denote $\pm 1\sigma$.

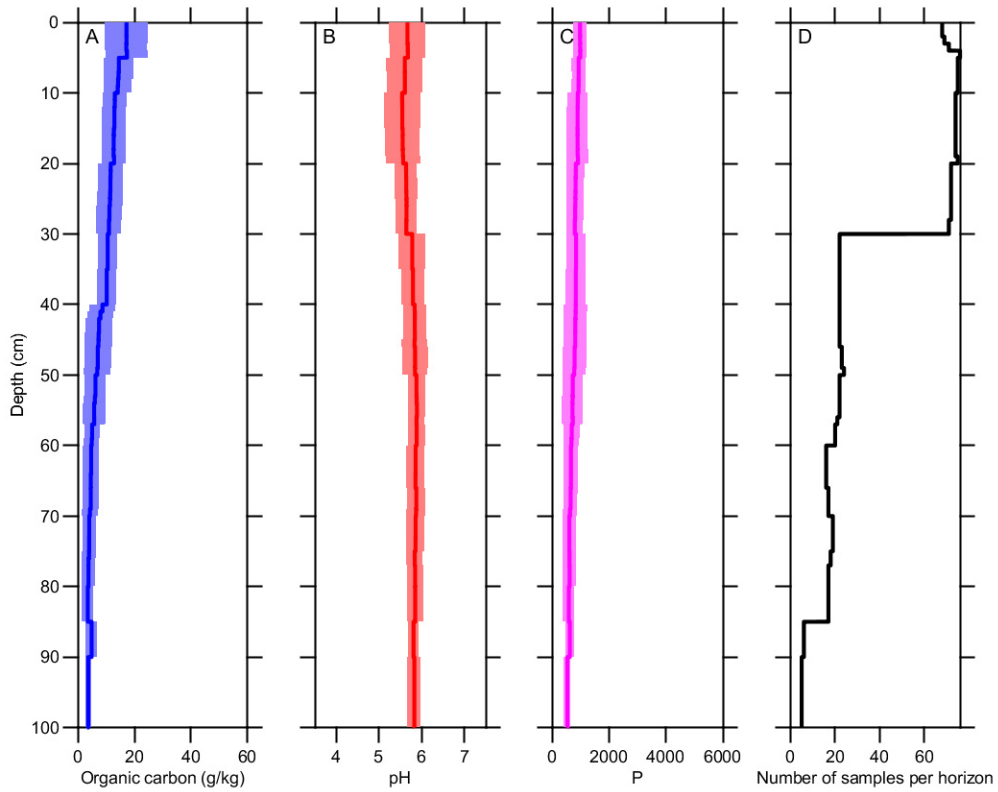


Fig. S24. Soil depth profiles for Ngokugu, within inner ditch. (A) Organic carbon (units g/kg). (B) pH. (C) Phosphorus (total) (units mg/kg). (D) Number of samples at each depth horizon. Solid lines show mean of each quantity as a function of depth horizon; shaded regions denote $\pm 1\sigma$.

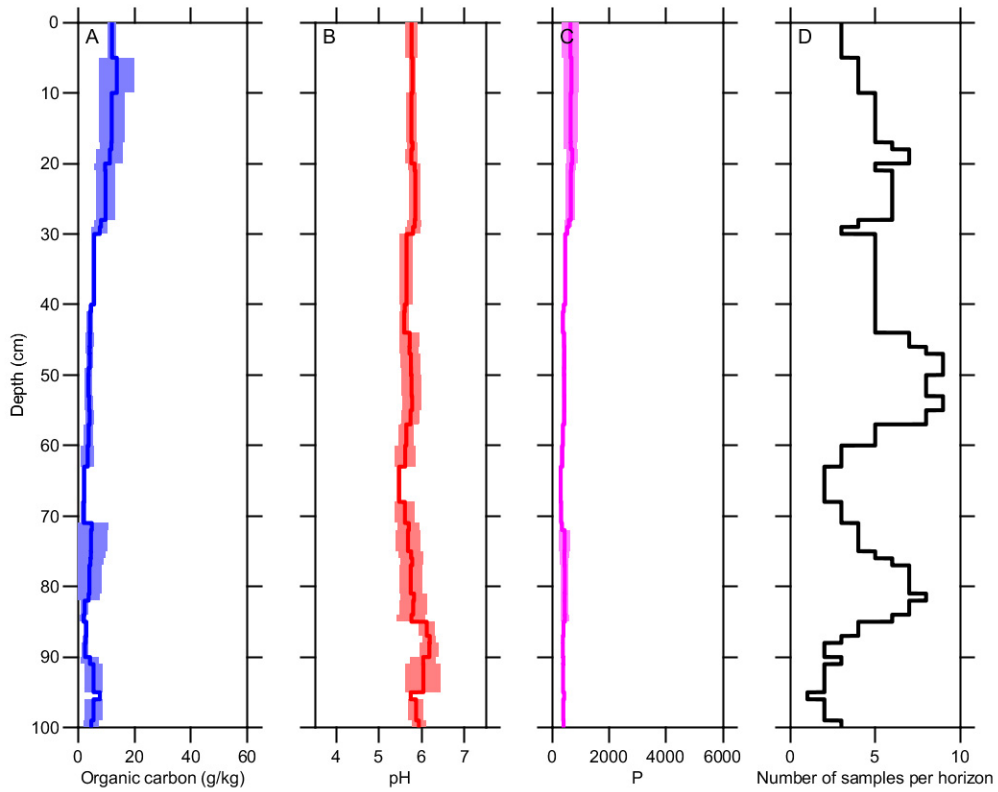


Fig. S25. Soil depth profiles for Ngokugu, between inner and outer ditch. (A) Organic carbon (units g/kg). (B) pH. (C) Phosphorus (total) (units mg/kg). (D) Number of samples at each depth horizon. Solid lines show mean of each quantity as a function of depth horizon; shaded regions denote $\pm 1\sigma$.

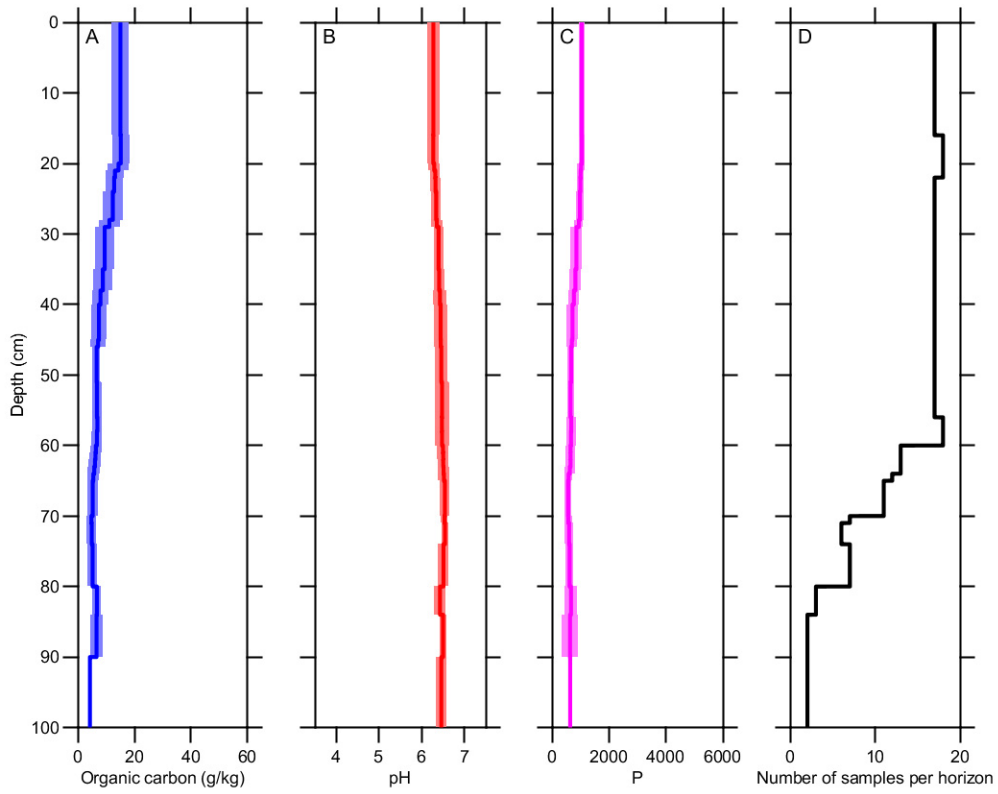


Fig. S26. Soil depth profiles for Hialugihütü. (A) Organic carbon (units g/kg). (B) pH. (C) Phosphorus (total) (units mg/kg). (D) Number of samples at each depth horizon. Solid lines show mean of each quantity as a function of depth horizon; shaded regions denote $\pm 1\sigma$.

