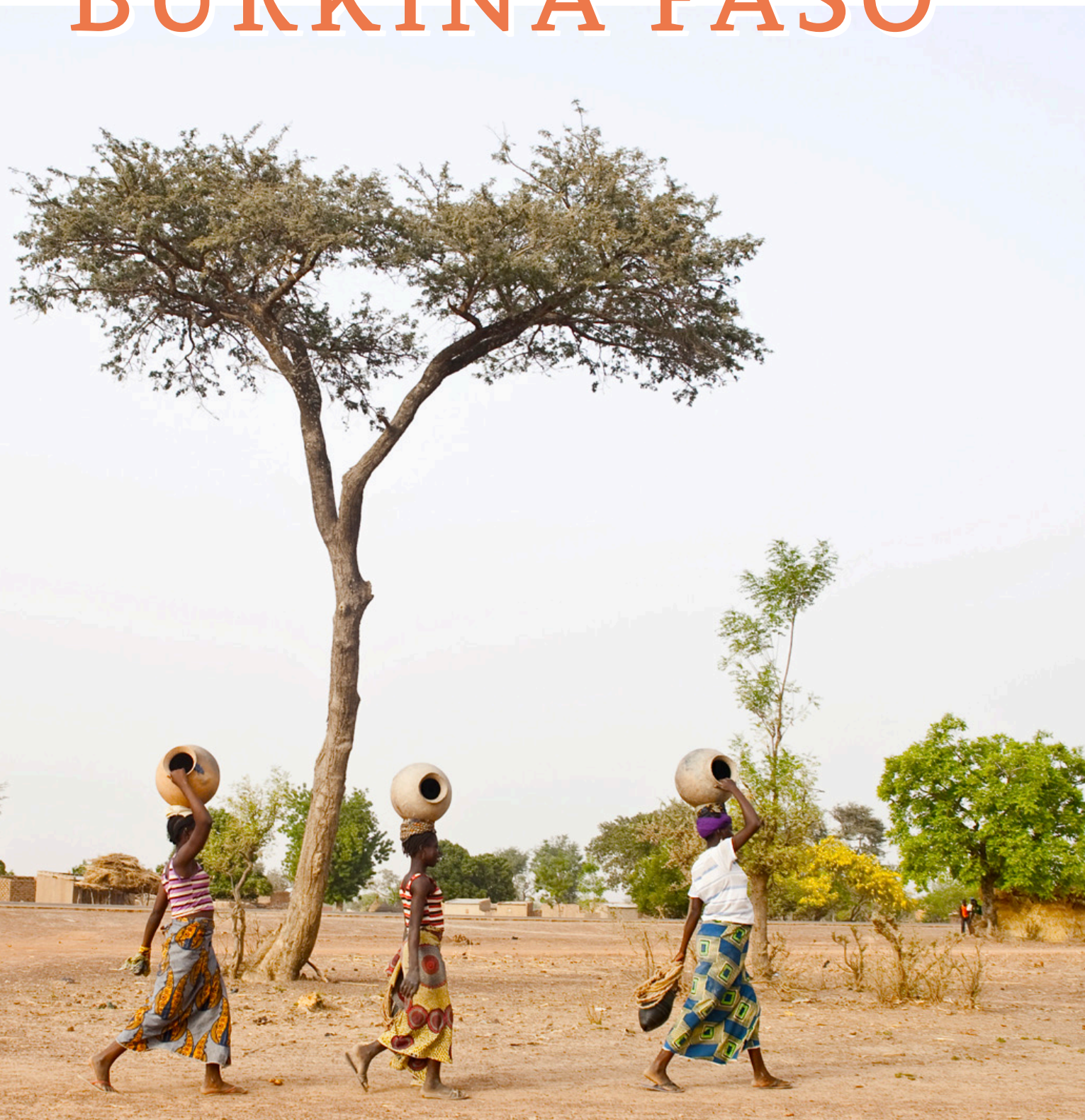


Formative Research for the Introduction of  
Multi-Micronutrient Supplements in

# BURKINA FASO



# Formative Research for the Introduction of Multi-Micronutrient Supplements in Burkina Faso

Prepared by Dr. Césaire T. Ouédraogo

This report was prepared by Dr. Cesaire T. Ouedraogo who carried out the MMS formative research fieldwork, data analysis, and interpretation of findings in Burkina Faso. Technical research support, including overall study design and methodology, was provided by Raphia Ngoutane, Ramakwande Zoma, and Stephen Kodish from the Department of Nutritional Sciences at Pennsylvania State University. Additional technical and financial support was provided by collaborators representing Bill & Melinda Gates Foundation (Alison Tumilowicz), Sight & Life (Madhavika Bajoria, Klaus Kraemer), UNICEF Headquarters (Nita Dalmiya, Nona Reuter), UNICEF Burkina Faso (Mediatrice Kiburenté, Bertine Ouoro Dabire Dowrot), and the directorate of family health (Dr ZOMBRE/SANON Valérie Marcella, Dr DADJOARI Moussa).



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## Introduction

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Micronutrient deficiencies are highly prevalent among women in Burkina Faso. These deficiencies cause adverse maternal and birth outcomes. There is evidence that have consistently demonstrated that the use of multiple micronutrient supplements (MMS) with iron folic acid (IFA) during pregnancy provided greater benefits compared to the supplementation with IFA alone. These benefits included significant decrease of the risk of low birthweight and small-for-gestational age, and equivalent benefits for reducing maternal anemia. In Burkina Faso, UNICEF in collaboration with directorate of family health propose to contribute to the scale-up of MMS among pregnant women living in settings with high burden of nutritional deficiencies. We used combined qualitative methods to understand social and behavioral factors important for the MMS demand, as well as its acceptance and utilization.

## Methods

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A two-phased formative research study was conducted between October 2020 and February 2021 in two health districts (Ziniaré and Yako), in the region of Plateau Central. Phase 1 aimed to identify the product-(most preferred color, logo, slogan, etc.) and promotion- (range of options where pre-natal supplements were being sold/distributed to pregnant women, target, etc.) related factors. It included: a) 6 community participatory workshops with 90 participants including pregnant women (PW) and lactating women (LW), b) 6 focus groups with 64 PW and LW, c) 10 market observations in private and public pharmacies and market stand.

Phase 2 aimed to explore local nutritional terms, perception of illness risk to inform the product promotion. This phase used ethnographic methods including d) 30 free listings with women of reproductive age (WRA) e) 42 pile sorting with WRA and g)24 semi-structured interviews with pregnant women and 18 health staff. Pregnant and lactating women aged between 18 to 49 years and were purposively sampled from the study site. Health staff from the study site included two health agents at the health facility and one community health worker were interviewed. Data were analyzed using different methods including hand compilation and tallying (workshop data) and NVivo (transcripts from interviews) and Anthropac (free lists and pile sort data).

## Findings and Recommendations

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**Product:** The current study focused more on the MMS box characteristics. On the color scheme, a white box was the most preferred followed by the red color during workshops. Participants explained that white reminded them of a paracetamol *“which has no side effects.”* The red color was also preferred because *“it is similar to iron folic acid color”*, they usually consume. But some women stated that red was a forbidden in their communities. When participants were shown several mock MMS box designs, the box with a pink color was the most preferred because *“it is a beautiful color.”* Regarding the box logo, the most preferred was a *“smiling pregnant woman holding a supplement in her hands.”* This image was considered as attractive by participants. Another preferred image was a *“healthy pregnant holding a healthy baby.”* Participants chose that image because *“it shows the benefits of*

*the supplement for both mother and child.”* For the promotional slogan, participants suggested slogans related to health, strength or God. For example, Konta laafi (restore health); Konta panga (restore strength); Wend lamita (God knows). For the product name, many names were suggested by participants during the workshops. Among these names, Wend la tiipa (God heals) was the most frequent, followed by Nafa (Give a lot of benefits) and Super vitamin (super vitamin).

**Price:** Across the study site, the price of the product was cited among the possible barriers to MMS acceptability. Participants stated that they faced some economic constraints. A participant said: *“we do not have money because we have no income-generating activities.”* A women added: *“If the product is expensive; people will not buy it.”* Currently, with the official policy of exemption from health care costs for pregnant women and children under five, many participants will expect the MMS to be available for free. But in case they have to buy it, they expect the cost to be affordable even though the range considered as affordable differs from one woman to another. This can sometime vary by a factor of 20 (e.g. between XOF 50-1000).

**Placement:** Identifying the best place where the target population can access the product is very important. Findings from the market observations revealed that existing prenatal supplements were only available in pharmacies (private or at health facility depots) or distributed at the health facility during antenatal care visits. According to some participants, the MMS must be always available in the pharmacy of the health facility. One of them explained: *“when there is stock out (of IFA supplement) in our health center, we have travel 20 km round trip to buy the product. Otherwise when it’s available here, it’s not expensive.”* Findings from market observation revealed that the supplements were placed in different ways at each marketplace. They were either placed behind the counter or displayed in front of other products. Each pharmacist decides how to display each product. For example, a pharmacist explained: *“we place our different products in alphabetic order. It helps to quickly find the products.”*

**Promotion:** Many people in the community have some influence on pregnant women. These people are key audience segments to reach pregnant women with messages. Across the workshops and interviews with women, it appears that to reach pregnant women with messages, husbands, grand-mothers, mothers-in-law, seniors, and other wife are the best targets. Findings from interviews with care providers revealed that community leaders are a very important key audience to target. A care provider explained: *“Here, community leaders always have their say and the community considers their words. Otherwise, if you skip them and market the product directly into the community, people will not take it. We have seen this with the different past campaigns and programs. But if the chief of the village, the chief of the land, the imam, the pastor, etc. get involved, they will take ownership of the product and promote it.”*

**Tailored messaging:** While messaging needs to target the women, it is very important not to leave out the decision-makers. Findings from interviews with pregnant women showed some women cannot make decision by themselves regarding visits to health facility or consumption of prenatal supplement. A woman explained: *“I need to ask my husband permission because if I go to the health center and face some problems (e.g., money to paid for a prescription), he can refuse to help me, and he will say that he was not informed before.”*

This shows that husbands play an important role in women’s access to many health services, even if women were seen to be the frequent buyers of prenatal supplements in the market observations. Product characteristics also need to be considered. Women often incriminate IFA taste to justify why they are not consuming IFA supplement. Women link that to the color of the tablet as well. Messaging to promote MMS should emphasis the better taste and avoid color (i.e., red) that reminds women the IFA supplement. Suggested slogans revealed that words like *“health”* or *“strength”* seem to resonate with mothers and should be considered for messaging.

## Introduction

Les carences en micronutriments sont très répandues chez les femmes au Burkina Faso. Ces carences entraînent des conséquences néfastes pour la mère et l'enfant. Il est démontré de façon constante que l'utilisation de suppléments de micronutriments multiples (SMM) contenant du fer et de l'acide folique (FAF) pendant la grossesse offrait des avantages plus importants que la supplémentation avec le FAF seul. Ces avantages comprennent une diminution significative du risque d'insuffisance pondérale à la naissance, ainsi que des avantages équivalents pour la réduction de l'anémie maternelle. Au Burkina Faso, l'UNICEF, en collaboration avec le Ministère de la Santé, se propose de contribuer à l'utilisation du SMM chez les femmes enceintes vivant dans des régions où les carences nutritionnelles sont importantes. Nous avons utilisé des méthodes qualitatives combinées pour comprendre les facteurs sociaux et comportementaux importants pour la demande de SMM, ainsi que pour son acceptation et son utilisation dans le contexte du Burkina Faso.

## Méthodes

Une recherche formative en deux phases a été menée entre octobre 2020 et février 2021 dans deux districts sanitaires (Ziniaré et Yako). La phase 1 visait à identifier les facteurs liés au produit (couleur, logo, slogan les plus préférés, etc.) et à la promotion (les endroits où les suppléments prénataux étaient vendus/distribués aux femmes enceintes, cible, etc.). Elle comprenait : a) 6 ateliers participatifs communautaires avec 90 participants, y compris des femmes enceintes et des femmes allaitantes ; b) 6 groupes de discussion avec 64 femmes enceintes et femmes allaitantes c) 10 observations de marché dans des pharmacies privées et publiques et des stands de marché. La phase 2 avait pour but d'explorer les termes nutritionnels locaux, la perception des risques de maladies afin d'informer la promotion du produit. Cette phase a utilisé des méthodes ethnographiques comprenant d) 30 free listings avec des femmes en âge de procréer ; e) 42 piles sorts avec femmes en âge de procréer et g) 24 entretiens semi-structurés avec des femmes enceintes et 18 agents de santé. Les femmes enceintes et femmes allaitantes âgées de 18 à 49 ans ont été échantillonnées par convenance. Les agents de santé comprenait deux agents de santé de l'établissement de santé et un agent de santé communautaire. Les données ont été analysées à l'aide de différentes méthodes, notamment la compilation et comptage manuels (données d'atelier), NVivo (transcriptions des entretiens) et Antropac (free lists et piles sorts).

## Résultats et recommandations

**Le produit :** L'étude actuelle s'est davantage concentrée sur les caractéristiques du paquet de SMM. En ce qui concerne la couleur, un paquet de couleur blanche était le plus préféré, suivie par la couleur rouge pendant les ateliers. Les participants ont expliqué que le blanc leur rappelait le paracétamol « qui n'a pas d'effets secondaires ». La couleur rouge était également préférée car « elle est similaire à la couleur du FAF », qu'elles consomment habituellement. Mais certaines femmes ont déclaré que le rouge était interdit dans leurs communautés. Lorsqu'on a montré aux participants plusieurs modèles de paquets de SMM, la boîte de couleur rose a été

la plus préférée car « c'est une belle couleur ». En ce qui concerne le logo du paquet, le plus préférée était une « femme enceinte souriante tenant un supplément dans ses mains ». Cette image a été considérée comme attrayante par les participants. Une autre image préférée était une « femme enceinte en bonne santé tenant un bébé en bonne santé ». Les participants ont choisi cette image parce qu'elle « montre les avantages du supplément pour la mère et l'enfant ». Pour le slogan promotionnel, les participants ont proposé des slogans avec des mots faisant référence à la santé, à la force ou à Dieu. Par exemple, Konta laafi (procure la santé) ; Konta panga (procurer la force) ; Wend lamita (Seul Dieu sait). Pour le nom du produit, de nombreux noms ont été suggérés par les participants lors des ateliers. Parmi ces noms, Wend la tiipa (Dieu guérit) était le plus fréquent, suivi de Nafa (A des bienfaits) et Super vitamine (super vitamine).

