



mWomen

**Snapshot: Grameen Foundation's "Mobile Midwife"  
Service in Nigeria - How to generate and use  
consumer insights to localise mHealth content**

## Introduction

One in every eight children born in Nigeria dies before reaching the age of five and such instances are even more prominent in rural areas. The country has one of the highest maternal mortality rates in the world with about four maternal deaths per hour. Traditionally, the primary decision makers in the household for matters related to health, childcare and food are women<sup>1</sup>. There is hence a clear opportunity to use mobile to provide Nigerian women with medically-sound information that can lead to improved health outcomes for themselves and their children.

The GSMA mWomen programme awarded Grameen Foundation a grant to launch a mobile maternal and child health information service in Nigeria. Grameen has already launched such a service, called "Mobile Midwife", in Ghana, and the grant was awarded so that this could be replicated in Nigeria to address the high incidence of maternal and child mortality. Grameen Foundation has the following objectives for Mobile Midwife in Nigeria:

- **Scale** Grameen's target is to reach 200,000 Nigerian women in the first year, with aggressive growth targets thereafter. GSMA mHealth estimates the addressable market of pregnant women and nursing mothers in Nigeria to be 18.8 million if interactive voice response (IVR) technology and phone sharing practices are taken into account<sup>2</sup>.
- **Replication & localisation** Grameen wanted to learn how to replicate services across markets. In this case content used in the Mobile Midwife service in Ghana was adapted to the local cultural and linguistic context as well as to consumer needs (e.g., literacy levels).
- **Commercial sustainability** Grameen also wanted to design a business model which is both accessible to the poor and commercially viable - the aim is for Mobile Midwife to become a profitable component of the value-added services (VAS) portfolios of local operators.

One of the key challenges for organizations launching mHealth services is localising the content to the particular linguistic, cultural, and regional differences within a country. This paper aims to review the steps taken by Grameen when tailoring content for the Mobile Midwife service to different regions within Nigeria.

## Product Overview

In 2010, Grameen Foundation worked with the Ghana Health Service and Columbia University's Mailman School of Public Health to launch the Mobile Technology for Community Health (MOTECHE) initiative. Funded by an initial grant

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<sup>1</sup> GSMA Intelligence Country Overview: Nigeria, June 2014

<sup>2</sup> GSMA mHealth Country Feasibility Report: Nigeria

from the Bill & Melinda Gates Foundation and subsequent grants from USAID and the United Nations Foundation Innovations Working Group, the project focuses on using mobile phones to increase the quantity and quality of prenatal and neonatal care in rural Ghana, with a goal of improving health outcomes for mothers and their newborns.

The MOTECH initiative comprises two elements:

1. **"Mobile Midwife" service:** enables women and their families to receive voice messages that provide targeted, time-specific information through pregnancy and the first year after birth each week in their own language. By using IVR to deliver the information, women with low literacy levels can also be reached. Topics covered include hygiene, nutrition, immunisation, malaria and warning signs. Some messages address the husbands specifically and provide practical advice and information on how they can support their wives. For example, one of the messages for men includes the following: *"Your wife is getting closer to delivery time and it is best to be prepared for when your baby comes. Mommy can't do everything by herself, so it is time for husbands and other family to help. Do you have transportation arranged for when the time comes and money for it? Do you have the contact details for the doctor or midwife for when labour starts or for any emergency?"*

2. **Nurses' Application:** helps Community Health Workers to record and track the care delivered to women and newborns in their area. Nurses enter data about patients' clinic visits into the mobile phone and send this to the MOTECH servers. The MOTECH system then checks patients' healthcare information against the schedule of treatment recommended by Ghana Health Service. If the system sees that a patient has missed care that is part of the advised schedule, the Mobile Midwife service sends a message to remind the patient to go to the clinic for that particular service.

In order to adapt this product from the Ghanaian to the Nigerian context, Grameen needed to digitise and translate the content, adapt the content for the local context, and identify target populations given the size of the country, and determine pricing.

## Project design & approach

In order to reach these goals, Grameen Foundation's project plan included multiple streams:

- **Localise content** Adapt the content used in Ghana to the Nigerian context so that the information conveyed accounts for the health care infrastructure, cultural myths, diet and behaviours relating to pregnancy and nursing in Nigeria.
- **Translate content** Given the many languages spoken across Nigeria, Grameen needed to determine which geographic areas were in most need of this information and ensure that the languages spoken in these regions were given priority.

