Learning From Our Past

Banda District

Ghana

Learning from Our Past

Banda District, Ghana

Allison Balabuch, Esther Attiogbe, and Ann B. Stahl

University of Victoria
Libraries

2023

Published by ePublishing Services, University of Victoria Libraries
Victoria, British Columbia V8P 5C2 Canada
press@uvic.ca

Printed in Canada
Book and cover design by Allison Balabuch
Cover photo by Allison Balabuch
Photos by Ann B. Stahl and Allison Balabuch are hosted at
https://exhibits.library.uvic.ca/spotlight/iaff

ISBN: 9781550587166 (Print)
ISBN: 9781550587173 (PDF)
ISBN: 978155058-7180 (EPUB)

https://doi.org/10.18357/9781550587180

Download this book at https://dspace.library.uvic.ca/handle/1828/15205

Acknowledgements

Learning From Our Past: Banda District draws from the online *Banda Through Time* (https://exhibits.library.uvic.ca/spotlight/iaff) heritage exhibit and digital repository hosted by the University of Victoria Libraries. Both resources have benefited from community engagement in the Banda District, Bono Region, Ghana. They draw on the long-term archaeological and historical research of the Banda Research Project (1982-2011), funded by the British Academy (1986), the Wenner-Gren Foundation for Anthropological Research (1990), the National Geographic Society (1989) and the US National Science Foundation (1982, BNS-8213368; 1994-2011, SBR-9410726; SBR-9911690; BCS-0751350), with Dr. Ann B. Stahl as Principal Investigator.

Banda Through Time is a digital collection of heritage materials relevant to the Banda Traditional Area of west central Ghana. It includes open access archival materials associated with the long-term Banda Research Project, as well as recent works produced by the collaborative community-based Banda Heritage Initiative. You can access most of the images reproduced in this resource by searching for the catalog number (17-XXXXX) in the Banda Through Time repository. Catalog numbers appear on the images or in the image captions in this resource. Online versions of the images have additional metadata, including photo credits and more detailed information on the subject matter and context of each image. Teachers can find additional materials suitable for classroom use by exploring the online resources.

Learning From Our Past and the associated work of the Banda Heritage Initiative was made possible by the generous support of the Canadian Social Sciences and Humanities Research Council through a partnership development grant "Improving African Futures Using Lessons from the Past" (2018-2022). Partners included the University of Victoria, the University of Ghana, Ghana Museums and Monuments Board, Digital Antiquity (Arizona State University), the Banda Traditional Council and the community-based Banda Heritage Initiative. We are grateful to all for their contributions to this shared endeavor.

Introduction

Students learn best when they can relate school learning to aspects of their daily lives and communities. Yet most textbooks used in Ghana's schools draw examples from elsewhere, making it difficult for young people to relate to things and examples to their experience—imagine a matching exercise based on pictures of things you have never seen or a science lesson about crystals that uses snow as an example.

This *Learning From Our Past* resource is designed to help youth learn from the rich history of their surroundings. It invites teachers and learners to explore local histories, technologies and ways of doing things that cross-cut school subjects—social studies, arts, science and mathematics among them. It builds on what we have learned about daily life in Banda over the last 1000 years through work at archaeological sites and study of documents and oral histories. It helps us to appreciate how Banda area people adjusted to changing circumstances by building on earlier traditions while also drawing inspiration from elsewhere.

The resource is oriented around the theme "our grandmothers and grandfathers were knowledgeable people." It asks learners, "did you know?" The grandfathers and grandmothers practiced science when they made metals from ores or created useful containers by firing clay. Did you know that they confronted challenges like climate change and how to live together in diverse communities? It encourages young people to appreciate that knowing about their past can help them to imagine solutions to problems highlighted by the United Nations Sustainable Development Goals (https://sdgs.un.org/goals): reducing poverty and hunger (Goals 1 & 2); enhancing good health and well-being, gender equality and improving education (Goals 3-5); finding ways to reduce inequalities, promote sustainable cities and communities and responsible production and consumption (Goals 10-12); to better appreciate life on land, life below water and take climate action (Goals 13-15); and to promote peace, justice and strong institutions (Goal 16). The resource encourages young people to connect with their elders and to recognize that solutions to many of today's pressing problems need not necessarily come from elsewhere—inspiration can also come from nearby and the knowledge base of ancestral peoples.

This resource is designed to be approached thematically rather than from front to back. Each section includes information about topics such as potting, weaving and farming as well as hands-on learning activities. The hands-on activities will help students develop a deeper understanding of each topic and also develop the skills needed to pursue possible future careers. Teachers are encouraged to think about how the information can inform science and math education as well as history and the arts. For example, the section on weaving can be a springboard to talk about local plants, sustainable harvesting, and resource management. It can also be a base to learn about measurement, graphing patterns, and estimating amounts of fiber or plant material needed for various sized projects.

Many people have contributed to this resource and to the digital Banda Through Time heritage exhibit and repository on which it is based. From 1982 through 2011, the history and archaeology of the Banda area was the focus of archaeological, documentary and oral historical research through the Banda Research Project. Led by Ann Stahl, based first at University College, London (1985-88), then Binghamton University in New York (1899-2008) and later the University of Victoria in British Columbia, Canada (from 2008), the research involved many graduate and undergraduate students from these universities, together with students from the University of Ghana and personnel from the Ghana Museums and Monuments Board. As periodic visitors to Banda, we worked with the permission of the Banda Traditional Council and alongside many men and women from Banda who aided the work. Over the years we took many photos of people and places that retrospectively became a rich resource for reflecting on changes in local life during the last four decades. From 2016 we launched a community collaboration—the Banda Heritage Initiative—that used photo archives as prompts to conversations and reflections on local practices and knowledge systems with Banda community members and particularly elders. We filmed these conversations with permission and many are available as part of the Banda Through Time repository.

Learning from the Past

Studying past life-ways can help us learn for the future!

Sankofa

Sankofa is an **Adinkra symbol** widely recognized in Ghana. It reminds us that the past can hold lessons for the future. Symbolized by a backward-looking bird or a symmetrical heart, Sankofa encourages people to learn from the past.

(17-17535)

Activate what you already know

How do we learn about the past?

Share your knowledge, your stories, and your ideas with your class.

Sources of information

In Banda we have learned about the region's past through **oral histories and stories** shared by elders. We have studied **written documents** that describe historical events. And we have also learned by studying things that were made, used and left behind by people in the past and recovered through **archaeological excavations.**

Each type of source—**oral history**, **text** and **artifact**—helps us to understand different things about the past.

artifacts

A **round-based pot,** decorated on its lower surface by maize cob impressions (17-17798)

An **iron blade**, flared at the base and with a short tang for a wood handle. (17-19075)

oral history

Family history interview with Kofi Asempasa, Gbeenlee, Katoo, November, 1982.

(17-16674)

archaeological excavations

Tolee Gbankama, Chief of Nyire, visiting Ngre Kataa, 2009

(17-17064)

texts

Map of the Gold Coast (Ghana), 1896.

(https://commons.wikimedia.org/wiki/File:Gold_Coast_Map_1896.jpg)

Watch this video of *Doing Archaeology*! https://exhibits.library.uvic.ca/spotlight/iaff/feature/what-is-archaeology-how-do-archaeologists-work

Learning from the Past

Activate what you already know

<u>Why</u> do lessons from the past help us learn for the future?

Share your knowledge, your stories, and your ideas with your class.

We can learn how to be a happy, healthy community.


How we can work together. 17-16773


How we can live on the land with respect. 17-17013


How we can meet our daily needs. 17-16790


How we can protect our culture and language. 17-17143


How we can learn from past mistakes. 17-17175

Connect with your past

Do you have a family story, a text, or an artifact at home that tells about your past?

Bring in your artifact and/or tell your story to your class. What connections can you make with your classmates' stories? What can we learn from your stories and artifacts to make us a stronger community?

Learning from the Past

Learning about the **ancestral past** provides a source of pride as well as an understanding of how an area's history has shaped the present. It provides a source of knowledge for the future that will be lost if it does not continue to be shared. **What can we learn from artifacts found in archeological digs?**

Iron bracelet

17-19148

What is it?

This **iron bracelet** from the 13-15th century was found with other metal and pottery objects in what archeologists think is a metallurgical workshop.

What can we learn?

Metal artifacts tell us about the **tools and jewelry** used in the past. It tells us people knew how to make items from **ores** (rocks that contain metal elements).

Pottery Sherd

17-17617

What is it?

Pottery sherds (broken pottery pieces) are found often! They have different **clay fabrics** (chemical and mineral compositions) and **decorations.**

What can we learn?

Clay fabrics and decorations tell us where the pottery was made: if the pottery was local or if it was made somewhere else. They can tell us what different pots were used for.

Spindle whorls

17-17531

What is it?

Wooden spindles and clay **spindle whorls** are used for making thread. Fabric often decomposes leaving no trace over time but spindle whorls survive!

What can we learn?

Spindle whorls tell us if fabric was made locally or if people bought or traded for fabric made in other communities.

Why is it important for our community?

All of these artifacts tell us that our **grandmothers and grandfathers were knowledgeable people**.

People in the Banda area made things from **clay, fiber and metal** to meet their daily needs. They were scientists, artists, and craftspeople. They made objects locally and also participated in the trade of goods and ideas across the Western Africa, the Sahara, and the Atlantic trade networks before British colonial rule in Ghana. They learned from one another and from people outside the area.

Studying the past helps us to see how they **coped with challenges and responded to opportunities**, and how they carried forward **traditions** from the past while also changing them to suit new circumstances.

Welcome to Banda

Banda is an area found in the central west of what is today the country of Ghana. It lies south of the Black Volta river (Kpaan in Nafaanra). This area has long been a crossroads region where people from different places have settled.

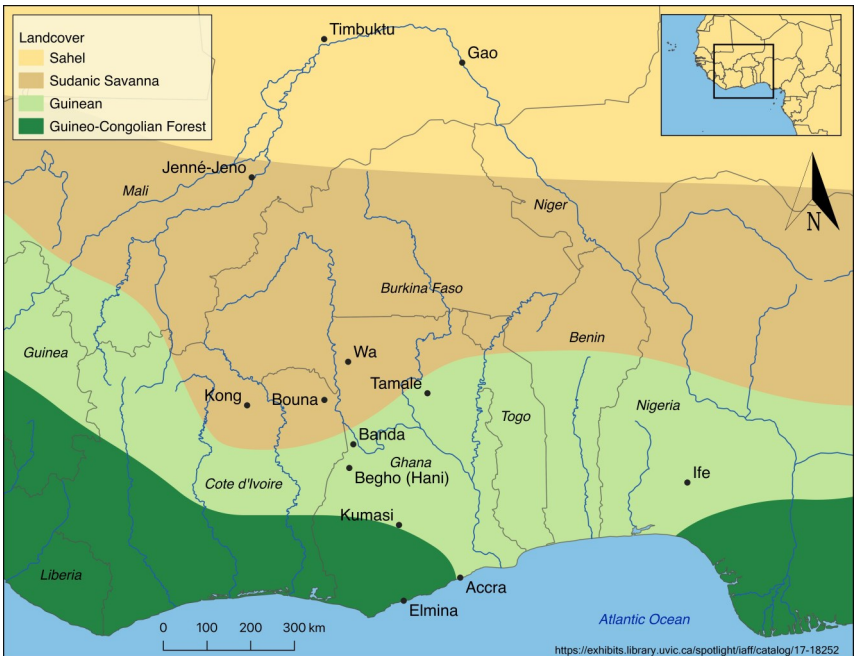
Activate what you already know

What do you already know about Ghana?

Geography

Banda is a region with **low, rolling plains** in the east and **razor-backed hills** that rise in the west. These hills make a natural barrier for 50 kilometers south of the Black Volta River. These hills were known as a source of gold from early times. To travel back and forth, you must pass the hills through small mountain gaps. This made the area difficult to move around but also protected people during times of trouble.

Boase mountain range viewed from a mountain gap near Ahenkro, 1994 (17-16969)



17-18252

The Banda area has long been a crossroads region where people from different places have settled. Banda area today has **savanna woodland** vegetation. It is located just to the north of areas that held **high forests** before logging activities over recent decades dramatically reduced forest cover. A savanna is a mix of woodlands and grasslands with smaller trees spaced out that allow sunlight to reach the ground.

