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Social and Behavior Change Formative Assessment

Isiolo and Marsabit Counties, Kenya

USAID FROM THE AMERICAN PEOPLE

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Nawiri

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Anthony Nyandiek, CRS USAID Nawiri

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List of Abbreviations and Acronyms

ANC	Antenatal Care
ASAL	Arid and Semi-Arid Lands
CHEW	Community Health Extension Worker
CHMT	County Health Management Team
CHVs	Community Health Volunteers
CU5	Children under age 5
EBF	Exclusive breastfeeding
FGDs	Focus Group Discussions
FGM/C	Female Genital Mutilation/Cutting
FP	Family planning
GAM	Global Acute Malnutrition
HCWs	Health care workers
IDIs	In-depth Interviews
IMCI	Integrated management of childhood illnesses
IYCN	Infant and Young Child Nutrition
KAP	Knowledge, Attitude and Practices
KIIs	Key Informant Interviews
MAM	Moderate Acute Malnutrition
MOH	Ministry of Health
MSP-N	Multi-sectoral Platform for Nutrition
RAs	Research Assistants
SBC	Social Behavior Change
SBCC	Social and Behavior Change Communication
S/CHMT	Sub-County Health Management Team
TBAs	Traditional Birth Attendants
WASH	Water, Sanitation and Hygiene

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Executive summary

Catholic Relief Services (CRS), along with a consortium of seven development agencies, is implementing a USAID Office of Food for Peace/ Bureau of Humanitarian Affairs (FFP/ BHA) Development Food Security Activity (DFSA) five-year research and development activity referred to as Nawiri. The overall goal of Nawiri is to sustainably reduce persistent levels of **global acute malnutrition** (GAM) among vulnerable populations in Isiolo and Marsabit counties of Kenya's ASAL regions. Although GAM has fluctuated from year to year and seasonally in these counties, it remains an entrenched challenge, despite significant efforts to address it. Nawiri was designed as a two-phase investment to help solve this challenge, with the first two years serving as phase 1: focused research and learning to unpack the challenges, strengthen the evidence base and map pathways to enable sustainable positive change, not only on the immediate causes of GAM but also the root causes. Following this learning, the second implementation phase is now (November 2021) being co-designed and developed.

Social and Behavior Change (SBC) is a critical element cross-cutting Nawiri activities. SBC entails, fundamentally, creating enabling environments for positive change, ensuring that basic systems and desirable behaviors are in place, through working closely with individuals, communities, local partners, and administrations to achieve this in context appropriate ways. Nawiri has adopted a multi-step, logical approach to developing its cross-cutting SBC strategy. These steps answer several different questions: WHAT, WHY and HOW?

This report presents the answers to those questions in two parts. Firstly, it summarizes the results of a desk review that sought to identify and prioritize the key behaviors, actors and their roles which are most likely to contribute to reduced acute malnutrition. These included individuals and families at household level, as well as providers at different levels including healthcare workers at facility and community levels, nutritionists, community leaders and other nutrition-sensitive providers in education, agriculture and WASH at the community, societal and policy levels. Secondly, it presents the findings that emerged from a field-based study to investigate the barriers and facilitating factors affecting sustained practice of those priority behaviors and offers recommendations and strategic directions the project should take to address those factors and facilitate change.

Objectives

The specific objectives of the entire assessment were to:

Part 1:

1. Identify the most critical behaviors to change at different levels of the socio-ecological model,[1] in order to address persistent acute malnutrition in Isiolo and Marsabit counties.
2. Identify key actors, their roles, and opportunities to change the critical behaviors of target groups (different level, including service providers) in Isiolo and Marsabit counties.

[1] The Socio-Ecological model is a depiction of the many factors at different levels that impact a person's behavior. The model describes behavior and ultimately health to be affected by the interaction between the individual, the group/community, and the physical, social, and political environments (Israel et al., 2003; Sallis et al., 2008; Wallerstein et al., 2003).

Part 2:

3. Map pathways to change for select priority behaviors, including the identification of factors impeding or motivating the practice of identified behaviors.
4. Identify feasible social/community-oriented interventions (i.e., social change) that can be tested and iterated to complement identified facilitators and mitigate the barriers, by creating community environments more conducive to sustainable positive behavioral change.

Methodology

This assessment utilized both an extensive literature review and an assessment of quantitative data on potential behaviors linked to the NAWIRI goal and then conducted field work using a cross-sectional design with participatory qualitative methods of data collection including FGDs, KIIs and Pairwise interviews. Other methods such as county and subcounty workshops as well as transect walks were utilized to capture contextual data that would help frame both the sampling and broader understanding of structural and social elements in the communities of assessment or enroute.

The sampling of sites and the target audience was informed by both the hot-spot mapping done by Nawiri, as well as by Nawiri county and subcounty consultations. A total of 52 focus groups with heads of households, community leaders, mothers of children under ag <5 and pregnant women, plus 42 key informant interviews took place with identified community influencers and gatekeepers (elders, religious leaders, health care providers, CHVs), disease reporters, agriculture extension workers, fisheries extension workers, a WASH officer, the PHO, and several MCH nurses. In addition, we carried out 38 paired interviews with youth, adolescent mothers, younger pregnant women, people with disabilities, traders, boda-boda riders, and traders.

Findings and Recommendations

The findings of this formative assessment were analyzed using the Behavior Profile framework developed by the Manoff Group, a Nawiri partner. The priority behaviors for Nawiri are listed below. These behaviors are relevant for all families within Nawiri's catchment area, a strategy which is critical to prevent malnutrition and catch growth faltering before it becomes a more intractable challenge. However, it should be noted that for families with children identified as malnourished, these behaviors become even more important and special attention will be paid to supporting these families to carry them out.

1. Pregnant women eat a variety of nutrient-rich foods for meals & snacks daily.
2. Mothers exclusively breastfeed infants until age 6 months and continue through age 2.
3. Feed children 6-23 months old with age-appropriate frequency.
4. Feed children 6–23 months old a variety of age-appropriate, safe, diverse, nutrient-rich foods.
5. Feed children 6-23 months old with age-appropriate consistency.
6. Ensure children under age 2 continue to breastfeed and eat when ill.
7. Provide children recuperative feeding for two weeks after illness.
8. Family members drink safe water (treated water).
9. Caregivers wash hands at four critical times (after using toilet, before preparing food, before feeding child, after cleaning child).
10. Couples share decision making within the household.
11. Young women and men participate in savings and loan groups and IGAs.
12. Track and promote growth and identify poor growth or growth faltering for children under age 5.

To facilitate change in these behaviors, Nawiri will seek to achieve the following strategic objectives. These were determined based on the findings presented in this report on the challenges and opportunities to facilitate change in these behaviors. More specific activities suggested to achieve these objectives is presented in the Conclusions and Recommendations section of this report.

- ✓ **Strategic objective 1**: Reposition the pregnancy, post-partum and post-illness recovery period as critical moments requiring extra attention and care.
- ✓ **Strategic objective 2**: Redefine household status from healthy flock to healthy family and flock.
- ✓ **Strategic objective 3**: Emphasize multi-sectoral Provider Based behavior change.
- ✓ **Strategic objective 4**: Identify community practices linked to food and healing and incorporate into a community collective action approach.
- ✓ **Strategic objective 5**: Foster good sustainability and local ownership of water and hygiene.
- ✓ **Strategic Objective 6**: Connect consumption of nutritious foods to economic opportunities.

Introduction and Background

Catholic Relief Services (CRS), through a consortium of seven development agencies, is implementing a USAID Office of Food for Peace/ Bureau of Humanitarian Affairs (FFP/ BHA) Development Food Security Activity (DFSA) five-year research and development activity referred to as Nawiri. The overall goal of Nawiri is to sustainably reduce persistent levels of global acute malnutrition among vulnerable populations in Isiolo and Marsabit counties of Kenya's ASAL regions. The consortium lead is CRS, providing technical leadership in systems and institutional capacity strengthening, gender and youth integration and social dynamics, strategic learning, private sector engagement and livelihoods-focused interventions. The other lead consortium members are Tufts University Feinstein International Center, leading collaborative research, and design; Concern Worldwide supporting technical inputs to nutrition specific-interventions; Global Alliance for Improved Nutrition (GAIN), designing food and market systems; International Business and Technical Consultants Inc. (IBTCI) leading monitoring and evaluation; The Manoff Group, responsible for social and behavior change (SBC) initiatives; and Village Enterprise, leading the adapted graduation approach.

Nawiri's target counties have experienced high rates of persistent acute malnutrition for many years, with indications that the problem is worsening despite significant efforts to address it. Kenya is one of the few countries in the world that is largely on track to meet the World Health Assembly 2025 nutrition targets, however, little progress has been made to reduce and sustain reductions in persistent acute malnutrition in the Kenyan ASAL counties. It is vital to understand why this progress at county level has been slow and to identify ways to address these challenges in positive and sustainable ways. Similar to other contexts, in these counties, the immediate causes of acute malnutrition are insufficient or unstable food intake (in quantity and quality), often combined with illnesses which affect the most vulnerable. At the same time, in the ASAL counties, a multitude of complex factors drive these two immediate causes, resulting in a need to think more holistically about where and how we intervene to address this challenge.

The project is using Social and Behavior Change (SBC) as one opportunity to take this holistic view of all levels and drivers of acute malnutrition. SBC entails, fundamentally, creating enabling environments for positive change, ensuring that basic systems and desirable behaviors are in place, through working closely with individuals, communities, local partners, and administrations to achieve this in context appropriate ways. The project uses an adapted Social Ecological Model (SEM), to help structure its research, findings and suggested activities. The SEM is a theory-based framework for understanding the multifaceted and interactive effects of personal, social, and environmental factors that determine behaviors, and for identifying behavioral and organizational leverage points and intermediaries for health promotion within organizations. There are five nested, hierarchical levels of the SEM: Individual, interpersonal, community, organizational, and policy/enabling environment. A combination of intervention at all these levels is often required for change, as they leverage individuals and sectoral actors who are able to act in a particular manner in order to support the individual or community (target audience/ beneficiary) to adopt and sustain a new or different practice. To start, we first must ask the question, "to achieve our goal of reducing GAM, who needs to do what?" Then, we can use the SEM to help us engage the doers or actors (the "who") in understanding what drives that behavior, knowing that we are all affected by both conscious and unconscious processes that impact our opportunity, ability or motivation to practice a particular behavior at a particular time in a particular place. Understanding and responding to the answers to these questions requires integration of different kinds of sectors to resolve challenges and enable actors to make different choices.

As we work through this process, the difference in primary actors and supporting actors is also critical. Often in the nutrition sector, we focus attention on mothers and caregivers, as they are often those individuals with immediate responsibility to care for a child. However, at the same time, the actions of their partners and families, as well as the wider community including service providers, often play a major role in driving their behavior, even if they have the requisite skills and knowledge. As such, while many of the primary actors for the Nawiri priority behaviors are mothers or caregivers, successfully identifying and engaging these varied supporting actors will often be the key to progress. The focus is not only on the families, but on every actor in the system (informal and formal).

To identify the specific actors and priority behaviors as well as the pathways to change for those behaviors, NAWIRI embarked upon a two-phased SBC assessment. The overall goal of this assessment was to better understand and explore the key social and behavioral practices and factors that drive persistent acute malnutrition among vulnerable communities in Isiolo and Marsabit, and to then identify opportunities to support practice of those new healthy. This assessment consisted of two parts. First, we undertook a process of behavioral prioritization to answer the question WHAT? Or, more specifically, *to reduce GAM, who needs to do what?* Then, we carried out a field-based study to better understand WHY those behaviors were or were not practiced and HOW the project could best support the actors to adopt the priorities.

SBC Assessment Part 1: Behavioral Prioritization

Objectives

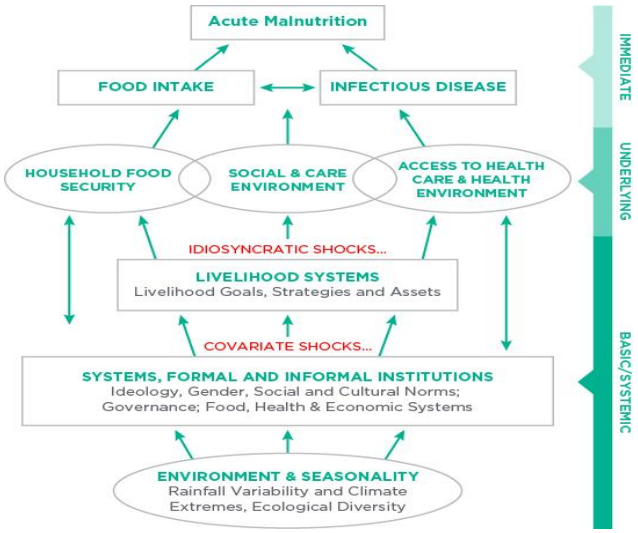
The objectives of the first part of the assessment were to:
Part 1:

1. Identify the most critical behaviors to change at different levels of the socio-ecological model, in order to address persistent acute malnutrition in Isiolo and Marsabit counties.
2. Begin to identify primary actors for those behaviors, their roles, and opportunities to change the critical behaviors of target groups (different level, including service providers) in Isiolo and Marsabit counties.

Prioritization Methodology: Adaptation of Advancing Nutrition Prioritization Tool

The process that Nawiri used to assess potential behaviors, including analyzing their potential for impact, was based on a tool originally developed by The Manoff Group and adapted by USAID's Advancing Nutrition project. This tool provides a menu of nutrition specific and nutrition sensitive behaviors that are known to be critical in preventing malnutrition globally. This menu was re-organized by putting each potential behavior into a specific category based on Nawiri's analytical framework and Theory of Change, or ToC, (figure 1), so that the linkages between the project's broader efforts and this prioritization work remain clear. From there, additional behaviors, extracted from the ToC, were added to the potential menu for consideration.

Figure 1: Analytic framework for acute malnutrition in drylands



Once the final menu was determined, the potential behaviors were analyzed and considered for each of Nawiri's focus counties: Marsabit and Isiolo. This effort consisted of a number of steps. First, the specific prevalence of practice for each behavior was drawn from existing literature, service utilization data (KHIS) and survey data (primarily county-led SMART surveys conducted in 2019 and 2020). Although these surveys certainly have their limitations, including disaggregation of data to the subcounty level in Marsabit, disaggregation of key pieces of information by specific age bands, and the ability to control analysis by prevalence of practices by families with

malnourished children versus those with healthy children, they are sufficient for the purpose of this exercise, which is to determine the relative importance of one behavior over another. Further details, including a robust qualitative, more subjective understanding of the factors influencing practice the priority behaviors of different families within the counties was addressed in Part 2 of this assessment.

Once the specific prevalence for each priority behavior was identified, the SBC research team then scored each behavior from 1 to 5, based on (a) the behavior gap (how much change is needed for 80% of the population to practice the behavior) and (b) the potential for impact (to what extent will addressing the behavior gap help achieve program outcomes). The four members of the research team conducted this exercise independently and then averaged the scores to ensure as much objectivity as possible in what is, inherently, a subjective process. Once the exercise was complete, the team discussed the outcome and rationale for the scores. A summary of this discussion is noted below the scores in each section. The full assessment and menu can be found in Appendix 1.

It is important to note that prioritizing behaviors requires subjective decision-making informed by data. There is no correct or "right" answer. Instead, this process takes what is often invisible and makes it visible and transparent, better allowing stakeholders to engage and ultimately, ensuring more ownership, understanding and nuance in research and program design.

