Return of Traditional Dyes in Guinea

by Abdoulaye Diario Diallo

The textile sector is one of the most important and oldest artisanal industries in Guinea, one whose reputation has spread well beyond the country's borders. But a traditional practice of this industry, using natural indigo as a dye, is disappearing, now to be found only in Foutah Djallon, in the north of the country. Elsewhere, synthetic dyes have come to dominate, because they are easier to use and come in such a wide range of colours.

Morlaye Bangoura, leader of the "Study and Research Project on Guinea's Indigenous Technologies" (PERTEGUI), laments this decline in the use of indigo, the only natural dye found locally. He blames its fate on technological problems. There is no doubt that Indigofera tinctoria demands long and complex processing - to make it into a dye bath takes at least seven days, as compared to a few minutes using synthetic colouring agents. But some of the synthetic dyes are being improperly applied, and they often fail to bond fast to the fibre.

Guinea has many plants besides indigo that could be locally exploited to produce dyes with real customer appeal. This would help reduce imports of dyes that must now be bought at exorbitant prices - a 30 or 40-gram package of dye costs 3,500 FG in Conakry (about CAD$4.50) and considerably more in the north. Quite apart from the question of dyes, the competitiveness and further expansion of traditional products have been hampered by a general lack of technology and expertise, which explains PERTEGUI's involvement.

Through an IDRC-supported project called "Traditional Dyes," PERTEGUI has succeeded in greatly improving the extraction of natural indigo. Now, the extractive and dyeing processes require no more than two days, instead of the 8 to 12 days needed before. Indigo is now being produced in powdered form after a few hours of anaerobic fermentation of the leaves. This is followed by filtration, decanting and drying in the sun. The dye bath can then be made just as easily as with the imported colorants. The research team has already had overtures from foreign buyers interested in procuring the natural dye.

Dyers can now buy powdered indigo on the market, thus avoiding the extraction stage and saving considerable time. Moreover, there has been an eight to ten-fold decrease in solid and liquid wastes from exhausted dye baths, which greatly reduces the environmental impact. Finally, the nauseating fumes produced by the conventional baths have been eliminated, thus improving working conditions.

Researchers have also been able to adapt new printing techniques for use under local conditions. Guinean dyers have long relied exclusively on wooden transfer stamps made by local carpenters, remaining unaware of the alternative method of paper stencils that simplifies work with varied designs. The "printing frame" technique is thus another benefit from the project that should be important for the future of Guinea's dyeing industry.
Another plus for the project has been its cooperation with the University of Conakry's mechanical engineering department to develop a device for putting a sheen on dyed fabrics. Surveys revealed that much energy and time were being spent polishing fabric by beating it with wooden clubs on a wooden board. At this and other stages of the research, cooperation between PERTEGUI and the Quebec Centre for Textile Technology (CTT) has borne fruit. The Canadians proposed a simple machine that has been in use since the beginning of this century. It consists of a vertical row of wooden mauls that are raised in quick succession by a cam arm - the mauls then fall by the force of gravity and strike the fabric, which is wound around a roller.

The Canadian researchers, led by Normand Jubinville of CTT, have also supplied vital data and developed procedures and equipment suitable to conditions in Guinea. Thus, once IDRC's involvement is over, the project will be assured of continuity (and will have, for example, essential laboratory analysis equipment). More experiments are under way to find local products to replace imported ones. These include production of local colorants using other plants that until now have been handled in the traditional manner.

The project has permitted scientists from Guinea to visit traditional dyeing establishments in Quebec, notably Montreal's Textile Printing Research and Design Centre (CRDIT). Already, a scholarship student in chemical technology has earned a diploma at the College of St. Hyacinth, and is now in charge of all laboratory and field work, as well as directing practical training for women as dyers.

The work of Guinean dyers is well known all over West Africa and these women have helped train women from neighbouring countries. This regional interest in developments in Guinea and the many characteristics these countries share mean, says Ansoumane Keita, a chemical specialist in dyes, that there are opportunities for technology transfers among them.

Surveys of cooperatives show, however, that despite the progress made in Guinea's dyeing industry, its profitability remains modest. This is mainly due, says one manager, to competition from textile industries elsewhere in the region and abroad. And yet, the majority of dyers in coastal and central Guinea manage to make enough to survive. In some cities like Kindia, Labe and Male, two out of every three women work at dyeing. The new technologies will now help them to improve the quality and competitiveness of their product and thus reap greater earnings. Dyers would also like to receive training in the production of t-shirts for the local market - currently such articles are imported.

Some women from Mali have learned their trade in Guinea, and are now selling their products there for 3 to 5 times more than Guinea's own goods. Magire Camara, head of a Guinean cooperative set up in 1962, believes the only way to meet this challenge is to reorganize the sector. Cooperatives are sprouting up everywhere, she says, and what is more, some prefectures have more than a dozen women's organizations. Whole villages are now specializing in new textile techniques. These cooperatives provide training for unemployed young women, and also give them literacy classes.

It is important to note that more than 95% of those engaged in dyeing in Guinea are women. Some see this work as a supplementary form of income, and others depend on it for their livelihood. For most, as is indeed the case everywhere in the informal sector, the only training they receive is on-the-job.

However determined these dyers may be, though, the fact remains that the country as a whole lacks local expertise in the chemistry and technology of textiles, says researcher Morlaye Bangoura. He is still optimistic, however, thanks to this project, which has helped set up workshops for training in new dyeing and printing techniques. Access to this kind of training could be improved further, as local technical colleges become more committed to providing it.

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