Glass, Sweat and Beads!

Robert Irwin

As you're humping your crates of empty bottles down to the recycling bank, do you ever wonder "is this recycling lark really worth it?" Given how little most of us know about how glass recycling works, that's a good question. More about that later in our story.

But first, let's put that same question to our friend Oklah Tetteh. "So, Oklah. Is recycling worth it?" Oklah has no doubt. His answer is a resounding, "Yes!"

You see, Oklah lives and works in Koforidua, a bustling market town in Ghana, West Africa. Like many people who grew up in the isolated hill villages around Koforidua, Oklah makes beads. Glass beads.

And where does Oklah's glass come from? Virtually any kind of recycled glass. Particularly recycled glass bottles of every colour and hue. Bottle glass is Oklah's meat and potatoes.

For Oklah and Koforidua's community of glass bead makers, recycling is what it's all about and has been for generations.

Fig 1 Oklah, Rhoda & Baby Nora, Koforidua 2022
Fig 2 Some raw material

In the beginning: the village

Tsebi Teryi, Oklah's home village (Fig 5), is about 10 miles from Koforidua. There's only one way to get there. You take a bumpy, dusty, sweaty ride in a clapped out shared minibus called a tro tro. That takes 40 minutes. Then you walk. Uphill (Fig 4). That takes another hour. At least!

The well-trodden footpath, first through fields of maize and sorghum, then through forest, is busy. Plodding up, villagers carry – on their heads – consumer goods and sacks filled with dusty old bottles and broken glass. Plodding down, they carry agricultural produce and sacks filled with recycled glass beads for the Thursday bead market in Koforidua (Fig 6).

Life is tough in Tsebi Teryi. Water comes from streams and boreholes. Food comes from the forest and the land. There's no school or clinic. Until electricity came in 2019, you had walk down the hill to charge your mobile. Still, people manage.

They manage because of their craft: turning recycled glass into beads.

Fig 3 Landscape around Oklah's bead village, Tsebi Teryi
Fig 4 Uphill all the way – Oklah's village is only reachable on foot!

Why beads? Why glass?

Beads are integral to Ghanaian culture. Women, men and children all wear and use beads. Beads are decorative. Beads are symbolic. Above all, beads are powerful.

The Dipo puberty ritual is a perfect example. Every year, young girls mark their passage to womanhood by wearing string upon string of beads – sometimes 25 kg, often passed down through generations.

In the beginning, beads were made from natural materials like shell, bone and stone, for example bauxite beads (*cf.* Irwin 2016).

Beads, particularly cowrie shells, were so valuable they were even used as money. Ghana's modern currency the Cedi actually means cowrie.

As for glass beads in West Africa, the trail is faint and meanders considerably. While hard evidence exists of glass bead making by the Krobo people of Ghana in the 1920's, most scholars believe it goes back much further.

Archaeologist Margret Carey mentions the Bida glass workers of Nigeria and Kiffa glass beads from Mauritania. Referring to powder glass beads, Carey writes, 'The process may have been in use among the Asante of Ghana for three centuries.' (Carey 1991, 15).

While West Africans were probably already making and trading glass beads when Portuguese traders landed in 1471, the game then changed considerably.

The Europeans were chasing three commodities: gold, ivory and slaves. To trade, they had boatloads of bling.

And what better bling than colourful beads from Murano and Bohemia, both centres of excellence and artistry in glass? These glass trade beads dominated the market for centuries.

Jean Barbot, a 17th century French commercial agent in the Gold Coast (now Ghana), mentioned glass beads in the same context as gold dust – as a currency for buying enslaved people. (Simak 2010, 131).

Trade beads are still around, but they're increasingly rare and correspondingly expensive. So, because Ghanaians want beads they can afford, they make them themselves.

Villages like Oklah's are virtually one-industry towns. And bead markets like the one in Koforidua provide access to local and international buyers. The glass dealers, bead makers and bead traders all make a living.