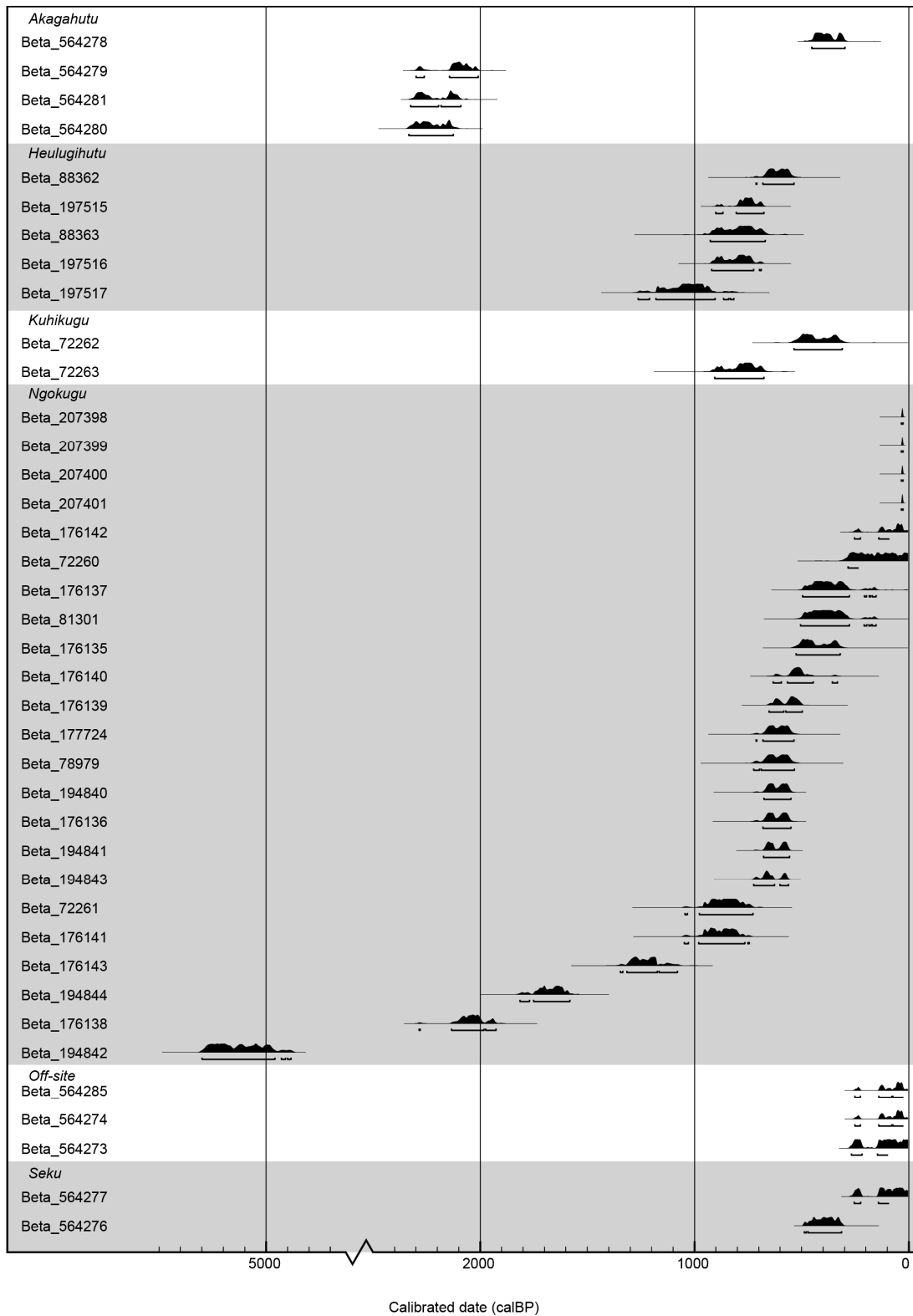


Fig. S27. Calibrated ages for radiocarbon samples from the Upper Xingu region. Samples are separated by archaeological site. See Materials and Methods and table S7. Note the axis break between 2000 and 5000 BP.

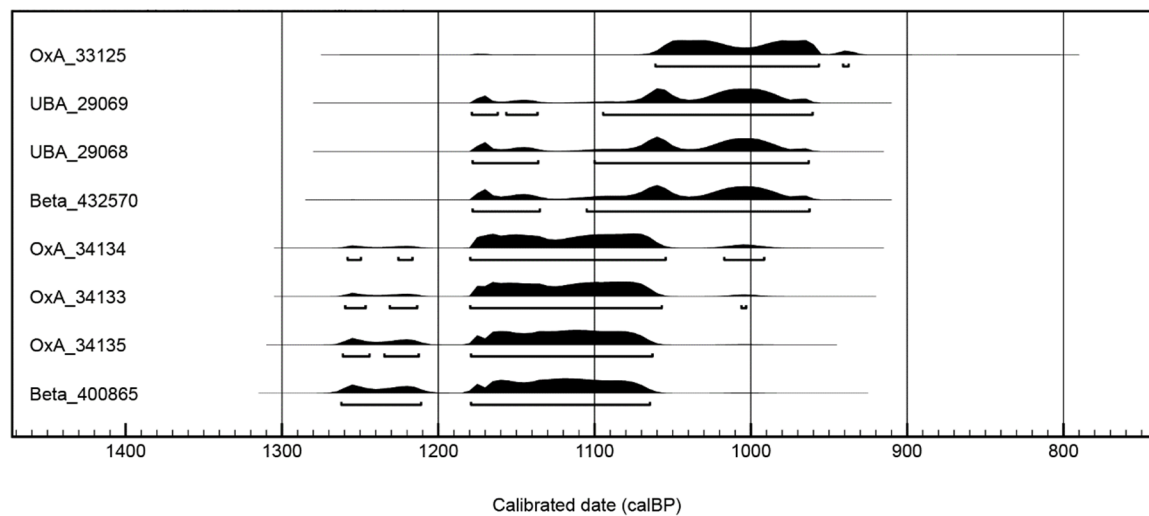


Fig. S28. Calibrated ages for radiocarbon samples from the Terra Preta do Mangabal archaeological site. See Materials and Methods and table S7.

