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There is No Limit - Building Inclusive Sustainable Development Models through Textiles, Transparency, and Circularity in a Materials Economy

Kindia, Guinea, West Africa

Educating women and girls is crucial in the fight to eradicate poverty and reverse climate change. In April 2019, I utilized a FDGA to travel to Kindia, Guinea to teach natural dye techniques to artisans in There Is No Limit Foundation's (http://www.thereisnolimitfoundation.org/) Association of Women Tie-Dyers project with the foundation's co-founder Mariama Camara.

Through this trip, I taught workshops and trainings focused on sharing best practices for creating natural dyes from local plants and food waste (onion skins, avocado seeds, carrot tops), and waste to energy (biogas) strategies in ultra-poor communities. The female artisans utilized environmentally safe and nontoxic sustainable dying and coloring in their textile making to reduce pollution and minimize the social and environmental impact. In Guinea, I taught workshops showing how a large color palette can be achieved through treatment of locally sourced fabric with non-toxic mordants and modifiers (e.g. soda ash from wood stoves, acids from vinegar and fruits. We made 14 dye baths from plants and food waste and over 80 different colors (see Fig. 1). The women received certificates for this training program through There is No Limit Foundation. I worked directly with artisans and smallholder farmers to sustainably grow businesses with a commitment to the Sustainable Development Goals (SDGs), including clean water, education, responsible production and consumption, climate action and partnerships.

Expanded use of natural resources is particularly impactful for sustainable entrepreneurship in Guinea, which has long tradition of textile dyeing artisanship. Natural dye processes can be chemically intricate, labor intensive and time consuming. Because of the all too prevalent prejudice that textiles from developing nations should be cheaper, it is becoming increasingly difficult for artisans to get a fair trade value for their wares. This economic pressure in some of the most impoverished regions in the world is pushing many artisans to work with synthetic dyes. Without chemical training or pollution control, synthetic dyes are contaminated limited water supplies in a country where water scarcity is already a major issue (SDGs 3 and 6).

The work, documented by photographer Jon Brown, is a reflection of the culture, time, talent and skill of women artisans and a pathway to entrepreneurship and sustainable development for drastically under resourced communities. The project provides a living example of sustainable design rooted in basic scientific principles and will be exhibited in a display case committed by Department of Math and Science and the School of Liberal Arts. These facets of sustainable development will presented via photographs and textiles produced by the community of female artisans in Guinea. The textiles will be purchased at a fair trade value and brought to FIT for students to have the opportunity to design (a number of FIT students have already volunteered to participate!). Students will know exactly who created the materials, by name, portrait, and stories shared. This type of connectivity has invaluable impact in communicating the importance of considering the full cycle of a product, as well as a framework for operating in a safe inclusive space bounded by both environmental and social justice considerations (SDGs 12 and 17). Knowledge gained in Guinea on textile processing and coloration may also be incorporated into campus wide natural dye workshops as part of, e.g. Sustainability Awareness Week and other college-wide initiatives.

I learned a great deal first-hand about the practical challenges in building models for international, inclusive sustainable development. The water scarcity, lack of basic resources, and huge price inflation of purchasing materials which need to be imported in ultra-poor countries are all factors that need to be considered in planning trainings. The lack of access to education results in a majority of entrepreneurs being unable to read, a consideration that must be taken into account when planning teaching curriculum for these workshops.

Fig. 1 Natural Dye Training Workshop and Certificate Award Ceremony in Kindia, Guinea. Over fifty women participated. Over eighty different colors were produced on textiles using natural dyes from plants and food waste, including onion skins, avocado pits, African marigold and Hibiscus and local plants.

Fig. 2. Artisanal textile dye techniques in the village near Kindia, Guinea.

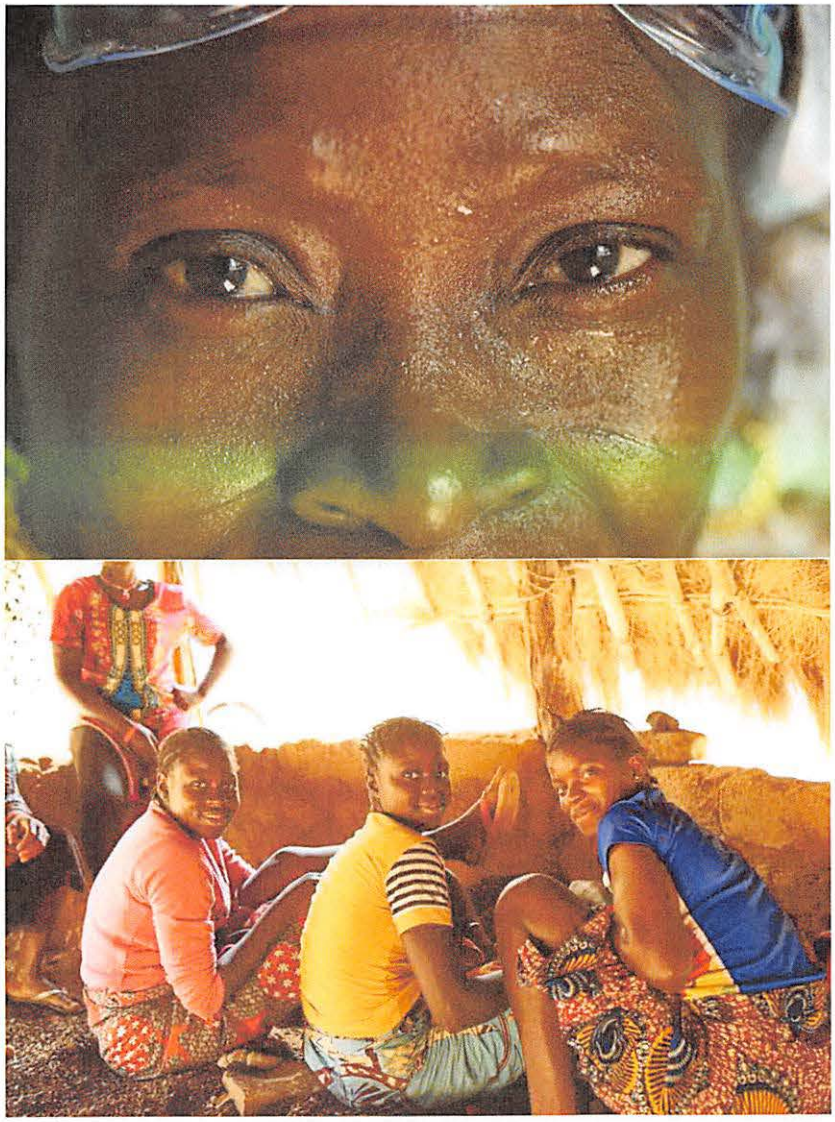

Fig. 3. Top: Fatou Bangoura- the woman who made these textiles. **Center and bottom**: Empowering women and girls empowers everyone. Educating women and girls was ranked 6th out of the 100 most effective strategies for reversing climate change by Drawdown. UNESCO also cited it as the single most effective way to eradicate poverty in the developing world. This project celebrates the education, empowerment, identity and culture of the women who make our textiles, and provides a model for transparency and circularity in the fashion industry.