

# MOBILE TELEPHONY FOR DEVELOPMENT IN NIGERIA: DESIGNING MOBILE TECHNOLOGY ENABLED APPLICATION IN LOCAL LANGUAGES

Christine I. OFULUE, National Open University of Nigeria  
[cofulue@noun.edu.ng](mailto:cofulue@noun.edu.ng), [yetofulue@gmail.com](mailto:yetofulue@gmail.com)

Tunde ADEGBOLA, African Languages Technology Initiative  
[taintransit@hotmail.com](mailto:taintransit@hotmail.com)

Francis O. EGBOKHARE, University of Ibadan  
[foegbokhare@yahoo.com](mailto:foegbokhare@yahoo.com)

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# Introduction

2

- Nigeria, as one of E-9 countries faces the challenge of literacy development amidst a large population and a highly diverse large number of languages.
- Low Language literacy levels: Limits in access to information and knowledge which in turn hinders development.
- Exponential growth of mobile telephony provides opportunities for expanding access to information and knowledge

## ***Objectives:***

- To bridge language literacy and diversity gaps by designing content in Nigerian languages for use on mobile platforms.
- To provide opportunities for improving literacy levels and facilitate non-formal learning in Nigerian languages using mobile technology.

## ***Selected languages:***

- English, Hausa, Yoruba, Igbo, Nigerian Pidgin



# CASE STUDY: NIGERIA FERTILIZER VALUE CHAIN



# Background (1)

4

- Strategy: Application of content design and technology to key social/economic issues e.g. agriculture, health etc for populations with literacy and linguistic profiles like Nigeria.
- In the Agriculture sector, the GES scheme presents the project an opportunity to provide content in a medium and language that can impact literacy and knowledge levels, and enhance farmers' productivity significantly.
- **Literacy** is one of the important factors of growth in farm productivity together with Research, extension, and infrastructure (Mittal & Tripathi, 2009)

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# Background (2)

5

- The project is exploiting Nigeria's rapidly growing mobile technology and infrastructure provisions for non-formal learning, in this case, in the agriculture sector.
  - 162.5 million people (World Bank, 2012) and over 100 million mobile phone lines (NCC, 2012) presents an opportunity that cannot be ignored.
  
- The project is leveraging on the deployment of the (GESS) agriculture initiative by designing content for extension information.
  - 25% of 1,500 mobile phone users surveyed, identified agriculture related information as one of the mobile applications of interest (Pyramid, 2009).



# Content Design Process

7

- Content Design and Technology.
- **Input:** Extension Information e.g. Preseason activity-Site Selection for growing Rice
- **Task:** To structure the content into manageable segments that aid learning for deployment on a mobile platform
- **Team:** Instructional designer, subject/extension expert, language/translation expert, technology expert.
  - Language (pedagogy and translation)
- **Technology:** digitisation and deployment in SMS and Text to Speech formats.
- **Testing:** Pre-digitisation, post-digitisation.
- **Feedback:** Assessment and Evaluation