**Le prix :** Sur l'ensemble des sites d'étude, le prix du produit a été cité parmi les obstacles possibles à l'acceptation du SMM. Les participants ont déclaré qu'ils étaient confrontés à des contraintes économiques. Un participant a déclaré « nous n'avons pas d'argent car nous n'avons pas d'activités génératrices de revenus ». Une femme a ajouté : « Si le produit est cher, les gens ne l'achèteront pas ». Actuellement, avec la politique officielle de gratuité des soins de santé pour les femmes enceintes et les enfants de moins de cinq ans, de nombreux participants s'attendent à ce que le SMM soit disponible gratuitement. Mais s'ils doivent l'acheter, ils s'attendent à ce que le coût soit abordable, même si la fourchette considérée comme abordable diffère d'une femme à l'autre. Cela peut parfois varier d'un facteur 20 (par exemple, entre 50 et 1000 XOF).

**Placement :** Il est très important d'identifier le meilleur endroit où la population cible peut accéder au produit. Les observations du marché ont révélé que les suppléments prénatals existants n'étaient disponibles que dans les pharmacies (privées ou dans les dépôts des centres de santé) ou distribués dans les centres de santé lors des visites de soins prénatals. Selon certains participants, le SMM doit être toujours disponible dans la pharmacie de l'établissement de santé. L'une des participantes

disait : « quand il y a une rupture de stock (de FAF) dans notre centre de santé, nous devons faire 20 km aller-retour pour acheter le produit. Sinon, quand il est disponible ici, il n'est pas cher ». Les résultats de l'observation des marchés ont révélé que les suppléments étaient placés de différentes manières sur chaque marché. Ils étaient soit placés derrière le comptoir, soit exposés devant d'autres produits. Chaque pharmacien décide de la manière de présenter chaque produit. Par exemple, un pharmacien a expliqué « nous plaçons nos différents produits par ordre alphabétique. Cela permet de trouver rapidement les produits ».

**Promotion :** De nombreuses personnes dans la communauté ont une certaine influence sur les femmes enceintes. Ces personnes constituent des segments d'audience clés pour la diffusion de messages aux femmes enceintes. Dans les ateliers et les entretiens avec les femmes, il apparaît que les maris, les grands-mères, les belles-mères, les personnes âgées et les autres épouses sont les meilleures cibles pour diffuser des messages aux femmes enceintes. Les résultats des entretiens avec les prestataires de soins ont révélé que les leaders communautaires sont un public clé très important à cibler. Un prestataire de soins a expliqué : « Ici, les leaders communautaires ont toujours leur mot à dire et la communauté tient compte de leurs paroles. Sinon, si vous les ignorez et que vous envoyez directement le produit dans la communauté, les gens ne le prendront pas. Nous avons fait le constat avec différentes campagnes et programmes passés. Mais si le chef du village, le chef de terre, l'imam, le pasteur, etc. s'impliquent, ils vont s'appropriier le produit et le promouvoir ».

**Messages adaptés :** Les messages doivent cibler aussi bien les femmes que les personnes qui ont une influence sur les elles. Les résultats des entretiens avec les femmes enceintes ont montré que certaines d'entre elles ne sont pas en mesure de prendre elles-mêmes les décisions concernant les visites dans les centres de santé ou la consommation de suppléments prénatals. Une femme disait : « J'ai besoin de demander la permission à mon mari car si je vais au centre de santé et que j'ai besoin de son aide (par exemple, l'argent pour payer une

ordonnance), il peut refuser de m'aider, et il dira qu'il n'a pas été informé auparavant » . Cela montre que les maris jouent un rôle important dans l'accès des femmes à de nombreux services de santé, même si les femmes ont été vues comme celles qui achetaient fréquemment de suppléments prénataux dans les observations du marché. Les caractéristiques des produits doivent également être prises en compte. Les femmes incriminent souvent le goût du FAF pour justifier le fait qu'elles ne les consomment pas. La couleur rouge également les rappelle le FAF. Les messages visant à promouvoir le SMM devraient mettre l'accent sur le meilleur goût et éviter la couleur (c'est-à-dire le rouge) qui rappelle aux femmes le supplément de FAF. Les slogans suggérés ont révélé que les mots « santé » ou « force » semblent avoir une résonance chez les mères et devraient être pris en compte dans les messages.

# 1.0 Background

Micronutrient deficiencies are highly prevalent among women in Burkina Faso. According to ENIAB 2014, approximately 72.5% of pregnant women were anemic, with high prevalence, 43.5% in Yako (Norden region) and 44.8% in Ziniare (region of Plateau Central ). The numbers are particularly high in rural areas than urban areas. These deficiencies cause adverse maternal and birth outcomes. There are evidences that have consistently demonstrated that the use of multiple micronutrient supplements (MMS) with iron folic acid (IFA) during pregnancy provided greater benefits compared to the supplementation with IFA alone. These benefits included significant decrease of the risk of low birthweight and small-for-gestational age, and equivalent benefits for reducing maternal anemia.

In Burkina Faso, UNICEF in collaboration with the Ministry of Health propose to contribute to the scale-up of multiple micronutrients supplements (MMS) among pregnant women living in settings with high burden of nutritional deficiencies.

Maternal food supplementation programs with integrated behavioral change programming have only reached moderate coverage<sup>1</sup>. For this reason, new supplementation programs must strive to meet the nutritional needs of mothers both in nutrient content and delivery platform.

The present formative research is carried out to understand community perspectives towards maternal and child nutrition health and illness and generate demand for MMS through tailored programming and social marketing.

<sup>1</sup>Victora, C. G., Barros, F. C., Assunção, M. C., Restrepo-Méndez, M. C., Matijasevich, A., & Martorell, R. (2012). Scaling up maternal nutrition programs to improve birth outcomes: a review of implementation issues. Food and nutrition bulletin, 33(2\_suppl1), S6-S26.

# 2.0 Study Objective

To inform the context-specific design and successful implementation of nutrition programming using prenatal MMS to address maternal and child undernutrition in Burkina Faso.

## **Specific objectives**

- To understand the ethnographic (community) perspectives toward maternal and child nutritional health and illness
- To generate demand for MMS through tailored social marketing of the supplement

### 3.1 Setting and participants

The study took place in six health centers across the two health districts Ziniaré and Yako. Participants were pregnant and lactating women, aged between 18 to 49 years who were purposively sampled from the study sites.

### 3.2 Study design

The study was scheduled in two phases and used mixed methods to collect data (**Figure 1**). The phase 1 used different methods including focus groups, community workshops and market observations to assess the product related factors important for MMS demand generation. The phase 2 was based on free lists, pile sorts and semi-structured interviews in order to perform an ethnographic analysis of nutritional health and illness terms for MMS promotion.

**Figure 1** Study design

Social Marketing Inputs	
Study phase	
	<b>Phase 1:</b> Identifying product related factors important for MMS demand generation
	<b>Phase 2:</b> Ethnographic analysis of nutritional health and illness terms for MMS promotion
Methods	
	<b>Focus Groups</b> (pregnant and lactating women)
	<b>Market Observation</b> (pharmacies, health centers)
	<b>Participatory workshop</b> (pregnant & lactating women, with design template examples)
	<b>Free list</b> (women of reproductive age)
	<b>Pile sorts</b> (women of reproductive age)
	<b>Interviews</b> (pregnant women and health workers)

### 3.3 Phase I Data collection

#### 3.3.1 Community Workshop

##### OBJECTIVES

The community participatory workshops had three specific objectives:

1. To identify anticipated barriers to and preferred solutions to help ensure optimal MMS acceptability and utilization in this setting
2. To gain consumer insights on MMS product characteristics including colors, logo, slogan, and brand name to be used locally
3. To build community consensus around preferred promotional strategies for introducing MMS including inputs for culturally appropriate programming

##### METHODOLOGY

Community workshops were conducted in six health centers across the two health districts Ziniaré and Yako. At each health center 12-23 pregnant and lactating women, between the ages of 18 to 49 years old were recruited to participate. A workshop guide was developed prior to the group sessions and Moore-speaking facilitators were trained on guiding the discussion.

All community workshops were audio-recorded for complete transcripts and one observer took notes. Numerical data were aggregated, compiled and tallied by hand.

### **3.3.2 Focus Group Discussions**

#### **OBJECTIVES**

1. To understand social norms around health- and nutrition-seeking behavior during pregnancy and lactation
2. To solicit feedback on social marketing materials for promoting MMS with a focus on appropriate promotions, placement/delivery mechanisms, and product characteristics
3. To build consensus around more preferred strategies for appropriately introducing MMS for optimal acceptability and utilization

#### **METHODOLOGY**

Focus groups were conducted in six health centers across both Ziniaré and Yako health districts.

Within each health district, three health centers were selected after stratification by distance from the district office, population size and location (rural vs urban). Participants were identified by health staff and community health workers. At each health center, 6–16 pregnant and lactating women, between the ages of 18 to 49 years old were included. A focus group guide was developed prior to the group sessions and Moore-speaking facilitators were trained on guiding the discussion.

All focus group discussions were audio-recorded for complete transcripts and one observer took notes.

Interview transcripts were then analyzed using NVivo.

### **3.3.3 Market Observations**

#### **OBJECTIVES**

1. To understand the range of options where pre-natal supplements are currently being sold/distributed to pregnant women in this setting
2. To describe the range of existing pre-natal supplements and their preferred characteristics available in the current market
3. To inform social marketing inputs related to optimal MMS product, price, placement, and promotions

#### **METHODOLOGY**

Markets were purposively sampled from study sites. Within each health district, five markets were selected. The different markets included market stands, private pharmacies, and pharmacies at health center (i.e., depot).

## **3.4 Phase II Data collection**

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### **3.4.1 Free lists**

#### **OBJECTIVES**

The community participatory workshops had three specific objectives:

1. To identify local illness and food terms to use in tailored messaging to promote MMS during programming
2. To elucidate food prescriptions and food proscriptions (i.e. taboos) that may exist during pregnancy in the cultural setting where MMS will be introduced
3. To understand the perceived importance of maternal nutrition (diet or supplementation) for pregnancy-related health and birth outcomes

## **METHODOLOGY**

Free lists were conducted in six health centers across the two health districts Ziniaré and Yako. At each health center five women of reproductive age, aged between 18 to 49 years were recruited to participate. Participants were asked to list all the illnesses that pregnant women in the community suffer from. After listing, the top 5 diseases were explored for local explanations. Then data collectors probed for any nutrition-related illness (e.g., anemia) and for diseases that seem unfamiliar, new or conflicting.

### **3.4.2 Pile Sorts**

#### **OBJECTIVES**

1. To define local food and illness classification systems within a cultural context
2. To assess maternal risk perception toward pregnancy-related illnesses and birth outcomes
3. To understand how MMS fits into local understandings/descriptions of nutrition-related illness

#### **METHODOLOGY**

At each health center 7 women of reproductive age, aged between 18 to 49 years who could best inform about prenatal diseases in the community were invited to participate in pile sort. Women were asked to sort cards, each containing the name of food or disease into piles so that items in a pile are more similar to each other.

### **3.4.3 Semi-Structured Interviews (SSI)**

#### **OBJECTIVES**

1. To understand the typical experiences of women during pregnancy and lactation, including challenges they face, cultural considerations, and practices they engage in for optimal health and nutrition of mom and baby
2. To describe the specific barriers and facilitating factors important for optimal maternal nutrition and birth outcomes in this cultural context
3. To generate social marketing-related recommendations (product, price, promotion, placement) to inform culturally appropriate MMS programming for optimal acceptability and compliance

#### **METHODOLOGY**

SSI were conducted with pregnant women and health staff. At each health center four pregnant women and three health staff were interviewed on challenges, cultural considerations and practices during pregnancy and lactation.

## 4.0.1 Community Workshop

Participants mentioned different anticipated barriers to optimal MMS acceptability and utilization in their communities. Across all the workshops, some characteristics of the product suggested as possible barriers included the smell of the supplement, the price and the logo.

### The top barriers to MMS acceptability included:

- **The smell of the product.** Participants stated that a strong smell the product or if the product smells like iron folic acid supplement women will not consume it.

*“The supplement must not smell strong. Some medicines when you take them the smell gets in your mouth and it can make you vomit.”*

*“If the supplement smells like iron folic acid supplement people will not consume it.”*

- **The cost of the product.** Across both district women stated that they faced some economic constraints. This could be a barrier if the product is not affordable.

*“We do not have money because we have no income-generating activities.”*

*“If the product is expensive; people will not buy it.”*

- **Type of logo for the packaging.** Participants stated that some types of logos should be avoided.

*“If you put a picture of a skinny woman as logo on the package or something that looks like a skull, people may not buy it.”*

*“Do not put anything bad on the package. For example, a woman who is too thin or too big.”*

Similar barriers were found during focus groups and participants during those focus groups made specific suggestions to overcome those barriers:

- **About the smell.**

*“I suggest that the supplement smells like a fruit (i.e., orange or mango).”*

- **For the cost of the product.**

*“For the price, I think 1000 fcfa is affordable.”*

*“I suggest 50 fcfa for the price.”*

- **About the logo.**

*“Put a picture of a healthy person on the package so that when you see it, it reminds you to take it and look like the person from the picture.”*

Participants at the workshops also discussed MMS product characteristics including colors, logo, slogan, and brand name to be used locally.

### Thoughts about the Color of the MMS Product

In Ziniare white was the most preferred color (115 votes) and in Yako the top preferred color was red (132 votes). Participants who preferred the white color explained that it reminds them of the paracetamol tablet which has no side effect compared to iron folic acid (IFA) which is red. In Yako, especially in Secteur 6 where all participants voted red (132 votes), they had the following explanation “Red is similar to iron folic acid color we usually consume”. However, across most workshops, some women stated without any clear explanation that red was a forbidden in their communities. **Table 1** shows the votes on color options.