Outcome and Impact Level Trends In GAM

As part of assessing the potential for a specific behavior to impact rates of GAM, it is critical to examine a number of key outcome and impact-level indicators and trends in Marsabit and Isiolo. Nawiri as a whole has conducted this analysis to a much more extensive degree as part of its ToC development; as such, in this exercise, the SBC team focused on an examination of the overall rate of GAM by age band where feasible, along with rates of illness in the communities to identify areas of correlation. In addition to this broad context, the SBC team also attempted to better understand the specific dynamics of those households with malnourished children. For example, prevalence of some practices, like breastfeeding, are fairly high across the population as a whole, but it is feasible that those who are not practicing a behavior are also those who have malnourished children. In addition, the team examined stunting prevalence by age-band, to triangulate and better understand whether there is a double burden and if similar behavioral drivers might be at play.

Although malnutrition overall in Isiolo has declined in recent years, to just under 10% in 2020 as reflected in Figure 2 (according to the most recent SMART survey), the age-breakdown (figure 3) provides additional insight. In general, rates of GAM increase as children age, with the lowest rate seen in infants under 6 months, followed by infants 6-17 months. The highest rate is seen in children just before their fifth birthday. For Marsabit, overall malnutrition remains extremely high throughout the county, although two sub-counties are experiencing particularly alarming rates. For Marsabit, the 2020 SMART survey is not powered to disaggregate by age, but suggestions from the county health team on the ground indicate that the same pattern is seen, with GAM affecting older infants and toddlers disproportionately. These findings are also borne out when looking at where babies are starting. Figure 4 reveals the low number of infants born with low birth weight, suggesting that GAM is not as heavily affected by pregnancy or immediate breastfeeding, but rather factors occurring as babies age.

LBW in Isiolo and Marsabit is also lower than in other counties in Kenya with less severe GAM, further supporting the idea of a need to focus on factors post-birth.

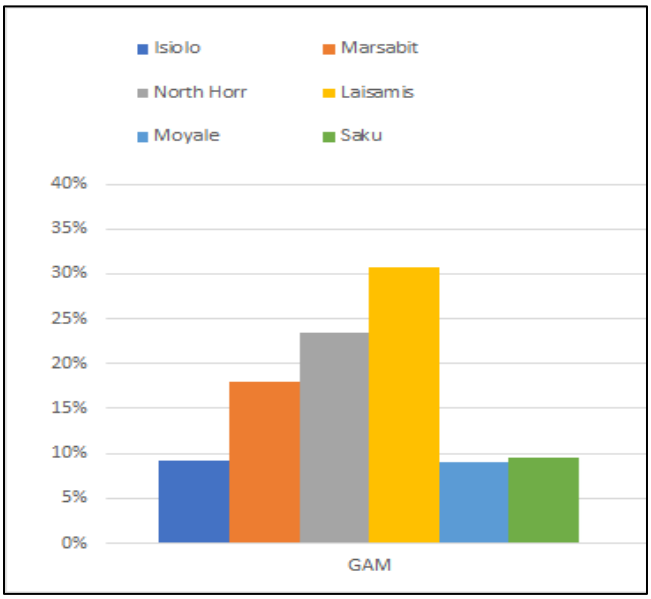


Figure 2: 2020 GAM rates in Isiolo & Marsabit counties

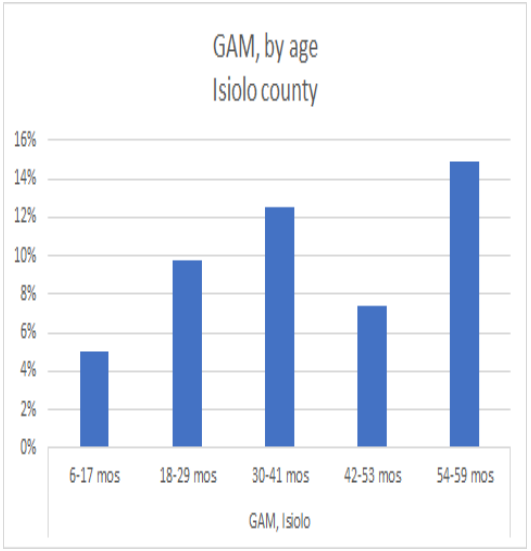


Figure 3: 2020 GAM rates by age in Isiolo County

Figure 5 illustrates what some of those factors might be, indicating the percentage of children in surveyed families who had experienced either diarrhea, an acute respiratory infection or fever in the two weeks preceding the survey. In Marsabit, these data correlate well with GAM rates at the subcounty level, indicating the likely very significant contribution chronic or recurring bouts of infectious disease has

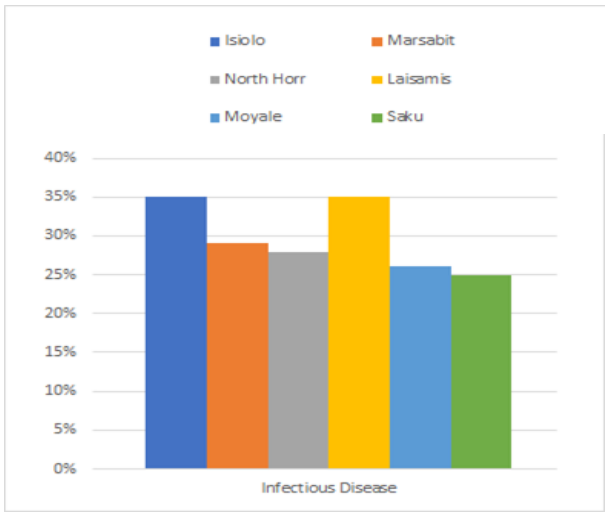


Figure 5: % children with fever, diarrhea, or ARI in 2 weeks prior to survey

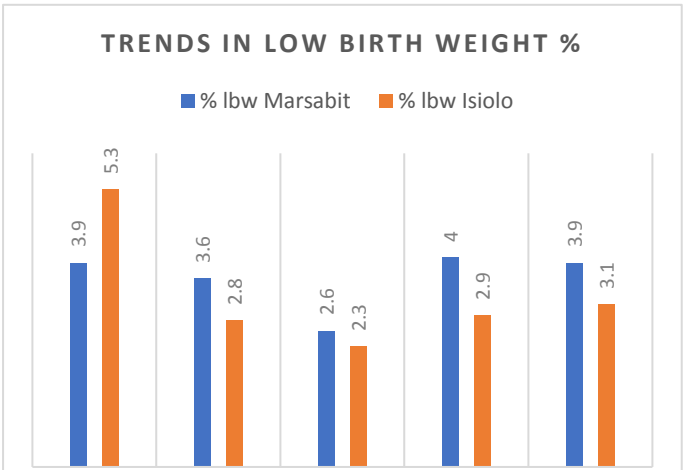


Figure 4: Trends in LBW in Isiolo & Marsabit Counties

stunting rates, shown in figure 6 along with other anthropometric indicators, which are often driven by the same constellation of factors, are also significant and while the outcome of stunting is not one NAWIRI will be measuring, its significant prevalence is helpful to understanding some of the potential behaviors, as we know stunting is often highly correlated with protein intake as well as consistent exposure to infectious disease and resulting gut enteropathy.

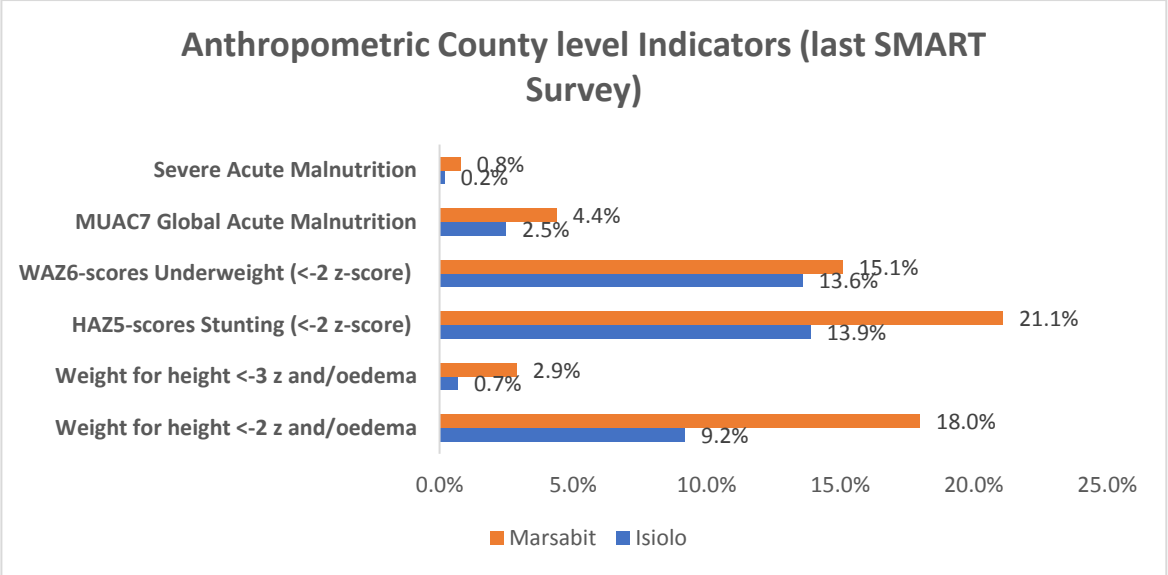


Figure 6: Anthropometric Isiolo County indicators 2019

In total, these outcome indicators reflect the complexity of GAM in these counties. On their own, they reflect what is, but not why. By examining the various potential behaviors that are contributing to these statistics, we can start to better understand them and focus in on where we can have the most impact.

Recommended Priority Behaviors

Appendix 1 contains a series of tables presenting the extensive analysis that the team conducted for each potential behavior as described above, analyzing the behavior prevalence, the behavior gap, and the potential for impact of each. While this analysis used quantitative data to the extent possible, it is important to note that our assessment of the relative importance of each was inherently subjective, based on our understanding of the epidemiological links between the behaviors and the goal of reducing GAM. From this analysis, the team created a short list of behaviors that were critical to change in order to address GAM. The Nawiri team then held a series of meetings with the county teams consisting of members of the multi-sectoral platform for Nutrition MSP-N and the county administration team to discuss the process, validate the suggested behaviors and consider next steps. It is important to note that prioritization in this way is always subjective, but often invisibly so. This analysis makes explicit and visible the decisions and rationale for those decisions and offers a concrete way to engage stakeholders in the decision making itself.

The MSP-N in both counties is constituted by several technical teams from different departments including the departments of Health, Agriculture, Livestock and Fisheries; Water, Environment and Natural Resources; Finance and Economic Planning; Trade, Industry and Enterprise development; Culture, Gender and Social Services; Education, Skills Development, Youth and Sports; Public Administration, ICT and Disaster Management. In both counties, the teams validated the analysis and concurred with the recommended priorities. A great deal of discussion was had on whether or not to include immediate and exclusive breastfeeding, which was not part of the original suggested list. The teams in both counties noted that although the available quantitative data suggested high rates of exclusive breastfeeding, their experience on the ground as representatives from the ministry of health reflected that this was not the case in many of the villages. They further noted that they felt this indicator in particular needs more opportunity for validation especially at facility level as mothers attended PNC and MCH clinics. However, they ultimately felt that based on other indicators (age-stratified rates of GAM), the impact of immediate and exclusive breastfeeding on malnutrition in these counties is likely minimal as the burden of malnutrition is not found to as severe a degree in younger babies, even at the community level. In the end, the behavior was included as a preventive measure to make sure babies have the best possible start. In addition, the teams suggested adding a behavior on economic opportunity within the priority list to call attention to that as a critical outcome for sustaining change.

The validation meetings concluded with adoption of these behaviors as Nawiri priorities:

USAID Nawiri Behavioral Priorities

1. **Pregnant women eat a variety of nutrient-rich foods for meals & snacks daily.**
2. ***Mothers exclusively breastfeed until age 6 months and continue through two years.***
3. **Feed children 6-23 months old with age-appropriate frequency.**
4. **Feed children 6-23 months old a variety of age-appropriate, safe, diverse, nutrient-rich foods.**
5. **Feed children 6-23 months old with age-appropriate consistency.**
6. **Ensure children continue to breastfeed and eat when ill.**
7. **Provide recuperative feeding for two weeks after illness.**
8. **Family members drink safe water (treat water).**
9. **Caregivers wash hands at four critical times.**
10. **Track and promote growth and identify poor growth or growth faltering.**
11. **Couples share decision making within the household.**
12. **Young women and men participate in savings and loan groups and IGAs.**

As part of these validation meetings, the primary actor for many of these behaviors was often assumed to be the mother, as the responsibility for these behaviors often falls to her. However, the teams agreed that a clear mapping of the variety of supporting actors required to support her, including what, specifically, they could and should do, would be answered more thoroughly as part of the next phase.

SBC Assessment Part 2: Understanding the Whys

Objectives and Key Questions

Once the prioritization process was complete, the team moved into Part 2 of the SBC Assessment to understand what drives practice of these prioritized behaviors and what Nawiri could support to help facilitate them. This assessment looked at a constellation of factors at three levels: structural, social, and internal. This is a slightly condensed, simplified version of the 5 levels described in the SEM, to facilitate ease of use of the findings. The specific objectives of part 2 were to:

1. Map pathways to change for select priority behaviors, including the identification of factors impeding or motivating the practice of identified behaviors.
2. Identify feasible social/ community-oriented interventions (i.e., social change) that can be tested and iterated to complement identified facilitators and mitigate the barriers, by creating community environments more conducive to sustainable positive behavioral change.

The specific research questions of the SBC formative assessment were to understand:

1. What currently inhibits or would motivate improved uptake and practice of these priority behaviors among different key actors?
    a. What is the relationship between individual practice and social norms or collective actions?
    b. How is individual behavior affected by wider family (e.g., grandmother) and group or institutional interactions and influences?
2. What are the perceived community and structural level barriers to the adoption of positive behavioral practices that would address acute malnutrition?
    1. What are the preferred, trusted sources and channels of information for key target groups? At what possible times and places will target populations best be reached?
    2. Which feasible social/community-oriented interventions (i.e., social change oriented) can be tested and iterated to complement behavior change facilitators and mitigate the barriers?

Field Study Design and Methodology

Part 2 of the formative assessment utilized a cross-sectional study design and drew from a variety of participatory qualitative data collection approaches outlined below.

County stakeholder workshops: The main purpose of these meetings was to provide a participatory open platform for local leadership and responsible stakeholders, consisting of technical county staff, community leaders and targeted program participants and partners. In sessions prior to field work, these

workshops entailed contextual discussion, orientation to the process and field guides and mapping out study sites and target groups for the SBC analysis. In sessions held after field work was complete, the sessions included debriefing, presentation of initial findings and discussion of implications.

Focus Group Discussions (FGDs): A series of focus group discussions served as an opportunity to engage with homogeneous groups and explore dominant social norms in the communities around different desired behaviors. FGDs were conducted with household heads, community leaders and groups of mothers of children under five and pregnant women.

Key informant interviews (KIIs): The KIIs and the FGDs were conducted simultaneously, and we utilized the opportunity to expound and contextualize certain components arising from the data with key stakeholders. We conducted KIIs with mapped key target community influencers and gatekeepers, as identified in the county stakeholder workshops. These individuals consisted of community elders and religious leaders, mothers-in-law, facility health care providers, CHWs, health promotion officers, agriculture extension workers, social workers, and others. As the process unfolded, additional key informants were identified and added on, including specific community influencers and local traders.

Paired Interviews were conducted with target youth, adolescent mothers, young pregnant women, traders, and people with disabilities who would potentially have sensitivities in talking to external researchers. These were used to gather and probe in-depth issues around each respondent's experience, as well as to illuminate similarities and differences in experience, with specific related behaviors in depth.

