Chapter 4
Beyond Binaries of Scientific and Indigenous Knowledge Bean Storage Techniques: A Case of Market Women in Ghana

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ABSTRACT

Using a case study, this chapter illustrates how indigenous knowledge—and particularly female knowledge systems—can intersect with technology to disclose the limits of the conventional binary discourse of knowledge as either scientific or indigenous. Data here are drawn from research on legume market women in Ghana, who watched linguistically localized animated educational videos on cellphones while conducting business at their stalls. Using a framework of adult learning theory informed by feminist pedagogy, this chapter provides a multidisciplinary discussion around post-harvest loss prevention practices, specifically, but also how indigenous and scientific knowledge can interact to achieve learning.

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INTRODUCTION

The main objective of this chapter is to illustrate the encounter between traditional, local (indigenous) knowledge practices and a proposed non-traditional, but localized scientific knowledge practice. It does not argue one as better or worse but seeks to identify how both types of knowledges can change from that encounter. The intervention itself proceeded from an aim of mutual benefit; that is, the market women participants had already expressed a desire and interest in reducing their postharvest inventory losses, and the researchers were interested in demonstrating the feasibility not only of their proposed alternative storage method but also the cellphone-delivered animated video approach itself.

As such, a fine-grained analysis of this case discloses not only how indigenous knowledge interacts and changes through contact with the scientific proposal of jerricans as one improved method of bean storage, but also how that scientific knowledge interacts and is changed as well. On both sides, this involves how such interactions and changes are shared—intergenerationally and through both traditional, word-of-mouth means by market women on the one hand, who nonetheless were also impressed with the communication possibilities afforded by cellphones, but also formally by researchers on the other hand, as proposals to change how non-local actors can better deliver desirable interventions in the first place. To arrive at this mutually beneficial exchange, however, requires first engaging in the contentious, often not mutually beneficial encounter, arising from the binary framing of scientific and indigenous knowledge as mutually exclusive.

Indigenous and Scientific Knowledge

A strict dichotomy, and therefore the divide, between indigenous and scientific knowledge has long been argued against (Agrawal, 1995, 2009). Whatever the merits or characteristics of either kind of knowledge, this long-standing criticism points most of all at the implicit or unconscious assumption that the former is necessarily suspect, not validated, low quality, or false and that the latter is necessarily reliable, validated, high quality, and true.

With the advent of digital technologies, however, vastly increased communication possibilities now afford a watershed for African people, since these digital technologies—especially the daily increasing reach of the Internet across Africa (Aker & Mbiti, 2010)—allow much more widely, quickly, and inexpensively diffusing knowledge situated from within Africans' own cultural, political, and socioeconomic perspectives to other people (Nafukho, 2013). Word can now really get around, which enhances capacities in African people for acting as producers and providers of knowledge, and not, as more typically framed, only as consumers or recipients of knowledge. As such, not only speed and quantity of information, but also quality, are positioned as critical (Campbell et al., 2016; Lux, Lamont, Ellis, Ferris, & Muchira, 2016). Critics of indigenous knowledge as suspect, invalid, or false might find this greater ease of its diffusion alarming rather than promising.

Changes have occurred in the way that indigenous or traditional knowledge is now understood; research now challenges the earlier framings and assumptions of indigenous knowledge as inefficient, inferior, superstitious, and/or not development-oriented (Agrawal, 2002). Much on-going effort now attempts to bridge, integrate, or meld indigenous and scientific knowledge in order to address medical, agricultural, and economic challenges in communities around the world (Goma et al., 2016; Lutomia & Bello-Bravo, 2017; McPherson et al., 2016; Mistry & Berardi, 2016; Ponnusamy, Kale, Ravi, Devi, &