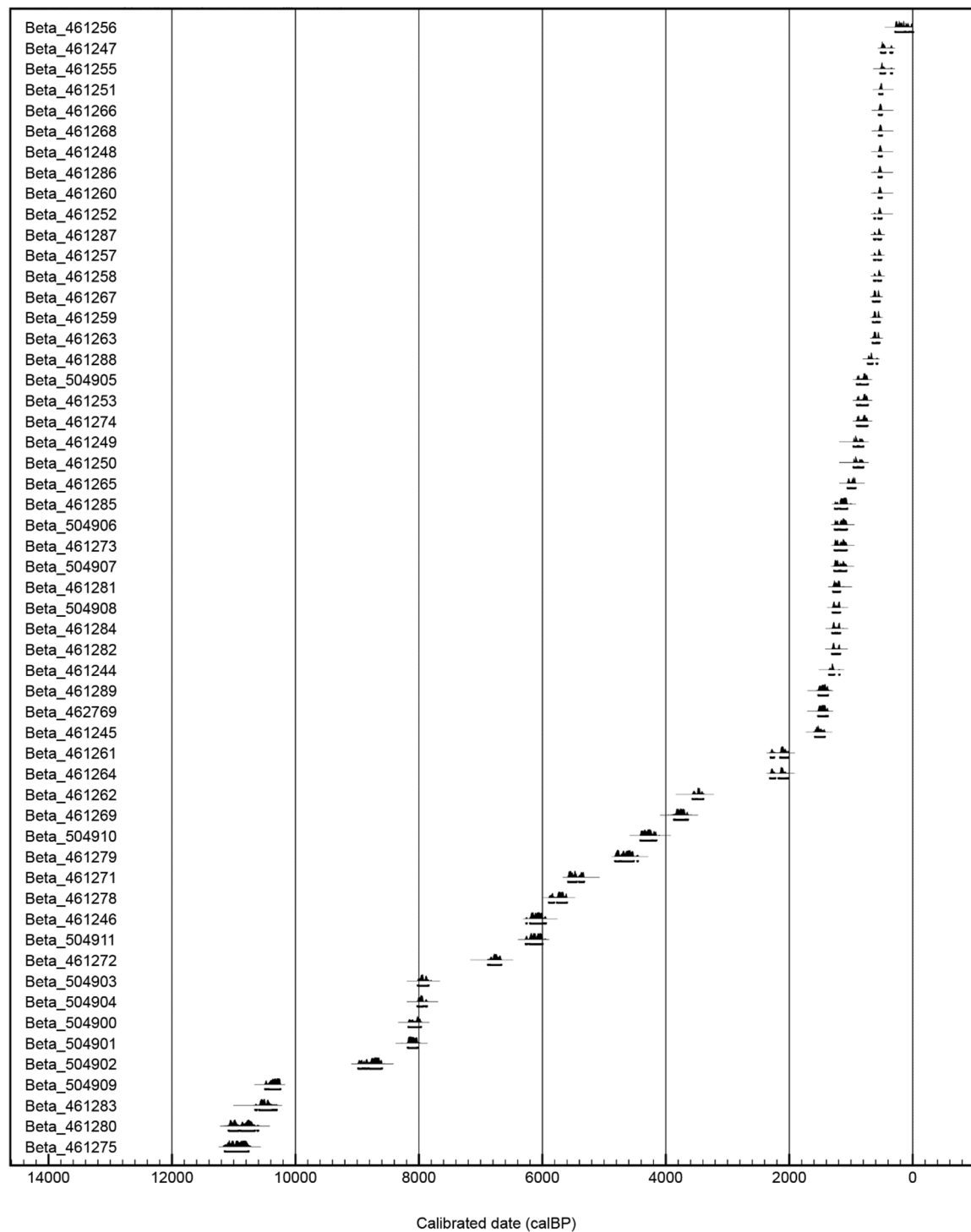


Fig. S29. Calibrated ages for radiocarbon samples from the Mangangá archaeological site. See Materials and Methods and table S7.

Table S1. Loading coefficients for the first two principal components of soil composition for the Seku, Kuikuro II, Mangabal, and Mangangá transects. Concentrations refer to available or extractable elemental concentrations (Materials and Methods). Variables are ordered by weights in PC1 for the Seku transect. PC1 is the quantity plotted in Fig. 2E, F and fig. S6E, F. The first two principal components respectively explain 51% and 25% of the variation for Seku, 76% and 11% for Kuikuro II, 54% and 21% for Mangabal, and 49% and 16% for Mangangá.

	Seku		Kuikuro II		Mangabal		Mangangá	
	<i>PC1</i>	<i>PC2</i>	<i>PC1</i>	<i>PC2</i>	<i>PC1</i>	<i>PC2</i>	<i>PC1</i>	<i>PC2</i>
Calcium	0.398	0.000	0.344	-0.036	0.399	0.080	0.376	0.117
Magnesium	0.387	-0.012	0.327	-0.229	0.385	0.063	0.337	-0.175
Organic carbon	0.386	0.143	0.277	-0.124	0.022	0.604	0.366	-0.054
Potassium	0.341	0.228	0.337	-0.009	0.207	0.486	0.348	-0.005
Manganese	0.332	0.293	0.325	-0.022	0.316	0.146	0.360	-0.173
Zinc	0.311	0.349	0.249	0.607	0.385	0.023	0.366	0.079
Phosphorus	0.291	-0.154	0.319	0.007	0.331	0.072	0.344	-0.157
pH	0.248	-0.402	0.307	-0.212	0.329	-0.134	-0.110	0.545
Copper	-0.003	-0.198	0.208	0.678	-0.043	-0.264	-0.223	-0.314
Iron	-0.183	0.503	-0.292	0.121	-0.262	0.416	-0.206	-0.475
Aluminium	-0.199	0.492	-0.303	0.205	-0.337	0.319	-0.007	-0.482
Sodium							0.063	0.194

Table S2. Loading coefficients for the first two principal components of soil composition for the Akagahütü and Ngokugu transects. Concentrations refer to total nutrient concentrations (Materials and Methods). Variables are ordered by weights in PC1 for the Akagahütü transect. PC1 is the quantity plotted in fig. S2E, F. The first two principal components respectively explain 44% and 12% of the variation for Akagahütü and 32% and 30% for Ngokugu.

	Akagahütü		Ngokugu	
	<i>PC1</i>	<i>PC2</i>	<i>PC1</i>	<i>PC2</i>
Barium	0.305	0.083	0.389	-0.093
Phosphorus	0.294	0.071	0.385	-0.048
Organic carbon	0.291	0.102	0.194	-0.182
Magnesium	0.279	0.163	0.068	-0.239
Manganese	0.275	0.158	0.391	-0.098
Copper	0.249	0.079	0.079	-0.108
Strontium	0.249	0.175	0.285	-0.076
Calcium	0.246	0.140	0.259	-0.091
Potassium	0.238	0.304	0.330	0.115
Zinc	0.200	0.347	0.312	0.113
pH	0.197	-0.092	0.206	0.117
Sodium	0.102	0.034	0.219	0.207
Chromium	-0.064	0.269	-0.005	0.180
Aluminium	-0.116	0.129	-0.078	0.368
Nickel	-0.140	0.291	0.158	0.166
Lead	-0.143	0.195	0.118	0.120
Cobalt	-0.191	0.332	0.074	0.271
Titanium	-0.195	0.305	0.029	0.397
Iron	-0.230	0.367	0.043	0.416
Vanadium	-0.261	0.312	-0.011	0.407

Table S3. Organic Carbon concentration, density, and inventory.

Context	Number of Samples	Area (m ²)	OC concentration (g/kg)	Areal Density (kg/m ²)	Areal Density above background (kg/m ²)	OC inventory above background (kg)
Background Soil						
Forested background	187		9.2	10.2		
Deforested background	239		6.8	7.4		
Modern/Historic Villages						
Kuikuro II plaza	173	29,000	6.2	6.8	-0.6	-17,000
Kuikuro II domestic	1105	17,650	7.0	7.7	0.3	4900
Kuikuro II midden	245	21,000	11.6	12.8	5.4	115,000
Kuikuro I/ Ipatse midden*	191	5100	9.1	10.1	1.0	5300
Archaeological Sites						
Seku dark earth	43	375,000	20.1	22.1	11.9	4,500,000
Akagahütü within ditch	287	580,000	10.6	11.7	4.3	2,500,000
Ngokugu within inner ditch	522	224,000	8.4	9.2	1.8	410,000
Ngokugu between inner and outer ditch	55	390,000	6.4	7.0	-0.4	-150,000
Hialugihütü	54	950,000	8.7	9.5	2.1	2,000,000

*From historic Kuikuro I (ca. 1973-1983) and Lake Ipatse (ca. 1920-1940) villages.

Table S4. Phosphorus concentration, density, and inventory.

Context	Number of Samples	Area (m ²)	Total P (mg/kg)	Available P (mg/kg)	Areal density (g/m ²)	Areal density above background (g/m ²)	Total P inventory above background (kg)
Background Soil							
Forested background	187/102*		856	4	942		
Deforested background	239/69*		277	7	305		
Modern/Historic Villages							
Kuikuro II plaza	173	29,000	506		557	252	7300
Kuikuro II domestic	1105	17,650	562		618	314	5500
Kuikuro II midden	245/70	21,400	1662	404	1828/444*	1524	33,000
Kuikuro I/Ipatse midden**	191	5100	1350		1485	1180	6000
Archaeological Sites							
Seku dark earth	43	375,000		75	83		
Akagahütü within ditch	287	580,000	663		729	425	250,000
Ngokugu within inner ditch	522	224,000	747		822	517	120,000
Ngokugu between inner and outer ditch	55	390,000	483		531	227	88,000
Hialugihütü	54	950,000	774		851	547	520,000

*Total / available P

**From historic Kuikuro I (ca. 1973-1983) and Lake Ipatse (ca. 1920-1940) villages.

Table S5. Ethnographic interview responses relevant to soil modification. Kuikuro terms are in italics (*eegepe* = dark earth). Words in parentheses are for clarification. Numbers correspond to footnotes in full interview transcripts (Supplementary Text 2). The “Flag” column indicates whether a quotation supports (Y), contradicts (N), or neither supports nor contradicts (–) the hypothesis of intentional dark earth creation.