# Mobile Summary

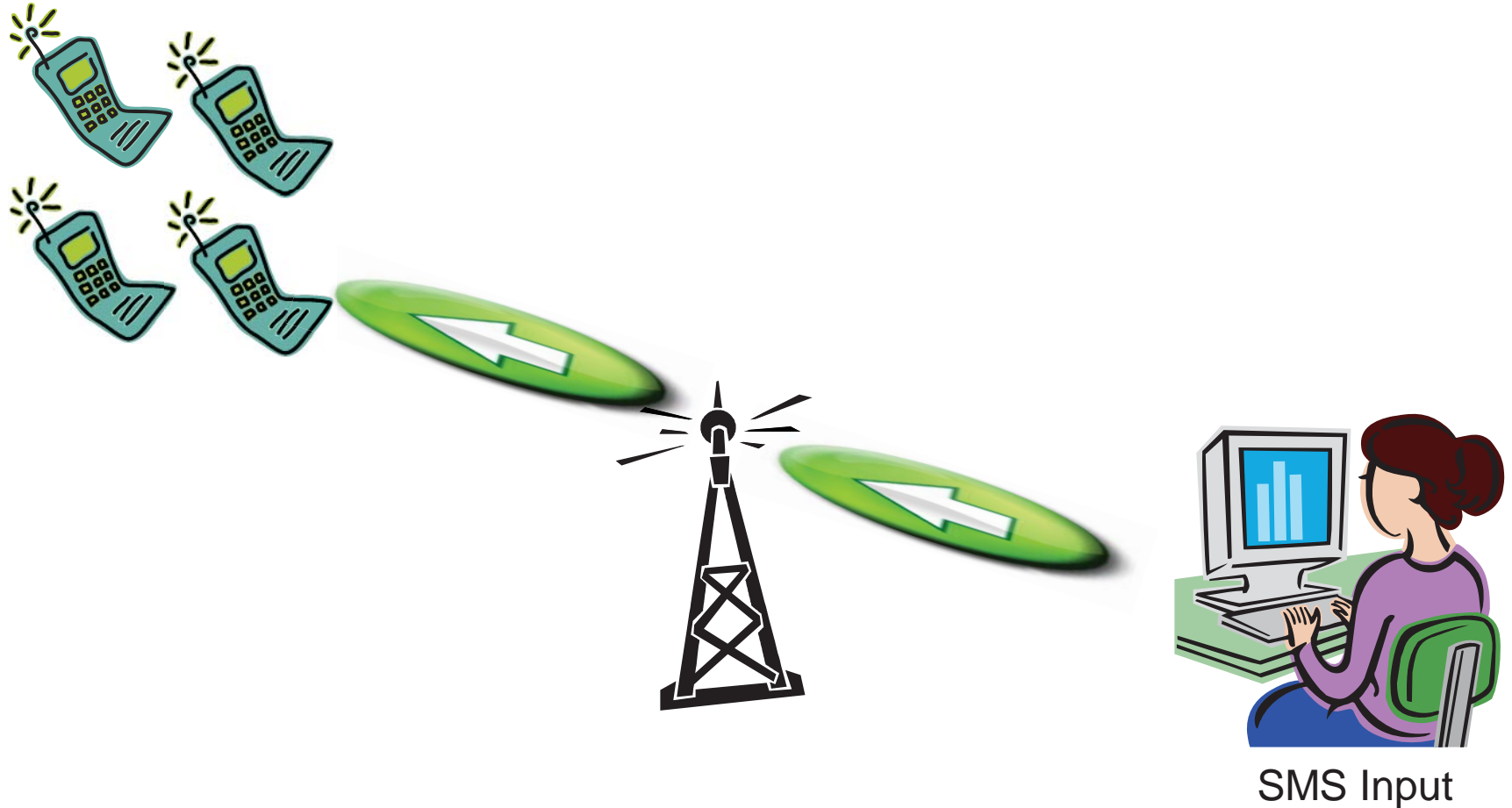
Site selection	Input	Revised
1st SMS 8	To select a Rice land 1 <sup>st</sup> , choose a fertile land that is rich in mineral and has decay plants and animal material & is free from flooding issues. <b>118 characters</b>	To select a rice land: 1st, choose a fertile land that contains manure and is free from uncontrolled flooding. Loamy-clayey soil is best. <b>115 characters</b>
2nd SMS	2 <sup>nd</sup> , Rice grows in upland areas where rainfall is sufficient, river valleys of Fadama areas and on irrigated lands where water supply & distribution is controlled. <b>137 characters</b>	2nd, rice grows in upland, river valleys of Fadama areas and irrigated lands where water supply and distribution is controlled <b>107 characters</b>
Feedback Question		<b>The most suitable soil for growing rice is:</b> (a) Sandy-loam soil (b) Loam-clayey soil (c) Sandy soil (d) Clayey soil



# Technology: Narrow Domain Synthesised Speech

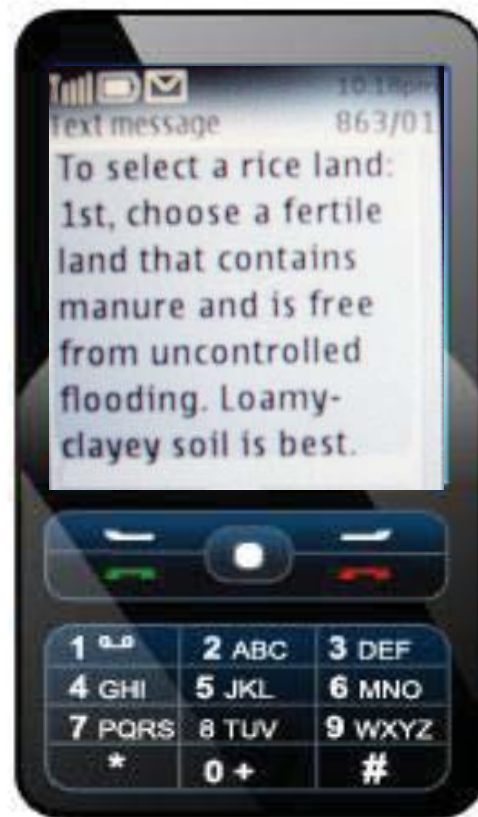
9

Synthesised Speech Output



# Information in Multimedia

10



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# Conclusion

11

## **Issues**

- Functional (media) literacy among target group
- Cost of providing service to the service provider and of accessing services by the farmer
- Type of phone: cost and operational implications.
- Logistics of deployment on cell phones
- Poor power supply in rural areas

## **Benefits:**

- Improved literacy levels (basic and functional)
- Access to agro related information in farmers' primary languages
- Potential economic benefits to small holder farmers
- Ensures food security

**Next steps:** Scaling up content design for text and speech technology development in the various languages

*and finally*



***for Listening***



Figure 1: A happy farmer using his mobile phone.  
Photo credit: Guardian (cited in Oyeleye, 2012)

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