Assessment Sample Size

The SBC Assessment utilized a cluster-based approach with purposive sampling that was informed by the desk study findings as well as county and subcounty meetings. The data was collected in all the subcounties in Isiolo County (Merti, Garbatulla and Isiolo central Subcounties) and Marsabit County. The county and subcounty stakeholders' engagement and consultation meetings of the behavior prioritization enabled the team to better plan and refine the sampling strategy for the sites and target audiences for the data collection. During early planning, the county and subcounty stakeholder meetings highlighted that within the hot-spot areas (areas of high malnutrition, there are also some "cold spots" and vice versa) and would be of value to visit these areas and gain better understanding of why this happens. The team had envisioned that this approach would aid in learning opportunities to analyze behaviors across the two different groups, especially within the same community setting, with the assumption that they are affected by similar social and environmental factors. It is important to note, however, that this assessment was not set up as a case/control study, but rather as an opportunity to explore in detail different contexts and different realities. In the end, findings from the assessment did not necessarily depict any clear differences in the areas selected, but rather highlighted the vulnerability of these communities in general.

The SBC assessment purposively selected individuals within these counties based on predetermined criteria such as caregivers with children under the age of 5 years, service providers linked to both nutrition specific and sensitive sectors. Appropriate community entry strategies to identify potential study participants to be recruited into the assessment were used. Just like the selection of sites, the richness of the information to be obtained from the assessment participants in terms of variety of cases and

experiences with the prioritized behaviors were used as the criteria for the recruitment of the study participants. The research team paid courtesy calls to various community gate keepers such as ward admins and chiefs in the communities they visited as part of entry points for this assessment. These are highlighted in the table below.

Table 1: SBC Formative Assessment sample size

	County-Stakeholder Workshops	Focus Group Discussions	Key Informant Interviews	Paired Interviews
Purpose	Planning, validation, analysis	Exploration of social factors	Triangulation of data; provision of context; deepened understanding of info from FGDs, including individual factors and broader enabling environment	Exploration of sensitive content
Achieved Sample	6 meetings held at beginning, during and end of process at county and subcounty levels	52 Focus groups with: Heads of HH, Community Leaders, Mothers of children under 5 years, Pregnant Women	42 interviews with identified community influencers and gatekeepers (elders, religious leaders, health care providers, CHVs), disease reporter, agriculture extension worker, fisheries ext. Worker, WASH officer, PHO, Nurse – MCH,	38 interviews with youth, adolescent mothers, younger pregnant women, people with disabilities, traders, boda-boda riders, traders

Data Collection Sites

Sites for data collection were sampled from the participatory process of identifying possible sites for data collection from the county and subcounty engagements during the prioritization and formative assessment planning in both counties.

We were able to visit these areas in both counties.

Figure 7: Sample data collection sites in Isiolo County

Figure 8: SBC FA data collection sites in Marsabit County

Due to the on-going COVID-19 precautionary measures, it was necessary to adapt the recruitment of participants as well as data collection methods, to adhere to national Ministry of Health COVID-19 prevention guidelines including social distancing, facilitating, and encouraging proper handwashing, distancing, wearing masks, and sanitizing during all study activities. During the initial desk review prioritization and county workshops we held sensitization sessions virtually through Microsoft Teams platform. During fieldwork, the team worked to ensure that the team adhered to the national MoH COVID-19 prevention guidelines. Though data collection was planned to commence in April 2021, county closures related to the deteriorating COVID-19 situation in the county delayed field work until June 2021.

Data Collection Tools

At the beginning of the program implementation, the SBC team developed and translated draft qualitative interview and observation guides for use in the field to capture data from the target audience for both the KIIs and the FGDs. These structured tools were used and pre-tested during the training to aid in refining them and ensuring that the flow and contextual meanings in the translations was appropriate. This was done in Borana/Gabbra, Turkana, Samburu, Dasanach and Rendille languages. They were then administered at community level. Informed consent was obtained from the target audiences before they responded to the questionnaire. The interviews were conducted in the local language, audio-recorded, transcribed and translated to English.

Training of Research Assistants and Piloting

The research assistants were recruited with a minimum requirement of an undergraduate university degree with relevant experience in qualitative data collection. Training of research assistants took four days and consisted of an introduction to the SBC formative assessment research objectives, efficient interviewing methods, field data management, and ethical issues to consider while collecting data. The SBC team also went through each element in the interview guides so that all research team members fully understood the research aims and methods and meaning of the components in the study tools. Time was spent on role-playing the interviews, with the research assistants taking turns to act as moderator, notetaker and study participants to ensure relevance and proper and logic flow of questions. Paper copies

of the tools were utilized during the training to ensure that the respondents understand reasons for asking each question and also to ensure that the flow and language including translation into Kiswahili and local languages including Borana, Samburu, Turkana, Rendille and Dasanach was done.

The piloting of the study tools was done using the paper copies that were refined during the training with a sample of the target audience including both the KIIs and FGDs target audiences. Any issues and lessons encountered /or learnt during this phase including logistics, issues with logic flow of the guides as well as questions in the guides were utilized to edit the tools as well as aid in planning and logistics for the actual data collection.

Management of Data Quality During Fieldwork

All the data collected during the fieldwork including the recordings of the interviews were collected by team supervisors backed up by submission of daily output reports from each research assistants on respondents approached as well as respondents interviewed. The recordings and accompanying interview notes by the notetakers were shared with the supervisors and central team of transcribers who listened to a sample of the recordings and gave feedback to the field team to ensure quality and consistency to prepare for transcription.

Ethical Issues and COVID-19 Regulations

Research assistants were trained to ensure that guidance on ethical conduct was clearly understood and implemented. The training included focused sessions and exercises regarding the meaning and process of informed consent, the importance of protecting the privacy of subjects, and confidentiality of the information obtained from them.

Informed consent: During data collection, interviews were only be conducted after obtaining informed consent from the study participants. Study participants were also informed that they have a right to withdraw from the research at any time provided and were also provided with information about the assessment before any consent to participate is sought. They were also be informed about the requirements for participating in the study. Participants received the following information:

- Aim of the study and methods to be utilized including recording of interviews using a handheld device.
- Institutional affiliations of the assessment.
- Potential risks, discomfort or burden study participation may entail.
- Anticipated benefits and compensation if any.
- Right to abstain from participating in the study, or to withdraw from it at any time, without reprisal.
- Measures to ensure confidentiality of information provided.
- Contact details of the assessments lead and Nawiri's accountability and feedback team for any questions or concerns.

Figure 9: Focus group discussion with young men in the community

Data Collection and Processing Team

As stated above, data was collected through KIIs, Paired interviews, IDIs and FGDs. All the interviews and discussions were recorded, and notes taken. The digital recordings were transcribed, translated, and typed in English. Transcription was done by a team of transcribers, who were selected based on a specified criterion through the Caritas team. Similar to the research assistants, they each had a minimum education qualification of a bachelor's degree, knowledge of the local languages where the assessment was conducted as well as knowledge of the local area and culture, the ability to translate local language to English and specifically for the transcribers was good typing skills. A total of 24 research assistants and 14 transcribers/translators were trained to transcribe the transcripts in a detailed verbatim style. During data collection,

Figure 10: Pairwise interview during data collection outside facility

target group/ individuals had a specific interview/discussion guide that was developed to collect group-specific information. Figure 9 and Figure 10 depicts some of the process of data collection.

Data Analysis

Analysis of textual data obtained from the transcripts of the audio recorded interviews was subjected to a stepwise approach of qualitative data analysis. The analysis began as data was obtained in the field on a daily basis through data reading to attain familiarity with the data and identify emergent themes outlined by the behavior profile. Topics that the research has not adequately addressed and ones that emerge unexpectedly were explored in continued fieldwork. Based on the factors deterring or facilitating each prioritized behavior, the team developed specific overarching strategies and context specific intervention strategies for enhancing the uptake of these prioritized behaviors as well as identifying central ideas for designing context specific messages that can effectively support campaigns for improving the uptake of the prioritized behaviors within the targeted populations.

The formative assessment analysis was guided by TMGs behavior profile framework that seeks to link actors and supporting actors' actions to foster an environment where change can take place at different levels in the society from institutions, the community, household and at the individual level. These provide an opportunity to map strategies that are logical pathways to change that consider the factors deterring or facilitating behavior uptake. Below we have highlighted the different variables in the behavior profile.

Behavior Profile

The Behavior profile developed by TMG was our guiding framework to allow the team to consolidate and outline the essential information about the behaviors that we have prioritized to address acute

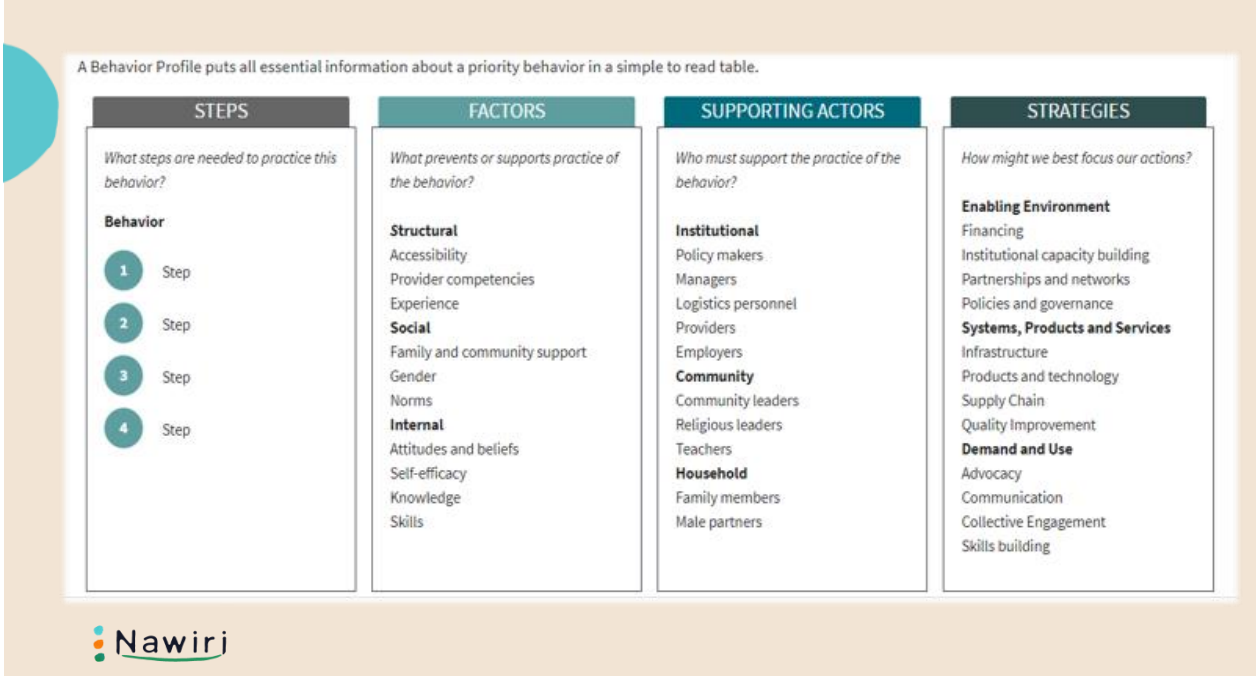


Figure 11: Behavior profile analytical framework

malnutrition in Nawiri into a table that will enable us to map strategic pathways to change. The figure below highlights the critical elements in factors, supporting actors and different strategies in the framework.

The definition of the factors and supporting actors as well as the specific questions asked to assess the relevance and importance of each can be found in Appendix 2.

Study Limitations

This assessment employed qualitative methodology for data collection and analysis, guided by the behavior framework. Due to its cross-sectional design, the assessment was not able to capture variations in behavior due to seasonality. Also, since it was qualitative in nature, there was the opportunity for deeper exploration of specific behavior-linked elements in both counties, to enable the team to propose possible strategies and interventions to facilitate change for prioritized behaviors. But the research could not provide information on the prevalence or extent of some of these issues or extrapolate the findings to all community groups in Isiolo and Marsabit. The next step involves the testing and iteration of proposed strategies, to guide how they are implemented in the communities concerned.

Findings and Discussion

County and Subcounty Consultations

The field work began with a series of county and subcounty consultations, events that proved critical in generating information, reviewing, and validating available data and information utilized during the desk review and prioritization phase. These sessions also informed the final targeting and sample frame for the formative data collection in both counties. One key highlight of the stakeholder workshop was the identification of study locations and community groups to be included in the formative assessment, including hot spots and cold spots for acute malnutrition. As described in the methodologies section, we collected data from communities with highest prevalence of acute malnutrition and vulnerable participants or groups most at risk of food insecurity, as well as healthier communities and households. This approach was to help ensure that the identification of participants, households and community groups that are both epidemiologically affected and not affected by acute malnutrition are represented. These groups are information rich sources for what/ why and how previous strategies intended to address acute malnutrition have or have not worked, including naïve communities that have not previously been affected by acute malnutrition, especially if within the same locality. A list of the identified hot spots and cold spots from both county level workshops are available in the sample. However, it is important to reiterate that this assessment is not a case/control study where direct comparisons can be made between two groups. Rather, we used the diversity of families sampled to ensure representation and understanding of different contexts and perspectives.

Key discussions from these consultative meetings also informed and shaped the analysis and understanding of the data we collected during the assessment. The county and subcounty MSP-N teams participated in review of the data after field work to assist the team in processing what had been gathered. This effort had the effect of creating buy-in and trust in the data process as well as understanding the complexity of changing behavior. Many participants highlighted their appreciation of the simplicity of the behavior profile framework that makes the “software not seen” behavior change seem doable and practical. The teams who both technically and administratively manage different components of leadership at policy and administrative levels at the community also agreed on some specific roles and responsibilities of each level of the community including being advocates for change in their current institutions. Some of these officials noted that the findings were unexpected and called for deeper engagement and co-creation guided by reflective data analysis and empathy.

School feeding programs (SFP) have often been utilized as a strategy to affect nutrition outcomes, but participants noted that it would be difficult to sustain such a program due to financial challenges. This note led to discussions more broadly on how we direct resources for intervention in cases where funding from government is a challenge. Participants noted the importance of inclusion of proposed strategies into county budget and planning.

Finally, many of the participants in these consultations acknowledged the deep importance of the specific culture of the ASAL regions to change, noting the importance of building off success. The majority of the factors and supporting actors presented to the county teams were not revelations, but the group noted

that the mapping of pathways to change was indicative of an inclusive and logic approach to contextualizing interventions that might work. The process also assisted in helping stakeholders map out roles of different sectors and offices in ensuring that there is both collaboration and accountability in reaching the goal. Several champions who highlighted change that has happened in their communities and their roles made public pledges to champion change towards Nawiri's goal as well, even recognizing the challenges that the goal presents. In particular, participants referenced success in changing what had previously seemed like intrenched or intractable issues, like FGM/C. For example, one of the county team members mentioned that he was already "an agent of change" in his community because he has not, like his many counterparts circumcised his girls even though he comes from a circumcising community. He spoke boldly and mentioned that at first the community members including his own mother were against him but then they still go to him secretly for advice. Other participants agreed and noted that there is always room for change with commitment and proper engagement.

