Chapter 12
Communities of Practice and Indigenous Knowledge:
A Case Study of Empowering Women in Processing Shea Butter Using Scientific Animations

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ABSTRACT

This chapter contributes to critical inquiry literature regarding various ways that indigenous knowledge intersects with technology, especially in regards to female knowledge systems. Using Lave and Wenger’s community of practice framework, this chapter illustrates how animations assist women in knowledge sharing on best practices in shea butter processing. Making use of state of the art technology, “Scientific Animations Without Borders” (SAWBO) proposes a new approach to capture, preserve and share indigenous knowledge globally. This program creates short animations showing scientific best practices, while still incorporating indigenous knowledge. These animations can be viewed with video capable cell-phones or on portable projection systems. This approach has the potential to keep indigenous and local knowledge alive, and allow for its spread across geopolitical, cultural and linguistic borders. Through this case study of shea producers, the authors examine how video animations provide a mechanism that amplifies traditional knowledge sharing through new technologies.

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INTRODUCTION

There is little research that discusses the dissemination of indigenous or scientific knowledge using mobile technologies in Africa, despite agreement in the scientific community that there has been a significant growth in the use of mobile telephones in Africa. Indigenous knowledge has sustained local communities that have faced severe threats to their livelihoods over time. However, very little effort has been put forth to preserve and disseminate this knowledge to other groups that could benefit from it. The authors define indigenous knowledge as knowledge that is anchored in the community; therefore, it can be recognized as “an intergenerational guide for local communities in terms of the use of their natural resources”. As outlined in Bello-Bravo and Pittendrigh (2012), knowledge is not static, but evolves in response to changing ecological, economic and sociopolitical circumstances, based on the creativity and innovation of community members and as a result of the influence of other cultures and outside technologies. Ideas can be a mixture of indigenous/local knowledge and traditions that are improved upon by scientific testing and re-adaptation that can then be delivered back to these groups, or shared with other groups. This chapter illustrates how mobile technologies can be used to disseminate scientifically validated techniques that can be shared with groups to modify indigenous-based approaches to everyday agriculture. Scientific Animations Without Borders (SAWBO) proposes an innovative model that is inclusive, ubiquitous, flexible and accessible for disseminating scientifically adapted and validated knowledge that originated from indigenous or local knowledge and approaches. This program creates visually relevant videos, two to three minute animations showing indigenous practices that have been modified or improved upon by scientifically based strategies. These animated videos can be accessed by educators through the Internet, and subsequently shared through Bluetooth® technology with video capable mobile phones. Within the context of SAWBO-model, the authors discuss the potential for the use of this strategy to develop educational content on timely scientifically validated improvements on traditional, local or indigenous knowledge based practices.

The African shea tree *villetaria paradoxa* can be found in at least eighteen countries including, but not limited to, Senegal, Guinea, Burkina Faso, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Central African Republic, Gambia, Ethiopia, Sudan, Uganda and the Democratic Republic of the Congo (Maranz and Wiesman, 2003). These trees cover an area of approximately 4 million km² across sub-Saharan Africa. They provide an edible fat known as shea butter that is consumed locally and globally, particularly in the chocolate and cosmetic industries. There exists a gap in understanding how Western knowledge and indigenous knowledge intersect in producing shea butter for the international market, predominantly known for its cosmetic ingredient uses. The production of shea butter is largely controlled by female collectors; these African women continue to use traditional practices to process shea nuts and shea butter. New scientifically validated and improved processes exist; however, there is a lacuna in knowledge sharing between the women collectors, shea producers, global supply chains, and the end consumer. This knowledge gap is propagated by traders who do not understand quality issues, and who do not share new and improved practices with community-based collectors. Additionally, the consumer perception, that shea is a fair-trade commodity and that women processors in Africa are well paid for their knowledge and labor, is prevalent and persists. Contrary to this belief, the authors argue that there is disengagement between all the different actors that participate in the shea value chain processing resulting in the disenfranchisement of women shea producers. Bello-Bravo, Lovett, and Pittendrigh (2015) call this phenomenon the “Paradox of *paradoxa*.”