The recycling bit

First, comes the glass, comprised of sand, soda ash and limestone, plus additives for colour.

Not surprisingly a small army of enterprising scavengers scours Koforidua and environs for all kinds of glass, from smashed windows to discarded bottles. In their dedicated area at the bead market they sort it by source and colour, then wait for the bead makers to come shopping (Fig 7).

What percentage of Ghana's glass waste gets recycled, you wonder.

Oklah says, "Nobody knows".

In the UK, 71% of used container glass gets recycled – melted down and re-blown into new containers – often within 30 days. In Ghana, it takes a lot longer because bead making is hard, manual, time-consuming work. ➜

Fig 5 Oklah's workshop in the bead village of Tsebi Teryi
Fig 6 Koforidua's Thursday bead market
Fig 7 Sorting recyclable glass at Koforidua's bead market (note the car spring)

Recycled bottles + firewood + plenty of sweat = beads

Having started in his village of Tsebi Teryi, Oklah moved his workshop to Koforidua to be closer to the market. What he does there, with more than a little help from his growing team of apprentices (Fig 22), is remarkable.

Step One is obvious: smash up your bottles. Sounds easy? Wrong!

You have to crush those bottles into small, sharp shards about the size of jagged peppercorns. Too small or too big, and your beads won't fuse properly and the colours won't be pure. Oklah gets it perfect using simple tools: a concave rock to spread the glass out and another rock or a chunk of iron to smash it with (Figs 10 & 11).

Next, Oklah fills the holes in his clay moulds with the crushed glass (Fig 12). He has many different moulds for various bead sizes and shapes, such as round, square, tubular and star (Fig 9). This part is tricky because mixing the different coloured shards determines the final colour and degree of transparency of the bead batch. But no measuring and no weighing. Just Oklah's eye and experience.

Now, comes the fire and the sweat.

Oklah's kiln is as basic as they come: a hollow mound of mud. Above the fire, old car springs form a grill to support his moulds (Fig 14).

Using a long-handled spatula, Oklah slides aside the kiln's battered metal door flap. Inside, the fire rages red. Above, smoke billows black. Sweat pours down Oklah's face. One by one, like a pizza chef, Oklah slides his moulds into the kiln (Fig 13). The intense heat of the fire fuses the glass shards into beads. Don't leave 'em in too long though, because the next job is equally tricky.

Again with the pizza paddle, Oklah slides his moulds out of the kiln.

Fig 8 Making bead moulds...

Fig 9 ...lots of bead moulds!

Fig 10 Crushing bottles....

Fig 11 ...into powder glass!

Fig 12 Filling a star bead mould with a mixture of blues.

Fig 13 Loading the kiln with moulds using a very long handled spatula as protection from the heat

Fig 14 The transformation of old glass into new beads! Moulds in the kiln resting on old car springs

At a workshop in Hungerford in 2008 members of the Society attempted making beads in this way - see *Journal of the Bead Society of Gt Britain* 97, 19–21.

Fig 15 Oklah shaping beads while they are still molten

Fig 16 Shaping molten beads – the cardboard discs provide some protection from the radiating heat.

Figs 17 & 18 Polishing beads by hand

Fig 19 Polished Bombay sapphire beads

Fig 20 Oklah and Magie sorting Bombay sapphire beads

Fig 21 Stringing beads at the workshop

The beads glow molten orange. Using a pair of homemade awls, Oklah quickly rotates and manipulates each bead in the mould, refining and smoothing its shape and creating a hole for stringing (Figs 15 & 16).

After the beads cool, Oklah polishes them on a concave stone using a mix of fine sand and water (Figs 17 & 18). Finally, he finishes his beads with a dab of Vaseline or vegetable oil to give a lustre. After stringing by shape, size and colour (Figs 20 & 21), Oklah's beads are ready for market (Fig 25). ➜

Beyond bottle glass

Oklah works almost exclusively with recycled bottle glass, but around Koforidua and the villages, other bead makers work the same process using powdered glass in their moulds.