A Day in The Life (Journey Map)

The focus group discussion portion of the field work began by mapping a day-in-the-life of the participants. This exercise creates an audience journey map that uses the typical day of the target audience from when they wake up in the morning, to when they go to bed at night and it is able to illustrate the times different members of society interact with each other, describe what they do during the day, and the opportunities for interventions including the individual time or interaction time for partner and community related activities. The benefit of this approach is establishing common ground and empathy between program planners and the target audience. To create these journey maps, participants were asked to give highlights of their typical days activities and share their responsibilities as regards daily routines and any income activities. This session opens participants up to discussing sometimes sensitive or complicated issues as well as allows us as program designers to use the information to best target interventions to the patterns of life. The timing and activities vary but seem to follow a similar journey:

> *"I wake up by 6:00 a.m., prepare breakfast for my children, I cook food for them, I also have a small business I sell my mbogas. I also fetch water for my home for cleaning and so on …. We also look after our animals. milk and water them because all those are income generating. Some women sell chips, others sale miraa during the day in between chores and cooking."* —FGD HHH in Barambate, Isiolo County
>
> *"The whole day, I am so busy but at 7:00 p.m.am free and that's the time I spend with my kids where we eat super together."* —FGD Caregiver CU5, Ilolo, Marsabit County
>
> *"I again go back to the bush to make charcoal for sale and that's at 3:00pm…. and the money that I get I buy food that we will eat during super. I return home at 4:00 p.m., I cook tea then I prepare food at 5:00 p.m., and serve it to the children and we eat our food at 6:00 p.m., after all that, I play with my kids until at 9:00 or 10:00 p.m., then we go to bed."* —FGD Caregiver CU5, Ilolo, Marsabit County
>
> *"The wife does all the household leaving livestock caring for the husband."* —FGD Young man, Sarima, Marsabit

The following diagrams depict the average day-in-the-life journey for a typical man and a typical woman in Nawiri communities.

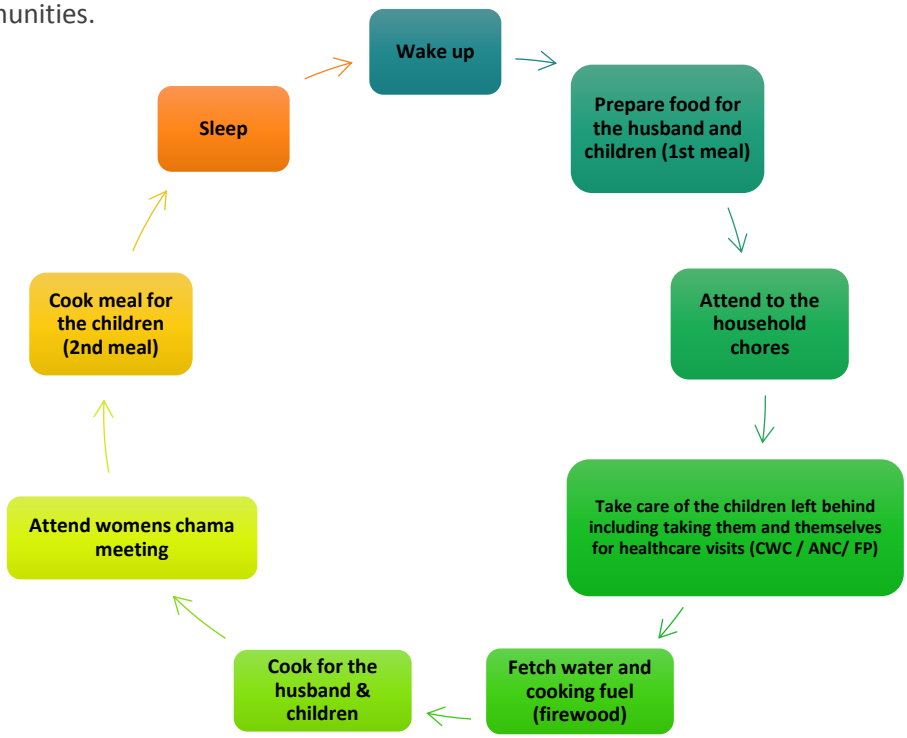


Figure 12:Typical day for women in the communities we visited

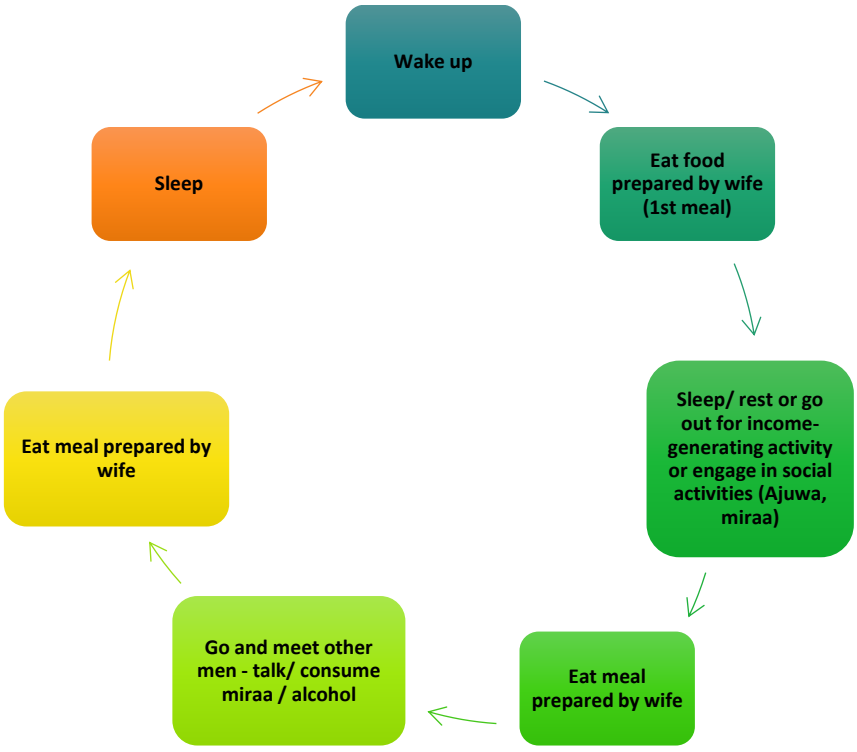


Figure 13: Typical day in the life of men in the communities we visited

These journeys were remarkably consistent, even across different areas of residence and religions. For almost all communities, men are away for long stretches of time. In the peri-urban areas, they return in the evening, while in rural areas, especially for the pastoralist communities, the men only come occasionally to the household and are frequently away catering to their livestock in the grazelands based on seasonality.

> *"We wake up at 4 a.m., pray morning prayer, prepare children for school, prepare them tea. I take the donkey to water. when I get back at noon, I prepare lunch for the school children. By 1 p.m. we have taken lunch, I go the forest to burn charcoal come back from there at 4pm. Sometimes the donkey gets lost, and I go look for it …. We all go through the same activities. We all wake up at 4 a.m. and do this chore throughout the day, the time we sleep is at 11 p.m. We never rest. We all face the same problems."*
> *—Awarsitu FGD Mothers in law, Isiolo County*

> *"I wake up at 6:00 p.m., I cook tea, then I tell my son to follow, the small goat and sheep remain at home, I take my jerrican to go and fetch water for sale and that's at 9:00 a.m., then return home at 10:00 p.m. I do this several times until at 11:00 p.m. where now I can cook food for my kids and that's at 12: 00 p.m. I stay with my children for one hour. After that one hour that I have spent it with my children, I again go to the bush to make charcoal for sale and that's at 3:00 p.m. I take my charcoal for sale and the money that I get I buy food that we will eat during supper. I then return home at 4:00 p.m., after coming back, I cook tea then I prepare food at 5:00 p.m. and serve it to the kids and we eat our food at 6:00 p.m. After all that, I play with my kids until at 9:00 or 10:00 p.m. then we go to bed."*
> *—FGD Mothers with CU5 Ilolo, Marsabit County*

Contextual Considerations

The early FGDs also revealed some important considerations for the rest of the data collection and subsequent implementation. In both counties, there is increasing urbanization, but particularly in Isiolo county this has led to new challenges along with access to bars, alcohol and miraa which are an income generating opportunity for some community members but have also contributed negatively in some instances to a reduction in dedicated time and resources for child and self-care especially amongst the care givers of children under five.

The majority of the physical access-related issues were more apparent in Marsabit which is sparsely populated as compared to Isiolo. These include access to basic needs such as food, water, and security. Access to health facilities as well as service providers for preventive, promotive and curative services was also vivid.

In both areas, with shifting livelihoods and drought related needs, there is an increasing and continued need to leave the primary home in search of pasture for the livestock as well as other livelihood related activities including charcoal production hence the decision maker (majority being male headed households) or the children's caregivers are often not present to ensure children feed as desired.

> "In the family responsibilities are being shared differently, as people from Loiyangalani, others are pastoralist, some use to sell firewood and others are businesspeople…. Fishing is the most practiced activity." *—FGD Community leaders Loiyangalani*

> *"The first challenge is, since we are pastoralists, the person you teach today to you cannot be able to find him. He has already moved with his animals to a far place in search of pasture and water. And at level it's very hard to get everybody in the village, some went to fetch water while other firewood among other." —Sarima KII Religious leader, Catholic catechist*

> *"When you move out from your residence, it is difficult to practice farming so as to get the food that you require. So, you do not get the time to practice farming. That means one can't get the food that is required." —Dafarsa PW young men*

> *"Yes, women this day fend for their family just like the fathers, so when the father takes the animals for grazing, I find a way to make a living since the animals we have are few, so we burn charcoal for survival." —Awarsitu FGD, Mothers in law*

Nutrition and food are nestled within cultural tension between tradition and modernization—what to eat, how often to eat, traditional foods vs convenience foods, time required to prepare food, caregiver time and attention to feeding. All in all, life is overall challenging in these areas and change can feel difficult and risky—for families on the edge, value of new practices must be extremely compelling. Thus, how, and where we position our strategies either in the strategic development of systems, products, services or approaches for demand creation is key.

The rest of the analysis in this report is presented by the identified priority behaviors, but against this complicated backdrop.

Thematic Bundles for Analysis

To facilitate analysis of the data, we categorized the priority behaviors into six thematic bundles as highlighted in the table below. The findings are presented according to these six groupings.

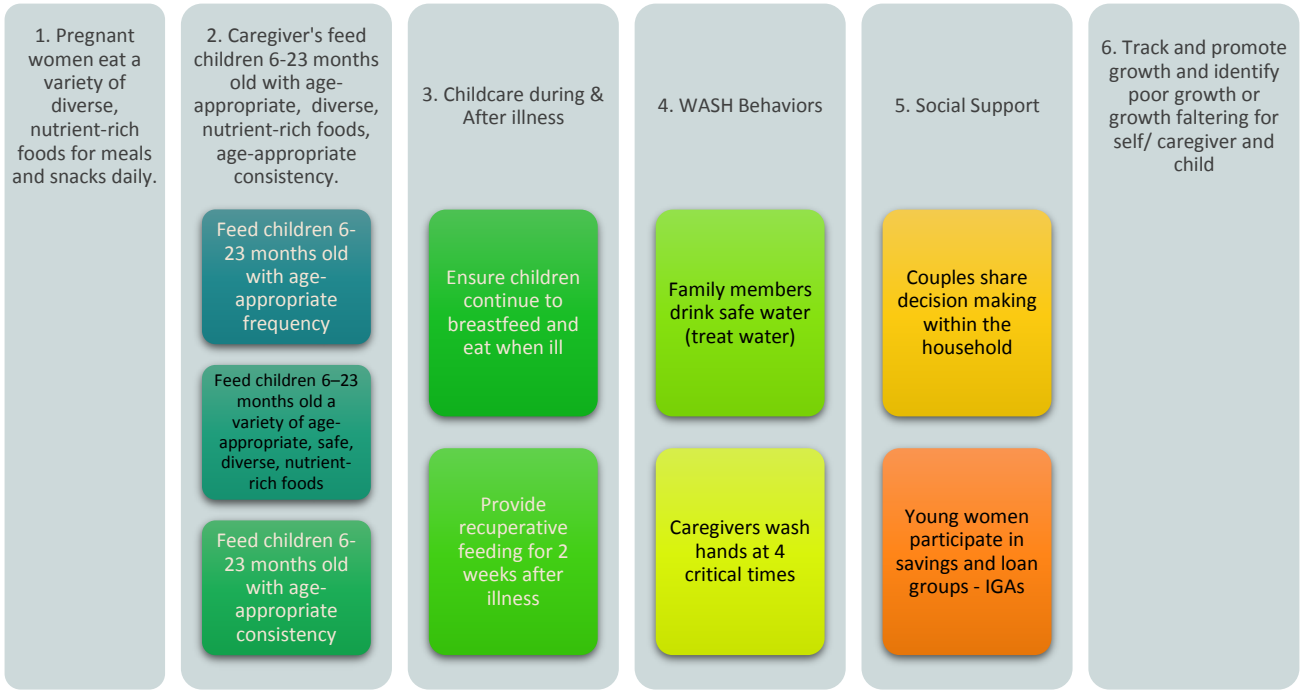


Figure 14: Thematic Behavioral bundles for analysis

Bundle 1: Diet and Care During Pregnancy

Although the scope of potential behaviors during the pregnancy period is vast, the focus for Nawiri, per the prioritization exercise, was narrowed down to ensuring women were consuming sufficient quantity of foods during her pregnancy. For any woman to do this, the following represent the steps that would lead to that practice. These steps can help us better break apart the behavior to identify where challenges or motivations might exist for women and their families.

1. Obtain sufficient quantities of nutritious foods (such as animal-source foods and fruits and vegetables, for daily use) for a pregnant diet, so they are in the home for meal or snack preparation.
2. Prepare meals and snacks of an adequate quantity, about the equivalent of an extra meal over the course of the day compared to normal routine.
3. Eat meals and snacks at least four times a day.
4. Manage nausea and indigestion by eating smaller amounts more frequently.

The behavior below profile below summarizes the findings for this bundle into a pathway to change, highlighting the relevant factors we found, the key supporting actors and high-level ideas on strategies that could be used to address those actors.

Outcome: Pregnant women eat a variety of nutrient-rich foods for meals and snacks daily

STEPS	FACTORS	SUPPORTING ACTORS	STRATEGIES
What steps are needed to practice this behavior?	***What prevents or supports practice of the behavior?***	***Who must support the practice of the behavior?***	***How might we best focus our actions?***
1. Obtain sufficient quantities of nutritious foods (such as animal-source foods and fruits and vegetables, for daily use) for a pregnant diet, so they are in the home for meal or snack preparation. 2. Prepare meals and snacks of an adequate quantity, about the equivalent of an extra meal over the course of the day compared to normal routine. 3. Eat meals and snacks at least 4 times a day. 4. Manage nausea and indigestion by eating smaller amounts more frequently.	**Structural** • Families often ration food, due to high costs of nutritious foods. • Families often cook "just enough" making snacks hard to come by. • Cycle of debt caused by needing to travel far to sell products like fish or firewood and delay in income. • Ongoing security issues due to inter-community clashes impacts. **Social** • Pregnancy considered normal, especially after first pregnancy, therefore no special attention paid to diet. • Many community members hold traditional beliefs on what pregnant women should eat (no fatty food, e.g.) and how that will affect baby growth. • Prevalent misperception of the relationship between food consumption and a healthy pregnancy/delivery persists. **Internal** • High level of knowledge on importance of diversity in pregnancy, including need for additional iron-rich foods. • Pregnant women, especially young women, prepare a limited number of foods.	➢ Traditional Birth Attendants remain a trusted source of care and information during pregnancy should emphasize particular vulnerability of pregnant women and encourage increased quantity and diversity of food during pregnancy. ➢ Mothers in law offer advice to son and daughter in law as a couple on how to thrive as a family. ➢ Local peer counsellors and trainers in the community conduct training sessions on food preparation. ➢ Male partners, who are not always physically present but almost always control resource allocation, should ensure families have sufficient resources for food while they are away.	➢ Focus on quantity and food storage in between meals for availability of snacks. ➢ Identify opportunities to enhance grain staples with fat and protein. ➢ Support women to create pregnancy and post-partum kitchen or "care/medicine" gardens with rapid, easy-to-grow foods like green leafy vegetables to supplement available food from market and reduce need to travel. ➢ Identify opportunities for men to display wealth via means other than number of animals.