- **Digitise content** In order to translate the content onto mobile and develop the IVR platform, Grameen engaged local partners to digitise the content and develop the mobile service.
- **Determine affordable pricing** Test consumers' willingness to pay for an mHealth service and study the price elasticity of demand by offering "Basic" and "Premium" versions at different price points.
- **Secure commitments from operators** Present the Mobile Midwife service to local operators and secure commitment to launch this VAS on their networks and conduct marketing activities to raise awareness amongst the target audience.

This paper focuses specifically on the process Grameen used to localise content through research to understand their target customers. This was done in two main steps:

1. Desk research to study the health indicators of the country.
2. Qualitative research to understand the attitudes, behaviours and cultural myths surrounding pregnancy, delivery and nursing.

First, Grameen studied the regional differences in terms of health indicators – crucial in a country as large and as diverse as Nigeria. It was found that significant disparities exist between northern Nigeria and the rest of the country, with the north exhibiting poorer maternal and child health indicators. For example, Figure 1 illustrates the increased prevalence of stunting in the north, where stunting is defined as a height-for-age which is more than two standard deviations below the median of the reference population. Figure 2 shows that this trend extends to other indicators, such as literacy where the rate is 30% amongst women in the north, compared to 78% amongst their southern counterparts, underscoring the importance of a voice-based solution.

## Examples of regional differences found in health indicators

Figure 1

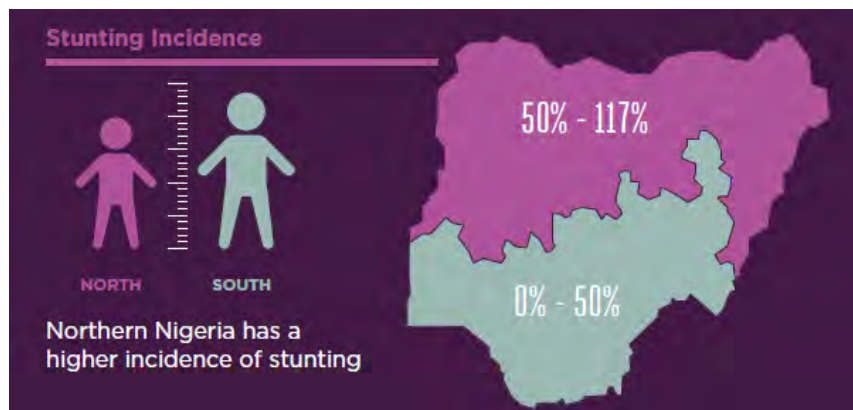
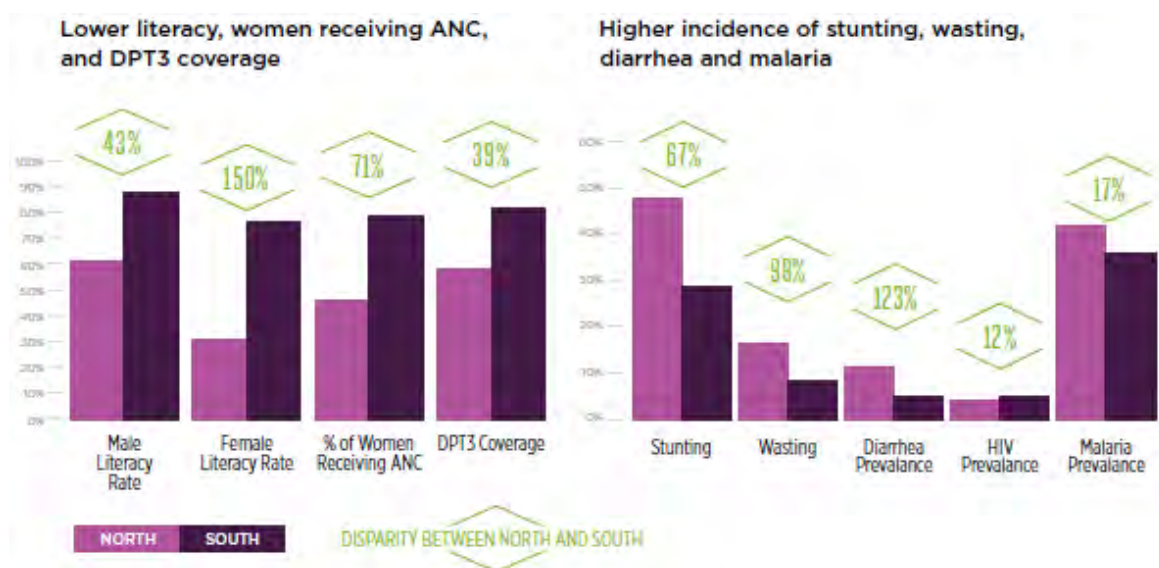