Areas like Banda on the northern edge of high forest were attractive places for ancient **market towns** like Begho and Bono Manso. The pack animals used to carry goods suffered insect-borne diseases if they traveled into forested regions further south. Goods like **gold, ivory and kola** head-loaded from southern regions were exchanged for goods from Sahelian and Saharan regions of West Africa including **salt, copper, and cloth**.

Connect with the land

Draw a map of West Africa.

Include Ghana, Côte d'Ivoire, Togo, Benin, Nigeria, and Burkina Faso. Include the different landcover types, the major rivers, and the Banda region.

The People of Banda

Banda's history and heritage has been shaped by the wisdom and traditions of the **Nafana, Kuulo, Ligbi, Mo** and **Ewe** people who live in the area today and the ancestors who came before them. .

Who lives in Banda?

Women playing calabash drums, Boase, 2018 (17-17123)

There are about 80 different languages spoken in Ghana. Due to colonialism, **English** is the language used in schools and government.

Many people also speak **Twi,** an Akan language spoken across a large part of Ghana.

All the countries around Ghana are former French colonies so many people also speak French.

Paramount chief and elders, New Yam Festival, Ahenkro, 1986

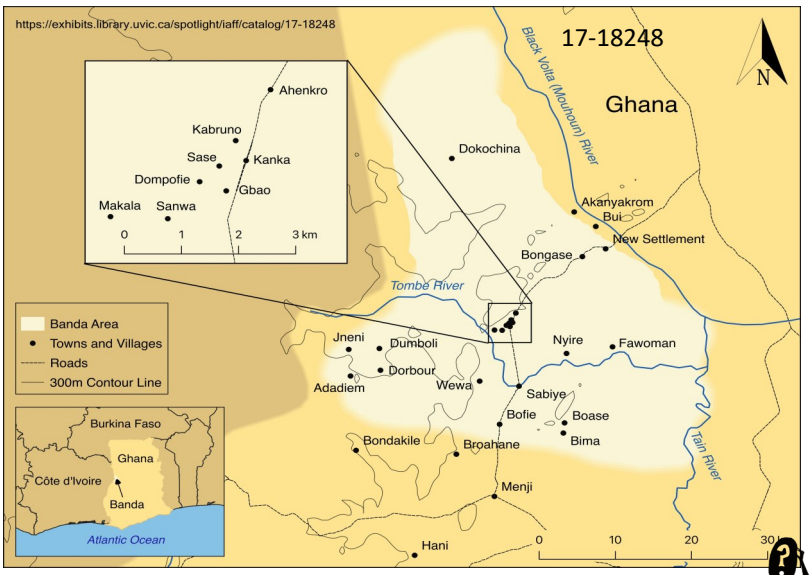
Language groups

People from five different language groups live in Banda. The **Nafana** make up the majority of the Banda area people. They speak **Nafaanra** and come originally from Kakala, a village in Côte d'Ivoire. Banda-Ahenkro is the biggest village in the area.

The **Ligbi,** a Mande-speaking people, are the second most numerous people and came to the area due to trade. Sase, Kanka, and Bima are the only exclusively Ligbi villages.

The **Kuulo** (Dompo) speak a Guang language and have lived in the area for centuries. The only majority Kuulo village is Dompofie.

Mo speakers to the north and east of Banda. The newest residents are **Ewe** speakers who live in fishing villages along the Black Volta.



Making connections

How many languages do you speak? What is difficult about doing your school work in a different language than you speak at home?

The People of Banda

Banda is made up of one large town and about 30 smaller settlements. It is home to people who trace their histories to several surrounding regions... some nearby, and others far away.

Unity


17-17521

The groups that live in Banda have lived together over centuries. They developed ways of living alongside one another despite speaking their own languages and practicing different livelihoods, customs and religions.

For this reason, the symbol of the Banda Cultural Centre, the Banda Traditional Council and the Banda District Assembly is "**Unity**."

Kuulo People and Wurache


Kwasi Millah and Wurache tree, 1995 (17-16938)

Among the groups who call Banda home are Kuulo people, also called Dompo. According to oral tradition, their ancestress Lelɛɛ Nyini Wurache descended from the sky to the lands known today as Banda. She came together with her husband Sie Dafa, a daughter named Akosua Yeli and a horse. They established a village, but the place had no water.

Wurache set out on the horse in search of water. At a point in the bush, the horse scratched the ground and water rose to the surface. The place became known as "Gbanga," which is the word for horse in the Kuulo language (Dompo).

Wurache grew to be a very old lady. One day when people were at farm, she sat on her stool holding her bowl and sank into the ground. That same day, a baobab seedling germinated on the spot, marking the place where she sank. The centuries-old tree on the outskirts of Dompofie is sacred to Kuulo people and its fruit is never eaten.

The Kuulo people celebrated Wurache's funeral with a new form of drumming called "Landɔ," which has been played since at times of war and during the funerals for Kuulo ancestors.

The People of Banda

Other groups came to settle in Banda during Wurache's time. Each community—Kuulo [Dompo], Nafana, Ligbi, Mo and Ewe—has enriched Banda history and heritage through their ways of making a living, languages and customary practices.

Nafana People

The **Nafana**, were led to Banda by a hunter named Gbaha (Gbagha) who was looking for a new place for his Nafana relations in Kakala (today in Côte d'Ivoire) to settle. Gbaha identified Banda as a good and open place for his people to settle, though on his return met Kuulo people living here.

(above) Nafana women celebrate a funeral by playing calabash and dancing, 17-16935

(Left) Celebrating the end of Ramadan, Ahenkro, 1982, 17-16925

Mo People

Mo people also live in the surrounding area.

Yaw Kyɛ paddling a canoe, 1994, 17-16972

Ligbi People

Ligbi people are Muslim people known for their work in crafting and trading. They speak a Mande language with origins in Mali. Before coming to settle in Banda, some Ligbi were with the Nafana in Kakala, others moved to the area from the ancient trading center of Begho, which is located near the town of Hani in Bono Region.

Ewe People

In the early 20th century, Ewe fishing people came up the Volta River in search of better fishing opportunities.

They chose to settle along the productive waters of the Volta and its tributaries in the Banda area.

Making connections

Why is it easier to problem solve when we have many different opinions and ideas?

How does Banda's diversity help build stronger community?

Changing Landscapes

Construction of the Bui Dam Hydroelectric project brought major changes to Banda's landscape in the early 21st century.

The Black Volta River

Bui Dam site, viewed from a canoe, mid river, looking west. 1990, 17-16967

The Black Volta River passes through a **gorge** in the Banda hills near Bui. This is the site where the Bui Dam was built, with construction beginning in 2008.

The dam is viewed looking northwest from the newly constructed bridge downstream, 2016, 17-17048

Impacts of the dam

Left to right: Michael Dzebo, Williams Enam, Lumor Cuando, Ardwin Kumordz, 2009, 17-17015

Ewe fishermen from Akayakrom (left) worked part time as guides for tourists visiting Bui National Park. They await a group of tourists making a trip up river to view the park's resident hippo population before the Bui Dam was built.

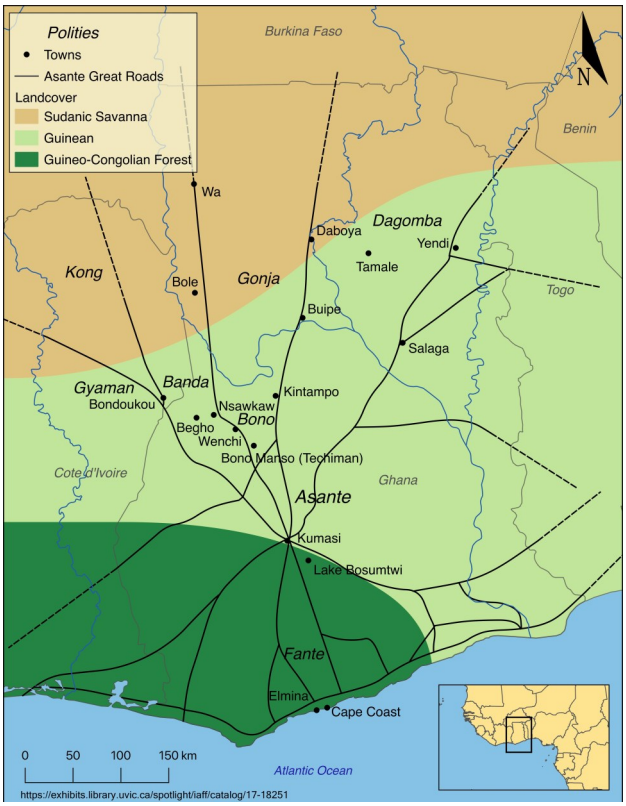
Afterwards, hippos were driven upstream by flooding. The locally made canoes could no longer be used to ferry tourists or locals or to fish on the lake because of the lake's winds and waves. Fishing was more than a livelihood for these villages. Fishing is culture.

Village sites like Agbegikrom (right) and Akanyakrom were cleared and the people were forced to relocate because the land was flooded by the dam. Farmland was also taken from local people, creating livelihood challenges for relocated villagers and their neighbors.

Getting around

Road systems have helped people travel and trade throughout history. Some roads are only passable by humans and other have enough room for pack animals and motor vehicles.

Road systems



The introduction of **motor vehicles** in the 20th century affected the Banda area's wider connections. Crossing major rivers with motorized vehicles required either ferries or bridges, neither of which were available along the Black Volta River in Banda. Most Banda area roads remained unpaved until recent decades, and throughout the 20th century the number of motor vehicles in the area was low.

The Bui Dam and the new **bridge** built across the Black Volta River at the dam site have once again made Banda a crossroads region. Future plans to extend the N12 highway from Elubo on Ghana's western coast to Wa in the Upper Rest Region will bring new opportunities, but also challenges, to the region.

Road networks have helped people move around through the region for centuries. Banda was a **waypoint** in the Asante Great Road system, which radiated outwards from the Asante capitol of Kumasi from the 18th century. You can still see this system in Ghana's paved motorways. But for centuries before the founding of the **Asante (Ashanti) Empire**, ancient trade routes connected people living in the Banda area to centers like Kong in modern-day Côte d'Ivoire and Jenne-jeno in the inland Niger River delta region of Mali.

Changes over time

Road leading north from Ahenkro to Bongase, 1982

Road leading north from Ahenkro to Bongase, 2011

Making connections

How do road systems affect your everyday life?

Why would people keep the same routes over the centuries even when they are making the roads wider or paving them?

Trade Centres and markets

In recent times, potting has been practiced only in villages like **Dorbour**, **Adadiem, Dumboli** and **Bondakile** located to the west of the Banda hills. In the past, pottery was made in many parts of the area and was traded outside of what is now Ghana in market centers such as Bondoukou in Cote d'Ivoire.

Trade routes

From the 13th to the 17th century, Banda built strong connections with regions to the north through the **Niger River** and **trans-Saharan trade routes**. In the Volta basin, the **Assanti road system** helped people trade locally. At the same time, **coastal Atlantic trade** connections were forming.

In these centuries, some Banda communities relied on potters living and working elsewhere in the area to produce the goods they needed. Pottery was a specialized skill. This is a time when **large markets and trade centres** were developing in the region.

From the 18th to the 20th century, there was a change from using mostly locally made goods towards more manufactured ones as a result of attempt by the British colonial rule. British and other Europeans worked to expand trade in goods made elsewhere.

Transportation

Pottery was being exchanged but it was also used to hold and transport other goods! Pottery has been found that shows evidence that it was used for holding beer and grains.

Making connections

Do you know where the things you use everyday were made?

Look at everyday items you use at home and find out where they came from.

Women heading to market, Dorbour, 1994, 17-16879

Trade centres and markets

Trade centres and markets were an excellent place to get new skills, new goods, and to build connections. Trade centres like **Begho,** located south of the Banda area, and **Jenne**, located to the north, were important places to buy and exchange goods since the 13th century.

Markets

Markets have been an important place to buy and exchange goods all over the world, but they are also social places! People exchanged news, ideas, and learned new skills from each other. Craft workers, such as potters, learned from each other, combining their existing skills with new ones. **Specialists** could improvise and experiment with their crafts.

Marketplace at Banda-Ahenkro, 1986, 17-16734

Begho market

Begho market was a centre of trade between the 13th and the 19th centuries. It was located directly south from the Banda area. The town was on the border of the forest and the wooded savanna areas and was a meeting place for different groups of people speaking different languages.

