

Participatory Formative Research in Action

Community-led development of a local micronutrient powder brand in northern Nigeria

Lead Author

Annette Imohe,

Nutrition Officer, UNICEF Nigeria,
Abuja FCT, Nigeria

Co-Authors

Stephen R Kodish,

Postdoctoral Research Fellow, Harvard TH Chan School of Public Health, Boston, MA, USA, Consultant to UNICEF Nigeria, Abuja FCT, Nigeria

Arjan de Wagt,

Chief Nutrition Section, UNICEF Nigeria,
Abuja FCT, Nigeria

Tobi Osunkentan,

Micronutrient Programme Officer, UNICEF Nigeria,
Abuja FCT, Nigeria

Pragya Mathema,

Nutrition Specialist, UNICEF Nigeria,
Abuja FCT, Nigeria

Bamidele Omotola,

Nutrition Specialist, UNICEF Nigeria,
Abuja FCT, Nigeria

Clara Ejembi,

Consultant Community Physician,
Ahmadu Bello University, Nigeria

Key messages

- > Chronic malnutrition and anemia have been enduring problems in Nigeria requiring urgent attention and evidence-based interventions.
- > Before introducing a Micronutrient Powder (MNP) linked with infant and young child feeding in northern Nigeria, formative research was conducted to develop a behavior change communication (BCC) strategy and to support the development of a suitable local brand that would be acceptable to community members.
- > On the basis of this formative process, a national plan for MNP supplementation is being developed that aims to reach at least 11.3 million children aged 6–23 months annually by 2019.
- > The information generated from this participatory research process has already guided the MNP distribution as part of the emergency nutrition response in three north-eastern states affected by the Boko Haram insurgency, which has caused the internal displacement of 2.3 million people.

Anemia in Nigeria

Chronic malnutrition is an enduring problem in Nigeria, with 32% of children under 5 years (U5) suffering from stunting,¹ which translates as over 12 million children. The situation is worse in northern than southern Nigeria, with children 0–5 years old living in the north-east four times more likely to suffer from stunting than those living in the south-east. Micronutrient

deficiencies are pernicious, not only having an acute impact at an individual level, but also stalling social progress and undermining national development.^{2,3}

Anemia is problematic for young children in this setting. Eight out of 10 children U5 are reported to suffer from anemia,⁴ with an estimated US\$1.5 billion in gross domestic product (GDP) lost per annum due to micronutrient deficiencies.⁵ One primary reason is that in Nigeria, most common complementary foods have iron levels below the minimum requirements for young children.⁶

.....

“Micronutrient deficiencies are pernicious, not only having an acute impact at an individual level, but also stalling social progress and undermining national development”

.....

With 70% of the population living below the poverty line, it is unlikely that local diets, which include only small quantities of animal-source foods, can be diversified sufficiently to provide the requisite micronutrients for young children in this setting.⁸ Micronutrient powder (MNP) is a novel intervention, providing a cost-effective way to deliver added vitamins and minerals to the food of young children. Informed by the empirical evidence indicating that MNP reduces anemia by 31% and iron deficiency by 51% in infants and young children aged 6–23 months,⁹ the World Health Organization (WHO) recommends MNP as an intervention strategy in populations where the prevalence of anemia is 20.0% or higher.¹⁰ The Nigerian National Guidelines on Micronutrient Deficiency Control have been updated by the Nigerian Federal Ministry of Health (FMOH) to include the use of MNP for home fortification, and to be linked with Infant & Young Child Feeding (IYCF) promotion.⁴

Before introducing an MNP linked with infant and young child feeding into the northern Nigerian context, formative research was conducted in order to develop a culturally appropriate behavior change communication (BCC) strategy. One specific aim of this research included the development of a locally branded MNP with packaging, logo, and a name specifically tailored to this population and cultural context. Achieving this aim was an important precondition for increasing the likelihood of community acceptance toward the product. This article provides an overview of the participatory research approach used in this formative work to create the local MNP brand.



FIGURE 1: Sample MNP sachet used during Phase 1 interviewing in order to solicit feedback

Methodological overview

The local MNP brand development was part of a larger formative research effort to inform the design of numerous program-related aspects of an integrated nutrition program, which broadly aims to improve infant and young child nutrition by introducing MNP as just one of several different intervention strategies. The participatory formative phase of operational research was multi-phased and iterative in nature, drawing on different methods and tools.

Information was collected using participatory methods that engaged diverse segments of the community to comprehensively inform the development of the tailored MNP brand. This work was undertaken in Kebbi and Adamawa states of northern Nigeria between January and May 2015 across five study phases. The following describes in detail the methodology used for each of the phases, as well as the key findings.

Phase 1: Exploring the local context and soliciting individual feedback

.....