Figure 2



Source: GSMA mHealth, FMOH statistics, 2010NDHS 2008; UNGASS 2011; US Embassy in Nigeria, 2010; 2010 NPHCDA Survey, Nigeria Federal Ministry of Health 5 year Strategic Plan

The north is generally more rural, less accessible and poorer than the south. Average poverty rates range from 30% in the wealthier south west, where cities such as Lagos are located, to 60% in the impoverished north east<sup>3</sup>. As explained by GSMA Intelligence, "Southern Nigeria, which is primarily Christian, is the more prosperous of the two halves owing to the presence of Niger delta and thriving financial centres such as Lagos that contribute to more than half of the business activities in the country. On the other hand, the predominantly agricultural northern half struggles with religious tensions and poor social and health situations". Northern states such as Borno and Yobe have also been targeted by Boko Haram in its crusade against Western-style education, which has the potential to further discourage education for women and girls

Having established a broad picture of the country, Grameen then conducted in-depth research into the behaviours, attitudes and cultural myths surrounding pregnancy, delivery and nursing in Nigeria, in order to ensure local relevancy of the "Mobile Midwife" messages. Focus group discussions and in-depth interviews were carried out with pregnant women, new mothers, community leaders, family members and traditional birth attendants. Given the stark regional disparities found which are outlined above, it was ensured that this qualitative research was done with people from a variety of backgrounds. In particular, focus group discussions took place in both urban and rural settings and it was

<sup>3</sup> Tolu Ogunlesi, "Rebasing highlights Nigeria's inequalities", Financial Times, April 18, 2014.

### Snapshot: Grameen Foundation's "Mobile Midwife" Service in Nigeria

ensured that women from multiple regions were included, namely Hausa-speaking women from the north, Yoruba-speaking women from the southwest, Igbo-speaking women from the southeast and English/Pidgin-speaking women from Lagos.

This qualitative research with diverse groups of people allowed Grameen to get a richer insight into the regional differences across Nigeria, by casting light on the perceptions and behaviours around pregnancy and childbirth and how these differed by community. Interesting examples of insights into regional differences are presented below.

Examples of regional differences found in qualitative research

Topic	Examples from the north	Examples from the south
Trust in doctors	<p>The feeling exists that hospitals perform unnecessary operations to make money and there is severe mistrust of male doctors. When asked what would encourage her to access health facilities, a woman said:</p> <p><i>"They should stop using pregnant women for training by multiple doctors and nurses touching and inserting their hands in their private parts"</i></p>	<p>The more educated women and those from the south and southeast of the country have more trust in public health facilities.</p> <p><i>"Once I discovered I was pregnant, I went to the hospital... visiting the hospital early is good. The doctor that attended to me when I was pregnant said that you need to start using the drugs they give immediately for your baby to develop well."</i></p>
Delivery practices	<p>Home deliveries are common with family members or local midwives playing the role of birth attendant <i>"Most women go to home nurses for delivery... Some invite the nurses to attend to them at home while others go to the nurse's home for delivery"</i></p>	<p>Birth attendants are more likely to be from outside the family and will refer women to health facilities.</p> <p><i>"I don't take delivery, I only sell herbs to them so I advise them to go to the hospital (to deliver). Even if it is my child, I will advise and I will give her and the baby herbs so they will be healthy. But when the pregnancy is like 5 months old, I will tell her to go to clinic"</i></p>
Awareness of immunisations	<p>Lower awareness as women from this region are unaware of the benefits of vaccination and are less likely to visit clinics and hospitals</p>	<p>Higher awareness exists</p> <p><i>"There is an injection a pregnant woman takes at 3 months, so if you don't start [visiting the clinic] early, you will miss the injection. And that injection is good for the mother and the baby. It prevents tetanus from entering the body and deforming the baby."</i></p>