Figure 15: Behavior profile for diet and care during pregnancy

In both Marsabit and Isiolo counties, pregnant women are not necessarily considered a vulnerable population. Pregnancy is considered a natural condition, and thus not much consideration is given in terms of attending to household chores or self and nutritional care.

In Marsabit, the majority of the respondents mentioned that it is only first-time pregnancies that make women vulnerable as the ones who have had previous pregnancies have had experience and it is normal.

"Those who are first timers are given special attention, because they are selective in food consumption, they are perceived to be weak if not taken care of."

"Craving is high in first timers compared to those mothers who gave birth before."

"They should be provided with the food that they crave for otherwise they will be weak, as they will vomit regularly." —Respondent, Household head FGD, Kituruni ward

In parts of Laisamis Subcounty, a majority of the groups reported a high level of knowledge on nutritional requirements during pregnancy and an understanding, willingness, and the ability to consume additional food during the pregnancy period. In Kituruni ward, the female respondents reported that the pregnant women need iron in their bodies and the women tried to eat goat meat, blood, liver, fruits, vegetables such as kales, spinach, beans to cater for this requirement. This was the same in Comboni ward as well as Sambamba wards. It was also mentioned that though the communities living in Loiyangalani were not consumers of fish, this has started changing and they are slowly beginning to consume it though it is not one of their staple meals.

"When a woman is pregnant, she needs special care and be feed with special types of foods such as milk, eggs and honey." —Respondent, Household head FGD, Kituruni ward

"The pregnant women should not be given fatty foods." —Respondent, Community leaders FGD, Sambamba ward

Though many reported knowledge on these dietary requirements, the major factor to consumption of these foods was sporadic access to these products in the markets (depending on market days) and the financial resources of the household which dictates purchasing power on the specific market day when the food was available. For most, then, diet consists mainly of starch including rice, pasta and cornmeal. In Sarima ward and other areas, they mentioned that the food prices are very expensive because they come from far and during the rainy season accessing the area is hard due to poor roads. Some practice food rationing or cook what is enough to avoid waste.

"They cannot eat the food they used to, it is sometimes not there, or they don't have money they are supposed to eat soft food like beans and if they don't get such foods, they will get malnourished. They may lack blood sometimes, there is no hospital around we are taken to a different town for medication, you will find one may get complications on the way to this hospital." —Awarsitu FGD, Mothers in law

"Some pregnant due to lack of resources may have one meal in a day and that is a problem, some do not have appetite for food, so it becomes a problem." —Wallote FGD, Mothers CU5

"There is no special food for pregnant women, they will eat what is available for others as it is not enough …. If you have enough, they are supposed to eat a nutritious food like beans, kales, and fruits, but if you don't have there is nothing you can do." —Awarsitu FGD, Mothers in law

It is important to note that there were also persistent misperceptions about the kinds and amount of food a pregnant woman should consume. Many participants noted that pregnant women should eat less or avoid specific foods.

> "Pregnant women should not consume food at all even if it is available so as to handle nausea." *FGD, Men community members, Lioyangalani*

> Pregnant women should not eat eggs, milk should be mixed with water so that it does not make the child grow big……it will give the lady complications during delivery" FGD pregnant women, Maikona

> "Yes. She is not supposed to do blended avocado…. It will make the baby overgrow in the stomach, not so?" *Bulesa Box PW men community leaders*

In terms of quantity of food, in most of the wards visited, majority of the households reported consuming only one or two meals in a day, which is not differentiated for the pregnant women. For most it is either two meals (lunch and dinner) or one meal. These resources are money to buy food which depends on the kind of business one is doing e.g., since women sell milk which goes at 10shs per cup, this isn't enough to buy the food they prefer. This poverty levels also lead to malnutrition.

> *"Pregnant women require a lot of nutrients in the body hence need to be treated different but the provide is, you cannot afford to acquire these foods with nutrients so your forced to take milk mix with water only, eat foods that increase blood like liver for those who have something to buy with." — Respondent, Women with CU5 FGD, Sambamba ward*

In Loiyangalani, the main source of income is the fish business, selling firewood, miraa and pastoralism (Sarima). However, when the fish is sold outside like in Busia, Kisumu or Nairobi access to money is delayed leading to the household having many debts and no timely access to funds to buy a variety of foods.

Security is also an issue and the majority of the time it is due to inter-community clashes; it affects these businesses and trader who ferry the fruits and vegetables required in the community and therefore this affects household access to the other nutritious foods. It also affects the time some community members are able to engage in income generating activities and consumption of their meals.

> *"In Moite, we eat the evening meal early because of insecurity, you never know what will happen" —Community leaders, FGD*

Although antenatal care attendance is not a priority behavior itself, it is a platform through which Nawiri might be able to access and engage pregnant women. As such, we explored participant's experiences with ANC. For most women, distance to clinics was highlighted as a major factor that hinders utilization of ANC. Other factors mentioned that hindered utilization include a lack of providers (nurses) at the facility in Loiyangalani and Moite. These factors point to a need for increased community-based services and support during pregnancy, including, potentially, more formally engaging TBAs. Many women noted a reliance on TBAs for both knowledge sharing as well as the social dynamic that TBAs, who are often well-known members of the community, offer to families.

Though there is some increase in male partner support for pregnant women, mainly during the first pregnancy, like in Sarima and Maikona, the men, by and large across all communities, do not offer their partner any additional support during pregnancy. For pastoralist communities like in North Horr and Laisamis amongst the Gabbra, Borana communities in Maikona, Toricha, Kituruni, Bori and Torbi, the men are rarely in their households. The men usually stay away with the animals and only come back to the households when they get news of the delivery of the child. Since they are the main providers, access to foods by the pregnant women is an issue.

> *"The fact that we are pastoralists means that our people move from one place to the other with the animals so when trainings on how to reduce acute malnutrition are conducted most of them are not available." —KII religious leader, Kituruni*

> *"The first challenges are since we are pastoralist the person you teach today to you cannot be able to find him. He has already moved with his animals to a far place in search of pasture and water. And at level it's very hard to get everybody in the village, some went to fetch water while other firewood among other." —Sarima KII Religious leader,* Catholic catechist

All of these findings were consistent between hot spots and cold spots, which correlates with the fact that the majority of malnutrition starts closer to six months, rather than at birth, meaning the mother's diet during pregnancy is unlikely to directly impact it. However, her own diet and efficacy in establishing a routine during pregnancy is critical to setting up appropriate feeding for her young child. To facilitate a woman practicing this behavior, then, Nawiri should emphasize consumption of smaller amounts of nutritious foods to help manage nausea, noting that food consumption does not lead to "too big" babies at all. Since men are not often around to support their pregnant partners during the day, providers and/or community practitioners should engage those peer and family supports the mother does have, like mothers in law, mothers of the pregnant women and elder / younger siblings and daughters who are with them in the household or move in to support them during this time. Strategies will include *working with h*ealth service providers-training the expectant mother on food groups, demonstration on food preparation, preservation, and utilization, they do early diagnosis and treatment, provision of IFAS, taking ANC profiles of pregnant mothers, do referral to health facilities and follow-up.

Bundle 2: Appropriate Feeding of Children

This bundle consists of three specific behaviors, encompassing quantity, quality and frequency of feeding children. They are:

- Feed children 6-23 months old with age-appropriate frequency.
- Feed children 6–23 months old a variety of age-appropriate, safe, diverse, nutrient-rich foods.
- Feed children 6-23 months old with age-appropriate consistency.

The steps necessary for a family to carry out these behaviors are:

1. Introduce semi-solid food, complementary to breast milk when the baby is 6 months of age.
2. Obtain enough food for the child's needs, so it is in the home for meal or snack preparation.
3. Decide on the time and way that food will be made available for the child, even if the family is not eating.
4. Offer the child food the appropriate number of times per day based on age.
5. Prepare and feed meals and snacks of an adequate quantity based on age.
6. Offer food that is of an age-appropriate consistency, such as thick puree, mashed food, or small pieces rather than liquids like soups or drinkable porridge.
7. Offer the child food in his or her own bowl or plate.
8. After 6 months, offer breast milk enough in advance or following meals and at night to not hinder the child learning to eat food.

We have chosen to combine the presentation of findings for these three behaviors for ease of programmatic action, given that the factors influencing practice of these three behaviors in Nawiri's counties were very similar.

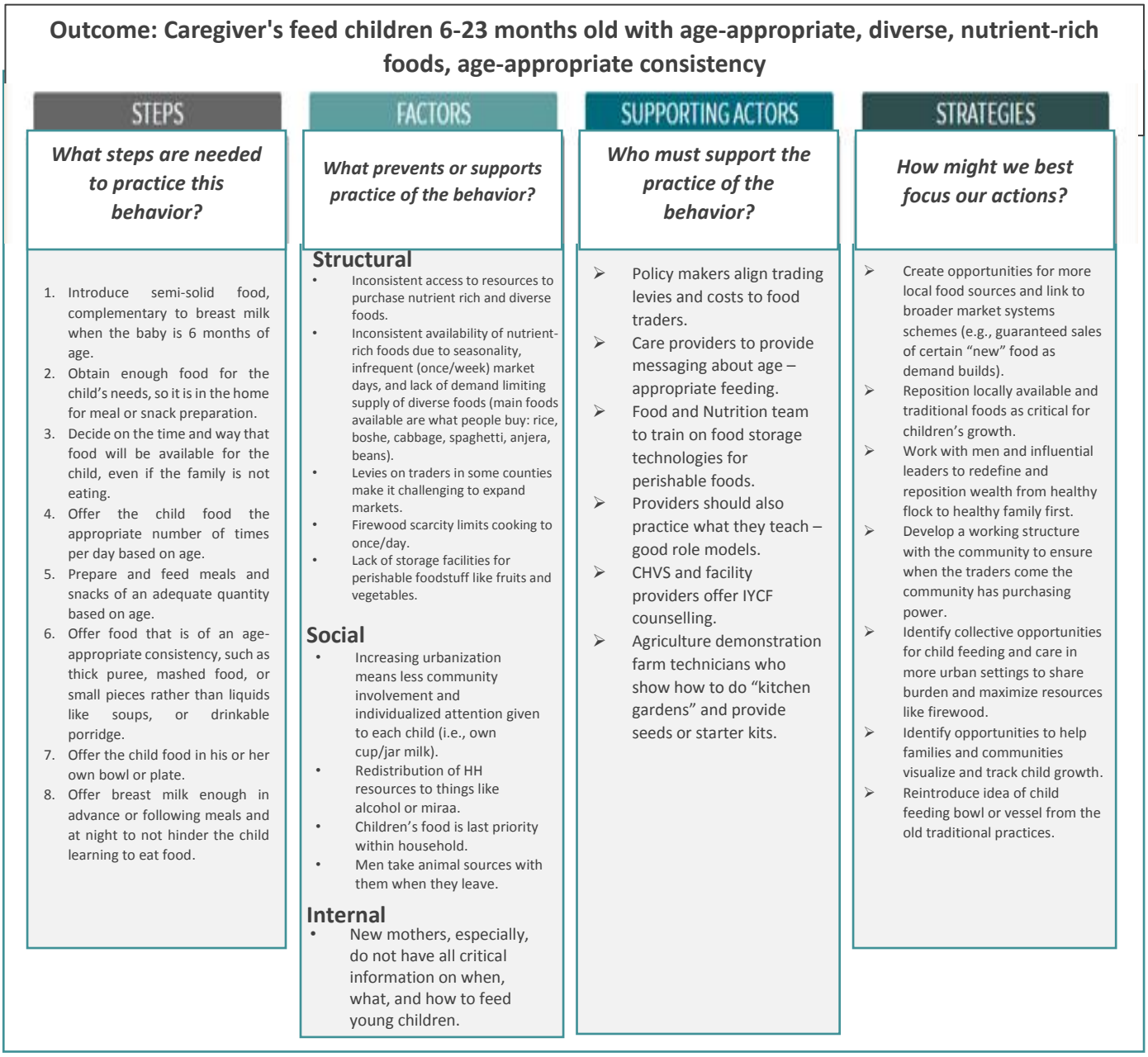


Figure 16: Behavior profile for appropriate feeding of children

By and large, consistent access to foods as well as resources available to prepare additional or separate meals for young children inhibited most families from consistent practice of these behaviors. The following behavior profile summarizes the findings.

In a majority of the areas, children ate what the adults ate, depending on their ages. Families also report a high-level of knowledge on what children should be consuming, noting that children who are 6-8 months eat porridge, animal milk, mashed potatoes, rice, pumpkin, and spinach three times a day. Children who are 9-12 months old should eat milk, fruits, porridge, rice, potato, beans four times a day. And 12-23-month-old children are given nutritious, porridge, milk avocado, rice, mashed potatoes, animal milk, and they eat a full plate. However, when probed about the realities of actually feeding their children in this way every day, factors emerged. For the vast majority of families, they simply do not have sufficient foods on hand every day, as their ability to buy food is dependent on the success of an individual day's income-generating activity. This instability leads to issues with prioritization of the little resources that they have in the family to purchase of foods for the household as well as the utilization of the stored dry foodstuffs (rice, corn and beans) in the households, sometimes they consume a lot at the beginning of the month, time they have been left by the fathers and they as time goes, they need to ration the food more with the growing needs of the children in the house. The lack of a stable income was a deterring factor to purchase nutritious foods as their income generating activities are not consistent and are also heavily dependent on purchasing power of the community at large as they are the target market.

> *"In Comboni, the community doesn't haven't stable income to buy for their children food due to them depending on casual jobs e.g., collecting sand, collecting firewood for sale, burning charcoal."*

> *"The prices of the foodstuff are very high and thus difficult to get stock. Even when we get the stock, we might not even have a return on the capital invested in it. This is because most of the members of this community are people who rely on livestock farming and thus not stable. That means the people will take the items on credit and fail to pay. In a bid to turn around the business, we spend a lot of money in buying new stock again. These are the challenges that we face." —PW traders in Saletii, Isiolo*

> *"Low purchasing power in Kiturini contributes to lack of food stuffs and this is brought about by more social time so the little income the community gets use it to purchase drugs like miraa instead of buying food stuffs for the household." —Community leaders, FGD Kituruni, Marsabit*

In majority of the sites, we visited with the exception of only a few places, caregivers do not feed their children diverse diets because many nutrient rich foods are only available seasonally. This was across the board both in Isiolo and Marsabit counties, the children eat what is available in the household.

> "We cook the same food, so if I have cooked something they all take the same food." *—Pairwise Young women, Manyatta Funan, Merti subcounty"*

Caregivers lack nutrient rich foods available for children because markets selling nutrient rich foods are too far away to visit regularly.

> "We are only the maize, or the rice cook two times, only lunch and supper, and sometimes the supper may not be enough, we eat only lunch, and whatever remains we give to the children for supper." *—Awarsitu, Mothers In law FGD*

Many participants also noted that the change of livelihood to a more sedentary lifestyle has led to malnutrition among children because of the time these livestock are not at home hence the important nutrients gotten from animal products like milk and meat are not readily available.