**Table 1** Votes on MMS product color options

Sites	Votes on packet color option		Most preferred color for MMS Packet and reasons
District of Ziniaré			
CSPS Urbain	Red	(9 votes)	<b>White</b> (115 votes): “White color is similar to paracetamol which is easy to consume”
	White	(51 votes)	
CSPS Laongo	Red	(2 votes)	<b>Light pink</b> (22 votes): “Light pink is attractive”  <b>Red</b> (19 votes): “Red is similar to iron folic acid color we usually consume”
	White	(49 votes)	
	Yellow	(3 votes)	
	No preference	(6 votes)	
CSPS Zitenga	Light pink	(22 votes)	<b>Yellow</b> (11 votes): “Yellow is a visible color”  <b>Black</b> (11 votes): No reason recorded <b>Green</b> (6 votes): No reason recorded
	Red	(8 votes)	
	Green	(6 votes)	
	White	(15 votes)	
	Black	(11 votes)	
	Yellow	(8 votes)	
District of Yako			
District of Yako			
CSPS Secteur 6	Pink	(15 votes)	<b>Red</b> (132 votes): “Red is similar to iron folic acid color we usually consume”  <b>Yellow</b> (30 votes): “Yellow is a visible color”
	Yellow	(18 votes)	
	Green	(15 votes)	
	Blue	(5 votes)	
	Red	(2 votes)	
CSPS Pelegtenga	Red	(105 votes)	<b>Green</b> (26 votes): “Green reminds me avocado I love a lot”
CSPS Arbolé	White	(32 votes)	<b>Light pink</b> (15 votes): “Light pink is attractive”
	Black	(5 votes)	
	Green	(11 votes)	
	Yellow	(12 votes)	
	Red	(25 votes)	

## Thoughts about the MMS Packaging Logo

Across both Ziniare and Yako district, the most preferred logo suggested was a “smiling pregnant woman holding a supplement in her hands” (207 votes). This image was considered as attractive by participants. Another preferred image was a “healthy pregnant woman holding a healthy baby” (100 votes). Participants chose that image because it shows the benefits of the supplement for both mother and child. **Table 2** displays the votes on logo options.

**Table 2** Votes on MMS packaging logo options

Sites	Votes on packet logo option		Most preferred logo for MMS Packet and Example of Quotes/Reason
District of Ziniaré			
CSPS Urbain	Woman holding a baby	12 votes	Smiling pregnant woman holding a baby or walking with a child (35 votes): “...to show that the product is for pregnant and lactating woman.”  Pregnant woman standing with a health worker (8 votes): “...to show that health worker is taking care of pregnant woman.”
	Pregnant woman	17 votes	
	Smiling pregnant woman walking with a child	23 votes	
	Pregnant woman standing with a health worker	8 votes	
CSPS Laongo	Smiling pregnant women	31 votes	Smiling pregnant women taking the supplement (34 votes): “A smiling pregnant shows that the supplement is very good.”
	Smiling pregnant women taking the supplement	34 votes	
CSPS Zitenga	Pregnant women	5 votes	Fruits (65 votes): No reasons recorded
	Fruits (banana or papaya or avocado, mango or ananas)	65 votes	
District of Yako			
CSPS Secteur 6	Healthy pregnant woman	23 votes	Healthy pregnant woman/ smiling/ holding the supplement (173 votes): “It will create a lot of excitement for the product”  Healthy pregnant woman with a healthy baby (65 votes): “It shows the benefits of the supplement”  Healthy pregnant woman in one and mal-nourished pregnant woman in the other side (2 votes): “It reminds woman which situation she will end up if she takes or does not take the supplement “
	Healthy pregnant woman on one side and in the back healthy woman holding a baby	22 votes	
	Healthy pregnant woman on one side and in the back healthy baby	8 votes	
	Healthy pregnant woman in one and mal-nourished pregnant woman in the other side	2 votes	
CSPS Pelegtenga	Smiling pregnant woman	17 votes	
	Pregnant woman holding the supplement	71 votes	
	Pregnant woman	12 votes	
CSPS Arbolé	Healthy pregnant woman	50 votes	
	Healthy baby on the back of a woman	26 votes	
	Healthy mother holding a healthy baby in her hands	9 votes	

## Preference for MMS Slogan Options

Across both districts, participants' most preferred slogan was "Konta laafi/panga" (restore health and strength). Other slogans referring to God were suggested many times across all the workshops. **Table 3** shows the votes on MMS slogan options.

**Table 3** Votes on MMS slogan options

Sites	Votes on slogan options		Most popular slogans for MMS
District of Ziniaré			
CSPS Urbain	Madame tanyonré bale (Give strength)	11 votes	Konta laafi/pang (90 votes) <i>(restore health and strength)</i>
	Maneguezanga (relief for pregnant women)	19 votes	
	Songzanga (Total support to pregnant women)	25 votes	Pougpous zounongo (30 votes) <i>(A chance for pregnant women)</i>
CSPS Laongo	Pougpous tal yonré (Solution for pregnant women)	11votes	Songzanga (25 votes) <i>(Total support to pregnant women)</i>
	Pougpous rigue pamlafi (Restore health)	19 votes	Maneguezanga (19 votes) <i>(relief for pregnant women)</i>
	Pougpous zounongo (A chance for pregnant women)	30 votes	
CSPS Zitenga	Konta laafi (restore health)	38 votes	Barka (9 votes) <i>(Gratitude)</i>
	Konta panga (Give strength)	22 votes	
	Barka (Gratitude)	9 votes	
	Super	1 vote	
District of Yako			
CSPS Secteur 6	Wend lamita (God knows)	55 votes	Pang ya wende (28 votes) <i>(God is strength)</i>
CSPS Pelegtenga	Laafi la sounongo (Health brings happiness)	64 votes	Wend na kond bousongo (8 votes) <i>(May God provides happiness)</i>
	Pang ya wende (God is strength)	28 votes	
	Wend na kond bousongo (May God provides happiness)	8 votes	
CSPS Arbolé	Nong noogo (Enjoy good stuff)	25 votes	Nong noogo (25 votes) <i>(Enjoy good stuff)</i>
	Neerem naaba (beauty king)	37 votes	
	Poug neere (beautiful lady)	13 votes	Neerem naaba (37 votes) <i>(beauty king)</i>
	Manegre (Helpfulness)	10 votes	
			Poug neere (13 votes) <i>(beautiful lady)</i>
			Manegre (10 votes) <i>(Helpfulness)</i>
		Wend lamita (55 votes) <i>(God knows)</i>	
		Laafi la sounongo (64 votes) <i>(Health brings happiness)</i>	

## MMS Brand Name Recommendations:

Many names were suggested by participants during the workshops. Among these names, Wend la tiipa (God heals) was the most frequent, followed by Nafa (Give a lot of benefits) and Super vitamin (super vitamin). **Table 4** shows the votes on brand name options.

**Table 4** Votes on MMS rand name options

Sites	Votes on brand name options		Most popular names
District of Ziniaré			
CSPS Urbain	Rib tiim (Improve appetite)	20 votes	Super vitamine (33 votes) <i>(super vitamin)</i>  Rib tiim (20 votes) <i>(Improve appetite)</i>  Pagb tiim (16 votes) <i>(medicine for women)</i>  Konta laafi (24 votes) <i>(Restore health)</i>
	Tissongo (Good medicine)	13 votes	
	Tiim sin songd pougpusse (Medecine for pregnant women)	12 votes	
	Vita fer	12 votes	
	Paas pougpuss panga (Strengthen pregnant women)	3 votes	
CSPS Laongo	Ziim tiim (Blood medicine)	13 votes	Pougpusse tiim (26 votes) <i>(medicine for pregnant women)</i>
	Pagb tiim (medicine for women)	16 votes	
	Pougpusse tiim (medicine for pregnant women)	26 votes	
	Dieudonné(God has given)	10 votes	
CSPS Zitenga	Super vitamine (super vitamin)	33 votes	
	Konta laafi (Restore health)	24 votes	
	Vitamin A	8 votes	
	Dina well	2 votes	
	Vitamine konta panga (Vitamin for strength)	3 votes	
District of Yako			
CSPS Secteur 6	Nafa (Give a lot of benefits)	53 votes	Nafa (53 votes) <i>(Give a lot of benefits)</i>
	Hèrè (Health)	2 votes	
CSPS Pelegtenga	Wend la tipda (God heals)	85 votes	Wend la tipda (85 votes) <i>(God heals)</i>
	Songre la panga (Support makes strength)	8 votes	
	Lafi la boum (Health first)	7 votes	
CSPS Arbolé	Nafangb Zanga (Savior)	34 votes	
	Maneguezanga (relief for pregnant women)	25 votes	
	Songr la paanga	14 votes	
	Paling wende) (Not surprising to God)	10 votes	
	Wa songd nii tiima reen i paam daa faan paanga ( Medecine that restore health)	2 votes	

## Promotional Strategies for MMS Product:

Participants also suggested different promotional strategies for introducing MMS in their communities.

The most preferred strategy is using the health center as a platform. This was preferred by participants because many women go to the health center to receive various services including immunization and antenatal care services. This is an opportunity to reach out to them and talk about the supplement.

Other promotion strategies cited by participants included the recruitment of community health workers. Community health workers play an important role in the communities, as they live in the communities and are viewed as trustworthy. Therefore, they can be involved in the promotional strategies during sensitizations and distribution. Peers and radios were also listed as preferred strategies to promote the supplement. **Table 5** shows the votes on promotional strategy options.

**Table 5** Votes on MMS promotional strategy options

Sites	Votes on promotional strategy options		Most preferred strategies for the supplement promotion
District of Ziniaré			
CSPS Urbain	Radio	17 votes	Health center (95 votes) Community health workers (38 votes) Peers (29 votes) Radio (17 votes)
	Health center	33 votes	
	Churches, mosques	10 votes	
CSPS Laongo	Community health workers (ASBCs)	31 votes	
	Through peers (i.e., word of mouth among women)	29 votes	
CSPS Zitenga	Pharmacies at health center	42 votes	
	Sensitization during immunization and antenatal care visits	20 votes	
	Sensitization by community health workers	7 votes	
	Radio	1 vote	
District of Yako			
CSPS Secteur 6	Health center	21 votes	Health center (90 votes): “If the product is available at health center, women who attend antenatal care visit will receive the info”
	Pharmacies at health center and private pharmacies	16 votes	
	Affordable price (e.g.,50-100CFA)	13 votes	
CSPS Pelegtenga	Use community health workers	92 votes	Community health workers (92 votes) “If you give the info about the product to the community health workers (CHW), they will go around the village and announce”
	Through health center i.e., maternity	8 votes	
CSPS Arbolé	Sensitization during immunization and antenatal care visits (46 votes)	46 votes	Peers (29 votes): “Once women see the product they will share the info with their friends”  “Do not allow street vendor to sell it because we will not trust the product anymore”
	Affordable price	19 votes	
	Use radios	16 votes	
	Quality of the product	2 votes	
	Free distribution	2 votes	
			Radio (16 votes)

#### 4.0.2 Most preferred MMS box design option(s)

**Table 6** shows the participants preference for the eleven MMS box designs displayed during the survey.

Overall, participants primarily preferred picture 3 which had a pink color background, a pregnant woman, and a lactating woman.

- Some of the reasons cited by participants for preferring picture 3 included:

*“The logo of pregnant and lactating woman is attracting, and easy to recognize. The color as well as the scripture are well arranged.”*

*“Pink is a beautiful color and the logo makes it easy to recognize.”*

Participants also preferred picture 1, which had a pregnant woman on a background of a white colored box. Lastly, pictures 8 and 9 with mix colors were also suggested as top preferred MMS box designs.

- Picture 1 was preferred by participants because:

*“The logo of pregnant woman is attractive and makes it easier to recognize and white is my preferred color.”*

- Picture 8 was also chosen by participants because of the logo.

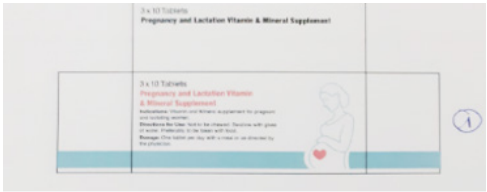
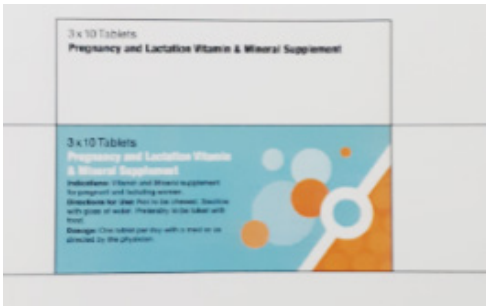

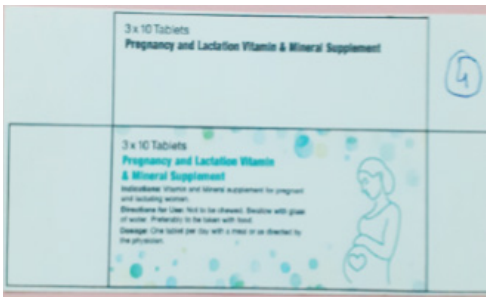
*“The colors and especially the color of the tablet are attracting.”*

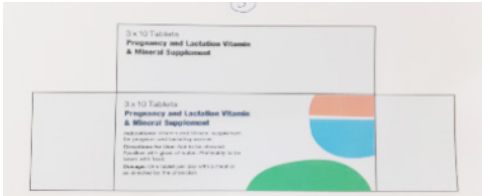
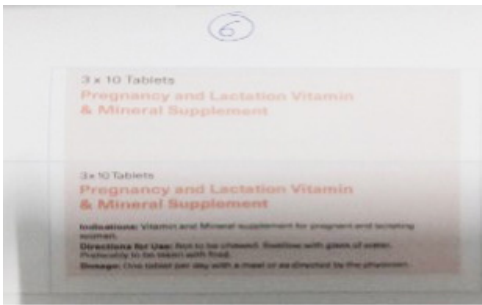
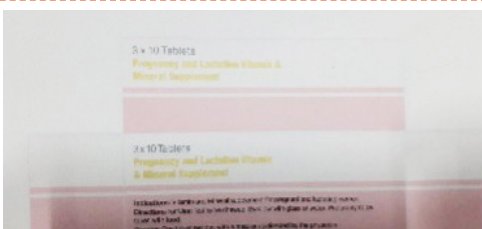

*“The mix of different colors is attracting.”*

- Picture was also preferred because the mixed colors.