Interview 1: Kanu Kuikuro (female elder, farmer)

	Flag
1. To take care of this place, for me to sweep, I come over here. I don't like to have trash. That is not good. That is why I come over here. I always sweep.	–
2. This is where my house used to be. Look how it is now. It is clean where my house used to be. That is why I come here. To cultivate, I always sweep. We sweep.	Y
3. After we sweep, we throw it outside to become <i>eegepe</i> (dark earth) for us to plant. Principally ash, ash is what works. We throw a bunch of ashes. It is there that we can plant.	Y
4. Manioc peelings...we are in the manioc harvest. We throw manioc peelings so we can plant. So we can plant.	Y
5. There is a mango tree planted over there. It was planted where we threw ashes. Our crops are where we have thrown ashes. That is why the plants grow well.	Y
6. I planted that bamboo where I had thrown ashes. I threw manioc peelings to fertilize it so it would grow well.	Y
7. I threw (organic) fertilizer and watered.	Y
8. That is why I threw the ashes over there, so I can plant this year. We threw them to plant (sweet) potato. What we swept up and threw. Our ashes.	Y
9. That is why I always threw charcoal and ash, ash we sweep, gather up, and then throw it where we will plant. To turn into beautiful <i>eegepe</i> , there we can plant sweet potatoes.	Y
10. It is already <i>eegepe</i> , <i>eegepe</i> . When you plant where there is no <i>eegepe</i> , it is weak. That is why we throw the ash, manioc peelings, and we throw manioc pulp, and then it turns into beautiful <i>eegepe</i> .	Y
11. Look over there at Talan's field where they threw ash and it turned into <i>eegepe</i> . We cultivate banana, a banana grove. We cultivate bananas. They are planted where we threw ashes.	Y
12. After the first rain, I always plant here at the corner of my house. It turned into <i>eegepe</i> , that is why the plants grow well. It really turned into <i>eegepe</i> .	–
13. Every time we sweep, we have to bring it to the base of the plant. And the leaves that disintegrate mix with the earth and turns into <i>eegepe</i> if you mix it with ash.	Y
14. When the field burns, when you clean the field, you leave the trash at the base of the manioc plants. This mixes with the earth and turns into <i>eegepe</i> . Then your manioc field doesn't die. That's how it is. Then it is beautiful. Look, that is the custom for cultivating.	Y
15. We only throw them (manioc peelings) when we plant behind the house. We throw manioc peelings to feed our crops.	Y
16. Look at my garden, I threw manioc peelings to feed it. Now it is like <i>eegepe</i> .	Y

17. I throw it (hearth ashes) after 3 or 4 days. If you wait 5 days, there will be a lot. When we cook <i>perereba</i> (manioc porridge).	–
18. We work making <i>beiju</i> (manioc flat bread) all the time. In the morning, mid-day, afternoon, whenever we run out of food. Then it produces a lot of ash and charcoal. So that is why we must sweep very well. Afterward, we have to throw it away.	–
19. My house yard is big and I throw it here. I've always thrown ash to serve as a place for planting. It is there that they grow well. Once in a while we throw it when there is still not too much.	Y
20. We have a fire (in the hearth) and afterward we wait for it to cool. The next morning, we can sweep. We can also throw it out every day even if it is a small amount. When there is just a little ash and charcoal. When we are feeling lazy we leave it for 3 or 5 days before we throw it away. When it's been 5 days, then it is a lot.	–
21. We throw fish bones into the ash, to mix with it, for the bones to burn together and mix. If we're not careful, the bones can hurt someone. They could hurt my grandchildren. That is why we have to sweep, and we have to keep throwing them together with the ash.	–
22. At present, we are like this. We don't save the manioc pulp anymore. We always throw it away. After we squeeze the manioc pulp, we throw it away together with the peelings. We throw it together with the ash. We used to save the pulp. It got rotten a lot; it was ugly. Flour (<i>tapioca</i>) is what's good. That is why today we have changed our custom. Otherwise, the bugs give you diarrhea. The old-timers ate that. That is why they often got diarrhea. We also no longer have <i>gepaha</i> (manioc pulp or dough). Other ethnic groups still have it. ... Nowadays we don't eat it anymore. Now we throw it away.	–
23. Yes, that is why we throw it and afterward burn it together. Today we are throwing it out and then when it dries, we will burn it. It will disintegrate and turn into <i>eegepe</i> . That's what you wanted to know, right? It will disintegrate into the earth, the earth will be good, it will turn into <i>eegepe</i> .	Y
24. You can dump it (manioc processing water) anywhere. We throw it in sandy spots so the wind doesn't blow the sand into our water, or into our manioc flour. That is why we throw it anywhere. It also kills ants. We can dump it on the ants and a lot of them will die. Manioc juice is bitter (poisonous). We can't dump it inside the house or it will kill us. We can dump it outside. Look here where I dumped it. Look how it is now, white. I just dumped it here because of the sand, it will be hard and beautiful.	–
25. We only move ashes. It is your (outsiders) custom to transport <i>eegepe</i> for you to plant. Not us, we plant where there is ash.	Y
26. Exactly, this house was burnt. It was burnt very black. That is what I threw over there so I could plant. Look there at the ashes.	Y
27. We threw <i>eegepe</i> just like this here, over there so that the rain could wet it down. After that we can plant there where there will already be <i>eegepe</i> .	Y
28. It can't stay here. We don't like it (burnt house debris) close to us. So our yard can be beautiful.	–

Interview 2: Haitsehü Kuikuro (male elder, farmer)

	Flag
29. Sure, it was Tāugi (the Sun) (who created dark earth). To serve as a place for planting, planting corn.	N
30. <i>Eegepe</i> was made by Tāugi.	N
31. I don't know what he (Tāugi) threw, maybe he threw ashes. This was spread around all over the place. If you go to look at (Lake) Tafununu, there are many beautiful areas of <i>eegepe</i> . There are a number of areas of <i>eegepe</i> there.	N
32. Yes, ceramics from Nakaso fell from the sky. I'm scared, she said. She broke them and spread them over the <i>eegepe</i> . Nakaso's ceramics. What fear older brother. It escaped her head and fell. It was spread all over the <i>eegepe</i> .	N
33. Yes, the field was at Sehu. They (people from Lahatua) made a large field there. Seku also had a field. ... For the manioc to grow fast and also to get really large. That is why they made <i>eegepe</i> , to have a good crop.	Y
34. Yes, (I planted where I threw manioc peelings) here behind the house.	Y
35. Planting produces very well where there is ash, where there used to be a village.	-
36. Yes, we threw charcoal and ash. Ash fertilizes the earth behind the house, and it turns into <i>eegepe</i> (dark earth).	Y
37. Yes, maybe it will (turn into <i>eegepe</i>), when there is no more village here. There is <i>eegepe</i> at Kuikugu. There is <i>eegepe</i> where their village used to be.	-

Interview 3: Kusai (Ihijü) Kuikuro (female elder, farmer)

	Flag
38. We throw the waste and then the little creatures eat it. When we sweep, we throw it right here because we are lazy to throw it far away. And then, it gets all dark. ... And then the plants are all happy.	Y
39. I first had my field right here. We threw our ash right here in our backyard. I made my field here and it grew very beautifully.	Y
40. That is why we throw our ash (in our <i>ilubepe</i>). We also throw fish bones right here (pointing to a place in the backyard). And then the plants grow very happily.	Y
41. Because we throw waste and ash here and that is why they grow very happy.	Y
42. Look here, we threw this here and afterwards the crops will be very happy here.	Y
43. Those are sprouting around them because we threw it here and they are sprouting happily.	Y
44. Yes, it is waste that I swept right here. ... I am going to throw it right there. After that, the rain will wet it down and it will be very dark.	Y
45. Exactly (the waste we throw away). That's how it is. We put it here and then we throw it over there and the rain wets it down. Afterward, we plant there, and they do very well.	Y
46. It is very good to throw it away in this place. After the rain wets it down and we plant. It is very good. We throw it away, that's how it is.	Y