Markets such as Begho were divided into different quarters where people from different backgrounds lived. Many were crafts specialists like **blacksmiths, potters, and weavers.** They traded locally made goods and food for **copper**, **gold**, **salt,** and **ivory.**

Pottery and clay were important to many crafts! In the blacksmith quarter, archeologists have found clay **crucibles** with the remnants of melted brass inside. In the Brong quarter, they have found **spindle whorls and indigo dye,** lined with fine clay 'cement'. They also found pottery discs that could have been used for **weights** when weaving. Pottery from around the region was also found at Begho showing that it too was an important trade good.

17-17078

This painting by Kwame K.B. 2 shows a woman headloading pottery on her way to market. The painting is on the courtyard doors of the Banda Cultural Centre.

Watch this video:: Begho, a market town in 16th century West Africa

https://youtu.be/JlxPaT4jETY

Mu kre kee nga chiin Did you know?

O leleɛlɛ pra naa pe jawala teeri na ʏirɛ pini. Pra ja na choo teeri na chɔɛ faanri.

Our grandmothers were scientists. They transformed clay into pots .

Our grandmothers were potters

Today imported metal and plastic containers are found often in kitchens in Banda. But in the past, people used locally made pottery to meet their daily needs.

Fired clay pots were used for many reasons such as to store food and water, and to cook and serve daily meals. Skilled potters made containers in many shapes and sizes to meet these different needs.

Our grandmothers were scientists

The grandmothers who were skilled potters over the centuries had **knowledge** that today we study in school called chemistry and physics.

Archeologists can help us to learn about these potters and their craft. We know that they experimented, improvised and innovated, using local materials to make things that were vital to daily life in Banda.

Activate what you already know

Look at the pictures. What do you already know about pottery? Share your knowledge, your stories, and your ideas with your class.

Vocabulary

Look at the picture again. What key words do we need to know to study about pottery?

- Look for **bold print** in the text to help find **key words.**
- Make a **vocabulary list** to help you read, speak, and write about pottery.

Learning to make clay pots, Dorbour, 1994, 17-16877

Ask your elders about pottery. Did they use more pottery in the past?

Do they have any stories to share about pottery in Banda or in other areas of Ghana?

Connect with your community

Potting through time

Fired clay containers, like ceramics or pottery, been used in Africa for more than 11,000 years!

Activate what you already know

Why do archeologists study pottery?

Learning about the past

Pottery is one of the most common things that archaeologists find when they dig at old settlement sites. This is because, although fired clay pots break, they do not **decompose** after being thrown away. By studying broken pieces of pottery (sherds), archaeologists can learn about how people made pottery and how they used it in the past.

Excavating pottery jars, Makala Kataa, 1994, 17-17558

The Kintampo complex and the Volta phase

before the 13th century

The earliest pottery known so far in the Banda area dates to more than 3500 years ago. And is called the *Kintampo complex* by archeologists. This was a time when people started to be **sedentary** - to stay in one place to build villages - instead of being **nomadic.**

The next kind of pottery in the area dates to about 2000 years ago during the *Volta phase*. Like earlier Kintampo pottery it was decorated with small square depressions that potters made with a comb-like tool. Volta phase potters also decorated pots with red-painted designs.

These earlier potters used some of the same clays as did potters in later times. This tells us that they made their pots in the Banda area and did not import them from some other region.

17– 18280

17– 18265

Connect with the world

3500 years ago...

Many civilizations were starting to build villages and started farming instead of being hunter-gatherers. Visit this link for more information about the world in 1500 BCE.

https://www.timemaps.com/history/world-1500bc/

Potting through time

Who was making pottery?

Archaeological evidence shows that in some centuries potting was a **skilled craft** practiced by **many people** across the region. At other times, pottery was made by **specialists**. In centuries when there were specialist potters, skilled craftswomen made many more pots than needed by a single household and they **exchanged** their finished pots for other goods. Through these exchange networks, pots made in Banda found their way into households in neighboring areas.

The Ngre Phase 13th to 15th Century

Potters living east and west of the Banda hills made pots of similar form and decoration. They used raw materials that were close at hand. They were part of a wider **community of practice** in which knowledge of techniques and styles was shared across the area. Pottery was traded across the region during these times.

17-18283

New tools and ideas

Potters at this time decorated their jars and bowls using a number of different tools. This is the earliest phase during which Banda area potters used carved roulettes to decorate the surface of their pottery. Potters also began experimenting with **crushed iron slag** as a **temper**. This was possible because metallurgists were producing a lot of iron at the time. A **temper** helps bind the clay together and deep the finished pot from cracking while being dried and later fired.

The Kuulo Phase 15th to 17th Century

In these centuries, Banda area potters made pottery in many shapes and colors. Potters used a red pigment and/or a **mica slip** to produce beautiful finishes. Most pottery from this time came from the east of the Banda hills. This tells us that pottery was a **specialized skill**.

17-17625

The Makala Phase 18th to 20th century

The pottery of this time is made from a variety of ceramic "fabrics" or **clay recipes**. Women of the time were making pottery for households in their home villages from clay sources close to their villages.

17-17798

Potting is Science

Potters are practicing scientists. They learn the properties of clay, metal, and fire to improve the function, quality, and beauty of their pots.

Tempers

Mixing potting clay, Dorbour, 17-16913

Potters test new clays to see how **plastic** or workable they are and how well they fire. They do experiments by adding things to the clay to prevent shrinkage and cracking during drying and firing. These are called **tempers**. Tempers can be anything from plant materials to crushed rock or ground-up pottery.

Pottery from the Kuulo phase has a special temper. This recipe used crushed **iron slag** (a by-product of iron smelting or smithing) which potters added to the clay as a tempering agent. This shows cooperation between men's work of iron smelting and smithing and women's work of potting.

The Science of fire and heat

After drying, and in preparation for firing, the completed pots are stacked together with **fuel** which can include wood, grass, or bark. They must also understand the **properties of fuels** used to fire pots and how **the intensity of heat**, **the flow of oxygen** and **duration of a firing** can affect the finished product. A fire that burns too hot or too quickly can cause the pots to break during firing.

Dipping clay pots in bark solution, Bondakile, 1982, 17-17219

Preparing the firewood for firing clay pottery, Dorbour, 1994, 17-17222

While still hot, some types of pots are dipped in a **pounded bark solution** which seals and darkens their surface. Other pots, like grinding bowls, may be rolled while still hot from the fire in dry grass or peanut shells. The plant materials **carbonize** when they come in contact with the hot pot and blacken the pot's surface.

Clay water-cooling pots, Ahenkro, 1986, 17-16861

Keeping water cool

Water pots are not finished the same way as cooking or eating pots. The **porous walls** of these pots helps keep the liquid stories inside cool. For this reason, these pots are not treated with the bark solution used to finish cooking pots. The **narrow opening** of the jar reduces evaporation and conserves water.

How it's made - Clay pots

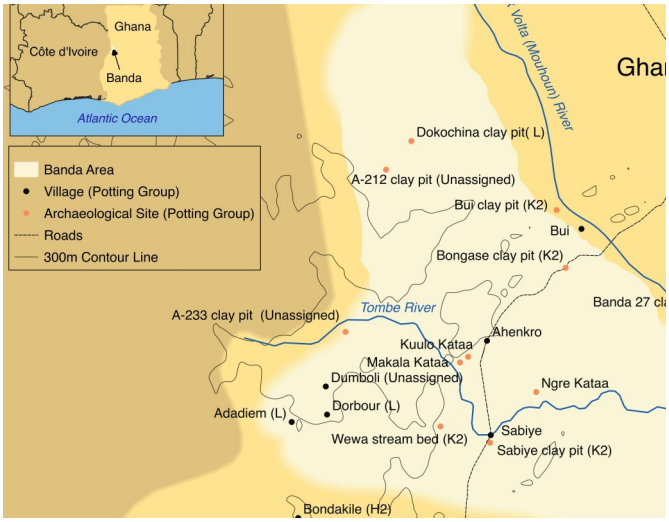
An **operational sequence** is the steps of a skilled practice like potting. In potting, these steps include getting and preparing the clay, molding or forming the pot, applying decoration, firing the pot, and finishing its surface.

Activate what you already know

Have you ever made anything from clay? Share your story with your class.

Step 1 Mining the Clay

Potting clay must be dug and carried to the potter's workplace. Potters know that clays are often found near rivers and bodies of water. These are places where concentrations of clay transported by wind and water are often deposited together with other minerals.



Clay sources and select archaeological sites, Banda area, 17-18249

Large clay pit west of Bui Village, 1989

Working together

Potters are helped in mining clay by their families, and the mining process is guided by ritual protocols to ensure that ancestors and land spirits support their work.

Step 2 Preparing the Clay

After being mined, clay is set aside to dry, sometimes close to the place where it has been dug or in the potter's workplace.

The dried clay is pounded in a mortar with a pestle until it has an even texture. It is then **sieved,** after which temper may be added and water is mixed into the clay. The mixture is then **kneaded** until it reaches the right consistency for the type of pot being made.

Potting clay drying, Dorbour, 1994, 17-16911

How it's made - Clay pots

Step 3 Forming the Pot

Potters begin by forming a depression in a lump of moist clay. Next, they draw the clay upward and outward to form the pottery vessel's body and rim. The potter moves around or turns the pot as it's formed. The pot's walls are then scraped and thinned. Coils of clay can be added to build the pot higher and form the pot's rim.

Once shaped, the body and rim are set aside to dry for some time. When the pot has dried to a "leather hard" state, the potter adds a base or bottom. The pot is then set aside to dry once again.

Peni Krah, a Nafana potter, forming a clay pot, 1994

Step 4 Applying Decoration

Potters use many tools to decorate the surface of pots. The sharp edge of a metal tool or a piece of calabash may be used to make lines, or the rounded surface of a water-worn pebble or seeds may be used to smooth and burnish the surface.

Potters use **roulettes** or a metal bracelet to impress a design or they may use maize cobs to both shape and decorate the surface of jars. Some pots may be decorated with red **slip,** a thin clay solution to which red **pigment** (hematite) is added.

Akua Donkor, a Nafana potter, decorating a clay cooking pot, 1994

Step 5 Firing Pots

The completed pots are stacked together with fuel which can include wood, bark and grass. Once lit, the bonfire burns for less than one hour. The heat transforms the leather-hard dried clay pots into durable fired containers. As the bonfire burns down, the potters and their helpers carefully remove the hot pots from the fire. While still hot, some types of pots are dipped in a **pounded bark solution** which seals and darkens their surface.

Watch this 25 minute video of potters showcasing their skills at the Banda Heritage Event in 2019 held at the Banda Cultural Centre in Banda-Ahenkro.
https://exhibits.library.uvic.ca/spotlight/iaff/catalog/17-19205

Connect with the community

Potting tools

Skilled potters use **tools** to help them smooth, shape, and decorate pots. Here are some potter's tools from Dorbour laid out on a clay-covered **grinding stone**.

Two **maize cobs** (*bledjukaan*) used for shaping, smoothing, and making decorations.

A **spatula** used for shaping and smoothing. Spatulas can be made from calabash, plastic, metal, or pottery.

A small **clay bowl** holds water and a piece of **cloth** used to moisten the clay so that it doesn't crack while the potter works. It is also used to smooth the surface of the pot after it is formed.

17-16915

An enamel-ware pot holds several water-worn **pebbles**, several of which also sit in front of the grindstone. Pebbles (*gbelia*) are used to **burnish** the surface or make decorations on the pot's surface.

Two iron rings or "bracelets" - The one with a wide flat side (*gbooroo*) is used to scrape and thin the pot's walls after they have been allowed to dry. The other can be used to decorate pots.

Half of a **seed pod** from a tree (*jenge*) used for shaping and smoothing.

Using the tools

A potter uses a **metal bracelet** as a roulette to make shallow grooves on the leather-hard surface of a cooking pot (*sro chɔ*). She rolls the bracelet across a surface that has been textured using a **maize cob** (*bledjukaan*) roulette. Next she will make shallow grooves along the boundary between the smooth upper body of the jar and the maize cob-rouletted lower areas.

Decorating a clay cooking pot, Dorbour, 1994

How it's made - Roulettes

The designs on pottery are often made using a **roulette**. A roulette is a tool that is rolled to make a design. It can be carved from wood or made of metal, cord, or plant parts like maize or corn cobs. Maize or corn cobs are also used as a tool while making the pot to smooth its surfaces.