*“The image is attracting and refers to the stars in the sky. The mix of yellow and pink is attracting and refers to vitamin and blood respectively.”*

**Table 6** Preference for MMS box designs options

Box design number	MMS box design	District of Yako		District of Ziniaré		Total (N=30)	Some reasons
		Pregnant (N=7)	Lactating (N=8)	Pregnant (N=8)	Lactating (N=7)		
1		3	1	0	1	5	"The logo of pregnant woman is attracting and make it easier to recognize and white is my preferred color"
2		1	1	0	0	2	"Color orange is attractive, and all the colors are well arranged"
3		3	0	2	3	8	"The logo of pregnant and lactating woman is attracting, and easy to recognize. The color as well as the scripture are well arranged"  "Pink is a beautiful color and the logo makes it easy to recognize"
4		0	1	0	0	1	"Because of the logo of pregnant woman"

Box design number	MMS box design	District of Yako		District of Zinarié			Some reasons
		Pregnant (N=7)	Lactating (N=8)	Pregnant (N=8)	Lactating (N=7)	Total (N=30)	
5		0	1	0	2	3	"The logo and the color are attracting. Green refers to nature and its beauty which announces the beginning of farming activities that feed us"
6		0	0	0	0	0	
7		0	3	1	1	5	"The logo, the colors and especially the color of the tablet are attracting" "The mix of different colors is attracting"
8		0	1	4	0	5	"The image is attracting and refers to the stars in the sky. The mix of yellow and pink is attracting and refers to vitamin and blood respectively. "

9		0	1	4	0	5	"The image is attracting and refers to the stars in the sky. The mix of yellow and pink is attracting and refers to vitamin and blood respectively."
10		0	0	1	0	1	"Blue and yellow are beautiful and the mix is attracting"
11		0	0	0	0	0	

### 4.0.3 Focus Group Discussions

One of the focus groups objectives is to understand social norms around health and nutrition-seeking behavior during pregnancy and lactation.

Regarding the practices around health seeking behavior, participants stated that they primarily visited the health center during and after pregnancy.

*“When I was pregnant, I would come to the CSPS to have them check on my baby.”*

*(A woman during a focus group in Pelgtenga, Yako district)*

The visits to the health centers were to seek counseling and care to ensure their well-being and a safe outcome for the pregnancy. Some participants also sought counseling from the community members, especially the grand mothers and other elders in the community.

*“Pelgtenga “our grandmothers are there to give us advice at home and, the health workers also provide recommendations at the health centers.”*

*(A woman during a focus group in Pelgtenga, Yako district)*

Social norms pertaining to dietary practices during pregnancy were variable. Across all focus groups, participants stated that they tried to eat diverse foods recommended by health staff. Some participants specifically stated the following to illustrate this point, *“At health center, they recommend that we consume diverse foods like fruits (bananas, mangoes, ...) and vegetables (baobab, bulvanka ...) because they are vitamin-rich foods”*.

*“The health agents also recommend taking rest more often during pregnancy and avoid heavy workload.”*

*“We were told to reduce the amount of salt, sugar and honey because they are not good for the fetus.”*

Participants also mentioned some foods that are considered taboo or forbidden during pregnancy. These foods included pulses (beans, peas), some cereals (maize), and some tubers (potatoes) because they may cause bloating to the baby. But often, these taboos conflict with women’s desire as quoted below:

*“It often happens that we crave these foods, but we do our best to retain our cravings.”*

Focus groups were also used to solicit feedback on social marketing materials for promoting MMS with a focus on appropriate promotions, placement/delivery mechanisms, and product characteristics.

Participants provided the following feedback on the product characteristics and its promotion:

#### **MMS COLOR PREFERENCES:**

**Blister pack.** The color of the blister pack was found to be important to women. Participants mentioned different feelings for different colors. While women considered white to be attractive, red was associated with iron folic acid, which is negatively perceived by participants due to its side effects. Therefore, the color red can prevent pregnant women from taking the new MMS supplement.

Illustrative quotation:

*“I prefer the white blister pack similar to the paracetamol blister pack, because the paracetamol do not cause side effects when I take it.”*

**Package.** Similarly, as blisters, women have some preferred colors for the package too. Different colors were mentioned among which white was the top color. However, some women preferred a mix of colors like yellow, blue, orange, chocolate, green and chocolate. Among the color, red was not well appreciated because it reminds them IFA which causes many side effects during pregnancy.

Participants mentioned the following to highlight their point on packages:

*“I prefer white for the packaging as well as for the tablet because red reminds me IFA tablet and when I see it, I am afraid to take it.”*

*“Yes, a little mix color for the box could make it attractive.”*

Overall, participants during the focus groups highlighted white as the most preferred package and blister. While a forbidden color was not identified, many participants expressed their dislike red.

### **MMS LOGO PREFERENCES:**

Women reported that a smiling pregnant woman with a child on the logo is easily recognizable and can convince them to take supplements.

Illustrative quotations:

*“... if you want to explain it to someone else it is easy. I will say that there is new product for pregnant women... with a picture of a pregnant woman on the package.”*

*“ if you put a picture of a smiling woman and her child, this shows that product is great for well-being.”*

### **MMS BRAND NAME PREFERENCES:**

Different names were suggested during focus groups. Among them some popular included:

**Pougpouss zounongo (“pregnant women’s chance”).** In Moore, it means how lucky pregnant women are to have this supplement because “...there are people who want it but thank God we will have it”.

**Pougpouss paam laafi (“pregnant women are healthier”).** The supplement will improve pregnant women’s health. Laafi tiim (“give health”) has the same meaning.

Other names included **Wend la tiipa (“God heals”)** and **Première dame (“First lady”).** First lady is a leader and if you consume the supplement and improve your health then you are a leader.

### **MMS PRODUCT PROMOTION RECOMMENDATIONS:**

Participants suggested that local radios and TVs are good channels to promote the supplement, but they preferred more local radios.

*“Here we usually listen to radio Bassy but as far as TV is concerned, I don’t know which channels people like.”*

Participants reported prenatal care providers (nurses/midwives) for interpersonal-based communication channels. Community health workers (CHWs) were also reported as a good channel. A participant said: *“CHWs are living with us in the community and they are close to us.”*

Men and specifically husbands were considered as one the best audience to reach pregnant women.

A participant said:

*“Husbands usually listen to radio and if they hear about a new product for pregnant women, they will share the information with us.”*

Looking at the names and slogans, some words such God, health, joy/happiness, pregnant women, and strength were frequent. These words seem to resonate with pregnant women and should be considered for tailored messages.

#### 4.0.4 Market Observations:

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##### **Understanding Local Distribution of MMS Supplements:**

One of the objectives of the market observations was to understand the range of options where pre-natal supplements are currently being sold/distributed to pregnant women in this setting

The market observation took place in different places including market stands, private pharmacies, and pharmacies at health center (i.e., depot). There were only two places where pre-natal supplements were sold or distributed to pregnant women. First, pregnant women received prenatal supplements for free when they visit health center for prenatal visit. However, when there is a stock-out, they receive a prescription to buy iron folic acid supplements. The second option are private pharmacies where pre-natal supplements are sold with varied prices. There were no prenatal supplements available at any market stands (yaar) visited.




##### **Understanding the Range of MMS Supplements Available:**

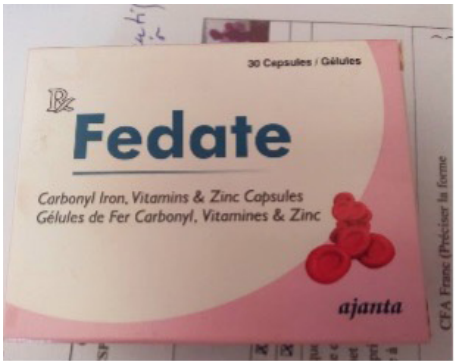


There is a wide range of available prenatal supplements in the current market. They include supplements that contain two micronutrients and those delivering more than two micronutrients. Different galenic forms were also available including capsule, tablet and syrup. The generic forms were predominant at the health center pharmacies and brands of the products at the private pharmacies. **Table 7** describe these different products.




**Table 7** Preference for MMS box designs options

Prenatal Supplements	Point of sale/ distribution	Galanical form	Presentation in which Supplements being sold/distrib-uted	Supplement contents	Picture
Denk Prenatal	PP	tablet	Box of 30	Vitamins B1, B2, B6 and B12, niacin, folic acid, vitamin C and E	 The image shows a box of Denk Prenatal supplement. The box is white with purple and pink accents. It features a silhouette of a pregnant woman and the text 'Denk prenatal'. Below the name, it lists various vitamins and minerals in multiple languages.
Gestarelle	PP	tablet	Box of 30	Vitamin B9, vitamin D, Iodine, iron, Omega 3, 8 vitamins and 2 minerals	 The image shows a box of Gestarelle supplement. The box is white with pink and blue accents. It features a silhouette of a pregnant woman and the text 'Gestarelle'. Below the name, it lists various vitamins and minerals in multiple languages.
Alvityl Comprimé	PP	tablet	Box of 40	Vitamins, Minerals	 The image shows a box of Alvityl Comprimé supplement. The box is white with blue and red accents. It features the text 'Alvityl Comprimé' and 'Vitamines Minéraux Oligo-éléments'. Below the name, it lists various vitamins and minerals in multiple languages.
Astymin Forte	PP	tablet	Box of 20	Multivitamins, Essential amino acid	 The image shows a box of Astymin Forte supplement. The box is white with red accents. It features the text 'ASTYMIN FORTE' and 'Acides aminés essentiels, multivitamines'. Below the name, it lists various vitamins and minerals in multiple languages.

<b>Astymin -SN</b>	PP	Injection	Box of	Amino acids	
<b>Ogestan</b>	PP	tablet	Box of 30	Omega 3, folic acid, iodine, vitamins D and E	
<b>Genes Vit Grosse</b>	PP	tablet	Box of 12		
<b>Tres-Orix Forte</b>	PP	Syrup	Bottle of 250 ml	Cyproheptadine orotate, Carnitine, Lysine, Vitamin B1, Vitamin B6, Vitamin B12	
<b>Convalin</b>	PP	Syrup	Bottle of 100 ml	-	
<b>Nuravit</b>	PP	Syrup	Bottle of 125 ml	Chlorhydrate de cyproheptadine, Vitamin B1, Vitamin B6, Vitamin B3, Vitamin B2, Vitamin C	
<b>Biba Multivitamin</b>	PP	Syrup	Bottle of 100 ml	Multivitamin	

<b>Fercefol</b>	PP	tablet	Box of 30	Iron, vitamin C, folic acid	
<b>Fercefol</b>	PP	Syrup	bottle		
<b>Astyfer</b>	PP	tablet	Box of 30	Iron, amino acid and vitamin	
<b>Acide Ascorbique</b>	PP	tablet	Blister of 10	Acide Ascorbique	
<b>Multi-Vitamine</b>	PP	tablet	Blister of 10	Acide Ascorbique	
<b>Sulfate ferreux + Hydrate acide folique (Fer acide folique)</b>	PP/HF	tablet	Blister of 10	Iron folic acid	
	HF		-		

<b>Fedate</b>	PP	capsule	Box of 30	Carbonly iron, vitamin and Zinc	
<b>Vitafer</b>	PP	capsule	Box of 30	Ferous sulphate and folic acid	
<b>Vitafer</b>	PP	syrup	Bottle	Iron, acid folic and vitamin B12	
<b>Fekey</b>	PP	syrup	Bottle	Sodium fedate, cyanocobalamin, pyroxidne hydrochloride, folic acid	

<b>Ferromix</b>	<i>PP</i>	<i>syrup</i>	<i>Bottle</i>	<i>Iron, copper, zinc</i>	
<b>Ranferon</b>	<i>PP</i>	<i>syrup</i>	<i>Bottle</i>	<i>Iron, folic acid, vitamin B12</i>	
<b>Ranferon</b>		<i>capsule</i>	<i>Box of 30</i>	<i>Iron, folic acid, vitamin B12</i>	

## Local MMS Product Pricing:

Overall, the market observations showed that the prices of the different supplements for pregnant women varied. Iron folic acid was the main generic supplement sold at the health center pharmacies and priced at 50 fcfa per blister of 10 tablets. There were many brands of supplements for pregnant women mainly sold at the private pharmacies and priced between 1000 and 8000 fcfa per pack of 10–40 tablets or gelules or 1 bottle.

## How MMS Products are Displayed Locally:

At each marketplace, the supplements were placed in different ways. They were either placed behind the counter or displayed in front of other products. There was not a common rule to identify the place for a product on the counter of a pharmacy. Each pharmacist decides how to display each product. For example, a pharmacist explained: *“we place our different products in alphabetic order. It helps to quickly find the products.”*

## 5.0.1 Free lists findings

Participants listed all the illnesses that pregnant women in their community suffer from and common foods women consume during pregnancy. **Table 8** and **9** show salient foods and illnesses from the free listings and some brief description of each items.