Interview 4: Tago Kuikuro (male elder, farmer, shaman)

	Flag
47. It's not good to throw garbage in the corner; this attracts the spirits. Listen Carlos and Morgan, it's not good to throw trash; we throw trash again and again; When there is a pile like this, it attracts the spirits.	–
48. That (the rattlesnake) is why the piles of waste are very dangerous. ... That was our ancestors who threw away (trash), all in mounds.	N
49. When we throw out waste, brother-in-law, it's far away. Far Away. If we throw it far away, we will be fine. We will be fine if we throw it far away.	–
50. Look here, it's (waste/eegepe) all around close by. It's in all of the places of the ancestors too. ... Exactly (it is the same thing in the places of the ancestors). You can see at Ngokugu (archaeological site) that it's very old, these things.	–

Interview 5: Tago Kuikuro (male elder, farmer, shaman)

	Flag
51. This is how it was (referring to the backyard refuse disposal area) at Ngokugu (nearby, large archaeological site with dark earth). It was like this (motioning to the backyard refuse disposal and cultivation area), it turned into <i>eegepe</i> . We're (living) here now and we're going to move to the other side (move to a new village adjacent to this one). ... Right here will turn into <i>eegepe</i> . When the village was on the other side, look at our former village, it became <i>eegepe</i> .	–

Interview 6: Kamihu Kuikuro (female elder, farmer)

	Flag
52. Here I throw ashes. ... For the plants to grow nice and strong and not be weak. When it rained the crop grew fast to get big.	Y
53. First of all (to plant my crops), I throw manioc peelings. Look over there where I threw them; I threw manioc pulp. Later, I will burn it, then shortly after that I will plant my plants. Like that, for the plants to grow very quickly. There, the plants will not be weak. Look over there where I planted some; look.	Y
54. Yes, it is old (the practice of throwing ashes in cultivation areas). In the <i>eegepe</i> they threw them, ashes of the ancestors (produced from cooking fires). It was there that they planted, and (the crops) produced abundantly.	Y
55. Yes, it produced very well. Ears of maize this size; there was really a lot. That is why we have to throw ash.	Y
56. Look, what we throw away is so that it will be the same as that (same as ancient <i>eegepe</i> of archaeological sites). This here will be the same. We love to burn this stuff.	Y

Interview 7: Moisé and Tapualu (elders, husband and wife, farmers)

	Flag
57. This is <i>eegepe</i> (dark earth). You shouldn't clean up all of the leaves, so they serve as fertilizer.	Y
58. This <i>itsulo</i> (waste) that is behind the house, just waste, is thrown out and afterward used for cultivation, when manioc peelings are thrown there. When	Y

you plant there, they grow very well and happy. I don't know why. These places are good for the plants.	
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Interview 8: Kamankgagü (elder male, farmer, ritual specialist)

	Flag
59. No (we don't have to throw the fish bones in a specific place).	N
60. Yes, that (backyard) is the place to throw away waste. ... Yes, that is the place. Our backyard is full of <i>itsulo</i> (waste or waste area). We have to go far if we want to go to the bathroom. Only children can defecate close by, because they don't know anything yet.	–
61. Yes, that's how it has been for a long time (the women peel the manioc and throw the peelings into the refuse disposal area).	–
62. (In the old days) The women peeled (manioc) right out there (in the field).	–
63. The large manioc roots were peeled at home. These peelings were thrown into the <i>itsulo</i> . Nowadays, manioc is peeled at home. The old-timers used to peel it in the field.	–
64. (Did they throw the manioc peelings to plant?) No, they threw it in the <i>itsulo</i> . No, you just have to throw it in the <i>itsulo</i> . If you have a fire hearth, you have to throw it in the <i>itsulo</i> too.	N
65. No (you don't spread manioc peeling in the field), you throw it directly into the <i>itsulo</i> . You find an old hammock and peel them on top of that. Then wash it and then grate it and throw away the <i>tigibitse</i> (manioc peelings).	N
66. (For you, what was <i>eegepe</i> ?) It was the place where the ancestors threw their ash (<i>Ngiholo ilubegüpe</i>).	N
67. There were many ethnic groups here; Kaiabi, Juruna, Yudja, Txucahamae, Kreen-akrore. This (<i>eegepe</i>) was their <i>Ngiholo ilubegüpe</i> (ancestor's ash disposal areas). This is our place, here in the Xingu.	N
68. It was the <i>ilubepe</i> (ash disposal area) of the ancestors that we call <i>eegepe</i> .	N
69. Aulá (Kamagagü's daughter): I think that <i>eegepe</i> was the place of a village. ... Kamankgagü: Yes, they were villages.	–
70. I said that they (<i>eegepe</i>) were people's <i>ilubepe</i> . Aulá (Kamankgagü's daughter): If we leave this village, it will turn into <i>eegepe</i> . And our <i>ilubepe</i> will be spread over this whole area here.	–
71. We just throw it (waste) away in the <i>itsulo</i> After a year, we can plant whenever we want, and throw squash seeds and they grow by themselves.	Y

Interview 9: Omoge Kuikuro (female elder, farmer)

	Flag
72. Yes, I am sweeping, my son, so we can work and make this our eating area. ... I am going to throw it away over there in the waste, because there is going to be more waste too.	–
73. Yes, (I separate fish bones) to throw away in a different place. When they eat, fish bones get separated. We throw away waste from the clay pot separately.	–
74. Do you see this turtle shell here? You have to throw it away right here so it doesn't hurt the children. It hurts a lot when it cuts you.	–

<p>75. It (fish waste) will be thrown away separately. It will be thrown away separately so as not to hurt the children. So that the bones don't cut them. ... I bring that over here so it doesn't hurt the children. Because this is where the children will walk. ... I brought the tracajá (type of turtle) shells over to the base of the macaúba (type of palm with edible fruits) tree so they wouldn't cut the children.</p>	<p>–</p>
<p>76. It (turtle shell) will be there. It will dissolve. To plant. ... I will plant in it and they will sprout fast. ... It will be like <i>eegepe</i>. That is the moment when it turns into <i>eegepe</i>.</p>	<p>Y</p>
<p>77. I leave it here for the bananas to grow here. Just look, here is <i>eegepe</i>. This here will turn into <i>eegepe</i> and it will be a place to cultivate. So it (turtle shell) can dissolve right there. ... Yes, that's right, for it to dissolve there. For the <i>gavião-carcará</i> (harpy eagle) and <i>kolo</i> (worm or maggot) to eat.</p>	<p>Y</p>
<p>78. No (it doesn't help the crops), when we throw fishbones, the dogs eat them. It ends up an empty place; they eat them all up. ... We have to keep watch over the place where we threw the fish bones, so the dogs don't eat them; keep the dogs away. Then our crops grow well and very happily.</p>	<p>Y</p>

Table S6. Ethnographic interview responses relevant to dark earth fertility and cultivation of crops in dark earth. Kuikuro terms are in italics (*eegepe* = dark earth). Words in parentheses are for clarification. Numbers correspond to footnotes in full interview transcripts (Supplementary Text 2).