> "The milk is not available because the animals have gone to "fora" with the men, and we are left here with only the animal (goat) that was slaughtered and the rice and pasta bought by their father." *—Maikona FGD, women with CU5*

> "We can only buy vegetables when they bring them to the market, when they do not bring, we just eat the rice and maize." *—Awarsitu- Isiolo, Men FGD*

> "No, they don't eat same amount of food…. Respondent: elder people eat more food than children." *—FGD Women with CU5, Ilolo*

> "The parents should provide food. If there is some food in the house, then that means that the children will have something to eat. There are times when both the mother and the child are all underweight." *—Dafarsa PW young men*

The traders who support the availability of foodstuffs in the areas also face challenges in sustaining their businesses, due to the fluctuation of demand, and hence increasing access of nutritious foods in the community.

> *"The prices of the foodstuff are very high and thus difficult to get stock. Even when we get the stock, we might not even have a return on the capital invested in it. This is because most of the members of this community are people who rely on livestock farming and thus not stable. That means the people will take the items on credit and fail to pay. In a bid to turn around the business, we spend a lot of money in buying new stock again. These are the challenges that we face." —PW traders in Saletii.*

In addition, most of the fresh produce is also quite perishable and the lack of storage facilities in these households leads to wastage of the bought produce from the market days and hence reduces the amount purchased, creating an ongoing cycle of disincentives for families to spend scarce resources on those items.

Some of the household resources are usually utilized for non-priority uses that are not necessarily linked to nutrition of the children, such issues such as purchase and consumption of drugs like miraa and alcohol are given priority over purchase of nutritious foods for the household. This was a practice that was not only highlighted for the men but also engaged with by the women in the community. This also takes the time away from the caregivers spending time to care for their children who require them to ensure they feed on time and with the appropriate foods.

> *"Low purchasing power in Kiturini contributes to lack of food stuffs and this is brought about by more social time so the little income the community gets use it to purchase drugs like miraa instead of buying food stuffs for the household." —Community leaders, FGD Kituruni*

"Malnutrition will continue because people don't have money to buy things the only option is when there is rain but for now it is drought and people use to buy this cream milk and use and the ones without money will not be able to purchase" —Bulesa Box KII Religious leader

There is reliance on non-nutrient dense foods in the communities in Isiolo and Marsabit for the children's meals and snacks that do not require a lot of preparation including the availability of commodities such as powdered milk, cereal, biscuits and anjera, a type of bread, which is sold to them in centers. The mothers and caregivers who have access to such commodities often describe their objective as the child getting full rather than considering their nutrient requirements.

*"They just eat carbohydrates**. unga**, is the only food available at their place because their price is low." —FGD Community leaders Loiyangalani*

While health facilities do offer nutrition counseling and education, including livestock management and gardening/crop planting, there are challenges to community members believing the message. Often, participants noted that they do not trust providers because they feel that providers do not practice what they tell them to do because they see the providers in the markets also buying the same non- nutritious foods for their children to eat.

"In my community, I see the CHV and the nurses' children just eating what our children eat, there is no difference, they also just eat two meals like ours who we live with."
—Women FGD respondent Wallote, Isiolo

Bundle 3: Care and Feeding During and After Illness

The steps identified for this behavior are:

1. Infants 0-6 months: Do not give other fluids, except prescribed medicines.
2. Children 6-23 months: Give one additional meal and provide foods with high energy and nutrient density each day for two weeks following the illness.
3. Children 6-23 months: Feed child in a responsive manner.
4. Children 6-23 months: continue to provide zinc supplementation/therapeutic feeding according to the instructions given.

Given the prevalence of childhood illness reported in Nawiri's target communities, in some cases up to 30% of children at any time have been recently ill, per the SMART surveys, this behavior is one of the most likely to have a massive impact on the target outcome of reducing GAM. Although many of the participants were very familiar with signs and symptoms of different illnesses, when to seek care for those issues, and even the clinical protocol for treatment, almost none recognized the impact that recurrent, nearly chronic illness could have on nutrition and child growth, nor the idea that a child needs to "catch up" nutritionally after an episode of illness. The behavior profile below presents the specific factors relating to this practice and identifies some possible opportunities for facilitating change.

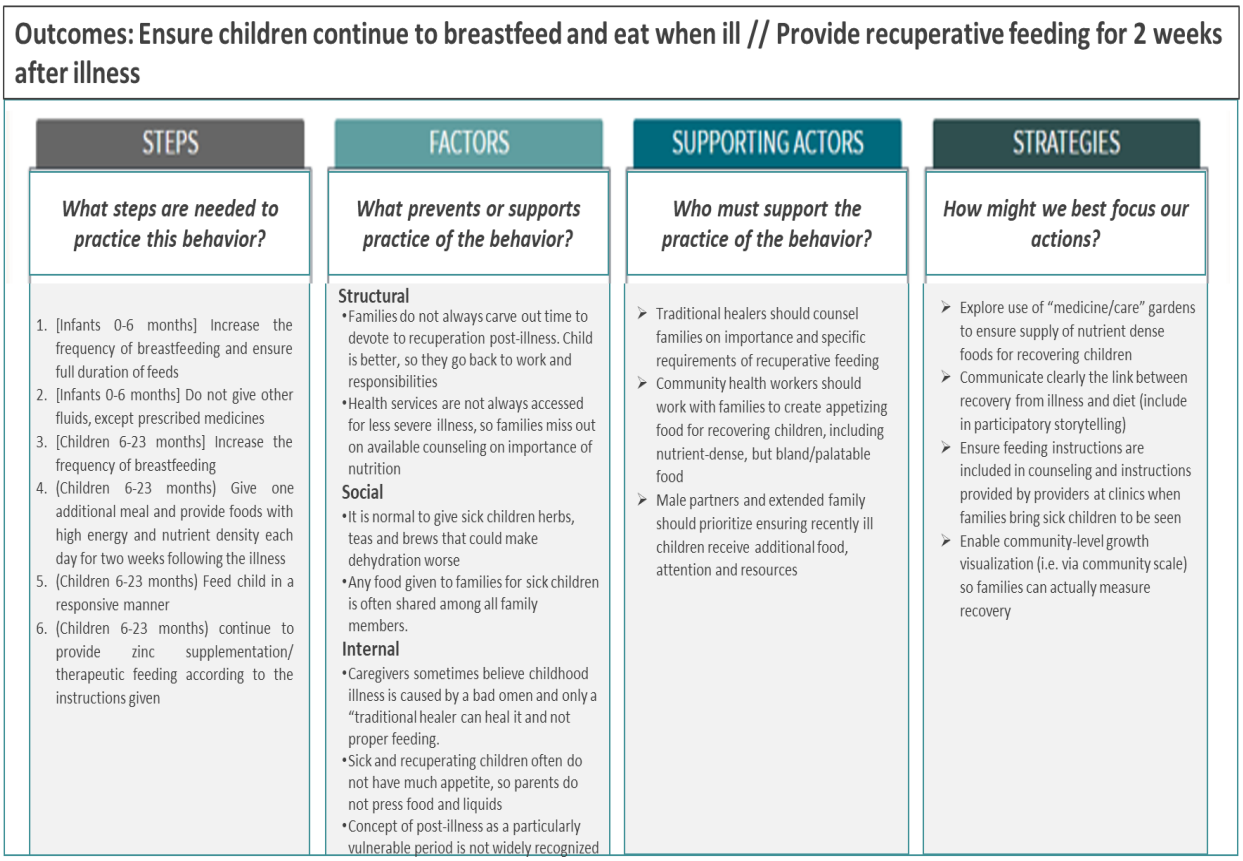


Figure 17: Behavior profile for feeding during and after illness

When asked about the prevalent diseases that cause acute malnutrition in the communities, study participants mentioned the majority of the illnesses mentioned that affect children. In both Marsabit and Isiolo, they mentioned pneumonia, malaria, diarrhea, cough, and eye problems. The community also highlighted their understanding of the major causes of these illnesses, noting that they believed pneumonia is due to coldness. In areas such as Balla, diarrhea and common cold were some of the diseases mentioned to cause acute malnutrition. In Sambamba areas, the morbidities mentioned were diarrhea due to poor hygienic practices, kwashiorkor, common cold, malaria, pneumonia.

> *"There is Kalazar. It makes the children get weak and their stomachs swollen. It also makes the children diarrhea…….."* Saleti PW Traders.

In Loiyangalani, diarrhea and vomiting, typhoid, malaria, pneumonia, cholera, flu were also mentioned to cause acute malnutrition, but the concept of recuperative feeding or the idea that families could stave off some of that effect was not clear.

It was clear, however, that most know they *should* seek care in a facility, or that was the expected answer, but available funds and distance often delayed care seeking. In addition, the health facility at in most sites visited in Marsabit are not well equipped hence the sick cases of children are mostly referred to either Marsabit or Meru General which is a quite a distance. Some lack electricity and thus cannot offer services late at night. Still other families noted that they prefer the insight and perceived expertise of traditional

healers for sick children. Further, it seems that for all instances of care, whether in a facility or via traditional healer, recuperative feeding and nutrition is not often a part of the discussion with families.

> *"When a child gets sick, taking him/her to the hospital is a challenge due to lack of capacity in Kituruni ward."*
>
> *"Some mothers lack money to take their children to the hospital or even the NHIF which caters for the expenses at the hospital."*
>
> *"Mothers at Sarima lack transport to take the children to the hospital."*
>
> *"In Moite, there is no means of transport within hence the community hires vehicle or a boat to seek medical attention for those who are able."*
>
> *"The facilities at Loiyangalani lack electricity." —FGD community leaders Loiyangalani*
>
> *"Mothers here have taken their child to the facility, and they did not get well, very many times, now they just went to Mama, the child was cut at the gums and the children get well, even us we have done that, and it works" —CHV FGD in Laisamis*
>
> *"When children are sick in Kituruni ward they cry a lot and have fever and those 0-6 months are not given any fluids but just breastfed while the others are given fruits and liquid foods and they get better, we should just do what works." —FGD mothers of CU5, Toricha, North-Horr*
>
> *"Usually when you take the child to the hospital where they are given painkillers and Piriton. Others treat them with traditional herbs which are locally available." — PW, Women Leaders, Goda Isiolo*

The majority of the children in Isiolo and Marsabit were offered less breast milk during the last time the child was ill. The same was true for the amount of non-breast milk liquids as sick children were offered less amounts than usual. Similarly, the majority of the sick children were fed less food during illness than normal times. The major reason cited for this was that the children did not want the food or the liquids because of lack of appetite.

Another challenge that came up often is that many families struggle with needing to take time away from income-generating activities to care for a sick child. They weigh how sick the child really is, and whether the attention is necessary. And certainly, once a child has recovered from an acute bout of illness, families are not often in a position to dedicate extra time to that child's recuperation. These were similar sentiments across different target audience groups as well as in the different communities in the sub counties.

> *"We are stressed up. We may be disturbed and be forced to abandon our livelihood in order to give attention to the child. As such we may leave our places of work and provide care for the child. This adversely affects the family's income." — FGD Mothers, Isiolo*
>
> *"They just go to look for fish to sell so as to get a source of income." — CHV in Loiyangalani*

It should be noted that it was hard for many participants to separate out these particular behaviors (breastfeeding during illness and recuperative feeding) from preventing illness in the first place and/or seeking care. Many participants veered into discussions of ITN use, hygiene, water consumption, and their impact on illness. This should not be negated, by any means, but the concept of food and post-illness feeding should be added into the mix, empowering families with something they can actually do. To that end, Nawiri must link what works, like the use of experienced mothers (Female community influencers) supporting other mothers in their community, to empower families to realize the effect recurrent illness is having on their children and what they can do to reduce that effect. Nawiri should also work with providers to close the loop on the continuum of care by ensuring that recuperative feeding and feeding during illness as much as possible is incorporated into the prescription or advice given families who do seek care.

There is also a need to build the self-efficacy of caregivers. Often, women in these communities are either subject to decisions by their partner/husband or their husband's mother. These grandmothers often have extensive power and say over what goes on in the household, even sometimes recommending divorce to their son if they are unhappy with the daughter-in-law. Nawiri should carefully consider how to engage this cadre of influencers in supporting the primary caregiver. Along the same lines, Nawiri needs to ensure its approach is ultimately empowering and positive. Some caregivers expressed a worry that if they consider their own ability to impact their child's health, any illness or issue could result in self-blame and judgement from others, resulting in depression. This is an extremely sensitive area and strategies must be carefully explored and developed together with communities, to avoid any unintended consequences. Participants mentioned that there were practices and approaches from "olden days" that had worked that could be brought back, such as having a glass or jar of milk assigned to each child, each day to ensure they get sufficient nutrients.

Bundle 4: Wash

There are two behaviors linked to WASH behaviors including:

1. Family members drink safe water (treat water).
2. Caregivers wash hands at 4 critical times.

We have presented the summary findings of the WASH related behaviors in the profile below.

Outcomes: Family members drink safe water (treat water) //Caregivers wash hands at 4 critical times

STEPS	FACTORS	SUPPORTING ACTORS	STRATEGIES
What steps are needed to practice this behavior?	***What prevents or supports practice of the behavior?***	***Who must support the practice of the behavior?***	***How might we best focus our actions?***
1. Family members drink safe water (treat water) 2. Caregivers wash hands at 4 critical times *Note, we also collected information on sanitation and waste disposal. Will be included in final report*	**Structural** •Access to water itself is a challenge in many villages; clean water is a challenge everywhere (treatment kits are $$, boiling takes scarce firewood and storage containers are not always available •Even where water is available, it is scarce and soap is even harder to find •For families that are mobile, carrying water for handwashing is impractical **Social** •Washing hands is normative before meals because of religious influences, but not as common during other times •Public installation of HW stations during COVID did increase practices somewhat, but these facilities are not regularly used because they are inconveniently located for washing hands multiple times/day, and because no one has the responsibility to refill the station with water or soap **Internal** •Knowledge on handwashing at critical times is high •Link between handwashing and childhood illness is not always understood by everyone	➢ Extended family members and male partners should support primary caregiver in prioritizing clean water through boiling or treatment for young children and pregnant women ➢ Community leaders should advocate for source-treated water	➢ Explore community use of simple water testing kits by community leaders to allow communities to understand quality of water from different sources and advocate for systemic improvements ➢ Conduct community-level demonstrations to illustrate that even clear water can be unsafe for vulnerable to drink ➢ Train community members to make soap/ retail soap as an IGA ➢ Utilize the ECD centers to train teachers to impart knowledge to the children on handwashing practices including at the household level ➢ Create governance committees for management of communal handwashing stations (potentially link to water treatment) ➢ Create nudges to use of communal handwashing stations (i.e. mirrors at sites) ➢ Explore creation of mini-handwashing stations that can be attached to transit structures (donkey cart/ slats)

Figure 18: Behavior profile for WASH

Access to water was described as the most critical factor influencing both of these behaviors in this bundle. Although the source of water varies in the different counties and areas we visited, the notion of water as a precious and scarce resource did not. In Isiolo county, especially in the peri-urban and some parts of the rural areas, the population relies on piped water for household consumption and majority of the respondents mentioned other sources including boreholes or protected springs or shallow well. Only in a few places mentioned getting their water from rivers and springs and unprotected shallow wells. In Marsabit county this was slightly different with only a few places

Figure 19: Watering point serving humans and animals in Marsabit County- Kambi Boji

mentioning getting piped water and majority highlighted accessing water from boreholes, surface water and water trucks to water kiosks. This is supported by some of the quotes from the respondents during the survey. During field visits and data collection activities, one is highly likely to see both children and adults rolling jerricans from water sources as they transport them to and from the water sources to their households which might be a possible source of contamination. The sources of water serve both human beings and animals as well as other activities including washing of clothes and bathing. Securing sufficient water is a primary task for almost all families each day.