**Table 8** *Salient foods list*

Local foods term	Brief emic description of the term, from participant description perspective	Approximate English equivalent	Salience
Sagbo	Thick and malleable paste made out of cereal (e.g., sorghum, millet, or corn) by mixing flour with water and something sour like lemon or tamarin. It is mostly eaten with sauce and is available the year around	dough	0.789
Moui	White cereal that can be eaten with many sauces. It is tasty but not accessible to everyone	rice	0.603
Benga	Food available the year around. Generally consumed with cooking oil	beans	0.393
Nemdo	Good but not accessible to everyone	meat	0.258
Orange	Seasonal fruit	orange	0.234
Mango	Seasonal fruit	mango	0.222
Banana	Seasonal fruit	banana	0.186
ba benda	Mixed leaves sauce with sour taste, available the year around	Mixed leaves sauce	0.177
makorini, macaroni, macaroni and spaghetti	Good for mother and child health but not accessible to everyone	pasta	0.164
Taama	Seasonal wild fruit	shea	0.138
Salate	Green leaf vegetable and usually consumed as salad mixed with tomato, cucumber, vinegar, mayonnaise and onion	lettuce	0.101
Goyak	Seasonal fruit	guava	0.083
Nangouri	Legume dry or fresh, can be white or red and available the year around	peanut	0.082
Sibi	Seasonal wild fruit	Wild grapes	0.072
Pomme	Seasonal fruit	apple	0.069
Zim	Good but not accessible to everyone	fish	0.069
Kou		yams	0.066
tando	Can be different colors usually consumed by pregnant women	clay	0.058
souma	Food available the year around. Generally consumed with cooking oil	pea	0.047
koum vaado	Green leaves boiled and it can be consumed alone	African eggplant leaves	0.043

**Table 9** *Salient illnesses list*

Local illness term	Brief emic description of the term, from participant description perspective	Approximate English equivalent	Salience
weogo	Caused by mosquitoes and dirt. Can be treated with pills or injections or traditional medicines including (leaves of acacia and eucalyptus tree)	malaria	0.813
woukré	Symptoms related to pregnancy. Treatment at the health center	vomiting	0.269
zou zabré	Caused by exposition to the sun or symptom of malaria. Treatment at the health center	headache	0.262
nao fidme	Illness related to pregnancy because you get it only during pregnancy. It can be also due to excessive consumption of salt during pregnancy or long sitting position. Treatment at the health center	œdema	0.178
pou zabré	Symptoms related to pregnancy. Treatment at the health center	stomachache	0.165
yamsé	Symptoms related to pregnancy because you get it only during pregnancy. Treatment at the health center	fatigue	0.160
po zabré	Caused by heavy workload or the bad conditions of the beds after delivery. Treatment at the health center or at home with ointment "Vitago"	Back pain	0.149
pe zabré	Symptoms related to pregnancy. It happens when the fetus is moving in the uterus. Treatment at the health center	Pelvic pain	0.145
toore zogongo	Symptoms related to pregnancy because you get it only during pregnancy and also due to bad hygiene. Treatment at the health center	vaginal itching	0.138
nin-yilga	Caused by deficiencies, or when mother losses weight or hunger. It can be treated at the health center or at home	dizziness	0.120
ziim kalum	Caused by mosquitoes and non-consumption of iron tablets. It can be at the health center or at home by drinking sorrel juice.	anemia	0.092
konsgo	Symptoms related to pregnancy especially during the first trimester of pregnancy. It can be treated at the health center or at home	cough	0.072
yin wigré	Caused by heavy workload or exposition to the sun. Treatment at the health center	fever	0.058
tension	Caused by excessive consumption of oil and salt. Treatment at the health center and prescription of diet including garlic and, sorrel seeds	hypertension	0.048
ziim zoessé	Caused by the weakness of the uterus or heavy workload. Treatment at the health center	bleeding	0.027

During free lists, participants were asked to name and describe foods that were recommended or considered as taboos for pregnant women in their community. **Table 10** and **11** show a list of foods that are prescribed and taboos foods during pregnancy.

**Table 10** *Food prescriptions during pregnancy*

Name and description of food	Cultural explanation for why it should be consumed during pregnancy
Nagouri (peanut)	It is a substitute of meat or fat.
Tando (clay)	Consumed to avoid nausea
Babenda (mixed leaves sauce with sour taste, available the year around)	Digestible, helps to fight against constipation and contains a lot of vitamins because it is made of several leaves
Nemdo/zim (meat/fish)	Contains a lot of vitamins and are good for mother and child health
Fruits (orange/banana/mango)	Contains vitamins and are good for mother and child health

**Table 11** *Food prescriptions/taboo during pregnancy*

Name and description of food	Cultural explanation for why it should be avoided during pregnancy
Milk	<i>"If a woman consumes yaourt her baby will grow too much, and she will have problem during delivery "</i>
Sheatfish	<i>"If a woman consumes it her baby will born with a head that looks like the sheatfish's head "</i>
Pepper	<i>"If a woman consumes pepper her baby will born with small lesions on the skin and s/he will suffer from stomachache "</i>
Eggs	<i>"I don't know why but we were told that a pregnant woman should not eat eggs"</i>
Pork or donkey meat	<i>"it is forbidden by the religion"</i>
Rat meat	<i>"We were told that if a woman consumes rat meat her baby will become a thief "</i>
Honey	<i>"I don't know exactly the reason pregnant woman should not consume it, but it seems like it can cause abortion or miscarriage"</i>
Melon/sugar apple	<i>"both increase the amniotic fluid and cause complications during pregnancy"</i>

The free listing findings gives us adequate information on the local foods and illnesses. Information is well reflected enough to be utilized for programming.

## 5.0.2 Pile sorts findings

### Community members' perception about the differences and similarity of pregnancy-related illnesses

To understand how community members' perception about the differences and similarity of pregnancy-related illnesses, we asked participants to sort illnesses the best way they can. They were ensured that there was no right or wrong way to do it. The findings show that a few key pregnancy-related illnesses such as malaria and hypertension were used by participants to build their piles.

Quotes from the pile sorts on the perception of community members about pregnancy-related illnesses differences and similarity

*"I sorted zou zabre (headache) and nin-yilga (dizziness) together because headache is in general associated with dizziness". (A woman, Yako, age 35)*

*"All these illnesses including zou zabre (headache), wukre (vomiting), ziim kalum (anemia), yin winger (fever), weogo (malaria), pou zabre (stomach ache), yamse (fatigue), po zabre (back pain) and nin-yilga (dizziness) are caused by weogo (malaria)". (A woman, Yako, age 37)*

*"Weogo (malaria) can cause anemia." (A woman, Yako, age 18)*

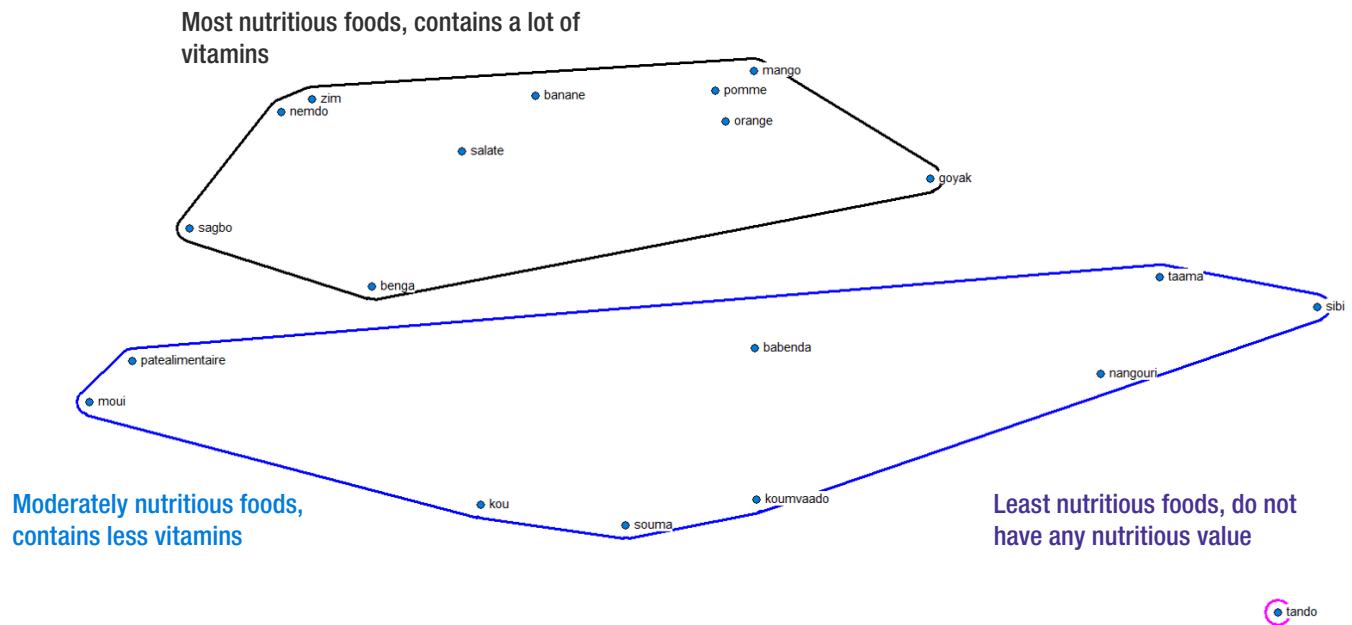
*"I sorted pou zabre (stomach ache) and ziim kalum (anemia) together because when a pregnant woman has constantly stomachache she cannot feel well. And anemia can have bad consequences on the pregnancy and mother's life as well." (A woman, Ziniaré, age 25)*

### Local foods and illnesses classification

The first objective of the pile sort was to understand local food and illness classification systems within the local cultural context. This is important to assess maternal risk perception toward pregnancy-related illnesses and birth outcomes. Participants in the pile sorts were also asked to sort pregnancy-related illnesses into three piles from the most serious to the least serious illnesses; and for foods they were asked to sort them in three groups from the most nutritious to the least nutritious.

**Figure 2** shows the pile sorting multi-dimensional scaling map for foods. For most participants, nutritious foods are foods that contain a lot of vitamins and improve health and give strength (**Table 12**). In contrast, least nutritious foods contain no vitamins and one can do without it.

**Figure 2** Pile sorting multi-dimensional scaling map (food classification groupings in Burkina Faso)



#### Quotes from the pile sorts on most nutritious foods:

*"These are foods that give health and a lot of vitamins; so we are told to consume them 5 times a day."* (A woman, Ziniaré, age 19)

*"These foods fill you up and are nutritious for mother and child. It is vitamin-rich foods and improve mother and child health."* (A woman, Yako, age 35)

*"They are tasty and tone your body. That's why I think they are nutritious for mother and child."* (A woman, Yako, age 27)

#### Quotes from the pile sorts on moderately nutritious foods:

*"These foods improve appetite and are good for the body."* (A woman, Yako, age 27)

*"They foods (e.g., fruits and leaves) are also rich in vitamins but not as much as the first group (e.g., fish and meat)."* (A woman, Yako, age 18)

*"They provide strength and vitamins but not as much as the first group."*  
(A woman, Ziniaré, age 20)

#### Quotes from the pile sorts on least nutritious foods:

*"These foods are not nutritious, and you can do without it. You can consume them and feel like you have not eaten anything."* (A woman, Ziniaré, age 20)

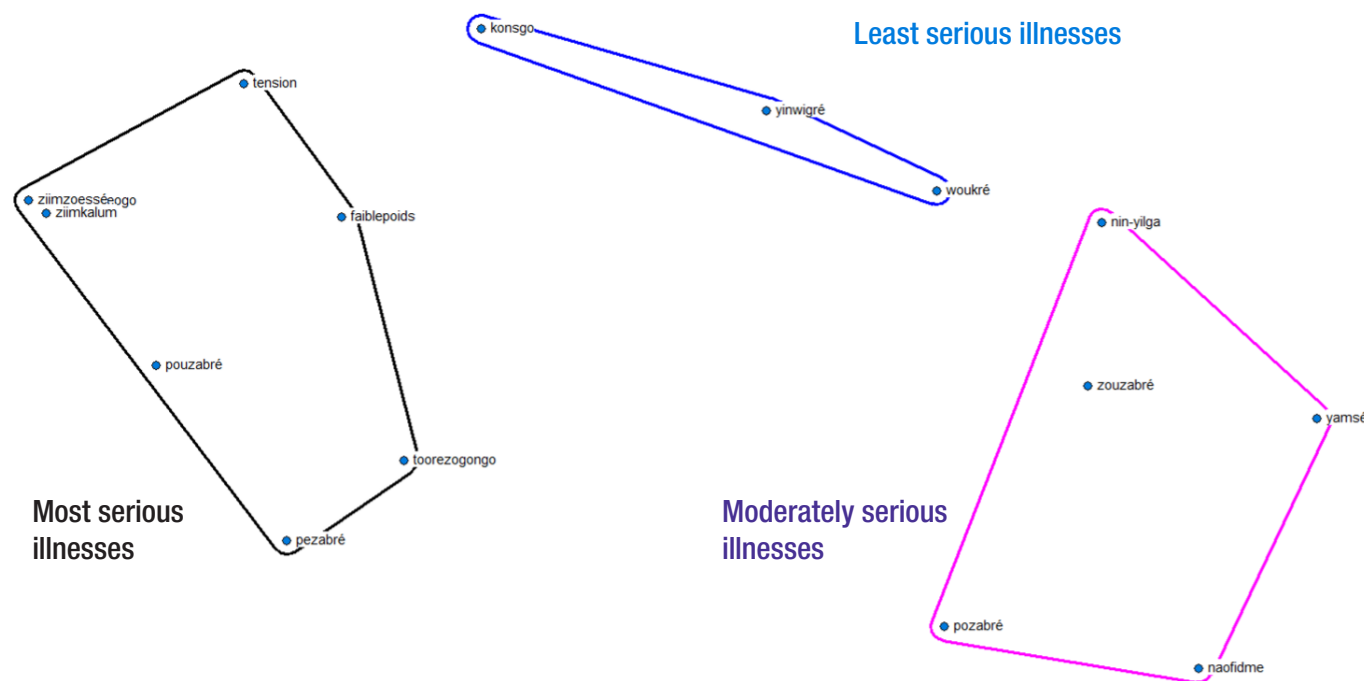
*"These foods are not important for the growth of the fetus nor mother health. They do not contain any vitamins. They are consumed just to satisfy a desire related to the pregnancy. Their lack has no consequences for the pregnancy."*  
(A woman, Yako, age 35)

**Table 12** Classification of common foods consumed during pregnancy and description of cluster

Local (Moore) Food Terms	English Food Equivalents	Exemplar description of cluster
Most nutritious foods, contains a lot of vitamins		
Zim	Fish	<i>“These are nutritious foods; they contain a lot of vitamins. They give strength and increase blood.”</i>  -Woman, age 39
Nemdo	Meat	
Sagbo	Dough	
Benga	Beans	
Salate	Lettuces	
Banane	Banana	
Pomme	Apple	
Orange	Orange	
Mango	Mango	
Goyak	Guava	
Moderately nutritious foods, contains less vitamins		
Moui	Rice	<i>“These foods are consumed when the most nutritious are not accessible. they contain less vitamins compared to the first group. They give strength and increase blood.”</i>  -Woman, age 31
Pate alimentaire	Pasta	
Kou	Yams	
Souma	Pea	
Ba benda	Mixed leaves sauce	
Koum vaado	African eggplant leaves	
Nangouri	Peanuts	
Taama	Shea	
Sibi	Wild grapes	
Least nutritious foods, do not have any nutritious value		
Tando	Clay	<i>“These foods are not important for the growth of the fetus nor mother health. They do not contain any vitamins. They are consumed just to satisfy a desire related to the pregnancy. Their lack has no consequences for the pregnancy. blood.”</i>  -Woman, age 35

**Figure 3** shows the pile sorting multi-dimensional scaling map for illnesses in three piles. Pile sort data suggests that pregnant and lactating women in both districts Yako and Ziniare have similar local perceptions toward pregnancy-related illnesses. Respondents consider the severity of pregnancy related illnesses based on their potential to cause death and a treatment in a health facility is required (**Table 13**).