Again, their source is recycled glass - maybe bottles, maybe windows, almost anything glass - but they crush and grind it into a fine powder. Sometimes they add dyes to the mix. Or deftly pouring the powdered glass into the moulds, they might create layers of different colours. Most commonly, they hand-paint these beads with tiny, intricate patterns.

There are standard designs and some are modern replicas of the old 'trade beads' (see box below). The bead makers are constantly innovating as they compete for customers. There's always something new in the bead market.

Fig 22 Oklah and his team.

Problems without solutions

Bead making is a tough and risky business. Consider Oklah's problems.

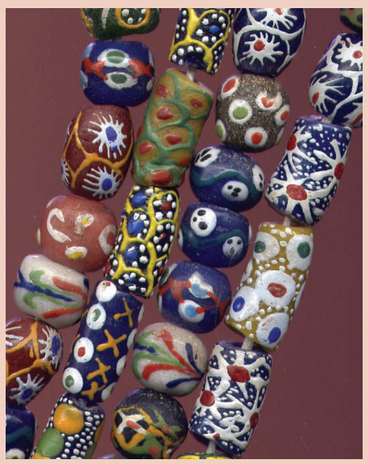
Firewood – also used for most cooking in Ghana – is increasingly scarce. It's easily his most expensive material. Would it be cheaper or even possible to use an electric or gas-fired kiln? Others have tried, but so far without success.

Firewood isn't Oklah's only production problem. Both his kiln and its car springs will eventually disintegrate and collapse from the heat, sometimes after only a couple of months. Yet more work, yet more cost.

And what about the fire risk? The open-sided shelter protecting his workshop from sun and rain is made from timber covered with palm fronds and grass. Every bead maker including Oklah has suffered at least one tragedy. It goes with the territory.

And labour? Oklah works very hard himself and has trained many apprentices over the years. But looking forward, will young people see themselves as bead makers or computer techs? ➜

'Writing Beads'



This type of powder glass bead, made in Ghana and inspired by original old decorated 'trade beads' (which were mostly wound lampmade beads) are called 'Mue Ne Angma' or 'Writing' Beads, a term that translates into 'beads that have been written' ('mue' means beads) by the craftsmen and women who make them. 'Writing Beads' because the decorative patterns are being 'written' onto the beads with a pointed tool; little sticks like toothpicks have been observed (Stanfield 2000-2001 & Simak 2006, Figs 6 & 15–18). *Ed.*

Fig 23 Oklah and Magie Relph with a range of blue bottles ready for recycling.
Fig 24 From bottle to beads – Bombay turquoise.
Fig 25 A selection of shapes, sizes and colours of Oklah's powder glass beads.
Fig 26 Bombay sapphire necklace © Anna Mansi

Finally, the bead industry is up against the same economic conditions that plague the rest of the world right now. The BBC reports inflation in Ghana is 40%, so even when Oklah sells his beads at market, that money doesn't buy a lot of firewood.

On the bright side

The bottom line, we hope, is positive – Ghanaians will always love beads.

And while design trends will come and go, Oklah's bottle glass beads will always be popular, both locally and internationally.

So, what is it that makes Oklah's beads so special?

Ultimately, it's all down to quality control and especially Oklah's mastery of colour (Fig 25). Think Bombay Sapphire turquoise, Bristol sherry blue and Star beer green. Add to that his secret recipes for colour combos like clear-amber and blue-green. Plus Oklah's beads have a unique, semi-transluscent, handmade, almost naïve look and texture. They really are timeless.

Finally, consider all those discarded bottles.

Instead of adding to the mess and clutter of West Africa's already suffering environment, now they're being worn as beaded necklaces and bracelets – helping ensure that Ghana's bead culture lives on.

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