Flexible roulettes

Twisted cord roulette

Flat folded roulette

Flexible roulettes are made from cord or flat strips of plant material. You can roll them across the wet clay or you can press them in to make different designs. To make these tools you can twist, knot, braid, or fold the cord or flat material around a core. The core can be a small stick or another piece of cord. Examples of these type of roulette have been found in Ghana. http://cerafim.free.fr/francais/objets/instruments/roulettes.htm

Plant cobs

Maize roulette effect - Clay jars stacked on firewood, awaiting firing, Bondakile, 1982

Blepharis ear used as a roulette

Dried plant cobs or seeds of plants can be used as a roulette as well. **Maize cobs** (*bledjukaan*) are very commonly used to decorate pottery today in Ghana. The grains are removed and the cob is slightly burned and trimmed to make the tool. The ear of *Blepharis ciliaris,* a cob of millet, or carved casuarina fruit can also be used as a roulette.

Connect with the land

What types of plants can you find near you that you could make a roulette with? Are there grasses you could braid, knot, or weave? Are there cones or cobs of plants that you could dry like maize?

Explore and Transform!

Learning to make something takes **creativity, problem solving**, and **perseverance**! We can learn from following **models and examples** made by more experienced artisans. We can use that knowledge to create new designs and products.

Exploring roulettes!

Materials:

- Clay
- Cord or rope
- Textured pieces of wood (with or without bark)
- Knife

Instructions:

- Roll out a ball of clay into a **slab** to make a surface to try your roulettes.
- **Cut notches** in your stick to make a pattern and then roll the stick across the clay slab. If you don't like your pattern, try again with a new stick!
- **Braid** your rope or cord to make a new texture. Roll the braid across the clay to make a pattern.
- **Experiment!** What happens when you combine both roulettes? Save your favorite roulettes for future projects! Are there any cobs, seeds, or other materials you could try to make a pattern with?

Sometimes learning new skills takes a lot of time and effort! Every mistake we make is an opportunity to learn new skills. If you don't like the effect of your roulette, reform the clay into a new slab and try again!

Inspired... by nature

The calabash plant has been a useful plant in everyday life. The shape of the plant has inspired the shape of many pottery vessels.

Calabash farming

Calabash is an ancient plant in Africa. When mature, calabash fruit can be hollowed out and dried to form a woody container. Depending on their shape, calabash can be used as **bowls**, as **ladles**, to make **musical instruments, and fabric stamps**. The seeds are popular in soups.

Intercropped farm field near Banda-Ahenkro, 1982, 17-16772

Processing Calabash

Just like pottery, calabash comes in different shapes and sizes. In this photo, Nduo Wulo Kwadwo is preparing calabash bowls (*chrɛgbɔɔ*) for market (left, 17-16774). After removing the pulp and seeds, he scrapes the gourd's interior surface with a metal blade to clean and thin its walls before drying.

Cleaned calabash bowls are then dried before using in the home or taking them to market (above).

These bowls are drying at Nduo Wulo Kwadwo's farm on the outskirts of Banda-Ahenkro, August, 1982. (17-16775)

17-16796

Making connections

Calabash, metal, and pottery pots all share the same basic shape. Why would different materials be better for different uses?

Inspired... by Shape

Does the shape of a pot make a difference? Why?

Pots


17-16859

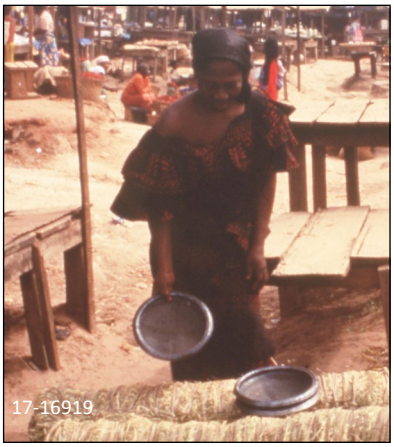
A **soup pot** (*chiin sinyjɔlɔ*) has sharp-angled shoulders and an everted rim. It is simply decorated with grooved lines above the shoulder, but otherwise plain. The larger one on the right has been blackened, a treatment that is not commonly seen on archaeological pottery from Banda sites.

Jars


17-16860

The clay **pottery jars** (*sro chɔ*) used to prepare food come in many sizes. Round-based jars like these are used to boil yams and other starchy foods. They are supported by hearth stones as they sit on the fire. Their lower surface is often textured with a **roulette** which may make them easier to handle when full of liquid and food.

Grinding bowls or Men's eating bowls


17-16919

Large, shallow blackened clay bowls are used in cooking and for eating. Cooks use them together with a small double-sided wooden **pestle** to grind pepper and cooked vegetables like "garden eggs" (small eggplants) for soups. They are also used as **men's eating bowls** (*pɛɛ*). Potters in the region began to produce the bowls for sale both locally and at regional markets and by the 1980s and 1990s, this one of the most popular pots made for market sale.


17-16886

Women's eating bowls

Small clay eating bowls like this one (*kpokpoo*) were usually used by women. The one on the left has been blackened - something that became popular in the 20th century. Similar bowls are found on archaeological sites around the Banda area, though often with a flat, pedestaled base and seldom blackened.

Connect with your community

Why are men's and women's eating bowls different shapes and sizes?

Why are cooking pots made in these shapes? Why do they have a round base and an everted rim? How are these pots and bowls similar or different to the vessels that your family uses to cook and eat from everyday?

Explore and Transform!

Learning to make something takes **creativity, problem solving**, and **perseverance**! We can learn from following **models and examples** made by more experienced artisans. We can use that knowledge to create new designs and products.

Exploring clay pots!

Materials:

- Clay

Instructions:

- Make a smooth ball of clay

Tip: If your clay cracks or is getting dry, wet your hands in some water to moisten and smooth it out.

- Use your thumb to make a hole
- Make the opening wider, working in a circle, to form the pot.

- Continue to shape your pot until it is as thick as your smallest finger all over. Decide if you want to make a pot that is flatter like an eating bowl or taller like a cooking pot.

- Turn your pot upside down and check the shape.
- Gently flatten the bottom so that your pot will stand up or leave it rounded like the cooking pots. .

Try out your roulette on your pot to add texture or wait until it is dry and paint it!

Sometimes learning new skills takes a lot of time and effort! Every mistake we make is an opportunity to learn new skills. If you don't like your pot, reform the clay into a bowl and start again!

Mu kre kee nga chiin Did you know?

O leleɛle na o toleɛle pre titi na yonyi tin mu chin .

Our grandmothers and grandfathers made their own cloth.

British colonial officers who visited Banda early in the 20th century observed that **"every woman is a spinner and every man a weaver."**

The pattern they described spoke to the importance of **locally made cloth** in social life. Local cloth was made by **weaving** threads spun from cotton and sometimes other **fibers**. into **narrow cloth strips (8-10 cm)**. The narrow strips were sewn together to form larger cloths. It is likely that cloth making was not always a local activity in Banda.

Activate what you already know

Tolɛɛ Kofi Dwuru II, Paramount Chief of Banda, Ahenkro, 1967, 17-17329

Look at the picture of former chief Kofi Dwuru II, on the stool from the 1930s to the 1970s, wearing an **Adinkra**-style cloth in the 1960s:

What do you already know about making cloth? Share your knowledge, your stories, and your ideas with your class.

Vocabulary

Look at the picture again. What key words do we need to know to study about making cloth?

- Look for **bold print** in the text to help find **key words**.
- Make a **vocabulary list** to help you read, speak, and write about making cloth.

Watch this video of weavers! "Men's and Women's Weaving in Africa: Burkina Faso, Ghana, Nigeria" https://youtu.be/CQfZeQXQX48

Connect with your community

Ask your elders about **making cloth**. Did they make their own thread and cloth in the past?

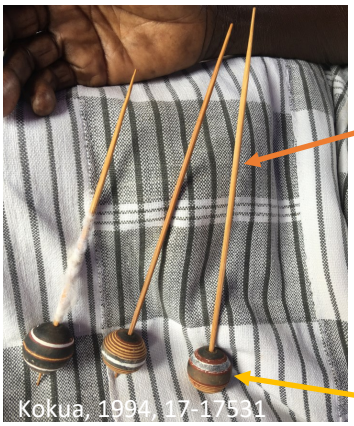
Do they have any stories to share about spinning or weaving in Banda or in other areas of Ghana?

Spinning

Our grandmothers were spinners

Women made thread from **raw cotton** using **wooden spindles** which were weighted at one end with a fired-clay **spindle whorl,** which helps the spindle to maintain an even spin.

The weight helped the spindle to spin evenly as the woman guided the fiber onto the spindle. Thread forms as the spindle spins, with the finished product building up in layers toward the spindle's lower end, near the whorl.


Kokua, 1994, 17-17531

Spindles (*gɛndɛ)* are made from wood.

Spindle whorls *(gɛndɛ kaan)* are made from fired clay.


Gbao, 1982, 17-17202

Ma **Fiɛn** of Gbao (left) and Abena Wusu of Dompofie (right) spin cotton thread. They use their right hand to guide thread onto the spindle as it spins. In their left hand, they hold the raw cotton from which the thread is being spun. They control the tension and flow of the cotton by alternately pulling back and easing their left hands.

Ma **Fiɛn** uses a **calabash bowl** placed on a **basket** as a spinning surface.

Abena Wusu uses an **enamel-ware bowl** placed on a **basket** as a spinning surface.

The baskets on top of which they spin are used to store spinning equipment when not in use.


Spinning cotton thread, Bondakile, 1994, 17-17205

Connecting communities

Cloth can only be produced by cooperating with other crafts such as **calabash harvesting** for spinning bowls or pottery making. Without the **fired clay spindle whorls** made by a potter, women would find making thread difficult!

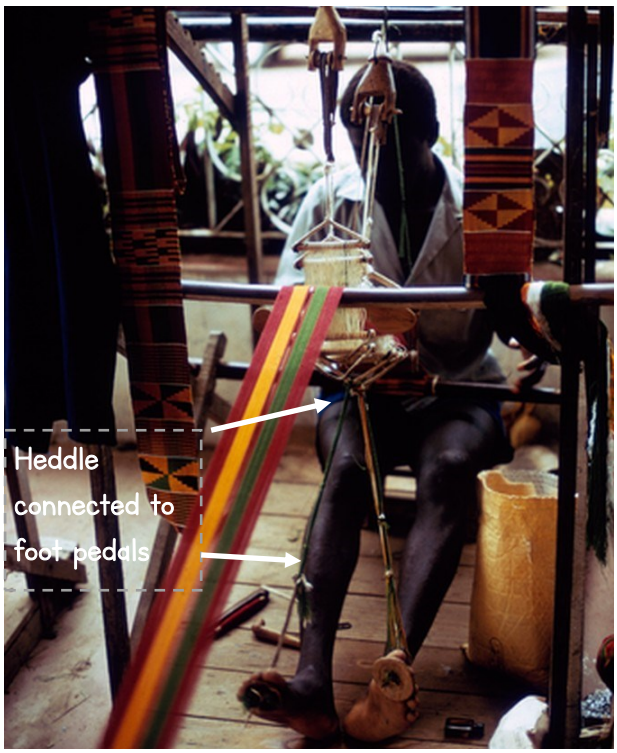
Weaving cloth

Our grandfathers were weavers

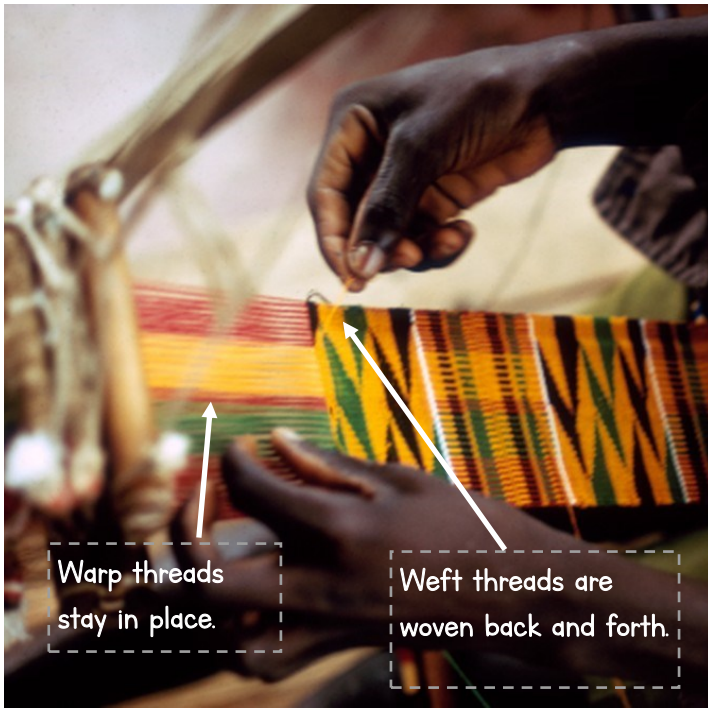
Weaving strips

Looms are made from wood and usually operated by a man who uses his hands and feet to manipulate the loom and thread.