**Figure 3** Pile sorting multi-dimensional scaling map (illness classification groupings in Burkina Faso)



**Table 13** Pile sorting multi-dimensional scaling map (illness classification groupings in Burkina Faso)

Local (Moore) Food Terms	English Food Equivalents	Exemplar description of cluster
Most serious illnesses		
Ziimzoesse	Bleeding	“These are serious illnesses. If they are not treated, they can cause death.”  -Woman, age 20
Zimkalum	Anemia	
tension	Hypertension	
faible poid	Low birth weight	
pouzabre	Stomache	
pezabre	Pelvic pain	
toorezongogo	Vaginal itching	
Moderately serious illnesses		
Po zabre	Back pain	“These illnesses can rarely cause death and they are easy to treat.”  -Woman, age 35
Nao fidme	Edema	
Zou zabre	Headache	
Yaamse	Fatigue	
Nin yilnga	Dizziness	

Least nutritious foods		
Konsgo	Cough	<i>"These are also frequent among pregnant women and can be endured easily. They can disappear without any treatments".</i>  -Woman, age 35
Yin wingre	Fever	
Woukre	Vomiting	

### Quotes from the pile sorts on the severity of pregnancy-related illnesses

*"These are the most serious illness weogo (malaria), woukre (vomiting), zou zabre (headache), po zabre (back pain), ziim kalum (anemia), yin winger (fever), tension (hypertension), faible poids de naissance (low birth weight) because they can lead to death and mis-carriages." (A woman, Yako, age 33)*

*"These are moderately serious illnesses (yamse (fatigue), pe zabre(pelvic pain), tore zogongo (vaginal itching) and konsgo (cough)) because they are easy to treat and do not last longer." (A woman, Yako, age 33)*

*"(yamse (fatigue), po zabre (back pain), tore zogongo (vaginal itching) and ziim zoesse (bleeding) are least serious because they cannot prevent a woman from activities." (A woman, Yako, age 33)*

### Beliefs of pregnant women about their susceptibility to pregnancy-related illnesses or sub-optimal birth outcomes and the important of diets for their maternal nutrition and childbirth outcomes

Pregnant women mentioned many illnesses that they are exposed to during pregnancy. These include infections like malaria and malaria-related symptoms (fever, vomiting, headache), vaginal infection, back pain, stomachache, pelvic pain and nutrition-related illness such as anemia. Among these illnesses, malaria is the most cited followed by anemia.

*"What I see very frequently is malaria. People suffer a lot from malaria; some people take malaria treatment but still regularly contract malaria. There is a concern concerning blood too. Some women have a lack of blood during delivery. Now, I wonder if this is because they did not consume iron tablet or due to something else." (A woman, semi-structured interview, Ziniaré).*

Overall women make a link between diets and maternal nutrition as well childbirth outcomes. For instance, participants in the pile sorts considered most nutritious foods as those with a lot of vitamins but also because those foods are good for maternal and child health.

*"These foods contain a lot of vitamins and are health-giving foods. We are advised to consumed them at least five times a day." (A woman, pile sort, Ziniaré, age 19)*

*"These are energetic and vitamin-rich foods, good for mother and child, and improve immunity. They give mother and child strength." (A woman, pile sort, Yako, age 28)*

Similarly, pregnant women in semi-structured interviews have some strong belief about the importance of diets for mother and child. Some women reported the advice they received and how to try to follow them.

*“At the health center, we are told to try to eat well because pregnancy requires a lot of blood. Very often, there are foods that we find difficult to eat, but if we don’t make the effort and refuse to eat them it can weaken us and make us more vulnerable to disease. So, we have to make the effort to consume them as they are good for our bodies.”*

*(A woman, semi-structured interview, Ziniaré age 33)*

## **Beliefs of pregnant and lactating women about the MMS as an effective solution for ensuring optimal maternal health and childbirth outcomes.**

During semi structured interviews, women were asked to describe how a micronutrient supplement could help you stay healthy during your pregnancy. To that, most women consider that MMS can be seen as a supplement similar to iron folic acid (IFA) supplement in terms of benefits and knowing that the MMS will have more benefits than IFA. Women mentioned some benefits like increasing appetite and preventing anemia, helping for a quick recovery after delivery. In the long run, it helps the fetal growth. The data suggest that some women perceive childbirth outcomes as related to diet and maternal nutrition. From a program perspective, the local understandings should be included into trainings for health workers and community members so that trainers are aware of community perceptions.

*“If you take them correctly, your pregnancy will go well. And when you give birth, you and the baby will be healthy. You will not have any problems. After delivery, it helps you and the child too to stay healthy.”* *(A woman, semi-structured interview, Yako, age 35)*

## **Community members perception of the role of MMS in nutrition-related illnesses**

Perceived causes of pregnancy-related illnesses. In general, women perceived pregnancy itself as the primary cause of pregnancy-related illnesses. However, other causes were mentioned including exposure to the environment or excessive consumption of particular food like salt.

*“Edema is related to pregnancy because you get it only during pregnancy.”*

*(A woman, free list, Ziniaré, age 20)*

*“Edema can be also due to excessive consumption of salt during pregnancy or long sitting position.”* *(A woman, free list, Ziniaré, age 25)*

*“Malaria is caused by exposition to mosquito and dirt.”*

*(A woman, free list, Ziniaré, age 26)*

*“Anemia is caused by mosquitoes and non-consumption of iron tablets.”*

*(A woman, free list, Ziniaré, age 20)*

Perceived effective treatments of pregnancy-related illnesses. For most of the pregnancy-related illnesses, women mentioned the health center as the primary source to look for a treat even though they cannot name a treatment for each specific illness mentioned. But some illnesses were treated at home with traditional medicines.

*“Anemia is caused by mosquitoes and non-consumption of iron tablets. It can be at the health center or at home by drinking sorrel juice.”* *(A woman, free list, Ziniaré, age 20)*

Beliefs about MMS, or other prenatal supplements, will help to prevent/treat if taken during pregnancy. We asked women to tell us some advantage of the MMS or other prenatal supplements that can be consumed during pregnancy. Common responses were that MMS or a similar can help prevent or treat anemia, dizziness, stomachache, and also malaria or improve appetite. It is not clear if these answers are from them or just because they learn from our data collection teams that there is new supplement that will come with similar benefits like IFA tablets even with more benefits and it will replace the current IFA supplement.

Another objective was to understand to what extent is MMS an appropriate intervention modality given what we know about care-seeking and nutrition-seeking behaviors in this cultural context.

During semi-structured interviews, women were asked to describe how a healthy pregnancy should be like. To that, two main answers were coming frequently. First, participants described a healthy pregnancy as the absence of illnesses. Others described it as being able to eat without any problems.

***“It is when there are healthy. If you’re pregnant and always healthy, so you consider it as a healthy pregnancy.” (A woman, semi structured interview, Yako, age 37)***

***“There are always problems when you carry a pregnancy. As long as the woman does not give birth, she will always be afraid of having any problems at any time during the pregnancy. But if you are pregnant and are not always sick and can eat everything you want, it can be considered as a healthy pregnancy.” (A woman, semi structured interview, Yako, age 25)***

When they are pregnant, participants mentioned that they predominantly go to the health center to seek care. Antenatal care (ANC) visit at the health center is an opportunity to get physical examination, tests and counseling on how to take care of the pregnancy.

The findings from the interviews with pregnant women revealed that women seek care at a different time of their pregnancy. For the majority of women, they began attending antenatal care visits in the first trimester of pregnancy. The lack of financial resources is the first reason women mentioned to justify why they delayed their ANC visits, then medicines stockout at the health facility comes as the second reason, then come the availability of care providers, long queue.

***“Very often, you are sick, and you visit health facility for treatment. We may be given a prescription but at the pharmacy, you may not have the recommended products because you don’t have money or because of stock out. You may decide to buy what you can to treat yourself but still you are still concerned because you did not follow the prescriptions. So, not having money can prevent us from having all the products needed for the treatment.” (A woman, semi structured interview, Yako, age 25)***

***“Here, there are long queues at the health facility and very often the health providers are not very courteous towards us. This can lead to some disagreements between us.” (A woman, semi structured interview, Ziniaré, age 22)***

As mentioned above, despite all these problems women face when they go to health centers, health centers remain their primary place to seek healthcare. During pregnancy, many women reported that they consumed IFA tablets as recommended by care providers. They recognized the benefits of IFA. The major reason for not consuming IFA tablets is because of the taste of the supplement. Therefore, it is expected that MMS would be accepted if it does not taste like the current IFA supplement. In addition, using the same platform like for IFA i.e., for the product promotion and making sure it is affordable can guarantee a huge success of such program.

### 5.0.3 Semi structured interviews findings

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#### Typical experiences women face during pregnancy and lactation, including challenges, cultural considerations, and practices they engage in for optimal health and nutrition of mother and baby

There are many challenges and cultural considerations women faced in their search for optimal health and nutrition for themselves and their baby.

**Long distance to health center.** Some health workers pointed out the distance as a barrier for some women to come at the health center.

*“In the catchment area of our health center, there is village that is far from the health center and women from that village do not visit very often the health center to get services.”*

*(A health agent, Ziniaré)*

**Lack of support from family members.** Women stated that even though they knew that they must work less and rest more during pregnancy and lactation, it is not always easy for them to follow the recommendation. Their family members do not always tolerate that.

*“You know, if it’s not prescribed by a health worker, you can’t just decide yourself not to work. The family will be fiercely opposed. You have to work while being careful. When you are not feeling well, you hide somewhere and if the pain passes you go back to work. You will not be allowed to rest. On the contrary, you will be called lazy if you decide not to work because you are pregnant.”* (A woman, semi structured interview, Yako, age 20)

*“When you go to the health center, you’ll get a prescription to go buy some the products. If you inform your husband and he will scold you because he doesn’t have money. In this case, you often don’t know what to do. That’s why we work hard to satisfy our food cravings and we end up often suffering from pelvic pain.”*

*(A woman, semi structured interview, Yako, age 25)*

**Beliefs about health and nutrition.** Many women who mentioned common illnesses during pregnancy do not know the cause of these illnesses. For example, most women mentioned only mosquito as the only cause of anemia, ignoring the nutritional cause.

**Decision making.** Women gave mixed report of decision-making regarding visits at the health facility and consumption of supplements. While some of them reported that they can decide themselves to go to the health or consume supplements, others mentioned that they need to get permission from their husbands or another family member.

*“I always ask my husband’s permission. I inform him in advance of my next ANC on the 17th. This way, he can remind me if I forget and I can easily avoid long queue at the health center.”*

*(A woman, semi structured interview, Ziniaré, age 25)*

*“I need to ask my husband because if I go to the health center and face some problems, he can refuse to help me, and he will say that he was not informed.”*

*(A woman, semi structured interview, Yako, age 34)*

## Barriers and facilitating factors important for optimal maternal nutrition and birth outcomes in this cultural context

**Economic constraints.** Participants in semi structured interviews stated that they know that a pregnant woman should visit health facility for care, but the lack of money discourage them to go. They also described a similar situation with foods they know they should eat during pregnancy.

*“There are many challenges. Sometimes you see something you want but you don’t have the money to buy it. When you talk to your husband, he refuses to accept that it is often the pregnancy that demands it and if the discussion continues you may miss each other; you yourself know that a pregnant woman is not always in a good mood. (Laughter) He can tell you that he would like to but he doesn’t have the money.”*

*(A woman, participatory workshop, Ziniaré)*

*“Since my husband doesn’t have a job, it’s complicated to ask him to give you money for food. But when he has some money, he gives me.”*

*(A woman, semi structured interview, Ziniaré, age 33)*

**Food taboos.** According to the findings from pile sort and interviews, some foods are considered inappropriate or taboo during pregnancy or lactation. It includes some type of meat (e.g., chicken), yams, fruits like mangoes, honey, milk, etc. Nutritious foods like milk, fruits or meats are avoided because of religion beliefs or misinformation. For example, the following was mentioned by participants during the interviews, “pork is not consumed by Muslims”. “A woman in her first pregnancy should not consume chicken”. Milk or mangoes are not consumed because they can increase the fetus weight and complicate the delivery.

**Knowledge about maternal diets.** Findings from the interviews with care providers (nurse-midwives) and community health workers showed that they provide nutrition counseling to women. We noticed that there is a need to be more specific in the information provided to women especially on the type of foods to consume, the frequency and reasons for consumption.

Health agents were asked to give us examples of counseling related to maternal diet received by pregnant women. One healthcare provided mentioned:

*“Well, the food must be rich and balanced. If you didn’t eat much, you must eat well now because there are two of you. The women in the village think that when you eat a lot, you will have a big baby that will tire you out on the day of delivery. So, we advise them to eat well to be in good shape. So that the baby also feels comfortable inside.”*

*(Health agent, Yako)*

Health agents were probed further to define rich and balanced food. Of which the care provider responded:

*“I mean a rich and balanced food must be rich in calcium and nutrients.”*

*(the same antenatal care provider)*

We equally found low levels of knowledge about maternal diets among women.

*“Mango is also not recommended during pregnancy because it leads to an overweight fetus as when you consume milk. The child to be born will be strong and beautiful but the delivery will be difficult.” (Woman age 33)*

The following factors below were considered as facilitating factors to optimal health and maternal nutrition during pregnancy/lactation.

**Family support.** While many women do not acknowledge a support from family and community members, there are a few of them who stated that they received support from their family regarding their workload during pregnancy. This allows them to rest, which is good for maternal health and pregnancy outcomes.

**Decision making.** From the interviews, most women stated that they can decide to cook what they want even though they usually ask for their husband's opinion. In general, they mentioned that the role of the husband is to provide the main crops such as cereals and it is the woman duty to provide the sauce. In any case, woman can decide how she wants to cook. Only when there is visitor at home, men give instructions on the meal to cook to welcome the visitor. Apart of that, as a woman stated: *"men usually eat outside. So, they don't care about what is being cooked at home"*.

Interviews revealed that most women usually informed their husbands before they go to the health center. This is because in general, they fear that if they come back with prescription their husband can refuse to give them money to buy the prescription if he was not informed beforehand. For supplement consumption, they only inform their husband so that he can remind them to take it when it is time.