## Service design and delivery

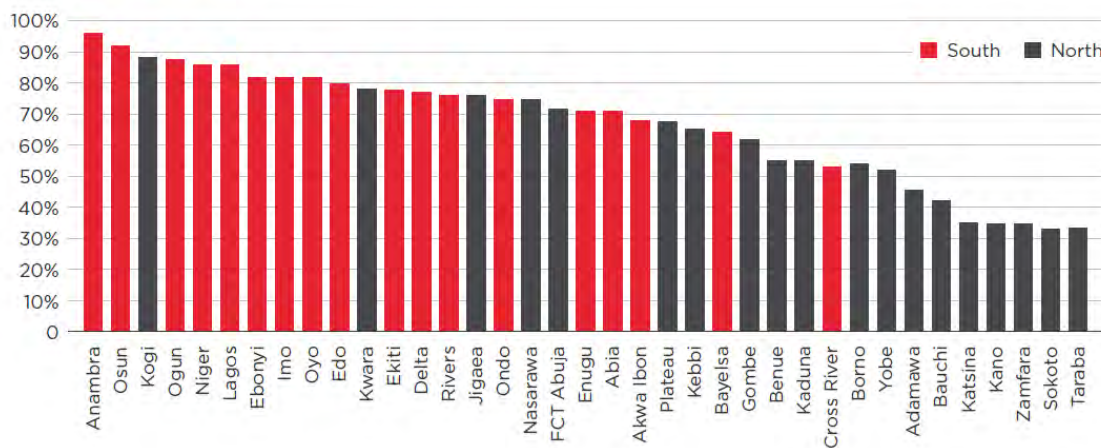
The findings from the health indicators and qualitative research were used by Grameen during the next step – designing the mobile service. These clearly showed that the northern region is in most need of reliable maternal and child health information, so Grameen ensured that the service design was appropriately tailored to the needs of the women living there:

- **Content** Grameen used the findings of the research to inform the changes made to the content used in Ghana. For example, the low awareness of immunisation in the northern regions led Grameen to modify an immunisation-related message which also mentioned blood pressure and breastfeeding to focus only on immunisation so that its importance was not diluted. Grameen also added a point in the same message about the importance of recording immunisation history as this is often neglected in Nigeria. In another example, Grameen changed a message delivered in the 46<sup>th</sup> week of the child's life from being focused on growth milestones to information on child nutrition as this was highlighted as an area of need during the research.
- **Voice** Literacy rates of women in the north are just 30%, compared to 78% in the south. Hence, Grameen's Mobile Midwife service will allow users to receive the information via voice recordings, making it accessible to women with low or no literacy.
- **Language** Grameen worked with local actors to record the content in Nigerian languages, ensuring that Hausa – the language spoken in the northern region – is one of the first languages to be available.
- **Affordability** The aim is to launch a commercially sustainable service, and in order to achieve this, end users will be charged a small fee for accessing the content. Due to the generally lower income levels in the north, users will be segmented by offering a Basic and Premium service, where the higher-priced Premium service offers the additional ability to speak to a doctor on demand and join mobile chat rooms to discuss maternal healthcare topics. This Premium service should appeal to urban, higher-income customers and will cross-subsidise the Basic version. The pricing of the two options was determined by reviewing existing mobile information services in Nigeria and interviewing VAS managers at local operators to get their expertise on appropriate pricing. Their recommendations were double-checked by asking potential users what they were willing to pay for such a service during the consumer insights research phase.

It is important to note that, although mobile penetration is lower in the north than in the south, as illustrated below, the widespread incidence of phone sharing means that access to mobile is still high enough to allow the service to reach scale amongst those who need it the most. It remains to be seen whether the effectiveness of the Mobile Midwife service is impacted by shared access to mobile, as opposed to full ownership.



### Access to mobile phones within a household – north / south divide



Source: GSMA Intelligence, Nigeria Bureau of Statistics

Access is defined as ownership or access to a mobile without ownership, such as sharing between family members.

## Next steps

Grameen is working with VAS2Nets, who will host the service, and local operators to launch the service in the coming months.

Prior to launch, Grameen will conduct user testing with women from urban and rural settings, and from different regions and religious backgrounds to check the following:

- Are users able to navigate the IVR menu to access content and subscribe to the service?
- How much are users willing to pay for the service?
- What do users think of the voice? Do they trust it and find it sympathetic?
- Are they able to relay the content they heard back in their own words?

Nigerian women are clearly in dire need of evidence-based health information for themselves and their families and the high prevalence of mobile technology means that the Mobile Midwife service is the ideal medium for delivery of this information.