Interview 1: Kanu Kuikuro (female elder, farmer)

79. From the city of Ribeirão Preto (São Paulo). I brought it (bamboo) from the city of Ribeirão Preto. I brought it from far away, I took care of it until it grew. I watered it, I suffered to take care of it.
80. We cultivate bananas. They are planted where we threw ashes.
81. In the rainy season, I make a design. I've always looked for <i>eegepe</i> (dark earth) to cultivate, it makes it beautiful. I've always planted. That is how I make a design.
82. It (bottle gourd) quickly grows very strong. After that, the rainy season begins and it turns into <i>eegepe</i> , turned into <i>eegepe</i> . It grows fast in the <i>eegepe</i> .
83. We can plant it in the corner of the field and we look for where it was burned well. We look for ash.
84. Here is where I plant, at the corner of my house where it has already become <i>eegepe</i> . In the rainy season there is abundant squash here. I've always cultivated it for my grandchildren. I've always planted watermelon. I plant a little at a time.
85. The plant (fava beans) climbs and it grows well in <i>eegepe</i> . We plant beans in <i>eegepe</i> .
86. When I plant there, I always look for charcoal where I plant but it never turns out right, it always dies. When we take too long to water it, it dies right away.
87. When the field is burned, there will be ash there. There is a lot of ash where a tree has burned. That is where we can plant, where a large tree has burned. There, we can plant ahaga and pineapple. For the plant to grow well.
88. We can't plant on the bare soil. We can plant where the fire really burned and where there is ash. There it is like <i>eegepe</i> .
89. If we planted watermelon in the wrong place it wouldn't grow. If we planted bottle gourd there it wouldn't grow. Neither would pineapple. It would not produce fruit. It would go just like this, not grow, not go forward.
90. When we plant here near the house, we customarily take very good care of the plants.
91. Manioc peelings have one issue, they can poison the plants. They can poison our crops. After they disintegrate well, they don't hurt the plants.
92. Out in my field they (cashew trees) are planted in a row.
93. She brought it (seriguela) here to plant and it grew.

Interview 2: Haitsehü Kuikuro (male elder, farmer)

94. Nowadays, nobody makes fields to plant corn. We always made our field on the <i>eegepe</i> at Tehukugu. There is <i>eegepe</i> there. My great grandfather Hinaku always opened his field on <i>eegepe</i> . Always, every year. To plant corn. There, you have to plant various types of plants, squashes. That is why we did it.
95. Yes, manioc grows very well there, very large indeed. You know that here in the red soil manioc does not grow well. In the <i>eegepe</i> , it does; produces very well.
96. That is why plants do really well there, manioc, sweet potato, corn and watermelon. When we plant bananas there, they produce really well.

97. Yes, that (to plant there) is why they (our great-grandfathers) opened their field in that place (<i>eegepe</i>).
98. We planted corn, (sweet) potatoes, and others. ... We planted (sweet) potatoes, bananas, sugarcane, and others. There was a lot of sugarcane planted behind the house. Chili peppers could also grow.
99. The path to the place where we bathed is <i>eegepe</i> . And it expands as you move forward. There is <i>eegepe</i> where our field used to be. From there it expands until here. It is a very large <i>eegepe</i> .
100. It's (<i>eegepe</i>) very easy to identify by the black color of the soil. Under the trees it is very clean. In the forest (outside of <i>eegepe</i>) it is bad.
101. There you find large jatobá, sagatsuegü, and other trees. You've been to Netunugu. My parents had a field there in the large <i>eegepe</i> .
102. I lived there in my childhood until I became an adult. There we had a field of corn and manioc together. They opened the field for the crops to grow quickly, for the manioc to grow quickly.
103. We can open a field in <i>eegepe</i> when we are needing food. Manioc grows fast so we can eat. The corn gets... If you see Inha, the place of the ancestors. There is an enormous <i>eegepe</i> there.
104. Peccaries, monkeys, and spider monkeys live there (in the <i>eegepe</i>).
105. (The animals eat) wild fruits. Mangaba fruit, <i>geküjü</i> , and others. There is all this in the <i>eegepe</i> . There is genipap there.

Interview 3: Kusai (Ihijü) Kuikuro (female elder, farmer)

106. Yes, insects, ants (eat the waste).
107. This is my pineapple crop (in the backyard). That is mangaba.
108. All of this is mangaba. This is <i>geküjü</i> <i>Geküjü</i> . When it ripens we eat it. It's very delicious. It is edible. That's why it was planted.

Interview 4: Tago Kuikuro (male elder, farmer, shaman)

109. He (Nhagü Kuengü, the rattlesnake) stays under the jatobá tree. ... When a black patch is under a jatobá tree, it is he who is there.
110. Here is a jatobá. They are spirits and owners of the piles.

Interview 5: Tago Kuikuro (male elder, farmer, shaman)

111. The trees will sprout here, <i>tinhaho</i> will grow, jatobá will grow, <i>agi</i> will grow.
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Interview 6: Kamihu Kuikuro (female elder, farmer)

112. Manioc, of course. They planted manioc (in their <i>hihitsingoho</i> , a field on a dark earth archaeological site where diverse crops are grown). Each one had their own field.
113. At Ajuahütü (archaeological site with <i>eegepe</i>) there were a lot of fish; really a lot. Their main crop was manioc. They planted various types of crops.
114. (In their <i>hihitsingoho</i> they planted) Varieties of chili peppers and pineapple. They planted various crops. They planted a lot of large beans, beans, and maize.
115. No, they really only planted squash, beans and watermelon (there in the good black soil).

116.	I had a field at Agitsiu (area of “weaker” <i>eegepe</i>). There, I planted a lot of watermelon, it produced very abundantly. This size, many. I planted a lot.
117.	(I have in my garden) Chili peppers; this is banana... This is a large pepper, long. This one here is black pepper, the old timer’s pepper... This here is mango; there is a lot. It produces a lot of fruit... I brought it from Leonardo; I brought a lot. I planted it there.
118.	We didn’t have anything, nothing (in our backyards at Lahatua before the whites came). Only pequi trees that were behind every house; after the fruit was ripe, it fell.
119.	We work under here (mango tree). All of us; every house. We used to plant pequi (in the backyard instead of mango).
120.	Yes (when we planted the mango tree we knew it would help us), now it is for us to stay under. “Let’s go work under that” (mango tree), we always say. Look at the shade here now. Look over there where it is behind that house. We always roast fish here.
121.	Yes, sure, in the <i>eegepe</i> . I once planted them (watermelon) in my field at Agitsiu and it produced a lot. Over there. The people collectively tried to harvest it all but couldn’t; there was still a lot left. There were still some fruits in the field. I planted it over at Hatsikugi (archaeological site with <i>eegepe</i>) too and it produced many fruits. We couldn’t pick them all and some were left there.
122.	Yes, (we planted manioc) in the <i>eegepe</i> . Over at Asahütü (archaeological site with <i>eegepe</i>) they also planted maize. They opened up fields to plant maize. Maize really grew over there. ... (There were) Several (varieties of maize). Everyone had their field; there were many. The real maize, red corn or Ahua; I don’t remember anymore. Your (whites) maize is different. ... There was abundant maize. They even planted a lot of maize behind the house.

Interview 7: Moisé and Tapualu (elders, husband and wife, farmers)

123.	There are many ants here.
124.	But there is a lot of sapé (grass) here.
125.	Yes, <i>eegepe</i> has a lot of weeds and brush.
126.	It is called <i>itsulo</i> too (dark earth in their field). That is called <i>itsulo</i> . This is <i>eegepe</i> , good soil, black soil. That is why it produces a lot of manioc. This soil is black. In the other forest, <i>itsuni</i> (old-growth forest), it is red soil. That is why it produces less manioc there. Here in the <i>eegepe</i> it produces a lot of manioc. It produces a lot of flour, this much. That is why we like the <i>eegepe</i> , good earth. That’s right, that’s the way it is, this good soil. That’s it.

Interview 8: Kamankgagü (elder male, farmer, ritual specialist)

127.	When we plant in the <i>eegepe</i> , it produces many roots and some of them are this big. When I planted here, they were this size, they were big.
128.	There (in the <i>eegepe</i>) we plant manioc, maize, squash and (sweet) potatoes. Banana is new. And it produces a lot of fruit. We are not taking advantage of anything (<i>eegepe</i>). There is only one thing we do, plant crops. (We are not taking advantage of the <i>eegepe</i> because no one is planting anything there). Do you know why we don’t do it? Because it is a lot of work.
129.	When the rains began, they (the old-timers) started planting <i>ahiti</i> (annatto) and pequi (fruit tree) in their backyards.
130.	We didn’t used to have banana. We didn’t have sweet potatoes or peanuts.

131. They only planted *ahiti* (annatto) and pequi (fruit tree). That's all they planted, just four crops: maize, manioc, pequi, and annatto.

132. That's right (there is bottle gourd), that was *tuku* (pot).

133. There is cotton too.

134. When you plant in the *ilube egepütipugü* (a place where a lot of ash was dumped that has already turned into *egepe*), it produces a lot.

Interview 9: Omoge Kuikuro (female elder, farmer)

135. Yes, it works very well (to plant) in the waste area.

136. What really grows well there are chili peppers. Katamu peppers. They sprout fast. Grow fast.

Table S7. Radiocarbon dates.