> *"Isiolo county, especially in the peri-urban and some parts of the rural areas, the population relies on piped water for household consumption, (relying on the municipal system to ensure drinking safety)."*
> *—KII CHW, Ngaremara*

> *"Some villages like Dikilkimat, have no water they fetch their water in school, in Nawoitorong village the water used is from the lake which is saltier and also water from their taps is salty and it is not treated."*

> *"In Sarima the water is not adequate for people and livestock in Sarima, though the rains aren't predictable, when it rains, the water is trapped for drinking, however the animals usually contaminate the water making it unsafe for human consumption."*

Beyond actually sourcing water, little further attention was paid by most participants to the quality of that water. At open sources, People bathing and washing clothes at the same water source exposed the water point to dirt from animal excrement. The water from these sources became contaminated as a result of this. Some people of the community attempted to clean the water source, but the water is still contaminated. For piped sources or wells, often families had no influence, input, or awareness of whether or not the water had been treated or was clean to drink.

> "Yes. The water that we have here is dirty and that when the children use this water, they get diarrhea and stomach complications." *—Saleti PW Traders*

The majority of the households noted that they do not treat their water for drinking and perceive the water from boreholes and surface water as clean for drinking. They rarely even clean the water containers for storing drinking water and majority mentioned that unless the water looks unclean when stored is when they will clean the container.

> "In Moite the community accesses water from wells.We purify the water using some medicines sold at the shops, but sometimes they are not available, we just consume it like that." *—KII_CHW, Marsabit*

> *"Some of the villages have dams which they use for human consumption, its clean." —FGD HH Heads, Marsabit*

> *"We should boil water for drinking, but we don't and also, we should avoid stagnant water." —FGD Young men, Marsabit*

The respondents in some areas also mentioned previous interventions that enabled them to take up positive wash behaviors, but said they are not sustainable over time as the community did not necessarily develop actionable accountability to maintain the resources they had received in as much as they did have some capacity building.

> *"There was a time some people came, brought soap, trained us on how to purify water and provided us with hand-washing containers and soaps." —Ngaremara, Isiolo*

> *"If you have been trained and you know more you can educate other community members."* — Caregivers CU5 *FGD Kargi, Marsabit*

There was not much differentiation in the discussion on the importance of treated water for children or pregnant women, especially those who had recently been ill.

In terms of handwashing, there was very high knowledge and awareness of the critical times to wash hands including washing of hands before cooking, eating and after visiting the toilets. Most participants knew that not washing hands after using the toilet was lined to cholera/ diarrhea, likely due to extensive hand-washing promotion activities especially during past cholera outbreaks.

Access to service providers either during visits to the facility or community activations has also translated into an increase in awareness of hygiene, especially among women who are the recipient of counseling at the facility.

In Isiolo County, some cultures promote wash of hands for example, among Muslim it is a religious obligation to wash hands immediately after waking up and when preparing for prayers. In Merti subcounty they mentioned use of ash and sand to wash their hands in the absence of water. It was an age-old tradition that the Gabbra, Borana and Samburu cultures. They even mentioned that since these products are also able to clean the cooking apparatus like pots and pans then it should also be hygienic for themselves and their children. In Balla, Korr, Sambamba wards, the trend is similar with knowledge of when to wash hands but access to the critical water is a challenge.

The coronavirus has led to increase in community knowledge of hand-washing practices how and when to do it but access to water, soap and hand-washing facilities is still a hinderance to this.

> *"In this ward, the community washes hands when they eat food, before preparing meals and after visiting the toilet, before breastfeeding, after changing child pampers, after handling anything dirty and every time due to Corona virus." —CHV Goda*

Disposal of fecal matter in the community is of concern in both counties as majority of the communities especially in the rural areas do not have proper sanitation facilities. In Comboni for example, people defecate near streams where the community gets water for drinking.

> *"Here, children 0-8 months child fecal is disposed in the toilet in while some dispose in a pit and then burn because they fill up the toilet while the 9-11 months are trained to use a potty."*

Bundle 5: Social Support in The Community

The behavior of interest in this section is that couples share decision making within the household and young men and women (youth) participate in savings and loan groups or income generating activities (IGAs).

Figure 20: Old men sitting outside dowry negotiations to discussing when and what the wedding should entail

The communities in both Isiolo and Marsabit counties as well as the community tribes are patriarchal and do not practice shared decision making. Men have the responsibility and space to determine what happens within their households.

Interestingly, because the men are often not present within the households, the grandmothers also have extensive decision-making power. This scenario means working with couples on shared decision making can be extremely complicated and require engagement of actors outside of the couple. In addition, many participants noted that men should sustain the household, while women should care for the family. Shared decision making, itself, should not necessarily be the goal.

> *"The father of the house and also the neighbors can help in making sure you give the child the right medicine at the right time." —FGD_HHHs, Isiolo*

> *"At the household level, the husband should take good care of his pregnant woman's health, he should make sure there is enough food at the house for her to consume and he has to make her rest and instead do her chores." — KII Nurse, Marsabit*

> *"It is the mother and the sometimes the father to discuss and advise the mother to take the child to the hospital? It is the responsibility of the mother to take care of the child. The father is often away hustling and thus may not pay enough attention to the child. However, he should provide necessary support for the child when asked. The support can be financial etc." — FGD Mothers CU5, Isiolo*

"When the husband is poor and has no formal job and all he depends on his casual job which cannot even sustain the family the mother after two months the baby is born goes and fetch firewood so that she can sell it and buy food for the children." — Pairwise, Pregnant women, Marsabit

"If the father is that close, he can help. there are other men that do not help because that is not their work." — FGD Young women, Marsabit

"Some fathers are also careless and so the responsibility of caring for the child shouldn't be left to the father. The father should however help the mother through financial support when needed." — FGD Mothers CU5, Isiolo

We have highlighted findings under this behavior in the profile below.

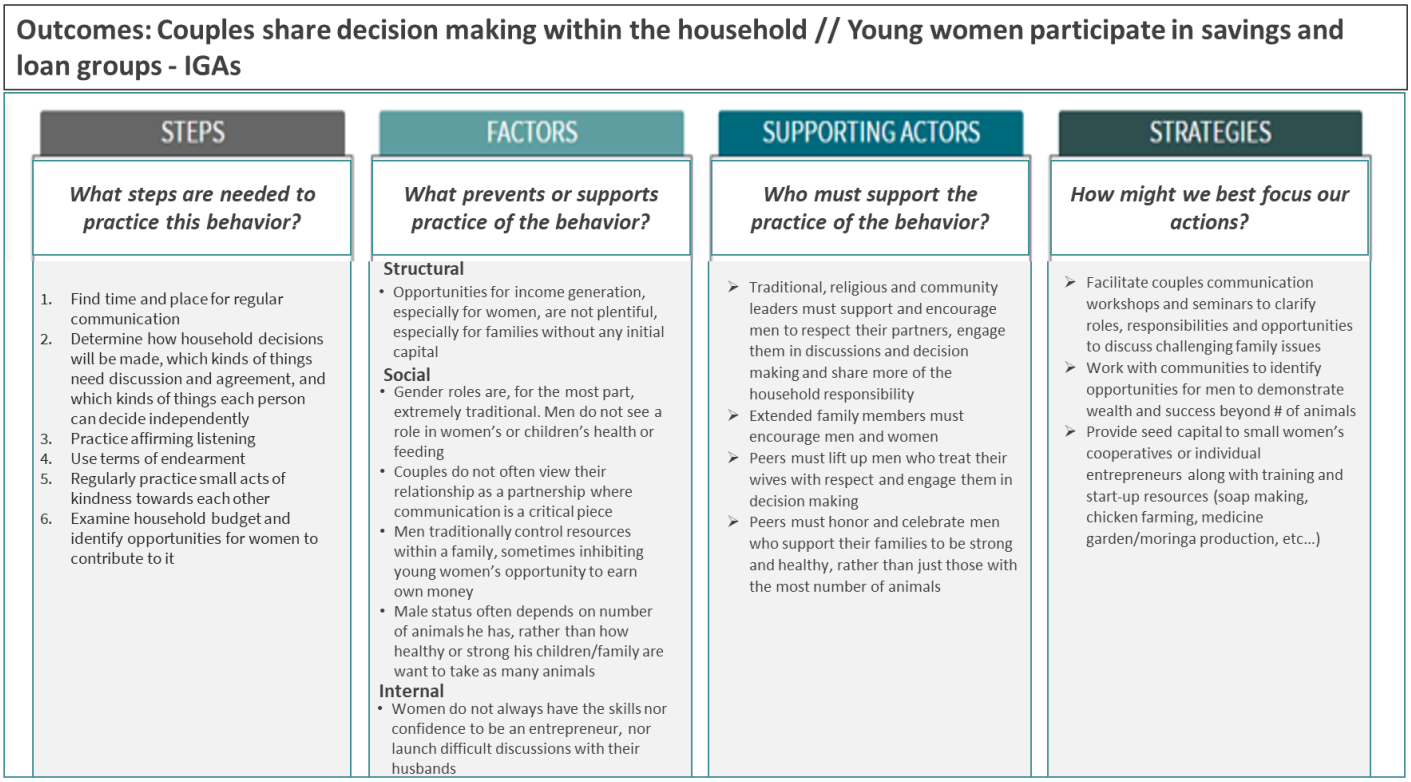


Figure 21: Behavior profile for couple decision making in the community

Bundle 6: Growth Monitoring

Early detection of growth faltering in young children is acknowledged as an effective method of preventing malnutrition by catching those kids on the edge before they go over it. This is a narrow, but a key window of opportunity for initiating preventive or therapeutic measures. This child survival strategy has been one of the most challenging to execute due to the need for active participation of the key actors' such as

mothers and care givers as well as supporting actors including spouses, health personnel, and the community in growth monitoring and promotion activities.

The mothers noted a variety of advantages that come with growth monitoring. Some mothers emphasized the advantages of growth monitoring in general terms, such as keeping the children well, introducing optimal child-feeding practices, reducing undernutrition and child mortality, and monitoring child growth. The factors and supporting actors that enabled us to propose some strategies are summarized in the below profile.

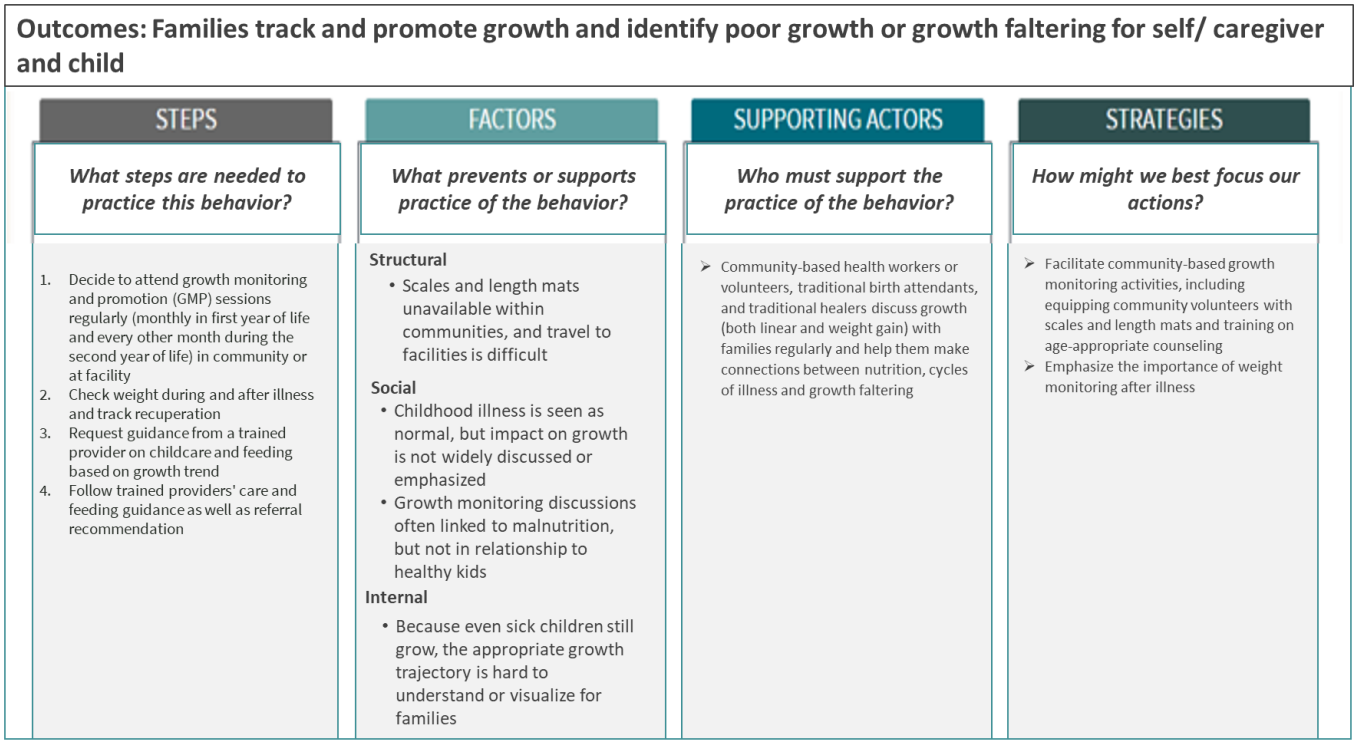


Figure 22: Behavior profile for growth monitoring

When asked about how they know that their children are not progressing well, similar responses were received mostly around the physical appearance of the children which was very subjective to different community groupings and what is seen in the community at large. Some noted that some change in behavior would signify and ill child. Majority believe that the concept of growth monitoring is about watching for immediate acute illness, rather than as a sign of health.

> *"Change in behavior for example, if the child plays less than he or she normally plays is an indicator the child is unwell. Retarded growth is also an indicator of sickness." — FGD Mothers CU5 Merti, Isiolo*

> *"I notice by the level of his appetite; the child's appetite might be low compared to normal days, but the child will tell you he/she is heathy, but you have to take him to the hospital in order to know the problem." — FGD HH heads, Marsabit*

The majority of the community members said that they rely on healthcare providers either community based, or facility based to notify them about their children's nutritional status. This shows that the

women, though concerned and interested, lack specific knowledge and tools to be able to detect growth faltering early enough especially coupled with the access issues in these counties to the healthcare facilities. This is evident from the below quotes.

> *“We don’t know we just see them malnourished and when we take them to hospital, nurse tell us that the child is malnourished and are given Plumpy’Nuts then after some week we see changes in them, they then start improving for their health.” — IDI PLWD, Marsabit*

> *“I am a CHV, so as CHV, I will measure them with MUAC, if it shows green, they are okay, if yellow they have little nutrients and if it shows red, they have no nutrients at all. Then I will refer them to the hospital.” — FGD Mothers In-laws, Isiolo*

> *“The child eats but there is no change in the body. Sometimes in the hospital they told whether they are malnourished (red, yellow, or orange bands). The child continues to become skinny and with an extended stomach. The child is unhappy, isolated from other children.” — FGD Old men_ Merti, Isiolo*

Some also visit the traditional healers to assist them with their children who have faltered as seen in one of the quotes.

> *“The CHVs also help so much in case there is no nurse around. There are cases they give referrals incase the case is serious. There is also a traditional medicine given.” — FGD HH Heads, Isiolo*

> *"What will you do when you see your child is malnourished……R1: we perform traditional rituals…. R2: we take them to traditional doctor." —cFGD Women with CU5, Ilolo*

Growth monitoring provides an entry point to preventive and curative health care in these communities and serves and integral part to early decision making that will improve nutrition outcomes in the community as well as increase care seeking behaviors.