Open-ended, in-depth interviews

In-depth interviews were conducted with caregivers of children aged 6–23 months ($n = 36$) and community leaders ($n = 18$). The interviews aimed to understand larger sociocultural considerations for IYCF and MNP programming, during which a sample MNP sachet was also shown to participants (Figure 1). Interviewers probed for feedback on the generic MNP packaging, specifically in relation to the appropriateness of its size, color scheme, name, language, and logo. Data were collected in one of two local languages by bilingual (Hausa/Chamba and English) data collectors using digital recorders. Data were translated and transcribed concurrent to the data collection process. Using Dedoose qualitative software,¹² data were coded and analyzed, drawing on aspects of Grounded Theory.¹³

The interview findings showed that community members liked the green and white colors of the sample sachet. Many participants thought the colors represented “food” or the “colors of Nigeria,” both which were positive perceptions.

“Many participants thought the green and white of the sachet represented ‘food’ or the ‘colors of Nigeria’”

Also common was the perception that the sample sachet was too small. “The color and the size are okay, but the packaging is very small, although I don’t know how effectively it will work,” said a female caregiver in Adamawa. Developing BCC messaging that directly addressed the small sachet size was one example of how this finding was then incorporated into actual programming.

Phase 2: Generating brand-related inputs through a participatory process

Community workshops with diverse community members

We used the findings from Phase 1 to develop three new sample MNP sachets (Figures 2a–2c). They were introduced into participatory community workshops (n = 23) in each state (Figure 3), serving as a platform for community members to brainstorm and vote for their favorite MNP characteristics, in terms of preferred names, slogans, color schemes and logos. With the help of health workers and village headmen, participants were purposively selected to include both men and women with young children. In Adamawa, men and women participated together, whereas in Kebbi, workshops were gender-specific due to traditional cultural rules. The 23 workshops consisted of 12–20 people each. Community leaders were excluded from participation in order to enable participants to freely express their ideas. For analysis, the numerical data were aggregated, compiled, and tallied by hand. Overall, the green/white color scheme was preferred across all workshops, with the community explaining that green and white are the basic colors of the Nigerian flag, with green representing “life,” “vegetation,” and “healthy feeding,” while white means “purity,” signifying that the powder represents “cleanliness.”

Taimakon Yara (“children’s helper”) was the most popular MNP name generated by community members during brainstorming and voting. In Hausa, the name is concise, simple, and easy to understand. Another popular choice was Garin Tammowa (“malnutrition powder”). Tammowa is the local term for malnutrition, and so “everyone will comprehend the name and its purpose,” according to participants. Two other popular names derived from the workshops included Rigakafin Tammowa (“immunization against malnutrition”) and Garkuwan Jiki (“immunity booster”).



FIGURE 2:

- a. Mother feeding baby: sample sachet design #1
- b. Mother feeding baby: sample sachet design #3
- c. Baby eating alone: sample sachet design #2

The slogan *Lafiyar uwar jiki* (“health is wealth”) was suggested across all the workshops. This phrase is a common Hausa phrase in northern Nigeria, so upon hearing it in relation to MNP, community members explained that all people would know the product is very important for children. *Sinadarin mai inganci* (“important food for children”), *Yara manyan gobe* (“children, the leaders of tomorrow”) and *Hodan garkuwan jiki* (“immunity boosting powder”) were also top slogan options.

Workshop data indicated that an image of a mother carrying a child should clearly show the child smiling because such a positive image would encourage caregivers to give their children the MNP regularly by evoking happiness. The packaging with the baby on its own (Figure 2c) was judged to be more descriptive and attractive than the other package designs. Community members explained that when a mother sees the picture of that beautiful baby, “she would like her child to look as healthy as the one in the picture.”

The mother/baby white packet was the most favored because the community sees the white background color as very attractive and the picture shows the mother feeding the baby, emphasizing the link with IYCF. This mother/baby white packet image (Figure 2a) also shows “the bond that exists between mother and child,” and the white background represents a bright future for the children. There was the suggestion that the outline of a map of Nigeria could be included in the logo design.

.....

“The mother/baby white packet was the most favored because it emphasizes the link with IYCF”

.....

Phase 3: Quantitatively confirming Phase 2 findings

.....

Using a questionnaire to narrow down workshop findings

After the data of the Phase 2 workshops were analyzed, the top-voted names, slogans and logos across the two states were compiled into a questionnaire with a series of close-ended, multiple-choice questions for confirmation of findings. Eighty-three participants were then sampled for voting.

Taimakon Yara (“children’s helper”) was the community’s top choice of name because if a caregiver does not take care of his or her child, then the child may not grow to be healthy and he/she will be ill all the time, according to participants. When this issue was further discussed during stakeholder engagement, it was pointed out that the term “helper” was non-specific, and therefore “children’s vitamin” was proposed instead.

Lafiyar uwar jiki (“health is wealth”) was another very popular slogan voted on by community members. As one person explained, “Everybody wants to be healthy because illnesses could put them on hold. Hearing ‘health is wealth,’ we know it is of great importance, and also children will be healthier and mothers happy.” Further discussions revealed that this slogan was commonly used in rallies, however. The second most popular choice was Yara manyan gobe (“children, the leaders of tomorrow”).



FIGURE 3: Community workshop during formative research in Adamawa State

The “mother feeding baby” visual was the preferred image option among participants to be placed on the MNP package.

Phase 4: Translating findings into intervention materials

.....