Site Number/ Name	Location (Trench/ Unit/ Test pit)	Depth Below Surface*	Material	Lab Number	Measured ¹⁴ C Age (BP)	2σ Calibrated age (BP)	Reference
Upper Xingu							
MT-FX-06: Ngokugu	ET1	90-100	Charcoal	Beta 72261	1000 ± 70	1045- 1033 978-727	(9)
MT-FX-06: Ngokugu	ET1	110-120	Charcoal	Beta 78979	700 ± 70	724-697 689-534	(9)
MT-FX-06: Ngokugu	ET1	140-150	Charcoal	Beta 72260	180 ± 60	284-0	(9)
MT-FX-06: Ngokugu	ET1	260-270	Charcoal	Beta 81301	360 ± 70	506-277 209-196 187-177 170-153	(9)
MT-FX-06: Ngokugu	ET2	20-30	Charcoal	Beta 176142	20 ± 50	253-226 141-0	(9)
MT-FX-06: Ngokugu	ET 2	100-110	Charcoal	Beta 194840	700 ± 50	675-550	(9)
MT-FX-06: Ngokugu	ET2	110-120	Charcoal	Beta 176143	1370 ± 60	1346- 1335 1315- 1174 1165- 1079	(9)
MT-FX-06: Ngokugu	ET2	210-220	Charcoal	Beta 177724	690 ± 60	712-710 680-535	(9)
MT-FX-06: Ngokugu	ET2	210-220	Charcoal	Beta 176139	590 ± 60	653-583 574-498	(9)
MT-FX-06: Ngokugu	ET 2	230	Charcoal	Beta 194844	1810 ± 40	1815- 1769 1750- 1582	(9)
MT-FX-06: Ngokugu	ET3	40-50	Charcoal	Beta 176140	530 ± 60	633-595 566-446 357-334	(9)
MT-FX-06: Ngokugu	ET3	80-90	Charcoal	Beta 176135	440 ± 60	526-320	(9)
MT-FX-06: Ngokugu	ET4 EU1	40-55	Charcoal	Beta 176136	710 ± 50	680-550	(9)
MT-FX-06: Ngokugu	ET5	140-150	Charcoal	Beta 176141	1030 ± 60	1048- 1029 981-765 750-744	(9)
MT_FX-06 Ngokugu	ET 6	50-60	Charcoal	Beta 194842	4500 ± 40	5299- 4959	(9)

						4929-4910 4900-4884	
MT-FX-06: Ngokugu	ET 8	120-130	Charcoal	Beta 194841	720 ± 40	678-556	(9)
MT-FX-06: Ngokugu	ET10	60-80	Charcoal	Beta 176137	340 ± 60	496-278 207-198 185-178 170-153	(9)
MT-FX-06: Ngokugu	ET 10	0-10	Charcoal	Beta 194843	750 ± 40	724-627 601-561	(9)
MT-FX-06: Ngokugu	ET10	250-260	Charcoal	Beta 176138	2110 ± 40	2284- 2280 2134- 1982 1975- 1926	(9)
MT-FX-06: Ngokugu	N178 E0 Collection Area 1, Surface of road curb	Surface	Pottery	Beta 207398	modern	modern	(9)
MT-FX-06: Ngokugu	N230 W14, Collection Area 2	Surface	Pottery	Beta 207399	modern	modern	(9)
MT-FX-06: Ngokugu	S2 E72, Collection Area 4, large ceramic concentration	Surface	Pottery	Beta 207400	modern	modern	(9)
MT-FX-06: Ngokugu	S159 W169, Collection Area 8	Surface	Pottery	Beta 207401	modern	modern	(9)
MT-FX-11: Kuhikugu	EU1	60-70	Charcoal	Beta 72262	440 ± 70	536-311	(9)
MT-FX-11: Kuhikugu	EU1	100-110	Charcoal	Beta 72263	900 ± 60	906-675	(9)
MT-FX-13: Heulugihütü	EU1	50-60	Charcoal	Beta 88362	690 ± 60	712-710 680-535	(9)
MT-FX-13: Heulugihütü	EU1	80-90	Charcoal	Beta 88363	910 ± 80	926-670	(9)
MT-FX-13: Heulugihütü	ET1 EU1	30-40	Charcoal	Beta 197515	890 ± 40	900-867 805-675	(9)
MT-FX-13: Heulugihütü	ET1 EU1	60-70	Charcoal	Beta 197516	930 ± 50	921-723 697-689	(9)
MT-FX-13: Heulugihütü	ET1 EU1	90-100	Charcoal	Beta 197517	1160 ± 80	1263- 1210 1180-903 864-841	(9)

						832-816	
MT-FX-18: Akagahütü	SP9	32	Charcoal	Beta 564278	340 ± 30	453-297	This study
MT-FX-18: Akagahütü	SP10	52	Charcoal	Beta 564279	2170 ± 30	2299- 2261 2144- 2009	This study
MT-FX-18: Akagahütü	Trench 1 Across inside edge of ditch.	100	Charcoal	Beta 564280	2250 ± 30	2333- 2126	This study
MT-FX-18: Akagahütü	Trench 1 Across inside edge of ditch.	110	Charcoal	Beta 564281	2220 ± 30	2324- 2194 2182- 2090	This study
MT-FX-19: Seku	SP25 Midden close to plaza	13	Charcoal	Beta 564275	350 ± 30	463-302	This study
MT-FX-19: Seku	SP25 Midden close to plaza	30-40	Charcoal	Beta 564276	370 ± 30	487-479 470-314	This study
MT-FX-19: Seku	SP31 700 m from plaza	50	Charcoal	Beta 564277	130 ± 30	255-225 142-0	This study
Off-site	SP1 west Outside Ngokugu	5-10	Charcoal	Beta 564285	90 ± 30	252-227 140-80 75-0	This study
Off-site	SP1 east Outside Ngokugu	12-14	Charcoal	Beta 564273	150 ± 30	267-218 147-0	This study
Off-site	SP3 north In Piqui orchard	10	Charcoal	Beta 564274	90 ± 30	252-227 140-80 75-0	This study
Carajas Mountains							
PA-AT- 331: Mangangá	P11AE4	10-20	Charcoal	Beta 461273	1290 ± 30	1267-1205 1183-1070	(60)
PA-AT- 331: Mangangá	P11AE4	20-30	Charcoal	Beta 461274	940 ± 30	905-860 855-733	(60)
PA-AT- 331: Mangangá	P11AE4	20-30	Charcoal	Beta 504905	930 ± 30	905-861 848-728	(60)
PA-AT- 331: Mangangá	P11AE4	70-80	Charcoal	Beta 461279	4150 ± 30	4820-4748 4730-4522 4460-4454	(60)
PA-AT- 331: Mangangá	P11AE4	90-100	Charcoal	Beta 461278	5030 ± 30	5893-5809 5763-5601	(60)

PA-AT-331: Mangangá	P11AE4	130-140	Charcoal	Beta 461275	9630 ± 30	11145- 10759	(60)
PA-AT-331: Mangangá	P11AE4	130-140	Charcoal	Beta 461280	9560 ± 40	11082- 10915 10894- 10656 10616- 10603	(60)
PA-AT-331: Mangangá	P11AE5	20-30	Charcoal	Beta 461281	1350 ± 30	1290-1176	(60)
PA-AT-331: Mangangá	P11AE5	30-40	Charcoal	Beta 461282	1390 ± 30	1309-1260 1249-1227 1215-1177	(60)
PA-AT-331: Mangangá	P11AE5	30-40	Charcoal	Beta 504906	1280 ± 30	1265-1207 1181-1067	(60)
PA-AT-331: Mangangá	P11AE5	40-50	Charcoal	Beta 461283	9340 ± 30	10649- 10627 10588- 10371 10354- 10340 10319- 10304	(60)
PA-AT-331: Mangangá	P11AE5	40-50	Charcoal	Beta 504907	1300 ± 30	1270-1196 1185-1173 1167-1074	(60)
PA-AT-331: Mangangá	P11AE5	50-60	Charcoal	Beta 461284	1380 ± 30	1305-1259 1250-1225 1216-1177	(60)
PA-AT-331: Mangangá	P11AE5	60-70	Charcoal	Beta 461285	1260 ± 30	1262-1212 1180-1061	(60)
PA-AT-331: Mangangá	P11AE5	60-70	Charcoal	Beta 504908	1370 ± 30	1299-1258 1251-1177	(60)
PA-AT-331: Mangangá	P11AE5	140-150	Charcoal	Beta 504909	9220 ± 30	10490- 10461 10434- 10243	(60)
PA-AT-331: Mangangá	P7AE7	60-70	Charcoal	Beta 461271	4770 ± 30	5582- 5444 5406- 5326	(60)
PA-AT-331: Mangangá	P7AE7	80-90	Charcoal	Beta 504901	7330 ± 30	8178-8021	(60)

