ILRI

Capacity development
brief 3

Mobile technology-driven capacity development: lessons from the mNutrition and IBLI projects

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Global mobile coverage is growing exponentially. Circa 80% of the world has access to a global system for mobile (GSM) network and global smartphone ownership has increased greatly[1]. This wave of mobile technology provides opportunities for disruptive innovation in sectors like health, education, insurance and finance. Two projects managed by the International Livestock Research Institute (ILRI)—mNutrition and Index-Based Livestock Insurance (IBLI)—have seized this opportunity and developed mobile technology solutions to challenges they encountered.

mNutrition: The GSM Association—in partnership with the UK Department for International Development—established the mNutrition initiative to develop and scale up the delivery of nutrition messages through the use of agriculture and health mobile phone platforms. The project seeks to nutrition services to at least three million people in 13 countries in Africa—Ghana, Malawi, Mozambique, Nigeria, Rwanda, Tanzania, Uganda and Zambia Kenya— and South Asia—Bangladesh, Myanmar, Pakistan and Sri Lanka. Managed by the ILRI Capacity Development Unit and the CGIAR Research Program on Agriculture for Nutrition and Health, mNutrition plans to develop and scale up the delivery of mobile services on nutrition and agriculture, seeking to improve nutritional status of women and children in poor households.

Index-Based Livestock Insurance

Working closely with public, private and non-profit sector partners since 2010, ILRI has pursued a comprehensive research agenda in Kenya and Ethiopia to design, develop and implement market-mediated index-based insurance to protect livestock keepers from drought-related asset losses, particularly those living in arid and semi-arid lands. For pastoralists whose livelihoods rely wholly or partly on livestock, high drought-induced livestock mortality rates devastates their asset levels, rendering them among the most vulnerable populations.

IBLI represents an exciting innovation, offering vulnerable smallholder farmers an opportunity to benefit from insurance. As payment of index-based insurance claims is based on the realization of outcomes which can neither be influenced by insurers or policy holders—such as the quantity and distribution of rainfall during a season—its structure is relative transparent. This makes such products easier to administer and, consequently, more cost-effective to develop and trade.

Why mobile technology?

Mobile network coverage: Mobile coverage is now more than 85% of the emerging market population that includes Africa, making access to mobile services nearly ubiquitous in high-density urban and rural settings[2]. In Kenya, for instance, the ICT sector continues to grow exponentially, with the mobile penetration rate hitting 83.9%[3] in June 2015.

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1. GSMA: https://gsmaintelligence.com/research/2014/12/mobile-broadband-reach-expanding-globally/453/

2. The Africa Market for Self-paced eLearning Products and Services: 2011–2016 Forecast and Analysis
3. Fourth quarter 2014–2015 Sector Statistics Report, Communications Authority of Kenya

Smartphone ownership In 2015, smartphone ownership was estimated at 1.9 billion globally and is expected to surpass the 2 billion mark in 2016[4] . While global mobile penetration growth has decelerated, market saturation has yet not been reached in many emerging markets. The subscriber base in many emerging markets is growing as operators move to providing value-added (VAS) and data services, fuelling global growth in the smartphone market. Mobile VAS are information services designed to influence consumer behaviour by stimulating demand for mobile networks' core service—voice calls. To university students, mobile VAS is the ringtone on their smartphones; to a farmer, it is the SMS providing fertilizer costs; and to ILRI staff, it is the emails received on their smartphones.

Learning-driven by mobile data: The deployment of mobile-based learning to resource-poor countries may seem enigmatic. These countries lack basic education infrastructure, so how could they support modern technology-driven e-learning? Howev-er, mobile-based learning is often less infrastructure-dependent, offering opportunities to adopt e-learning as a new learning methodology, as well as being more cost-effective. Resource poor African countries, which lack wired telecommunication infrastructure, have found it easier and cheaper to adopt mobile telephony. As smartphones and mobile data become increasingly affordable, e-learning opportunities become real. In 2013, Ambient Insight Research—an e-learning research firm—identified Africa as the leader in e-learning growth, projected to rise by 15% annually for the next four years. Countries such as Senegal and Zambia exhibited up to 30% growth in e-learning reach and deployment[5] in 2013.

mNutrition and IBLI rely on 'go-betweens' to deliver their final products to the target groups. Thus, the projects' success depends on effectively training the 'go-betweens'. The two projects initially used traditional classroom training that proved ineffective due to low knowledge retention by the learners. Resource constraints prohibited refresher training due to the large numbers of learners involved and the vast distances to be covered. Blended learning was, therefore, adopted where the learners would first take lessons in traditional 'brick and mortar' classrooms, and complete e-learning activities, using computers and mobile phones. This resulted in better training outcomes for learners who were also able to control the time, place and pace of the courses.