Intricate patterns can be created by alternating the color of **warp** and **weft** threads.



(Image: 1973). Ghana, Bonwire: Men Weaving Kente Cloth Strips. Retrieved from https://library-artstor-org.ezproxy.library.uvic.ca/asset/AUCSBIG_10312707058



(Image: 1973). Ghana, Bonwire: Men Weaving Kente Cloth Strips. Retrieved from https://library-artstor-org.ezproxy.library.uvic.ca/asset/AUCSBIG_10312706979

Foot peddles connect to a **heddle** allow the weaver to raise and separate warp threads before passing a weft thread through the opening. A weaver might use his hands or a **shuttle or bobbin** to pass the weft thread through the open warp threads. He uses **a beater** to press weft threads close to one another.

(Photograph: 1976). Mossi weaving. Retrieved from https://library-artstor-org.ezproxy.library.uvic.ca/asset/ACHRISROYIG_10312257604

Sewing the strips together

After weaving the strips, they are sewn together to make a bigger piece of cloth.

(Image: 1975). Ghana, Bonwire: Men Weaving Kente Strip-Cloth. Retrieved from https://library-artstor-org.ezproxy.library.uvic.ca/asset/AUCSBIG_10312707850

Weaving cloth

Gifts of these cloths helped to create social ties, for example, when cloth was given as a gift from a man to his new wife. Strip-woven cloth was a valued possession.

Did you know… the combination of colours and patterns have different names and different meanings!

Can you identify these cloths?

1. Bɔfiye 2. Yongo Kyara 3. Mmɔlɔ 4. Kakya 5. Kyekye 6. Kyara 7. Mmɔlɔ Kyara

8. Gbenalekinu 9. Yowɔɔ 10. Donkɔnfra 11. Nyankakya 12. Surugukawa

Answers: 1. k, 2. i, 3. l, 4. e, 5. c, 6. a, 7. b, 8. j, 9. h, 10. d, 11. f, 12. g

Explore and Transform!

Learning to make something takes **creativity, problem solving**, and **perseverance**! We can learn from following **models and examples** made by more experienced artisans. We can use that knowledge to create new designs and products.

Exploring weaving! Make a branch loom

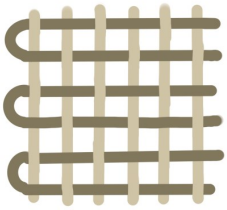
Materials:

- 1 branch with a fork (example to the right)
- String or yarn, plant materials
- Scissors and an eating fork

Instructions:

Step 1. Wrap your warp thread around one side of the fork in the branch and then stretch it to the opposite side. Continue until you have filled the fork with your warp threads. Adjust how close together or far apart you want your weaving to be. Closer warp threads will make smaller stitches!

Step 2. Start your weft thread. Start at one end going **over the first warp** thread and **under the next warp** thread.



Step 3. Use an eating fork as a beater to neatly pull the thread down in place.

- Step 4. Go back across the loom. Go under the threads you went over last time and over the threads you went under!

Experiment with plant materials and other flexible fibers. You can weave with anything that can bend!

Sometimes learning new skills takes a lot of time and effort! Every mistake we make is an opportunity to learn new skills. If you miss a string, go back and try it again.

Explore and Transform!

Learning to make something takes **creativity, problem solving**, and **perseverance**! We can learn from following **models and examples** made by more experienced artisans. We can use that knowledge to create new designs and products.

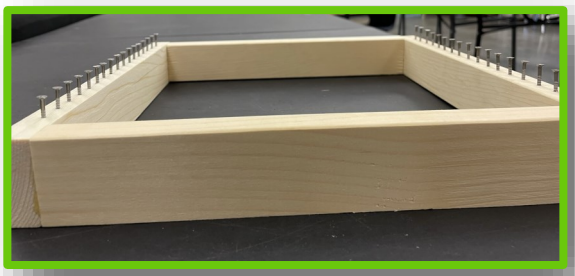
Exploring weaving! Making a loom

Materials:

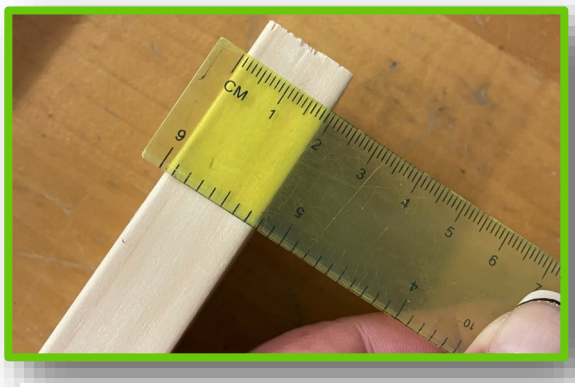
- 4 pieces of wood (2 of each length)
- Nails

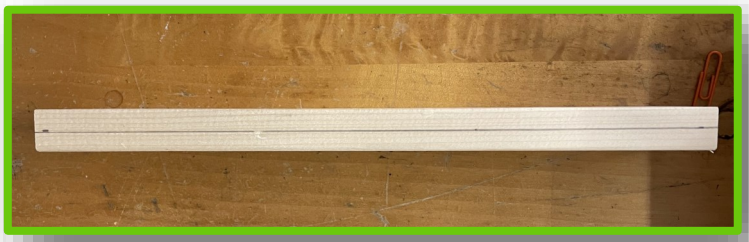
Instructions:

- Join 4 pieces of wood together to make a square or a rectangular frame.



- Mark the center point of the top and bottom pieces of wood and draw a center line.





- Measure and mark every 1.5 cm on the top and bottom pieces of wood along the center line.
- Hammer a nail at each point.

Make sure your measurements are the same on the top and bottom! If they are different, your weaving will not be straight!

Sometimes learning new skills takes a lot of time and effort! Every mistake we make is an opportunity to learn new skills. If your nails are not straight, take them out and try again!

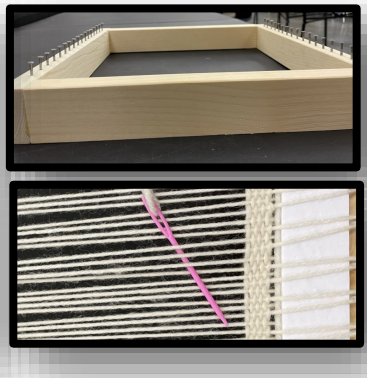
Explore and Transform!

Learning to make something takes **creativity, problem solving**, and **perseverance**! We can learn from following **models and examples** made by more experienced artisans. We can use that knowledge to create new designs and products.

Exploring weaving!

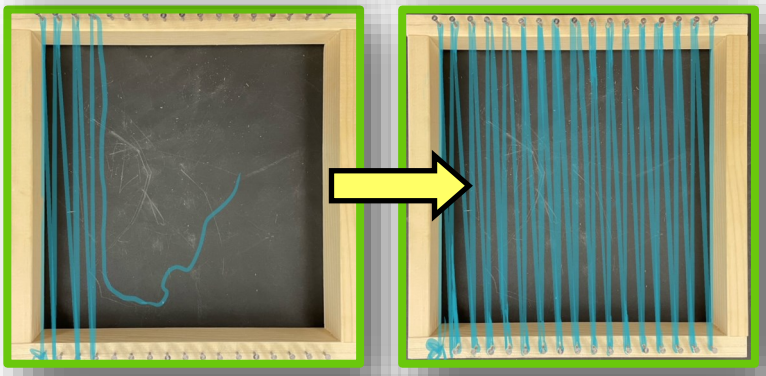
Materials:

- Loom
- Thread or string
- Fork
- Needle (plastic or cardboard)
- Cardboard (for a spacer & to make a needle if needed)



Instructions:

Step 1. String your loom. Start at the bottom corner and pass your string to one end and bring it back to the other using the nails to hold the strings in place.



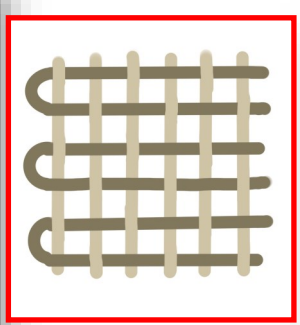
Step 2: Slide a spacer along the bottom so that you have enough room to tie the ends when you finish. (About 2 1/2–3 cm wide)

Step 3: Thread your weft thread on your needle or make a shuttle from a spare piece of cardboard.

Start at one end going **over the first warp** thread and **under the next warp** thread.

Step 4: Use your fork as a beater to neatly pull the thread down in place.

Step 5. Go back across the loom. Go under the threads you went over last time and over the threads you went under!



How its made - Weaving mats

Woven mats (*dɛŋglɛ*) made from **raffia palm** have been an important part of daily life in Banda. These mats are used for sleeping, for burials and for other uses. Woven mats are still important today for burials. They tell the ancestors that you are following the traditional ways.

Harvesting raffia palm

Raffia palm is harvested for mat making during the rainy season. Once the fronds have opened, it is too late to harvest!

Step #1: Choose a centre frond that is tall and straight.

Step #2: Peel off the leaves. Only keep the leaves that are straight and without holes from animals.

Step #3: Sort the leaves into bundles according to size.

Step #4: Bundle the leaves to take home to dry.

Raffia Palm, 17-19509

17-19510

17-19508

17-19511

Owusu Alexander harvesting raffia palm leaves, 2022

Raffia palm is also used for reclining chairs, baskets for drying and storing, and chicken cages.
It is also used to support thatch roofs and farm shelters.
It is a very useful plant!

17-19521

Respectful harvesting

The elders tell us not to leave the waste parts of the plant to dry in the forest. It can cause fire dangers!

Do not harvest all the plants from one area. It is important to leave some to grow. When we over-harvest, it leaves nothing for future generations. It is also bad for the insects, animals, and birds that depend on the plants to live.

Making connections

Do you have anything made from raffia palm in your house? Share your stories with your class.

How it's made - Weaving mats

An **operational sequence** is the steps of a skilled practice like weaving. In weaving, these steps include drying, splitting, starting and finishing the mat. .

Activate what you already know

Have you ever made anything from raffia palm? Share your story with your class.

Step 1 Drying the raffia

Put the raffia palm fronds in the sun until they are dry. Lay them flat so that they will dry straight.

Don't leave them on the ground to dry because they are a popular food for animals! It is better to dry them on the roof or anywhere off the ground.

(right) Owusu Alexander drying raffia, Sabiye, 2022

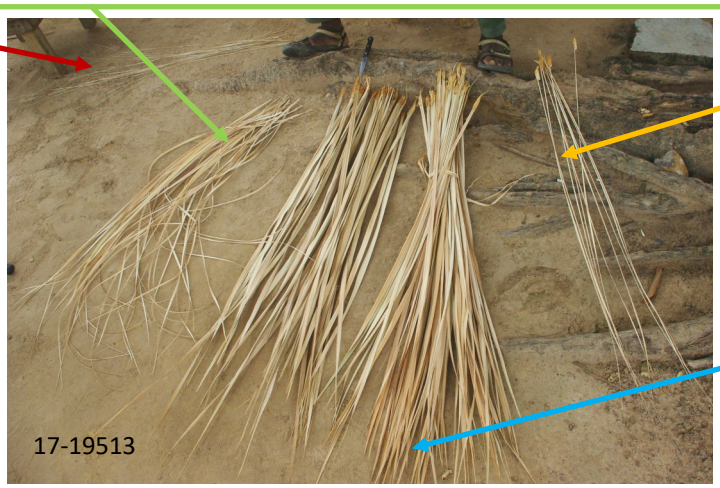
Step 2 Preparing the raffia

With a sharp knife, separate the raffia fronds into 3 parts. The soft edge is removed first and discarded. Separate the hard edge but leave it attached at the base. Use the back of the knife and run it up the length to stretch the frond (like a ribbon). Split the frond in half but leave 5cms attached at the end (see IMGP9812). Fold it in half. Remove the hard edge together with the base from your weaving materials.