## **Social marketing-related recommendations (produce, price, promotion, placement) to inform culturally appropriate MMS programming for optimal acceptability and compliance**

Product-related recommendations (e.g. packaging, logo, slogan, color schemes) for optimal acceptability and compliance

### **MOST DESIRABLE CHARACTERISTICS OF MMS**

**Packaging and supplement.** For the participants in focus group, white was the most preferred color for the packaging and for the supplement as well. The reason is that this will allow it to be distinguished from other supplements. White was also reminding the participants the paracetamol which has no side effect compared to IFA. But some participants preferred a mixed color for the packaging including yellow and blue, or orange and chocolate or green and chocolate. In the workshop, we have similar findings regarding the color of the packaging and the supplement. White was the most preferred colors across most workshop for the same reasons mentioned above.

**Logo.** Findings from the focus groups revealed that participants preferred a picture of a pregnant woman and baby on the package. Participants at the workshop had similar preferences with more details. Two types of logo were listed: the most preferred was a "smiling pregnant woman holding a supplement in her hands". The reason is that this image is attracting. Another preferred image was a "healthy pregnant woman holding a healthy baby". This shows the benefits of the supplement for both mother and child.

**Slogan.** Many participants in focus group stated that a picture can easily replace a message. So, they suggested that a picture of a smiling pregnant woman with a child gives the message that the product is beneficial for both mother and child. Across the workshop similar findings were seen. The most preferred logo suggested was a "smiling pregnant woman holding a supplement in her hands" or a "healthy pregnant holding a healthy baby".

**Name.** Participants in the focus groups proposed names that are connected with "chance" (Pougouss zounogo in English "Pregnant women chance" or "health" (Pougouss paam laafi in English "Pregnant

women got health” or “God” (Wend la tiipa in English “God heals”. Some of these names were found across workshops. Other names suggested during the workshops were: Nafa (Give a lot of benefits) and Super vitamin (super vitamin).

## LEAST DESIRABLE CHARACTERISTICS OF MMS

The least desirable characteristics were related to the taste and the logo. Participants across the workshops stated that a taste similar to IFA tablet taste and logo showing a too thin or too big woman must be avoided.

*“If you put a picture of a skinny woman as logo on the package or something that looks like a skull, people may not buy it.” (A woman, community workshop, Yako)*

**Price-related recommendations** (e.g. cost as a barrier to use of supplement, willingness to pay for it, and other opportunity costs such as far distances to get it from health center)

As mentioned above economic constraints are one of the major barriers to achieving optimal maternal nutrition. Across focus groups and interviews, women stated that the cost of the supplement can be a barrier to its consumption. Currently, with the official policy of exemption from health care costs for pregnant women and children under five, many participants expect the new supplement to be available for free. But those who manifest the willing to pay also expect the cost to be affordable even though the range considered as affordable differs from woman to one other. This can sometime vary by a factor of 20 as it is shown in the following examples:

*“For the price, I think 1000 fcfa is affordable.” (A woman, community workshop, Yako)*

*“I suggest 50 fcfa for the price.” (A woman, community workshop, Yako)*

Some participants preferred that the MMS be available in the pharmacy in the health facility. As for IFA supplement, when there is stock out, they need to travel long distance to get the product and it is expensive most of the time in the private pharmacies. Adding the cost of the trip to that, it is difficult to support.

*“When there is stock out in our health center, we must travel to YAKO (20 km round trip) to buy the product. Otherwise when it’s available here, it’s not expensive.”  
(A woman, Yako, age 25)*

## PROMOTION-RELATED RECOMMENDATIONS:

Key audience segments to reach pregnant mom with messaging (secondary (direct influencers of pregnant mom’s behaviors); tertiary segments (indirect influencers of pregnant mom’s behaviors))

Across the workshops and interviews with women, it appears that to reach pregnant women with messages, husbands, grand-mothers, mothers-in-law, seniors and other wife are the best targets. Findings from interviews with care providers revealed that community leaders are very important key audience to target because they are very listened to.

*“Here, community leaders always have their say and the community considers their words. Otherwise, if you skip them and drop directly the product in the community, people will not take it. We have seen this with the different past campaigns and programs. But if the chief of the village, the chief of the land, the iman, the pastor, etc. get involved, they will take ownership of the product and promote it.” (Health agent, Ziniaré)*

**Preferred communication channels for MMS promotion (e.g. what types of media, interpersonal, social mobilization channels, etc. are most preferred and will best reach mom in this setting?):**

Participants also suggested different promotional strategies for introducing MMS in their communities. The most preferred strategy is using health center as a platform. Many women go to health center to receive various services including immunization, antenatal care services etc. This is an opportunity to reach out to them and talk about the supplement.

Community health workers play an important role in the communities. They are living in the communities and trustful people according to the participants. Therefore, they can also be involved in the promotional strategies such sensitizations and distribution. Radios channels can be also used to promote the supplement.

**Tailored messages that may resonate with mothers to improve MMS compliance (i.e. specific local words or phrases that can be used within message to resonate with moms in this setting):**

One of the reasons for women not consuming IFA supplement is because of its taste. Women link that to the color of the tablet as well. Based on this, we think that messages to promote MMS should emphasize the better taste and avoid color (i.e., red) that reminds women of the IFA supplement. As for slogans, many propositions of slogans included words like “health” or “strength”. So, messages including those words may resonate with mothers to improve MMS compliance.

In the Burkina Faso context, pregnancy and lactation period are subject to many food and behavioral proscriptions. In some places, cultural practices are still strong and are most of time in contrast with good eating habits. As mentioned above, in some communities, a pregnant woman is not allowed to eat eggs or a family’s eldest child cannot eat chicken.

Even though, findings from this research showed that some women can make decision regarding their health and nutrition, there are still places where this not yet possible.

Community leaders have strong voices in terms of practices and beliefs. We heard some stories where community leaders recommended people not to consume some medicines or supplements simply because they think those medicines were made to sterilize women and reduce births.

Combined qualitative methods helped to understand product related-factors important for the MMS acceptance and utilization.

**Product.** The package design is very important for the product acceptance and utilization. On the color scheme, a white box was the most preferred followed by pink. Participants explained that white reminded them of a paracetamol “which has no side effects”. Pink was also seen as a beautiful color. For the box logo, the most preferred was a “smiling pregnant woman holding a supplement in her hands” followed by a logo showing a “healthy pregnant woman holding a healthy baby”. Participants chose that image because “it shows the benefits of the supplement for both mother and child”. For the promotional slogan, words related to health, strength or God resonate more with participants. As for the slogan, many names were suggested for the product with the most which are related to healing, product benefits, or vitamins.

**Price.** Across the study site, participants stated that they faced some economic constraints. Currently, with the official policy of exemption from health care costs for pregnant women and children under five, participants may expect the MMS to be available for free. But in case, it will not be free, they expect the cost to be affordable, between XOF 50–1000.

**Placement.** Identifying the best place where the target population can access the product is very important. Findings from the market observations revealed that existing prenatal supplements were only available in pharmacies (private or at health facility depots) or distributed at the health facility during antenatal care visits. According to some participants, the MMS must be always available in the pharmacy in the health facility to be accessible to many people.

**Promotion.** Many people in the community have some influence on pregnant women. These people are key audience segments to reach pregnant women with messages. Across the workshops and interviews with women, it appears that to reach pregnant women with messages, husbands, grand-mothers, mothers-in-law, seniors and other wife are the best targets. Findings from interviews with care providers revealed that community leaders are very important key audience too.

**Tailored messaging.** Targeting the users (i.e., women) is very important but not enough because many women cannot make decision by themselves regarding some aspect of their life such visiting health facility or consuming prenatal supplements.

Husbands are a key audience to target with messaging too. Product characteristics also need to be considered. Women often incriminate IFA taste to justify why they are not consuming it. MMS should show different characteristics with IFA regarding at least the taste and the color. For the slogan, words like “health” or “strength” seems to resonate with mothers and should be considered for messaging.

**Promotion channel.** Local radios were suggested as most preferred channels to promote the supplement because they cover large zones and many people used it as primary source for news. For interpersonal-based communication, health agents including (nurses/midwives) were suggested. Community health workers were also cited as a good channel because they are living within the in the community and they are close to people from the community. Husbands were suggested as an important audience to reach pregnant women because they are decision makers in many cases.

## Appendix A: Participatory Workshop

### Branding Demographic Information:

**Data Collector Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Location:** \_\_\_\_\_ **Number of Participants:** \_\_\_\_\_

**Introduction:** We would like to hear your suggestions on developing a brand for a micronutrient supplement specifically for pregnant women. Please express your ideas freely; there are no right or wrong answers. We will be asking you a series of questions and will vote on your responses.

**Question 1:** To start we would like you to tell us what challenges regarding nutrition that pregnant women in this community face. Let's vote on the foremost challenges.

- You will have 5 votes to use. You can use all your votes on one challenge or split them up.

**Branding:** Discuss common brands in the community focusing on colors, names, logos and slogans. Use brands like sports teams as examples.

**Question 2:** Now, we would like to discuss how a micronutrient supplement should look to make it attractive to pregnant women in this community. We will be asking for your ideas for the color, name, logo and slogan for this product. Let's start with color. Please brainstorm a color scheme that you think would suit a product like this.

- Let's vote on the color schemes. You have 5 votes and can use all 5 on one idea or split them up.

**Question 3:** Next, we would like you to think about a good name for a product like this. The name can be one, two or three words.

- Let's vote on the names. You have 5 votes and can use all 5 on one idea or split them up.

**Question 4:** Now, let's think about a good slogan to represent this product. The slogan could be a short phrase that is memorable.

- Let's vote on the slogans. You have 5 votes and can use all 5 on one idea or split them up.

**Question 5:** Now, let's discuss what a good logo would look like. The logo could be a simple picture that represents the name and the slogan of the product.

- Let's vote on the logo ideas. You have 5 votes and can use all 5 on one idea or split them up.

Thank you for your participation. Does anyone have any additional questions or comments?

## Appendix B: Focus Group

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### Demographic Information:

**Data Collector Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Location:** \_\_\_\_\_

**Number of Participants:** \_\_\_\_\_

### Introduction:

Thank you for taking the time to speak with us today. We would like to hear your thoughts on micronutrient supplements and supplementation during pregnancy.

1. To start, can everyone tell us a little about their family?

### Antenatal Care:

2. We have heard that X are common challenges that women face during pregnancy. Can you tell us about your experience with this?
  - Probe on challenges related to nutrition
  - Probe on social support

### MMS Products:

3. Now let's discuss your experience with supplements during pregnancy. We have heard that many pregnant women in this community use X. Can you tell me why that is?
  - Probe on what makes these products desirable
  - Probe on products disliked by the community and reasons why
  - Probe on how these products are used
  - Probe on how easy or difficult it is to use the supplements
4. Can you describe any barriers in getting or using these supplements?
  - Probe on availability
  - Probe on affordability
  - Probe on accessibility
  - Probe on desirability
  - Probe on where supplements are sold
5. We have heard that supplements can cause X. Can you please explain why that is?

### MMS Promotion:

Now we would like to hear your thoughts on how these products should be promoted in this community.

6. Can you describe what a product should look like to make it attractive to pregnant women?
  - Probe on colors
  - Probe on logo
  - Probe on names
  - Probe on colors, names and logos that should not be used
7. Can you describe how easy to use a product should be to facilitate use?
  - Probe on packaging

8. Can you tell us where this product should be promoted?
  - Probe on where pregnant women often get health advice
  - Probe on health advertisements in the community
9. Can you tell us who this product should be marketed to?
  - Probe on advertising to fathers
  - Probe on differences in messaging depending on audience

## Appendix C: Market Observations, Burkina Faso

### Demographic Information:

Data Collector Name: \_\_\_\_\_

Date: \_\_\_\_\_

Location: \_\_\_\_\_

### Market Observation Checklist:

Section 1: Denk Prenatal	
Is Denk Prenatal being sold in the community?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n/a
Has Denk Prenatal been sold in the community in the past?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n/a (skip to section 2)
What unit of Denk Prenatal is being sold? (unit as packet, blisters or sachet)	(circle unit: packet, blisters pack or sachet)
How much is Denk Prenatal being sold for?	_____ CFA Franc
Please pick a primary selling location:	
How many units of Denk Prenatal does the store owner report selling in the past week?	_____ units sold in the past week (circle unit: packet, blisters pack or sachet)
Who does the store owner most frequently see purchasing Denk Prenatal?	<input type="checkbox"/> woman <input type="checkbox"/> male <input type="checkbox"/> other:
What kind of location is selling Denk Prenatal in this community?	<input type="checkbox"/> market stand <input type="checkbox"/> small store <input type="checkbox"/> household <input type="checkbox"/> pharmacy <input type="checkbox"/> other:
How is Denk Prenatal displayed in the store?	<input type="checkbox"/> n/a <input type="checkbox"/> behind counter <input type="checkbox"/> displayed in front of other products <input type="checkbox"/> other: _____



Section 2: Gestarelle	
Is Gestarelle being sold in the community?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n/a
Has Gestarelle been sold in the community in the past?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n/a (skip to section 2)
What unit of Gestarelle is being sold?	(circle unit: packet, blisters pack or sachet)
How much is Gestarelle being sold for?	_____ CFA Franc
Please pick a primary selling location:	
How many units of Gestarelle does the store owner report selling in the past week?	_____ units sold in the past week (circle unit: packet, blisters pack or sachet)



Who does the store owner most frequently see purchasing Gestarelle?	<input type="checkbox"/> woman <input type="checkbox"/> male <input type="checkbox"/> other:
What kind of location is selling Gestarelle in this community?	<input type="checkbox"/> market stand <input type="checkbox"/> small store <input type="checkbox"/> household <input type="checkbox"/> pharmacy <input type="checkbox"/> other:
How is the Gestarelle displayed in the store?	<input type="checkbox"/> n/a <input type="checkbox"/> behind counter <input type="checkbox"/> displayed in front of other products <input type="checkbox"/> other: _____

Section 3: Alvityl Comprime	
Is Alvityl Comprime being sold in the community?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n/a
Has Alvityl Comprime been sold in the community in the past?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n/a (skip to section 2)
What unit of Alvityl Comprime is being sold?	(circle unit: packet, blisters pack or sachet)
How much is Alvityl Comprime being sold for?	_____ CFA Franc
Please pick a primary selling location:	
How many units of Alvityl Comprime does the store owner report selling in the past week?	_____ units sold in the past week (circle unit: packet, blisters pack or sachet)
Who does the store owner see most frequently purchasing Alvityl Comprime?	<input type="checkbox"/> woman <input type="checkbox"/> male <input type="checkbox"/> other:
What kind of location is selling Alvityl Comprime in this community?	<input type="checkbox"/> market stand <input type="checkbox"/> small store <input type="checkbox"/> household <input type="checkbox"/> pharmacy <input type="checkbox"/> other:
How is the Alvityl Comprime displayed in the store?	<input type="checkbox"/> n/a <input type="checkbox"/> behind counter <input type="checkbox"/> displayed in front of other products <input type="checkbox"/> other: _____