Defining the challenges

mNutrition develops service-ready mobile messages for marginalized, often poorly educated and farming, households. Hence, the project relies on local partners in the 13 implementation countries to tailor context-specific agricultural and health content (e.g. factsheets, SMSs and voice messages). To safeguard the quality of the content—ensuring its relevance, accuracy and veracity—and the interests of the target groups, ILRI has trained content writers in seven countries on the Principles of Producing Agriculture and Health Content. It is also reviewing the quality of all country-produced content, thus instilling confidence in the mobile network operators responsible for content dissemination.

However, classroom-based training has been somewhat ineffective. Learners have found it difficult to understand the concepts involved and retain the acquired knowledge. Moreover, the costs and time of travelling to 13 countries means that providing refresher courses is unfeasible.

IBLI has encountered similar problems. It trains and relies on sales agents to sell insurance to low-literacy populations. Agents must explain technical concepts—satellites, deductibles, coverage periods, indemnity payments, premiums etc.—and obtain buy-in from people unaccustomed to paying for an intangible service like index-based insurance. ILBI staff have noticed that some target community members have received partial or erroneous information on the insurance product, indicating that some agents have not grasped concepts explained in the training sessions. Again refresher courses are financial impractical.

The solution: blended learning

To mitigate the challenges presented by classroom-based learning, both projects have adopted a blended-learning approach. Learners participating in both ILRI projects receive some modules delivered in the traditional classroom set-up and others on their mobile devices. This approach supports the comprehension in a number of ways. Learning is individualized and self-paced, and the system includes in-built assessments that determine learner proficiency before allowing them to progress to subsequent modules.

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- mNutrition content writers can only attend classroom training after having attained a certain level of proficiency in the pre-requisite 'eModules'. This optimizes the impact of classroom lessons, with less time spent covering preliminary information.

- IBLI staff can now regularly remind sales agents of the important contract features and ensure customers receive accurate information.

Consequently, the project learners now benefit from enhanced knowledge retention, directly enhancing field outputs. Accurate information is shared with IBLI customers and high-quality mNutrition content is produced for dissemination.

4. The eMarketer, December 2014
5. The Africa Market for Self-paced eLearning Products and Services: 2011–2016 Forecast and Analysis
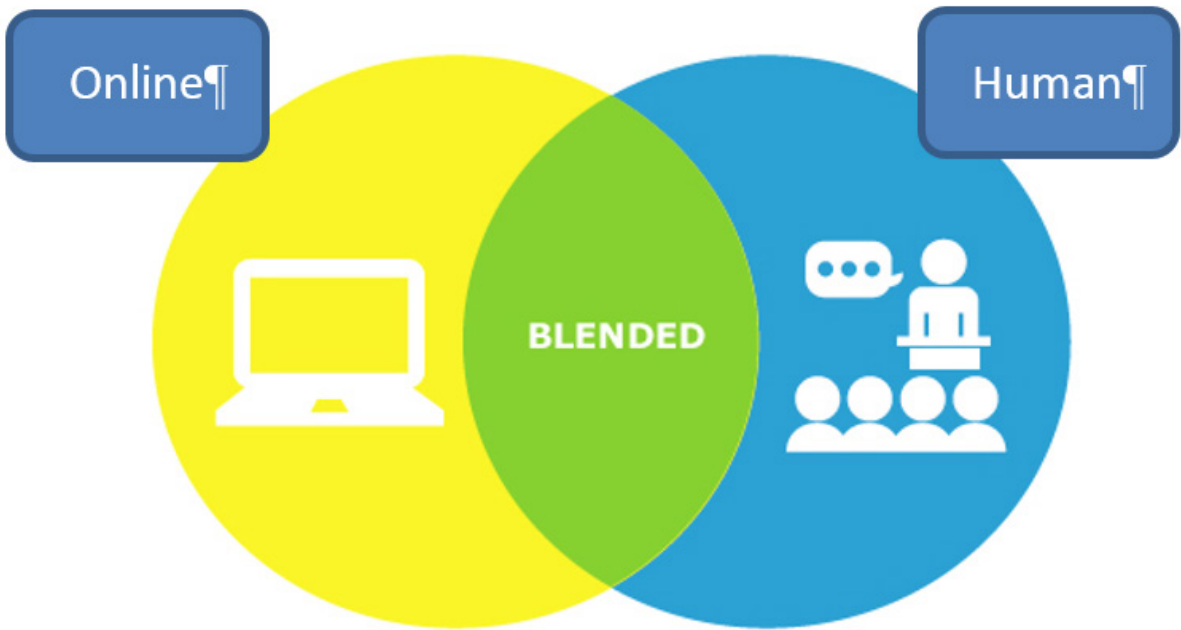
Figure 1: Illustration of blended learning processes

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Capacity development is a prominent feature of ILRI's strategy. This refers to the intentional and purpose-driven efforts to increase stakeholder capacity to undertake and use research to generate development outcomes and scale up in a sustainable manner. ILRI Capacity Development Briefs highlight the depth and breadth of these ILRI and partner activities, and are circulated to contribute to improved practices and better lives through livestock. The briefs are purposively kept short and provide 'snapshots' of the topics they cover.

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