17-19533

Weaving materials: Use your knife to make sure the raffia you are using for the project is straight and even! If you do not prepare your materials carefully, your mat will have holes or mistakes.

Soft edge : not needed for this project.



Harder edge piece: not needed for this project but useful for brooms (*pɔyira*).

Dried unprocessed fronds bundled by similar length.

Even though you don't need all parts of the frond to weave, you can save the discarded ones for fire starter or for other projects. Every part of a plant like raffia palm can be useful!

How it's made - Weaving mats

Step 1 Building the first row

To start the mat, you must make the base to weave from. To make the base, you must continue to add fronds until you have the width of the mat you want. The weaver adds one or two fronds at a time until they reach the width of mat they want to weave. When it is finished, the base or first row looks like 4 rows!

Follow the steps below as Owusu Alexander from Sabiye weaves a mat.

17-19516

17-19515

17-19517

Step 2 Adding rows

The weaver attaches the weaving to a **raffia palm branch**. This keeps his weaving stable. He works with 3-4 fronds on his finger as he weaves each row. Wrapping the fronds and locking them with the left hand helps the weaver to keep track of his place in the row. This also helps to keep each row straight and neat.

17-19519

Step 3 Adding fronds

When the fronds are getting short, the weaver adds new fronds. He places a new frond on top of the old frond and weaves with both until the new one is locked in.

The ends of the fronds are cut off when the mat is finished.

17-19523

Owusu Alexander adds new fronds to his mat, Sabiye, 2022, 17-19525

17-19561

How it's made - Weaving mats

Weaving a mat takes patience and care. If you want your mat to be straight and true, the fronds must be woven with equal **tension**.

Tools of the trade

While the weaver adds rows, he keeps his weaving organized. The width of the mat is attached to a **raffia palm stick**. As he weaves, he rolls the mat around the stick so that it does not get in his way as he works. Look at the pictures of the weaver. What do you notice about how he holds his project? How would changing the direction of the stick help him keep his weaving straight and true?


IMGP 9937


IMGP9941


IMGP9957

Porcupine quill


IMGP9937

A **porcupine quill** (*kɔtɔkɔ singe*) is also an excellent tool to help the weaver. It can be used to straighten rows, make holes, and thread raffia. Our ancestors didn't need to buy tools—they made them from what they found in their environment!


IMG_6712

Step 4 Finishing the mat

The weaver works the last row to close the mat. The fronds are folded and locked in to create a finished edge that is similar to the sides of the mat. The leftover fronds are trimmed at the end.

The mat is finished!


IMG_8237

Mu kre kee nga chiin Did you know?

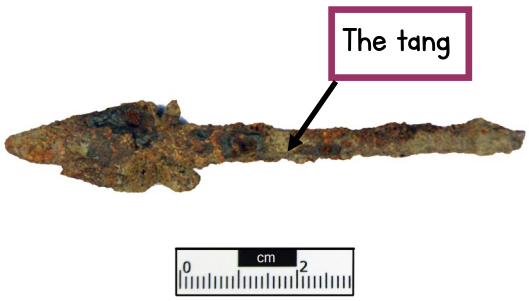
O tolɛɛlɛ pre naa pe jawala teeri na yirɛ pini. Pra ja na tɔɔrɔ woni gbleŋgaa nu.

Our grandfathers were scientists. They made metals from ores.

Metallurgy in West Africa

Metallurgy, the practice of making useful things from metals, goes back many centuries in West Africa. Archaeologists have found evidence of very early **iron metallurgy** associated with Nigeria's Nok Culture, which dates back at least 2,500 years ago (550 BCE or before).

Today, metals are imported to Ghana from elsewhere but until the 19th century, people across West Africa made their own metals. Some of the earliest evidence of people making their own iron in Ghana comes from the Gambaga Escarpment in the North East Region, where archaeologists have found evidence at Birimi that people made iron from ore by about 1,600 years ago (about 400 CE).



17-19088

To make an arrow (*snini*) or a spear (*chombo*) the tang was inserted into a straight shaft made of bamboo, reed or lightweight wood.

Different metals

Making metals from **ores** (rocks that contain metal elements) requires knowledge and skills that were handed down over many centuries. In the recent past, the grandfathers made metals from local ores. They knew how to make tools and other things from iron (*tɔɔnrɔ*), copper alloys like brass and bronze (*swanyiɛfre*), and gold (*swanyiɛ*).

Copper alloy ring, 17-17311

Iron bangle, 17-19155

Metal cooking pot, 17-19211

Making connections

What do you use every day that is made of metal?

Why are metal items better sometimes than plastic or clay? When is clay or plastic better than metal?

Why do you think people stopped making their own metals?

Making Things From Metal

Archaeologists can learn about ancient metalworking in several ways:

- by studying the things that metalworkers made like **tools, weapons or ornaments**
- by finding the tools and features they used to make those things like **anvil stones and furnaces**
- by finding the by-products of making metal like **slag**.

Making things with iron

The grandfathers made iron from locally abundant iron-rich rocks like **laterite** in a process known as **smelting**. They followed what scientists call a **bloomery** process. To do this, they exposed iron ore to high heat in a furnace using charcoal as a fuel. This caused iron to separate from other minerals in the ore and form a spongy mass called the **bloom**. The bloom was refined and shaped into useful things through **forging**.

Iron slag, 17-18289

Smelting furnaces

The grandfathers made **smelting furnaces** from clay, which had to be mined and required them to know about clay-source quality. Smelters across West Africa built furnaces of different sizes, depending in part on how much ore they were smelting.

To build a **bloomery smelting furnace**, men dug a shallow pit and built a thick conical shaft around it using clay.

Tuyere, 17-18285

Charcoal and **iron ore** are added to the furnace and heated to 1200 degrees. At this temperature, the impurities melt and form slag and separate from the iron blooms.

Tubes or pipes made of fired-clay, known as **tuyeres**, were inserted into holes at the base of the furnace. These pipes supplied oxygen to the fire inside the furnace. Some smelters relied on female potters to make tuyeres, which are fired like pottery.

Connect with the land

Smelters need large amounts of charcoal to fuel the smelting furnace. Wood had to be collected and made into charcoal. It takes 100 kilograms of wood to make 10 kilograms of charcoal! People in the past had to take care not to over-harvest surrounding woodlands. How much wood is 100 kgs? Can you estimate how many pieces of wood that would be?

Making Things From Metal

Metalworkers took care throughout the process of gathering materials, building and firing the furnace to ensure good outcomes by making offerings (*prɛ*) to ancestors and spirits, taking actions to protect metalworkers' well being.

Forging iron

After smelting, skilled metal smiths turned the iron bloom into tools and other items through a process called **forging**. Forging is a process of repeated heating, hammering and then shaping iron to produce the desired object. Forges were very hot fires also fueled by charcoal.

Centuries-old anvil and hammer stones at an archeological site, 17-19119

When glowing hot, the iron was moved to a **stone anvil** where it was hammered with a heavy stone to help remove any remaining slag. With the slag removed and the iron solidified, the smith used hammers of stone and metal to shape the iron into a desired form. They would keep reheating it in the fire to keep the metal soft enough to work.

Local artist, Kwame K.B. 2, painted this image (left) of a blacksmith forging iron for the doors of the Banda Cultural Centre's courtyard in 2011.

Iron tools and ornaments

Smiths made a wide range of tools including knives and cutlasses (*brɔfiɛn*), spears (*chombo; pl. chomboolo*), arrows (*snini*), sabres or swords (*brɔfiɛŋunu; pl. brɔnfiɛnlɛ*), and hoes (*kagbaan; pl. kagbɛɛn*) among other tools useful in farming, hunting, warfare and other activities.

They also made ornaments like bracelets (*kɛgbrɛ; pl. kɛgbrɛe*) and rings.

Centuries-old Iron projectile point

17-19078

Centuries-old curved blade

17-19079

Connect with your community

Have you ever seen anyone forging metal?

Share your story with your classmates.

Making Things From Metal

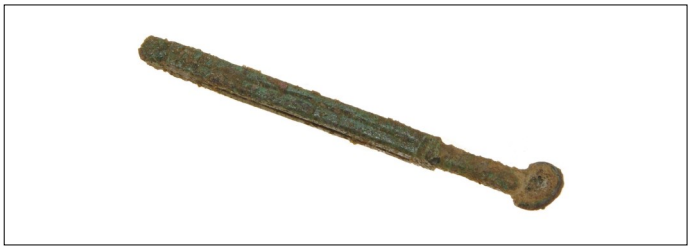
Copper deposits are rare in West Africa and there are no sources anywhere close to Banda, so the smiths who worked at Ngre Kataa (between 1350 and 1520 CE) probably got their copper in the form of brass rods called ingots through trade with people living along the Niger River. Some of the copper traded there came from mines in the Sahara and some of it came from across the Sahara.

Making things with copper

The skilled smiths who lived and worked at Ngre Kataa also made things from **copper alloys**. Copper is a relatively soft metal. It is combined with other metals in **an alloy** to make it stronger and more durable. **Brass** is made by combining copper with zinc and **bronze** is made by combining copper with tin.

The presence of crucibles and finished cast objects suggest that these smiths made copper-alloy objects by **lost wax casting**. In this process, an object is first made out of wax. The wax model is encased in a clay mold and allowed to dry. When the mold is dry, it is baked in a fire, causing the wax to melt and drain out through holes or tubes that the smith built into the mold. While the clay mold is still hot, **molten** copper alloy is poured into the mold.

Crucibles like this would have been used to heat copper alloys to a liquid state for use in casting, including casting through a lost-wax process, 17-17094



Miniature lost-wax cast spoon that was perhaps a gold weight from Ngre Kataa, 17-17104

A twinned lost-wax cast copper alloy figurine from Kuulo Kataa, 17-17323

The smiths also used imported brass to make a variety of **ornaments** including finger rings and ear rings. Some were made by **twisting copper** alloy wire. Others were made by **heating and hammering** the metal.

Making connections

Can you find examples of different types of metals in your home? Can you find something made of:

- Iron
- Brass
- Copper
- Aluminum
- Tin

Why are different metals used for different purposes?

Livelihoods through time

Livelihood refers to how people get what they need to survive like food, shelter and clothing. Many skills are learned in schools today, but in centuries past everything was learned from parents, grandparents and other elders as part of daily life.

Activate what you already know

What do you already know about how people got their food, shelter, and clothing in the past?

Farming

Over the centuries, **farming** has been an important livelihood for the people living in Banda and other parts of northern Ghana. The farmers cultivated a wide range of crops. Some are ancient and native to Africa. These include staple foods like **pearl millet, sorghum**, and **yams**. Vegetables like **okro, garden eggs**, and **cowpeas** are also native to Africa.

Cassava, and **maize** were introduced in recent centuries from abroad.

Hunters (bɔfɔ; pl. bɔfɔɔlɔ), Fawoman, 1982, 17-16780

(right) A woman named Ma Mnama weeding at farm near Banda-Ahenkro, 1982

17-16673

Hunting

Hunting (nyaŋgulɔ) has also been an important livelihood to people living in the Banda area for many centuries. Wild animals (*yurɔ; pl. yurɛ*) have long been valued as a source of **meat, hides** (*hankro*), **animal skins** (*hlɛ*), **fur** (*yooro*) or other materials like **ivory** (*hlo ŋgaala*).

Fishing

Fishing is also a livelihood that goes back centuries in Ghana. People fed their communities with a large variety of fish from local rivers. The fishermen also worked to protect the environment and the fish stocks so that there would always be enough for future generations.

(right) Dzobo Sebastian, an Ewe fishermen from Akayakrom, 2009

17-17016

Connect with your community

Where does your food, clothing, and shelter come from now?

Check at home to see how much of your daily food is found locally and how much has been imported from other countries or regions.

Why is it important to protect local resources?

Food through time

Mu kre kee nga chiin Did you know?

The grandmothers were skilled at making nutritious meals using both wild and cultivated plants.

Our grandmothers created social connections through meals

The ways that people prepare and eat food creates **social connections** within and between families. Being able to prepare everything from daily meals to wedding feasts (*bijasro*) comes from the knowledge of our grandmothers.

Cooking and eating together is important for a healthy community.

Our grandmothers were nutritionists

Our grandmothers were skilled at cooking. They knew how to create meals during times when there was very little food. They also could make new **recipes** when there were new **ingredients** available.

When times were difficult, they knew how to grow different crops to suit the climate and the environment.