PA-AT-331: Mangangá	P7AE7	90-100	Charcoal	Beta 504900	7270 ± 30	8170- 7967	(60)
PA-AT-331: Mangangá	P7AE7	90-100	Charcoal	Beta 504902	7950 ± 30	8982- 8911 8899- 8877 8868- 8827 8811- 8599	(60)
PA-AT-331: Mangangá	P7AE7	90-100	Charcoal	Beta 461272	5970 ± 30	6881- 6872 6854- 6665	(60)
PA-AT-331: Mangangá	P9AE1	70-80	Charcoal	Beta 504903	7150 ± 40	8017-7844	(60)
PA-AT-331: Mangangá	P9AE1	80-90	Charcoal	Beta 504904	7180 ± 30	8022- 7927 7895- 7870	(60)
PA-AT-331: Mangangá	P5AE6	20-30	Charcoal	Beta 461263	640 ± 30	651-586 573-540	(60)
PA-AT-331: Mangangá	P5AE6	40-50	Charcoal	Beta 461265	1120 ± 30	1057-1012 996-927	(60)
PA-AT-331: Mangangá	P5AE6	50-60	Charcoal	Beta 461264	2200 ± 30	2313-2226 2177-2170 2156-2043 2028-2017	(60)
PA-AT-331: Mangangá	P6 AE1	10-20	Charcoal	Beta 461266	540 ± 30	549-500	(60)
PA-AT-331: Mangangá	P6 AE1	20-30	Charcoal	Beta 461267	630 ± 30	647-588 570-535	(60)
PA-AT-331: Mangangá	P6 AE1	30-40	Charcoal	Beta 461268	540 ± 30	549-500	(60)
PA-AT-331: Mangangá	P6 AE1	40-50	Charcoal	Beta 461269	3520 ± 30	3869-3861 3852-3686 3668-3642	(60)
PA-AT-331: Mangangá	900/1000	40-50	Charcoal	Beta 461244	1440 ± 30	1356-1272 1192-1186	(60)
PA-AT-331: Mangangá	900/1010	30-40	Charcoal	Beta 461245	1670 ± 30	1585-1425	(60)

PA-AT-331: Mangangá	940/1030	40-50	Charcoal	Beta 461246	5340 ± 30	6260-6253 6199-5990 5966-5943	(60)
PA-AT-331: Mangangá	960/1000	10-20	Charcoal	Beta 461247	450 ± 30	515-443 362-331	(60)
PA-AT-331: Mangangá	960/1000	20-30	Charcoal	Beta 461248	550 ± 30	553-501	(60)
PA-AT-331: Mangangá	960/1010	30-40	Charcoal	Beta 461249	1040 ± 30	960-896 890-880 870-800	(60)
PA-AT-331: Mangangá	960/1010	40-50	Charcoal	Beta 461250	1040 ± 30	960-896 890-880 870-800	(60)
PA-AT-331: Mangangá	960/1010	40-50	Ceramic	Beta 461287	590 ± 30	629-601 563-513	(60)
PA-AT-331: Mangangá	1000/970	10-20	Charcoal	Beta 461251	510 ± 30	542-492	(60)
PA-AT-331: Mangangá	1000/970	10-20	Charcoal	Beta 461252	570 ± 30	624-610 559-505	(60)
PA-AT-331: Mangangá	1000/970	20-30	Charcoal	Beta 461253	930 ± 30	905-861 848-728	(60)
PA-AT-331: Mangangá	1010/990	10-20	Charcoal	Beta 461255	470 ± 30	525-448 354-336	(60)
PA-AT-331: Mangangá	1010/990	20-30	Charcoal from sediment	Beta 461286	560 ± 30	557-501	(60)
PA-AT-331: Mangangá	1010/990	20-30	Charcoal from sediment	Beta 462769	1610 ± 30	1533- 1402 1393- 1375	(60)
PA-AT-331: Mangangá	1010/990	20-30	Ceramic	Beta 461288	780 ± 30	728-650 587-571	(60)
PA-AT-331: Mangangá	1010/990	30-40	Charcoal	Beta 461256	190 ± 30	284-129 120-57 29-0	(60)
PA-AT-331: Mangangá	1010/990	30-40	Ceramic	Beta 461289	1600 ± 30	1528-1372	(60)
PA-AT-331: Mangangá	1010/1000	20-30	Charcoal	Beta 461257	590 ± 30	629-601 563-513	(60)

PA-AT-331: Mangangá	1010/1000	30-40	Charcoal	Beta 461258	590 ± 30	629-601 563-513	(60)
PA-AT-331: Mangangá	1010/1000	40-50	Charcoal	Beta 461259	630 ± 30	647588 570-535	(60)
PA-AT-331: Mangangá	1010/1000	50-60	Charcoal	Beta 461260	560 ± 30	557-501	(60)
PA-AT-331: Mangangá	1040/970	50-60	Charcoal	Beta 461261	2180 ± 30	2302-2245 2147-2012	(60)
PA-AT-331: Mangangá	1040/970	60-70	Charcoal	Beta 461262	3300 ± 30	3568- 3512 3496- 3392	(60)
PA-AT-331: Mangangá	910/990	30-40	Charcoal	Beta 504910	3900 ± 30	4412-4222 4207-4154	(60)
PA-AT-331: Mangangá	1080/1040	40-50	Charcoal	Beta 504911	5370 ± 30	6271- 6242 6208- 5997	(60)
Upper Tapajós							
PA01311: Terra Preta do Mangabal	N998 E974,5	55	Charcoal	OxA 33125	1151 ± 29	1061-957 941-938	(57)
PA01311: Terra Preta do Mangabal	N998 E973.5	85	Charcoal	UBA 29069	1193 ± 26	1179- 1162 1157- 1137 1095-961	(57)
PA01311: Terra Preta do Mangabal	N998 E973.5	74	Charcoal	UBA 29068	1199 ± 26	1178- 1136 1100-963	(57)
PA01311: Terra Preta do Mangabal	N998 E974.5	30-40	Charcoal	Beta 432570	1200 ± 30	1178- 1135 1105-963	(57)
PA01311: Terra Preta do Mangabal	N998 E974.5	120-130	Charcoal	OxA 34134	1243 ± 30	1258- 1250 1226- 1217 1180- 1055 1017-992	(57)

PA01311: Terra Preta do Mangabal	N998 E974.5	135	Charcoal	OxA 34133	1251 ± 28	1260- 1247 1231- 1214 1180- 1057 1006- 1003	(57)
PA01311: Terra Preta do Mangabal	N998 E974.5	20-30	Carbon- ized seed	OxA 34135	1265 ± 28	1261- 1244 1235- 1213 1179- 1063	(57)
PA01311: Terra Preta do Mangabal	N1074 E1000	35	Charcoal	Beta 400865	1270 ± 30	1262- 1211 1179- 1065	(57)

Table S8. OSL Dates from Terra Preta do Mangabal archaeological site.

Unit	Sample	Depth (cm)	OD (%)	Age (years) (Central Age Model)	Dose (Gy) (Minimum Age Model)	Age (years) (Minimum Age Model)
U1	5024	36	9.7	1135 ± 81		
U2	5025	66	30.4	1398 ± 122		
U3	5127	23	52.7	1572 ± 188	2.00 ± 0.20	575 ± 70
U4	5521	19	68.2	1141 ± 181	1.04 ± 0.04	291 ± 24
U4	5522	125	45.2	22928 ± 3622	37.25 ± 2.85	10583 ± 1074 45401 ± 3342

Auxiliary files

Dataset-S1.xlsx: Soil data.

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