Working with an artist and graphic designer on packaging development

Using the results of Phase 3, a creative brief – which is a template that an artist or graphic designer can use to develop a product – was developed for the MNP sachet design. This brief was developed from a synthesis of all data derived from the previous three steps and in consideration of global and federal guidelines, as well as in alignment with Home Fortification Technical Advisory Group (HF-TAG) recommendations.¹⁴ Working together, an artist and a graphic designer translated the creative briefs into draft sachet designs. First, the sketch artist translated each creative brief into a series of sample sachet drawings, using his creativity to choose how best to represent the inputs generated from phases 1–3. Second, the graphic designer developed these sketches into computer graphics for printing, followed by iterative review and revision by the program staff.

Phase 5: Building consensus among key stakeholders

.....

Engaging stakeholders to choose the final MNP packaging

After the near-final sample MNP sachet designs had been generated, a meeting was held with key stakeholders from government, UN bodies, local NGOs, and other donor organizations to build consensus around a final overall design. The meeting included a presentation of findings from the data collection. It also sought feedback from key stakeholders related to the process and outcomes of the participatory work. Specific attention was



FIGURE 4: Artwork for final local MNP package

given to choosing a finalized MNP design for introduction to the communities of northern Nigeria. An agreed-upon and approved MNP design was chosen for use during the pilot trial in Kebbi and Adamawa (Figure 4).

Conclusion: Using the formative work in the field

The local brand, named Sinadarin Bitamin Don Yara (“Children’s Vitamin”), was developed on the basis of inputs resulting from this participatory and iterative research process. The findings of the formative research have also been used to design behavioral change communication strategy and program materials. A large-scale pilot to test the effectiveness of various delivery mechanisms will be carried out with the aim of identifying an effective distribution approach for high coverage and compliance while ensuring equitable reach. Based on this, a national strategy and scale-up plan will be developed with the objective of reaching at least 11.5 million children aged 6–23 months by 2019.

“A national plan is being developed that aims to reach at least 11.3 million children aged 6–23 months by 2019”

The research has already helped initiate emergency distribution of MNP in 18 internally displaced persons (IDP) camps and through 210 health facilities catering for over 2.3 million internally displaced people in three northeastern states affected by the Boko Haram Crisis.

The MNP and related messaging reached 38,000 children in the internally displaced persons (IDP) camps of those states. Currently, an expansion of the program is underway to scale up this emergency response with MNP and to reach an additional 107,000 children aged 6–23 months.

This study was conducted with funding from the European Union.

Correspondence: Annette Imohe,
Nutrition Officer, UNICEF Nigeria, United Nations Children's Fund, UN House, Plot 617/618, Central Area District, Diplomatic Zone, PMB 2851, Garki, Abuja FCT, Nigeria
Email: aimohe@unicef.org

References

- UNICEF. National Nutrition and Health Survey. Abuja, Nigeria: National Bureau of Statistics, 2015.
- Black RE, Victora CG, Walker SP et al. Maternal and child undernutrition and overweight in low-income and middle-income countries. *Lancet* 2013;382(9890): 427–451.

03. Victora CG et al. Maternal and child undernutrition: consequences for adult health and human capital. *Lancet* 2008;371(9609):340–357.
04. Nigerian Federal Ministry of Health. National Guidelines on Micronutrients Deficiency Control in Nigeria. Abuja, Nigeria: NFMoH, 2013.
05. World Bank. Costed Plan For Scaling Up Nutrition: Nigeria. Washington, DC: World Bank, 2014.
06. Ogonnaya JA, Mojekwu CN, Mojekwu JN. Energy, Iron and Zinc Densities of Commonly Consumed Traditional Complementary Foods in Nigeria. *Br J Appl Sci Technol* 2011; 2(1):48–57.
07. National Population Commission of Nigeria. Nigeria Demographic and Health Survey 2013. Abuja, Nigeria, and Rockville, USA: NPC, ICF International, 2014.
08. United States Central Intelligence Agency. The World Fact Book. 2010; Available from: www.cia.gov/library/publications/the-world-factbook/fields/2046.html.
09. De-Regil LM, Suchdev PS, Vist GE et al. Home fortification of foods with multiple micronutrient powders for health and nutrition in children under two years of age. *Cochrane Database Syst Rev* 2011;9: Cd008959.
10. WHO. Guideline: use of multiple micronutrient powders for home fortification of foods consumed by infants and children 6–23 months of age. Geneva: World Health Organization, 2011.
11. Kodish SA, Dibari N, Mlambo F et al. Using Participatory Community Workshops to Develop Salient Communications Strategies for Introducing a Small-Quantity LNS in Rural Malawi and Mozambique. *FASEB J* 2015;29(1): S584.27.
12. Lieber E, Weisner T, Taylor J. Dedoose software. Sociocultural research consultants. LLC, 2011. Retrieved from www.dedoose.com.
13. Charmaz K. Grounded theory. In: Smith J, ed. *Qualitative psychology: A practical guide to research methods*. London: Sage Publications Ltd, 2003, pp 81–110.
14. HF-TAG. Planning for Program Implementation of Home Fortification with Micronutrient Powders (MNP): A step-by-step manual. Geneva: Home Fortification Technical Advisory Group, 2015.