Activate what you already know

Vocabulary

Look at the picture again. What key words do we need to know to study about making food?

- Look for **bold print** in the text to help find **key words**.
- Make a **vocabulary list** to help you read, speak, and write about food.

Look at the picture. What do you already know about making meals or cooking?

Ama Georgina cooking, Bui, AL1112

Connect with your community

Ask your elders about meals. What ingredients and tools did they use in cooking?

Do they have any stories to share about meals in your town or in other areas of Ghana?

Growing tubers

Staple foods are those on which households rely as main ingredients in daily meals. Staple plant foods include grains like maize (*bleiju*) and sorghum (*yua*) and tubers like yams (*finyjie*) and cassava (*dwa*). Use of these staples in cooking varies seasonally as crops become available or as supplies run low.

Yams

Yam, 17-19562

Planted early in the **dry season** (January-February; *kowam*), yams grow in the **rainy season** (April-August; koo). The New Yam Festival, which is celebrated late in the rainy season (*koo*), marks the time when yams (*finiyjie*) are ready for harvest. The festival typically takes place in late August or September.

Over the years, farmers in the Banda area developed a system where they plant yams in **mounds** (*flom*) on newly cleared fields. The mounds provide well-drained soil for yams, which are deep-rooted.

Yam mound, 17-19556

Yam vines growing up a tree for support

Intercropping

Selected trees on farms are trimmed of branches and leaves to create a trellis or climbing structure for the yam plant. Sometimes the tree or low growing vegetation is burned.

Shallow-rooted plants like cowpeas, okro, calabash and groundnuts, which mature before yams are ready for harvest, are planted on top and sides of the mounds. This is called **intercropping**.

A benefit of intercropping is that different kinds of plants can help each other. One plant can be a **support** for another climbing vine. It can create **shade** for those that need less sun or put **nutrients** back into the soil.

I17-19554

Making connections

Do you have a garden where you live? What do you grow?

Are there plants that help support other plants by providing shade, structure, or nutrients?

Is there a place to start a garden at your school? What could you grow?

Growing tubers

What can we make with yam?

Fufu

In Banda, yams are valued as a main ingredient for **fufu,** which is prepared by pounding boiled yams in deep wooden mortars (*shio*) using a pestle (*sukaan*).

17-19561

The soft doughy starch was a preferred **staple food** served with soup (*chiin*) made from different ingredients depending on the season. Soups served with fufu can also be made using groundnuts (*boŋgrɛ*), or garden eggs (small eggplants; *piɛwɛ*) and tomatoes, which is called **light soup** in Ghana.

Women pounding yam fufu, New Yam Festival, Ahenkro, 1982

Cassava

Cassava, Banda-Ahenkro, 2022

Cassava (*dwa*) is planted in between March and May. It grows between June and December and is harvested between January and June in the second year.

Because cassava needs little care after planting and can be left in the ground to be harvested over a long period, it is a crop that was relied during times of warfare and upheaval. Cassava was brought to Africa from Brazil in the Atlantic trade network.

Cassava plant, Banda-Ahenkro, 2022

Cassava leaves (*dwawrɛ*) are used to make a tasty soup!

What can we make with cassava?

Klakro Grind fresh cassava and squeeze out the water. Add pepper and salt to mixture and form into small pieces. Fry in oil like a donut!

Wahen Grind *dawadawa* beans into flour and mix with cassava flour. Mix with water in a pot. Steam it into cake. Add a sauce made from shea oil, pepper, garden eggs and salt.

Making *Wahen*, AL1111

Growing grains

Oral histories and archaeology show that ancient African **grain crops** were important staples for Banda area farmers in earlier centuries. Pearl millet was a particularly important crop for Banda farmers. **Pearl millet** is ancient in Africa and was cultivated in northern Ghana by about 1500 BCE .

Pearl millet

Archaeological evidence shows us that both **pearl millet** (*fifiire*) and sorghum were important foods for Banda-area people living in the period from about 1400 to 1650 CE. During this time, the wider region was experiencing strong drought and these ancient African grains gave farmers the ability to cope with dry and wet years. Pearl millet is very **drought resistant** and more nutritious than many other grains.

Sorghum

Sorghum (*yua*) or guinea corn is also an important plant. Unlike the pearl millet that grows well when it is dry, sorghum grows well when it is wet. Even when rains are heavy! In years where maize and pearl millet didn't grow well, sorghum would help keep communities fed.

They are both planted during the rainy season from March to July and grow between August and September. Their harvest time is early in dry season from October to November when yams are less available. In decades past, a second harvest festival, *Yualie*, celebrated the ripening of pearl millet and sorghum.

Maize

Maize (*blejju*) is planted in June, grows in July, and can be harvested between August and October. It became more popular in the 19th and 20th centuries when there was political and economic upheaval because it is more durable and portable than yams in times of war.

Maize grows very quickly and was usually ready to harvest in the months when other plants like yams and pearl millet were scarce.

Maize, 17-19565

What can we make with maize?

Chobi, 17-19507

Chapila Cut fresh maize off the ear and pound it with salt and pepper. Fold the mixture into maize husks. Tie them shut and boil them in water.

Chobi (also *brempo*) Cut fresh maize off of the cob. Add groundnuts and *flewe* (a wild leaf). Cook and serve with oil and pepper.

How it's made - recipes with pearl millet

Pearl millet is not only much more nutritious than maize or rice, but it can be prepared into a wide array of foods!

What can we make with pearl millet?

Sesa

Mix the ground millet with water and maybe some sugar. This was the fastest dish to make with pearl millet. You could also make it without lighting a fire, so it was good for soldiers in times of war.

Kotro Papa

Another common dish often served in the morning with pearl millet was **Kotro Papa**.

17-19488

How it's made

1. Grind the pearl millet and add water to make a dough.
2. Mold into balls and boil the balls in water.
3. Pound lightly in the mortar.

Eat with pepper, *gabu* (dried onion leaves), shea butter oil, and salt either by itself or with a stew.

Fuura

Fuura is a time and skill intensive food to produce!

How it's made

1. Grind or pound the pearl millet.
2. Add water to make a dough.
3. Mold the dough into balls.
4. Let it ferment.
5. Boil the fermented balls in water.
6. Pound with the mortar and add spice.
7. Reform in balls and roll in ground millet.

17-19484

17-19483

17-19486

17-19485

17-19482

How it's made - TZ

During the months when yam supplies run low, cooks typically prepare a dish known as T.Z. The name comes from the Hausa word (*tuo zafi*) for hot porridge. It is also known as *kambo* in Nafaanra.

Step 1 Grinding the grain

Step 1: There are three choices involved in grinding grain. The person can either grind, pound the grain, or take their grains to the mill.

Step 2 Sift the flour

The flour is sifted to get rid of any lumps.

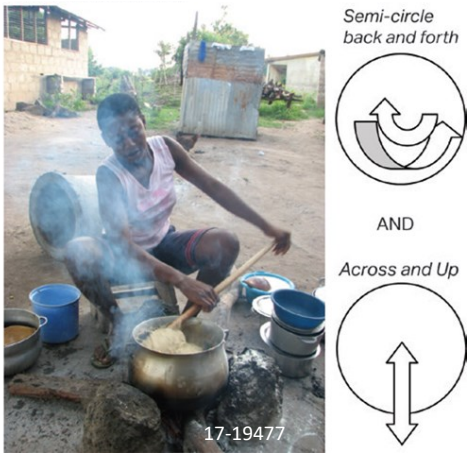
Step 3 Make a porridge

The flour is added to boiling water to make a thin porridge.

Step 4 Thicken the mixture

As the porridge thickens, you add more flour. You need to stir very evenly to not have lumps.

Step 5 Stir and Serve



Stir the mixture using a paddle with a circular and up-down stroke that beats the mixture into a firm but springy mass. The final step is to scoop out the T.Z. with calabash and serve it.

Watch this short video on the practical way to cook T.Z. https://exhibits.library.uvic.ca/spotlight/iaff/catalog/17-19206

Farming through time - cash cropping

Until the second half of the 20th century, Banda farmers grew food primarily for their households and exchanged or sold any crops not needed by the household in the community and at local markets. **Cash crops** are crops that are grown primarily for market sale rather than household use.

Early cash cropping

Yams (*finyjie*) are a favored staple in the area and Banda farmers grew different varieties as both a household and cash crop. Some are ancient in Africa. **Calabash** (*chrɛ*) is also a crop with a long history in Africa. It was also grown for local use, exchange, and sale during the 20th century.

Tobacco and cashew

In the 1980s, Banda farmers began to grow **tobacco** (*twa*) as a cash crop. To plant tobacco, farmers had to clear their fields of all other plants. This is called **mono-cropping**. These large cleared fields planted with only tobacco rapidly lost soil fertility.

A high demand for wood by tobacco farmers to fuel the drying barns created tensions with women who relied on wood collected from farms to fuel their cooking fires.

Large amounts of wood were used to stoke fires in the drying barns when farmers were growing tobacco as a cash crop, 17-16785

A woman carries harvested tobacco leaves from farm to the area where the leaves will be tied for drying. Behind her, a ladder rests against the wall of a cement block metal-roofed tobacco drying barn. Farmers received materials like bags of cement and roofing sheets to build drying barns as advances on their crop, 17-17384

Because of its negative effect on the land, tobacco farming was banned by the Traditional Council. Some former tobacco fields were planted in **cashew**. Cashew is a cash crop that many Banda farmers invested in from the early 2000s.

Watch this video!

Yaw Manje talks about how farmers in the Banda area took up tobacco farming in the 1980s and 1990s and reflects on how growing cash crops like tobacco and cotton affected the land and local communities.

https://exhibits.library.uvic.ca/spotlight/iaff/catalog/17-19203

Making connections

Farming through time - Intercropping

Intercropping helps farmers grow stronger, healthier plants with less chemicals. The grandfathers and grandmothers also planted a mix of crops to help maintain soil fertility and to cope with political and environmental uncertainties.

The benefits of intercropping

Intercropping provides **support** for climbing vines, creating **shade** for those that need less sun, or enhancing **soil fertility**. It also helps farmers to **experiment** with new plants. Planted among other crops, a farmer can gauge how well a new type of food plant will grow. The diversity of plants in a mixed field can also reduce loss of crops to **insect damage** and increase crop production. Fields are also **weeded** regularly so that unwanted plants do not sap soil nutrients.

Sometimes, the second crop planted helps to **control weeds**. It has also been found that intercropping can lead to **soil resilience** in climate change.

What plants do you see in this intercropped field?

Answer: yams (*finyjie*), cassava (*dwɑ*), and calabash (*chrɛ*)

Crop rotation and fallowing

An important way in which farmers maintain soil fertility without using industrial fertilizers is through **crop rotation** and **fallowing**.

However, many farmers do not have enough land to support fallowing in the early 21st century.

In the first year, **yams** combined with shallow-rooted plants like **cowpeas** (*chibi*), **okro** (*bndo*), **calabash** (*chrɛ*) and **groundnuts** (*boŋgrɛ*) are planted.

In the second year, farms are planted with **calabash, sorghum** and **maize**, together with **cassava**.

After two to three years, soil nutrients have reduced and farmers leave fields to **fallow** for some years.

(left) okro plant in bloom, 2022, 17-19553

Making connections

What are the advantages of monocropping and intercropping?

Can mixed cropping promote a more sustainable livelihoods? Ask your elders or parents about monocropping and intercropping.

Fishing through time

Based on archeologists' finds, fish were not an important part of Banda diets until the late 18th century unless you lived along the river. When the Ewe came to the area in the early 1900s, they brought their fishing culture, knowledge, and technologies.

Maxwell Gbadago, from Akanyakrom, tells us about the traditions of fishing in a Ewe village.

Fishing is culture

For the Ewe people, fishing is not only a livelihood - fishing is culture.

"For the longest time, we didn't need money because we were rich in fish. This richness in fish was also a richness in community and culture. We all worked together as a community to not only get food but to protect our land. The land thanked us by providing more than we could use. At one time, fish were so plentiful that you could fill your boat and your belly and still have more for your wife to trade for other goods. She could get anything your family needed by trading it for fish. Like this, the community worked together so there was no need for competition."

Knowledge of the waterways

The river has many different types of pools that are home to many different types of fish. Some fish live in the shallow, muddy pools, different fish live in the sandy ones, and some fish live in the deep pools that seemed black from the reflection of the stones at the bottom. They can use a small fish as bait to catch a fish big enough to feed the whole village.