Section 4: Astymin Forte	
Is Astymin Forte being sold in the community?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n/a
Has Astymin Forte been sold in the community in the past?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n/a (skip to section 2)
What unit of Astymin Forte being sold?	(circle unit: packet, blisters pack or sachet)
How much one unit of Astymin Forte being sold for?	_____ CFA Franc
Please pick a primary selling location:	
How many units of Astymin Forte does the store owner report selling in the past week?	_____ units sold in the past week (circle unit: packet, blisters pack or sachet)



Who does the store owner most frequently see purchasing Astymin Forte?	<input type="checkbox"/> woman <input type="checkbox"/> male <input type="checkbox"/> other:
What kind of location is selling Astymin Forte in this community?	<input type="checkbox"/> market stand <input type="checkbox"/> small store <input type="checkbox"/> household <input type="checkbox"/> pharmacy <input type="checkbox"/> other:
How is the Astymin Forte displayed in the store?	<input type="checkbox"/> n/a <input type="checkbox"/> behind counter <input type="checkbox"/> displayed in front of other products <input type="checkbox"/> other: _____

### Section 5: Ogestan

Is Ogestan being sold in the community?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n/a
Has Ogestan been sold in the community in the past?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n/a (skip to section 2)
What unit of Ogestan being sold?	(circle unit: packet, blisters pack or sachet)
How much one unit of Ogestan being sold for?	_____ CFA Franc
Please pick a primary selling location:	
How many units of Ogestan does the store owner report selling in the past week?	_____ units sold in the past week (circle unit: packet, blisters pack or sachet)
Who does the store owner most frequently see purchasing Ogestan?	<input type="checkbox"/> woman <input type="checkbox"/> male <input type="checkbox"/> other:
What kind of location is selling Ogestan in this community?	<input type="checkbox"/> market stand <input type="checkbox"/> small store <input type="checkbox"/> household <input type="checkbox"/> pharmacy <input type="checkbox"/> other:
How is the Ogestan displayed in the store?	<input type="checkbox"/> n/a <input type="checkbox"/> behind counter <input type="checkbox"/> displayed in front of other products <input type="checkbox"/> other:



### Section 6: Prenatal Supplementation:

Is [prenatal supplementation] being sold in the community?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n/a
Has [prenatal supplementation] been sold in the community in the past?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n/a (skip to section 2)
What unit of [prenatal supplementation] is being sold?	(circle unit: packet, blisters pack or sachet)
How much is [prenatal supplementation] being sold for?	_____ CFA Franc
Please pick a primary selling location:	
How many units of [prenatal supplementation] does the store owner report selling in the past week?	_____ units sold in the past week (circle unit: packet, blisters pack or sachet)

Who does the store owner most frequently see purchasing [prenatal supplementation]?	<input type="checkbox"/> woman <input type="checkbox"/> male <input type="checkbox"/> other:
What kind of location is selling [prenatal supplementation] in this community?	<input type="checkbox"/> market stand <input type="checkbox"/> small store <input type="checkbox"/> household <input type="checkbox"/> pharmacy <input type="checkbox"/> other:
How is [prenatal supplementation] displayed in the store?	<input type="checkbox"/> n/a <input type="checkbox"/> behind counter <input type="checkbox"/> displayed in front of other products <input type="checkbox"/> other:

### Section 7: Prenatal Supplementation:

Is [prenatal supplementation] being sold in the community?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n/a
Has [prenatal supplementation] been sold in the community in the past?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n/a (skip to section 2)
What unit of [prenatal supplementation] is being sold?	(circle unit: packet, blisters pack or sachet)
How much is [prenatal supplementation] being sold for?	_____ CFA Franc

Please pick a primary selling location:

How many units of [prenatal supplementation] does the store owner report selling in the past week?	_____ units sold in the past week (circle unit: packet, blisters pack or sachet)
Who does the store owner most frequently see purchasing [prenatal supplementation]?	<input type="checkbox"/> woman <input type="checkbox"/> male <input type="checkbox"/> other:
What kind of location is selling [prenatal supplementation] in this community?	<input type="checkbox"/> market stand <input type="checkbox"/> small store <input type="checkbox"/> household <input type="checkbox"/> pharmacy <input type="checkbox"/> other:
How is [prenatal supplementation] displayed in the store?	<input type="checkbox"/> n/a <input type="checkbox"/> behind counter <input type="checkbox"/> displayed in front of other products <input type="checkbox"/> other:

### Section 8: Prenatal Supplementation:

Is [prenatal supplementation] being sold in the community?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n/a
Has [prenatal supplementation] been sold in the community in the past?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n/a (skip to section 2)
What unit of [prenatal supplementation] is being sold?	(circle unit: packet, blisters pack or sachet)
How much is [prenatal supplementation] being sold for?	_____ CFA Franc

Please pick a primary selling location:

How many units of [prenatal supplementation] does the store owner report selling in the past week?

\_\_\_\_\_ units sold in the past week  
(circle unit: packet, blisters pack or sachet)

Who does the store owner most frequently see purchasing [prenatal supplementation]?

☐ woman ☐ male ☐ other:

What kind of location is selling [prenatal supplementation] in this community?

☐ market stand ☐ small store  
☐ household ☐ pharmacy  
☐ other:

How is [prenatal supplementation] displayed in the store?

☐ n/a ☐ behind counter  
☐ displayed in front of other products  
☐ other:

Appendix D: Free Listing

Demographic Information:

Data Collector Name: \_\_\_\_\_

Date: \_\_\_\_\_ Location: \_\_\_\_\_

Respondent characteristics:      Age: \_\_\_\_\_ Gender: \_\_\_\_\_ Number of Children: \_\_\_\_\_

No.	Free List Question	Comments to guide field notes
	List all of the different foods you consume in this community.	<ul style="list-style-type: none"><li>Probe on the top 5 foods mentioned to determine well as a description of that food in general.</li><li>You might probe about their availability by season. Probe on any foods that seem confusing, new, or unclear to you for further clarification.</li></ul>
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		

No.	Free List Question	Comments to guide field notes
	<b>List for me all of the illnesses that you suffer from as a pregnant woman in this community.</b>	<ul style="list-style-type: none"> <li>• After listing, probe on the top 5 illnesses to get local explanations.</li> <li>• Probe on any nutrition-related illnesses (e.g., anemia). Probe on any illnesses that seem confusing, new, or contradictory to you.</li> </ul>
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		

## Appendix E: Pile Sorting

### Demographic Information:

Data Collector Name: \_\_\_\_\_

Date: \_\_\_\_\_

Region: \_\_\_\_\_

Disctrict: \_\_\_\_\_

CSPS: \_\_\_\_\_

Respondants characteristics: Age: \_\_\_\_\_ Gestational age: \_\_\_\_\_ Number of Children: \_\_\_\_\_

### Introduction

**Question 1 Maternal Illness:** In order to help me understand more about illnesses pregnant women experience in this community, I'd like to ask you to tell me which illnesses go with each other. I've made a list of some illnesses that are commonly experienced here. Please sort these illnesses into piles, in whatever way you think is best, in as many piles as you wish. There is no right or wrong way. (Rules: respondents may not put all illnesses into one pile or separate them into each into its own pile.)

**Note:** If "Anemia and low birth weight" do not appear on the list of diseases, the data collector must add them before proceeding with the sorting.

Pile	Card Number										
1											
Explanation for Pile 1:											
2											
Explanation for Pile 2:											
3											
Explanation for Pile 3:											
4											
Explanation for Pile 4:											
5											
Explanation for Pile 5:											
6											
Explanation for Pile 6:											

**Pile Sort Question 2 (Illness Severity).** Now I want you to re-sort these cards. In order to help me understand more about illness in this community, I'd like to ask you to put these illnesses into 3 piles based on how severe they are: 1) most severe, 2) moderately severe, 3) less severe. There is no right or wrong way; it is just your perception.

**Note:** If “Anemia and low birth weight” do not appear on the list of diseases, the data collector must add them before proceeding with the sorting.

Pile	Card Number										
1											
<b>MOST SERIOUS ILLNESSES</b> Explanation for Pile 1:											
2											
<b>MODERATELY SERIOUS ILLNESS</b> Explanation for Pile 2:											
3											
<b>LESS SERIOUS ILLNESSES</b> Explanation for Pile 3:											

**Pile Sort Question 3 (Foods for Pregnant Women).** In order to help me understand more about food in this community, I'd like to ask you to tell me which foods go with each other. I've made a list of some foods that are commonly eaten here among pregnant women. Here they are. Please sort these foods into piles, in whatever way you think is best, in as many piles as you wish. There is no right or wrong way to do this.

Pile	Card Number										
1											
Explanation for Pile 1:											
2											
Explanation for Pile 2:											
3											
Explanation for Pile 3:											
4											

Explanation for Pile 4:

5

Explanation for Pile 5:

6

Explanation for Pile 6:

**Pile Sort Question 4 (nutritional functions).** Now I want you to sort these cards again. In order to help me better understand the foods in this community, I would like to ask you to group these foods into 3 stacks based on their nutritional functions for a healthy pregnancy: 1) most nutritious, 2) moderately nutritious, 3) the less nutritious. There is no right or wrong way; it's just your perception.

Pile	Card Number										
1											
<b>THE MOST NUTRITIVE</b> Explanation for Pile 1:											
2											
<b>MEDIUM NUTRITIVE</b> Explanation for Pile 2:											
3											
<b>THE LESS NUTRITIVE</b> Explanation for Pile 3:											

## Appendix F: Pregnant Women Semi Structured Interview

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### Demographic Information:

**Data Collector Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Location:** \_\_\_\_\_

### Introduction:

1. Thank you for taking the time to speak with me. To start, can you please tell me about your family?
2. Could you please tell me about a typical day for you?
3. Now can you tell me about the resources available for pregnant women in this community?

### Antenatal Care:

Now I would like to know more about health during pregnancy in this community.

4. Can you please describe what a healthy pregnancy should look like?
5. Can you please describe any changes to your diet after you became pregnant?
  - Probe on any advice regarding diet during pregnancy received
  - Probe on who gave her the advice
  - Probe on foods that are good for pregnant women
  - Probe on foods that pregnant women should avoid
  - Probe on how easy or difficult it is to maintain a healthy diet during pregnancy
6. Can you please describe the illnesses that pregnant women in this community suffer from?
  - Probe on seriousness of illnesses
  - Probe on diseases she is most concerned about
  - Probe on consequences of untreated illness
  - Probe on the cause of each illness
  - Probe on prevention of each illness
  - Probe on treatment
7. Can you describe any health care you have received from the time you knew you were pregnant to now?
  - Probe on healthcare seeking practices
  - Probe on knowledge of when to seek care
8. What barriers do women in this community face in staying healthy during pregnancy?
  - Probe on community support
  - Probe on family support
  - Probe on access to care

### Micronutrient Supplement

This is great information. Now I would like to hear your thoughts on micronutrient supplements.

9. Can you describe how a micronutrient supplement could help you stay healthy during your pregnancy?
  - Probe on illness prevention

**10.** Can you describe any similar products that you or other pregnant women in your community use?

- Probe on source of supplements
- Probe on availability
- Probe on affordability
- Probe on sharing
- Probe on what makes them desirable
- Probe on products that are not desirable
- Probe on perception of product
- Probe on other medications used during pregnancy

**11.** Can you describe how these products were explained to you?

- Probe on who told her about these products
- Probe on how effective this explanation was
- Probe on how it could be improved

**12.** Can you please tell me how to best market a micronutrient supplement to pregnant women in this community?

- Probe on ways to promote the product
- Probe on effective distribution channels

Thank you for your time. Is there anything else you would like to discuss that was not brought up?

## Appendix G: Health Worker Semi Structured Interview

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### Demographic:

**Data Collector Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Region:** \_\_\_\_\_ **District:** \_\_\_\_\_

**CSPS:** \_\_\_\_\_ **Sex:** \_\_\_\_\_

### INTRODUCTION:

1. Could you please tell me about your role in the community?
2. Tell me about a typical day as a health worker?
3. Can you please describe what health care resources there are for pregnant women in this community?

### ANTENATAL CARE:

Now I would like to know more about health during pregnancy in this community.

1. Can you please describe what a healthy pregnancy should look like?
2. Can you please describe the illnesses that pregnant women in this community suffer from?
  - a. Probe on seriousness of illnesses
  - b. Probe on consequences of untreated illness
  - c. Probe on the cause of each illness
  - d. Probe on prevention of each illness
  - e. Probe on treatment
3. Can you tell me about illnesses that you are most concerned with?
  - a. Probe on specific stories/ narratives
4. Tell me about the care that a pregnant woman receives over the course of her pregnancy
  - a. Probe on any nutritional advice given to pregnant women
  - b. Probe on if advice is followed
  - c. Probe on reasons why women may or may not follow advice
  - d. Probe on healthcare seeking practices
5. What barriers do women in this community face in staying healthy during pregnancy?
  - a. Probe on community/family support
  - b. Probe on access to care

### MICRONUTRIENT SUPPLEMENT

This is great information. Now I would like to hear your suggestions about developing a program that will introduce a micronutrient food supplement

1. Can you describe the benefits to micronutrient supplement for a woman during her pregnancy?
  - a. Probe on challenges to access micronutrient supplement benefits
  - b. Probe on illness prevention

- 2.** Can you describe similar products that pregnant women in this community use?
  - a.** Probe on source of medications/ supplements
  - b.** Probe on affordability
  - c.** Probe on sharing
  - d.** Probe on what makes them desirable
  - e.** Probe on products that are not desirable
  - f.** Probe on acceptability of micronutrient supplement
- 3.** Please describe the most effective way to market a micronutrient supplement in this community?
  - a.** Probe on trusted communication channels
  - b.** Probe on different ways to share information of micronutrient supplements (distribution channels)
  - c.** Probe on how to explain the micronutrient supplement to women
  - d.** Probe on best ways to ensure that the product is being used correctly

Thank you for your time. Is there anything else you would like to discuss that was not brought up?