The launch of life-enhancing services such as Mobile Midwife will help to achieve:

- **Social impact**, by improving maternal and child health behaviours, and
- **Commercial impact**, by providing mobile operators with access to a relatively untapped segment through a revenue-generating VAS.

## Recommendations for launching a mobile maternal health service

- **Don't re-invent the wheel** a great deal of content has already been created in this sector and much of it can be accessed at little or no cost. Examples include [babycenter](#), [MAMA](#), [MOTech](#). Consider which organisation you can partner with to access medically sound content.
- **Study health indicators** to inform the localisation of the content, both at a national and regional level – the experience of Nigeria shows that stark internal differences may exist. Further intra-regional variances may exist due to differing religions, income disparities, etc. Sources could include GSMA mHealth country reports, UN data and national statistics bureaus.
- **Conduct follow-up qualitative research**, based on the themes identified by the health indicators. This should include focus group discussions and/or in-depth interviews with all those who have influence on a pregnancy: mothers, pregnant women, mothers-in-law, village chiefs, landlords, husbands and Traditional Birth Attendants. The objective is to find out the effects of a pregnancy and birth on each group, the challenges and worries that each experiences, how decisions are made and by whom, existing support networks and information sources for each group, roles and priority shifts that happen as a result of the pregnancy, and traditions and beliefs surrounding pregnancy and childbirth, as well as knowledge gaps.
- **Ensure the service is user-friendly** by conducting user testing at multiple stages. For example, test the voice of the recording to ensure it conveys the appropriate balance of authority and trustworthiness. In Ghana, Grameen found that *"voices who sounded too educated were not accepted as they were not seen as being from a place that would enable them to fully understand the daily struggles of life in the users' area. Meanwhile, users disliked voices with accents from "deep in the village" as they were not trusted as being knowledgeable enough."* This research enabled Grameen to choose an older, soft voice which reminded users of a trusted, experienced and sympathetic "auntie". Further trials should be done to ensure that users can navigate the mobile service (e.g. the USSD menu) and understand how to register, pay for and access content. Users should also be asked to summarise the messages they have listened to so that their absorption and understanding of the content can be checked.

## Coming up

The GSMA mWomen programme aims to provide the industry with proven business models for reaching resource-poor women with mobile offerings and best practice recommendations for developing and launching these offerings. The GSMA mWomen programme will work with Grameen Foundation and its partners to:

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- Assess the commercial impact of the service for Nigerian operators
- Assess the social impact of the service for Nigerian women

A forthcoming case study will share these findings, along with recommendations and lessons learnt after launch. This will be available on the Resources page of the GSMA mWomen [website](#), where you can also find plenty of useful publications for those interested in reaching the women's segment. For more information, or to share your own experiences, please contact the GSMA mWomen team at [mWomen@gsma.com](mailto:mWomen@gsma.com).

#### About the GSMA

The GSMA represents the interests of mobile operators worldwide. Spanning more than 220 countries, the GSMA unites nearly 800 of the world's mobile operators with 250 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and Internet companies, as well as organisations in industry sectors such as financial services, healthcare, media, transport and utilities. The GSMA also produces industry-leading events such as Mobile World Congress and Mobile Asia Expo.

For more information, please visit the GSMA corporate website at [www.gsma.com](http://www.gsma.com).

Follow the GSMA on Twitter: @GSMA.

#### About Mobile for Development - Serving the underserved through mobile

Mobile for Development brings together our mobile operator members, the wider mobile industry and the development community to drive commercial mobile services for underserved people in emerging markets. We identify opportunities for social and economic impact and stimulate the development of scalable, life-enhancing mobile services.

For more information, please visit the GSMA M4D website at: [www.gsma.com/mobilefordevelopment](http://www.gsma.com/mobilefordevelopment)

Follow GSMA M4D on Twitter: @GSMAm4d

#### About the GSMA mWomen Programme

The GSMA mWomen Programme aims to increase women's access to and use of mobile phones and life-enhancing mobile services in low- and middle-income countries. The programme objectives are to encourage the mobile industry to serve resource-poor women, increase the availability of relevant mobile services, and promote innovation to overcome adoption barriers. GSMA mWomen offers hands-on advisory and financial support to design and launch mobile services for women. The programme also generates and shares insights on the commercial and social value of serving women with mobile, as well as tools and evidence on what works.

Visit [www.gsma.com/mwomen](http://www.gsma.com/mwomen) to learn more about how to participate.

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