The Ewe people know how and when to catch and protect each type of fish.

Local canoe used for river fishing, 17-17564

Ewe fishing village of Agbɛjikrom North (relocated after the building of the Bui dam), 1982, 17-17329

IMGP0064

(Left to right) Dzobo Rubben, Dzobo Sebastian, and Maxwell Gbadago weave traditional fish traps, 2022, 17-19545

"Because you didn't want for anything, there was no need to take more than you needed from the river. Even still, some fishermen could get greedy. Everyone would fish at the same pool and take only what they needed. This way, everyone could work together and no one would take too much. If a fisherman decided that this was a good time to sneak to a different pool and take more than he should, the whole village would know because he would have a different type of fish.

The fish and his canoe would be taken and the fisherman would be punished. We worked together this way to protect our environment, our culture, and our livelihood."

Fishing through time

Fishing in Banda has changed dramatically since the Bui Dam was built. Fishermen cannot use their canoes and traditional tools on the lake created by the dam. Traditional skills such as fish trap weaving are in danger of being lost. Fishermen worry about the protection of fish stocks in the area. .

Small tools

Before the dam, the river was very deep. Fishermen could go out in their small canoes with the tools they needed to catch fish. Traps like the one in the picture were made locally from bamboo. They were used during the rainy season.

Fishermen were careful during the season when the fish lay eggs so that they could protect future fish stocks.

"When we fished in this way, we only needed small tools. They weren't expensive or big – they were just enough to catch what we needed. We taught our sons how to make the tools and how to use them to provide for the community. Like this, we lived happily for as long as we can remember."

Fish trap, 1982, 17-17724

Living with hippos

Ewe fishermen always lived in harmony with the hippopotamus in the Black Volta. They learned to communicate with the hippos so that they could share the waterways safely.

Akanyakrom and other upstream areas were flooded by Bui Lake as water levels rose behind Bui Dam after 2012. Hippos were driven upstream by flooding and locally made canoes could no longer be used to fish or ferry tourists because of the lake's winds and waves.

Bui Lake

Fishing on Bui lake requires money that many local fishermen don't have. You need large motor-powered fishing boats to go out safely on the lake. Trees flooded by the rising lake waters are also dangerous to fishermen. Fishermen worry that there are not enough protections in place for the fish stocks now.

Villages like Akanyakrom and Agbɛjikrom, which were relocated because of the dam, can no longer practice their traditional ways. This has had a devastating effect on Ewe people and their culture.

Large motor-powered boat used for lake fishing, 17-18247

How it's made - Fish traps

An **operational sequence** is the steps of a skilled practice like fish trap weaving In weaving, these steps include splitting the bamboo, making the rope, and weaving the trap.

Activate what you already know

Have you ever made anything from bamboo? Share your story with your class.

Step 1 Harvesting the bamboo

Bamboo needs to be harvested when it is mature enough - not too young but not too old. An experienced fish trap weaver can tell if it is ready for harvest by knocking on the stalk!

Use a stick to help measure the lengths you want. The length is determined by the size of fish trap.

Dzobo Rubben harvesting bamboo, 2022

Step 2 Preparing the bamboo

With a cutlas, split the bamboo into thinner sticks of equal thickness. Use a sharp knife to smooth out the edges. You need about 10 sticks per foot of trap width.

Step 3 Preparing the rope

Fishermen also harvest vines for rope. Twist the vine tightly to make a coil. Leave the coil in the sun for a few days before using. If you want stronger rope, use it without any treatment. For a softer rope, pound it lightly with a **wooden hammer**.

(above) 17-19539, (right) 17-19560

Dzobo Rubben coiling the vine, 2022, 17-19538

How it's made - Fish traps

Weaving a fish trap needs skill and strength. The rope must be pulled tight with each twist. Weavers use their hands and their feet to hold and work with the rope.

Step 4 Weaving the outside

Lay the bamboo out in a straight line. Use the rope to tie each piece to the next. If you are making a trap for bigger fish, you twist 2 times between each bamboo. If you are making a smaller trap, you twist only once so that the spaces are smaller.

Peg it so that it lies flat. When you do the second row, start at the opposite side so that the trap does not get twisted.

Dzobo Sebastian weaving the trap, 2022, 17-1954

Step 5 Narrow the opening

Start to bundle and tie together 2 bamboo for the next row. The next row will be bundles of 4 and then bundles of 8. This will make the end of the trap small so that the fish cannot escape!

Step 6 Preparing the inside

Using the same technique, weave the smaller bamboo to make the inside mouth of the trap. This will be inserted into the bigger trap.

How it's made - Fish traps

Weaving a fish trap takes strength and teamwork! This trap was made with 4 fishermen all working together. The grandfathers knew that working as a community makes us stronger also.

Step 7 Bracing the trap

After leaving the young branches to sit for 3 days, they can be smoothed with a cutlass. You then tie 2 together to make one long branch. Bend these branches into hoops to make braces inside the trap. You must be very careful not to break the sticks while bending.

17-19548

17-19546

17-19547

Step 8 Finishing the inside

Once you have braced the inside, you must tie the trap into the body. Everything must be secured tightly with rope and braced well. If you get a big fish, it can be very strong!

17-19550

17-19549

(above) Inner mouth of the trap

(right) Trap cover, 17-19551

Step 9 Setting the trap

You set the trap with the mouth facing down stream in deep water. The **guide rope** and the 2 poles driven into the mud at the front help you keep the trap in the correct position. The guide rope at the back is pegged down on shore to keep it from being carried away in the current!

When a fish enters the mouth of the trap, it cannot escape because the trap narrows towards the back.

17-19552

How it's made - Smoking fish

Fish are an important part of many people's diets. They are full of protein and are a renewable resource. People have smoked fish for centuries as a way to preserve it for longer term transport and storage.

Preparing the fish

Fish (*mbroe*) need to be **scaled and cleaned** before they can be prepared for smoking or cooking. With a sharp knife (*brɔfiɛn*), scrape the **fish scales** from the sides. Cut the fish open along the bottom and remove the innards.

The Ewe use a small bamboo stick to pin the fish in a circle. The stick goes through the tail and into the eye area. This will help smoke the fish evenly.


17-19530

Smoking the fish

Place the fish on the **smoking racks**. The back should be down because the belly of the fish is softer and has more fat.

You can use fresh branches to keep the flies away as you get the fish ready!


17-195321


17-19531


17-19529


17-19558

Stack the trays and cover. Light the fire. With many racks, it takes 3-4 days to smoke the fish. The racks must be rotated every hour so that the fish on each rack gets the same amount of heat. Adding some of the bamboo shavings from fish trap construction can make a nice brown colour on the smoked fish!

Connect with the community

Smoking fish helps **preserve** it so that it can be stored longer. Ask your elders about how people preserved food before refrigerators and freezers.

Hunting through time

The grandfathers who hunted as a source of livelihood were skilled people (*penchinfun; pl. penchinfɛɛlɛ*). They observed **animal habits**: when and how different animals eat, drink and rest. They also knew about **animal habitats**: the places where animals find food, water and shelter.

Zooarchaeology

Oral histories and archaeology help us to understand the importance of hunting to people living in the Banda area over centuries.

One way we can learn about hunting in the past is to study **the animal bones** (*kajle*) found on archaeological sites. Animal bones that are thrown away decay slowly and they are commonly found on archaeological sites. Scientists who study animal bones from archaeological sites are called **zooarchaeologists**. They can tell what kind of animal a bone comes from by studying its size and shape.

(below) hippopotamus jaw bone and (above) hippo canine tooth, 17-17143

13th to 15th Centuries

During the time between about 1200 to 1400 CE, the Banda region seems to have had relatively wet conditions. **Duikers** (*safiu*), **giant forest hog** *(Sanka)* and **African palm civet** (*kɛɛpɔɔ*) are found among the bones from archaeological sites, all of which come from forested landscapes. Sites of this time also had bones of animals like **elephants** (*hlo; hulo*), **hippopotamus** (*kundrɔ*), **leopard** (*kajinyurɔ; pl. kajinyurɛ*), and smaller animals including **grasscutter** (*kaŋglo; pl. kaŋgulo*), **hare** (*pee*), **pouched rat** (*krote*), **monitor lizard** (*taanree*), and **tortoise** (*gunuŋgo*).

A hunter carrying a shotgun is joined by a senior hunter as he performs a hunter's dance, 17-19041

15th to 17th Centuries

When droughts set in from around 1400 CE, the livelihoods of Banda area people were affected. This was a time when people diversified their livelihoods. More **livestock**, such as sheep and goats, were commonly kept. As drier conditions continued after 1600 CE, more **cattle** were kept.

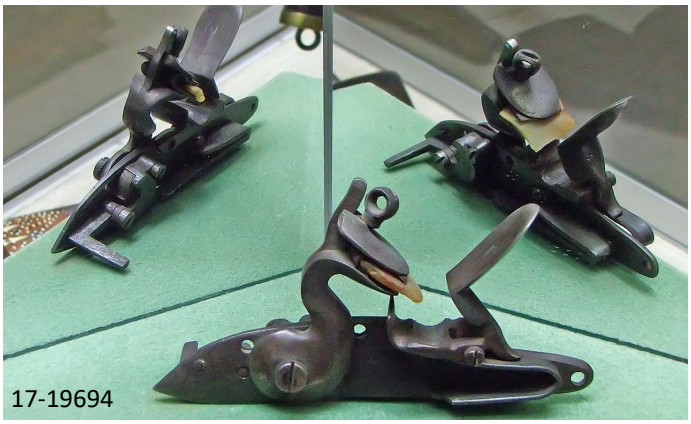
Hunters of this time also captured a very wide range of animals such as **lion** (*blɛkpɔɔ; pl. blɛkpɔɛ*), **leopard** (*kajinyurɔ; pl. kajinyurɛ*) and **golden cat**. They also hunted for **crocodiles** (*dɛnkɛ*) as well as **baboon** (*gbajaa*), **hyena** (*kombo; pl. komboolo*), **mongoose** (*frijaa*), **genet** (*nyalam nyalo*), **warthog** (*kundrɔ*), and **porcupine** (*kɔtɔkɔ*).

Hunting through time

A difference between skilled and casual hunting was that skilled hunters often traveled farther from home, sometimes staying away for a night or more on hunting trips. If a hunter killed a large animal, he would butcher it in the bush and smoke it there before carrying it home. But, in times of trouble, people often hunted closer to home.

18th to 20th Centuries

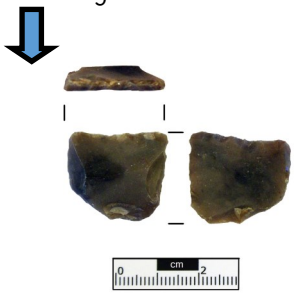
People living in Banda during the 18th to 20th centuries seemed to rely on small animals like grasscutter, giant pouched rat, hares and monitor lizard for meat. This was particularly the case during the later 19th century when people in the area were being troubled by warfare. People in the later 19th century were also living at a time when there was greater rainfall compared to recent times.


17-19694

Tools of the trade

Before guns were introduced in the 1800s, hunters used **bows** (*bɛŋɛ; pl. bɛnyi*), **arrows** (*snini*), **sabres** or **swords** (*brɔfiɛŋunu; pl. brɔnfiɛnlɛ*), **spears** (*chombo; pl. chomboolo*) and **knives or cutlasses** (*brɔfiɛn*). Hunters also used traps such as **snares** (*jɔŋgi*; pl. *jonyi*) made of cord or wire, **deadfall traps** (*fɛbo*), and metal spring **foothold traps** (*pɛlɛ; pl. pɛɛlɛɛ*).

The guns used at this time were known as **flintlocks**. The "**flint**" (*chirɛbɔ*) was a square piece of fine-grained stone that created a spark when the gun's trigger was pulled. Archaeologists have found examples of these carefully shaped flint stones on 19th-century sites like Makala Kataa.


17-19074

Connecting with ancestors

For generations hunters have celebrated their skills through a special form of **dance** (*Bɔfɔɔrɔ*) that ancestral hunters learned from watching a gathering of animals in the bush. Having copied the animals movements, the hunters returned home with the percussion instruments used by the animals after scaring them off. These instruments are a generational connection between hunters today and their ancestors.


17-17143

(Above) Two Nafana men from Fawoman--center and right--beat out foundational rhythms on hippopotamus jaw bones using a hippo canine tooth to accompany a performance of hunters' dances.