Conclusion and Recommendations

The findings described above were discussed in detail with county stakeholders and reviewed by Nawiri's internal team. The different strategies and considerations identified as part of the creation of the behavior profiles for each bundle was then unpacked and summarized across all 6 bundles into the following six strategic objectives and initial specific activity ideas to guide our implementation towards each. These strategies are complimentary to each other and through collaborative, iterative implementation they will be refined and further contextualized.

Note, subsequent to this analysis, the SBC team will also be creating a crosswalk from these objectives to the Nawiri ToC and the numerous other studies and pilot programs done to ensure full integration and cohesion of the program. This addendum document will be used in transition planning for the project as it moves from learning to full implementation.

Strategic objective 1: Reposition the pregnancy, post-partum and post-illness recovery period as critical moments requiring extra attention and care

- Use participatory storytelling to recraft narrative of healthy journey through childhood and develop context specific narratives that will be shared in different opportunities (both formats and setting) identified to impact care and feeding practices at the community level.
- Help families focus on different elements of healthy diet for pregnant women and children by introducing star foods concept and personal feeding bowl for each child. This will build on enhancing social support as well as build on the self-efficacy for women to discuss and be more involved in decision making in the households.
- Work with healthcare providers (both community and facility) to build their capacity on how to better engage and communicate the need to emphasize care for all pregnancies and moments to provide critical care.
- Incorporate "feeding Rx" into provider engagement with women during ANC and during visits for sick children and highlight the critical time and needs pregnancy and sick children have, including emphasizing consumption of smaller, more frequent meals to help with nausea (pregnancy) and appetite (sick children).
- Work with TBAs and other traditional medicine men to create demand and use of healthcare facilities for the post-partum and post-illness period through targeted community sessions with them.

Strategic objective 2: Redefine household status from healthy flock to healthy family and flock

- Work with men peer-to-peer (in Ajuwa Groups) and tribal leaders to encourage leaving sufficient animals with their family when they leave; consider finding ways to help men demonstrate status beyond # animals.
- Social mobilization through working with existing social groupings to understand and utilize the potential avenue for peer-to-peer influence on uptake of behaviors for other groups including the youth, pregnant women, and mothers in law.

- Develop a household symbol of growth and progression that confers status, link with **Sorios (ceremonies)** to celebrate households, pregnant women who have attained stars- utilize existing cultural events.
- Build this discussion on how "our" household has planned and is progressing around household conversations that build on couple engagement and decision making.
- Develop a see my cattle/ livestock value in X months co-created visual of households of pastoralists who have livestock but are not able to sell during drought using a private sector approach of linking livestock traders' markets with community groups especially during drought.
- Develop a strategy whereby they community members and specifically pastoralists view manure as a resource rather than waste. Link with partners such as flexibiogas (https://biogas.co.ke/) who have worked in the ASAL to provide an overground biogas system that is portable.

Strategic objective 3: Emphasize multi-sectoral Provider Based behavior change

- Develop provider-based products for use in the community: Equip TBA and CHWs toolkit with scale and length mat to help community regularly visualize and emphasize growth, especially after illness.
- Utilize the ECD centers to train teachers to impart knowledge to the children on hand-washing practices including at the household level.
- Work together with the teachers, agricultural extension workers, nutritionists, and healthcare workers in the community to create a social network of community providers (malnutrition team) that will be involved in the demonstrations (cooking, handwashing, gardens, and waste disposal) and discussing in community barazas on the importance of hand in hand. "It's not just a health issue, it's a household issue.
- Focus on incentivizing health care workers at all levels, including Infection Prevention Committees (IPCs) and every other person engaged in environmental management within the healthcare facility to model good hygiene themselves.

Strategic objective 4: Link community practices linked to food and healing and incorporate into a community collective action approach

- Explore creation and use of "care/medicine" gardens with dark green easy to grow leafy vegetables, moringa, and traditional foods.
- Link nutritional value of gardens with practical food preparation sessions by nutrition, **wapishi** (cooks) in the community who provide practical skills for cooking. "Plant, know value, cook, taste and repeat."
- Link the existing businesses supported by the GAIN team who are processing milk and meat to co-create use need campaign for their products as well as inform the community on its nutritional value.
- Identify ways to "cook extra" during cooking times to leave sufficient food for snacks.
- Develop recipes for snacks that can be easily saved for subsequent use (make-your-own Plumpy'Nut).

Strategic objective 5: Foster good sustainability and local ownership of water and hygiene.

- Creating community sanitation or water committees to use inexpensive test kits to monitor water quality and advocate for system-level treatment, ensure hand-washing stations are maintained and have supplies and make/sell soap to generate revenue for committee's activities.
- Conduct community-level demonstrations to illustrate that even clear water can be unsafe for vulnerable to drink.
- Explore creation of mini hand-washing stations that can be attached to transit structures (donkey cart/ slats).
- Collective action and engagement of community members and leaders to ensure hand-washing stations in the community have an allocated responsibility to a team or individual to fill the water and soap. This applies to the household.
- Working with private sector partners to train and provide safe water / clean water for drinking at community level "sio bora maji, lakini maji bora." This will ensure that the businesses and institutions that sell water treatment products have access to retailers for resale.
- Work with business mentors to provide training of soap making can be able to work within existing community businesses, structures and groups as an income generating activity. The team will begin to link and collaborate with the envision graduation pilot business groups as a start.
- Utilizing a social marketing approach to raise awareness among healthcare practitioners and the communities close to the health facilities about the risks from waste generated by their households and also by healthcare facilities at the site and/or found in municipal dumpsites; and shaping attitudes among healthcare waste collectors to safeguard the general public from risks associated with healthcare waste.

Strategic Objective 6: Connect consumption of nutritious foods to economic opportunities

- Introduce integrated saving culture- incorporate with different savings models in the community including ongoing SILC groups and Business Savings groups (BSGs) under the nutrition friendly graduation model at the community level that links to trader platforms (supply side) to project demand at the community level of nutritious foods.
- Work with the communities to co-develop a community supply chain system together with traders and transporters in the community to identify available business opportunities to expand input sales in the community by providing basic extension services to community members so that they appropriately purchase and use their products will result in increased trust by customers and repeat purchases. This will also be facilitated by work being done by GAIN to support SMEs in their business development.

Appendix 1: Behavior Prioritization Analysis

The following tables present analysis for each potential priority behavior, adapted from a similar menu developed by USAID's Advancing Nutrition project. The menu below was customized using Nawiri's theory of change and specific goal of reducing GAM. For each behavior, the current practice or prevalence of that behavior was analyzed, along with a subjective rating of the *behavior gap,* or the gap between current practice and the epidemiological threshold for a normative practice of 80%. Finally, how important the behavior is to GAM was rated on a Likert scale by the research team. Scores were averaged so that different behaviors could be compared against each other to determine the overall relative importance. The prevalence data was taken from the most recent SMART survey data for each county. For behaviors not measured in the SMART surveys, a combination of sources was used to assess the level of practice. These scores were used to discuss the potential priorities with county stakeholders, narrowing this large list down to a manageable number.

BEHAVIORS	County	BEHAVIOR PREVALENCE	BEHAVIOR GAP (1–5)	POTENTIAL TO IMPACT RESULTS (1–5)	Overall Average
FOOD INTAKE					
Diet During Pregnancy					
Pregnant women eat sufficient quantities of food at appropriate frequencies (3 meals and 2 snacks)	Marsabit	No data	4	3	3.25
	Isiolo	No data	4	3	3.25
Pregnant women eat a variety of nutrient-rich foods for meals and snacks daily (WRA > 5 food groups)	Marsabit	21.70%	5	4	4.25
	Isiolo	23.60%	5	4	4.125
Pregnant women consumed IFAS for more than 90 days during pregnancy (numbers are higher for any supplementation)	Marsabit	23.60%	4	4	3.75
	Isiolo	19.30%	5	4	4
Notes: Although maternal nutrition during pregnancy is clearly not optimal (7.8% of PLW are malnourished in Isiolo and 12% in Marsabit), the low incidence of LBW babies and the fact that GAM is more prevalent in older age bands seems to indicate that while problematic for other reasons (newborn health, maternal health, reproductive health), maternal diet might not be as critical to reducing GAM as other behaviors.					

BEHAVIORS	County	BEHAVIOR PREVALENCE	BEHAVIOR GAP (1–5)	POTENTIAL TO IMPACT RESULTS (1–5)	Overall Average
Breastfeeding:					
Initiate breastfeeding within 1 hour after delivery	Marsabit	95.2%	1	1	**1**
	Isiolo	83.70%	1	1	**1**
Breastfeed exclusively for 6 months after birth	Marsabit	75.70%	2	3	**2.625**
	Isiolo	74.10%	2	3	**2.625**
Continue breastfeeding until at least 2 years old	Marsabit	69%	3	4	**3.125**
	Isiolo	60.70%	3	4	**3.25**
Notes: Overall, breastfeeding rates are relatively high, but it is feasible that the percentage of babies who are not breastfed exclusively in each county includes some, if not all, of those babies who are also malnourished. Without being able to disaggregate these behavior prevalence's by malnourished/non-malnourished, it is difficult to determine the extent to which BF plays a part. However, overall, given the relatively high rates of practice, and the fact that GAM is higher in older age bands, it seems likely that insufficient breastfeeding is not driving GAM.					
Complementary Feeding of Young Children					
Feed children 6-23 months old with age-appropriate consistency (no data on older kids, 6-8 mos, fed solid/semi solid or soft foods…)	Marsabit	44.3%	4	4	**4**
	Isiolo	68.50%	3	4	**3.75**
Feed children under two of Iron rich/fortified foods 96-23 months)	Marsabit	43.30%	4	4	**3.875**
	Isiolo	20.20%	5	4	**4**
Feed children 6-23 months of age a minimum acceptable diet	Marsabit	24.00%	5	5	**4.75**
	Isiolo	15.60%	5	4	**4.75**
Feed children 6-23 months old with age-appropriate frequency	Marsabit	48.50%	4	5	**4.25**
	Isiolo	46.10%	4	5	**4.25**
Feed children 6-23 months old a variety of age-appropriate, safe, diverse, nutrient-rich foods (MDD, >/ 4 food groups)	Marsabit	15.50%	5	5	**4.75**
	Isiolo	39.70%	5	5	**4.125**
Feed responsively	Marsabit	59.70%	4	4	**3.375**

BEHAVIORS	County	BEHAVIOR PREVALENCE	BEHAVIOR GAP (1–5)	POTENTIAL TO IMPACT RESULTS (1–5)	Overall Average
	Isiolo	No data	3	3	**4**
Prepare food and feed children hygienically	Marsabit	No data	3	2	**2.25**
	Isiolo	No data	3	3	**2.25**
Notes: Overall Minimum Acceptable Diet is extremely low in both counties. Teasing apart the pieces of MAD indicate that diversity and frequency of meals (leading to overall quantity of food) are both significant challenges This is likely to fluctuate and become even more significant during lean seasons, as studies indicate that in lean times, families report one coping strategy is cutting down on quantity at each meal. Also, of note, overall HH dietary diversity in both counties is significantly better than for children, indicating some availability of food within the house, even if not allocated or fed to young kids. HHDD in Isiolo is at 59.3 in 2019; in Marsabit it is 77%.					
Feeding During and After Illness Episodes					
Ensure children continue to breastfeed and eat when ill	Marsabit	32.1%	4	5	4.5
	Isiolo	26.1%	4	5	4.5
Provide recuperative feeding for 2 weeks after illness	Marsabit	No data	4	5	4.5
	Isiolo	No data	4	5	**4.5**
Notes: Given high rates of illness described in the context section (30% reported diarrhea, ARI, and fever) in weeks preceding survey, feeding during and after illness is extremely important and yet it is frequently unmentioned and undiscussed, likely indicating a need for greater focus and attention.					
INFECTIOUS DISEASE/ILLNESS					
Preventive Care: (Social and Care Environment)					
Complete the full course of antenatal care (4 visits)	Marsabit	39%	4	3	3.5
	Isiolo	62.90%	3	3	3
After a live birth, women or their partners use a modern contraceptive method to avoid pregnancy for at least two years (current CPR)	Marsabit	11.70%	5	3	4
	Isiolo	27%	4	3	3.5
Provide Vitamin A, Fe and Micronutrient Supplementation to all kids (only vit A, 2X year)	Marsabit	43.80%	4	4	4
	Isiolo	40%	4	4	4
	Marsabit	96.70%	1	1	1

BEHAVIORS	County	BEHAVIOR PREVALENCE	BEHAVIOR GAP (1–5)	POTENTIAL TO IMPACT RESULTS (1–5)	Overall Average
Give infants and children under 2 years a full course of immunizations (BCG)	Isiolo	98%	1	1	1
Family members drink safe water (treat water)	Marsabit	22.10%	5	4	4.5
	Isiolo	27.20%	5	4	4.5
Family members properly dispose of feces (inverse % ODF)	Marsabit	58.10%	4	4	4
	Isiolo	75.60%	2	4	3
Caregivers wash hands at 4 critical times	Marsabit	26.70%	4	4	4
	Isiolo	21.50%	4	4	4
Children < 5 sleep under ITN every night	Marsabit	No data	4	3	3.5
	Isiolo	27%	4	4	4
Note: What other behaviors might we have left out on ARIs based on experience?					
Growth Monitoring, Care Seeking and Care Provision (Access to Health Care and Health Environment)					
Track and promote growth and identify poor growth or growth faltering… CWC by measles at 18 months	Marsabit	57%	4	4	4.25
	Isiolo	55%	4	4	4.25
Provide care for severe acute malnutrition immediately (% enrolled in OTP)	Marsabit (Laisamis)	70%	2	4	2.875
	Isiolo	75%	1	4	2.625
Regularly administer albendazole/other dewormer	Marsabit	80%	1	3	2.25
	Isiolo	70%	1	3	2.625
Manage diarrhea appropriately at the onset of symptoms (ORS/Zinc)	Marsabit	72.50%	1	4	2.625
	Isiolo	79%	1	4	2.625
Seek diagnostic testing and treatment at first sign of fever or ARI (% who sought any assistance)	Marsabit	75%	1	4	2.625
	Isiolo	81%	1	4	2.25
Notes: The analysis of behaviors in this section reveals a significant opportunity. Families seem to be well-connected with the health center, with extremely high rates of immunization in both counties as well as very high rates of care-seeking when children are sick. Further, although the majority of illness reported is ARI, diarrhea was still reported as a significant proportion of illness, indicating a need to focus on hygiene-behaviors. Specifically, the lack of access and use of clean water and appropriate handwashing is particularly low. In addition, routine growth monitoring and assessment of children before faltering does not appear to be routine, despite regular visits to health facilities, offering another opportunity for engagement with families.					

BEHAVIORS	County	BEHAVIOR PREVALENCE	BEHAVIOR GAP (1–5)	POTENTIAL TO IMPACT RESULTS (1–5)	Overall Average
FOOD SECURITY					
Agriculture and Food Security					
Processors and retailers of animal source foods invest in improved processing and storage facilities	Marsabit				0
	Isiolo				0
Families practice food storage and preservation techniques	Marsabit				0
	Isiolo				0
Farmers adopt sustainable production practices (crop diversification and post-harvest waste limitation techniques) to bolster production	Marsabit			4	4
	Isiolo			4	4
Farmers use improved livestock management practices	Marsabit			4	4
	Isiolo			4	4
Notes: Due to the lack of quantitative data for these behaviors, they will be discussed during county engagement to determine if any should be added to the priority list as it has very huge potential to impact results as it increases availability of food for consumption throughout the year. Also, food storage and preservation practices ae being handled by TIPS assessment currently ongoing. Marsabit's and Isiolo's livestock production relies heavily on natural systems such as rain fed pasture. These livestock systems are very climate sensitive, being vulnerable to the impacts of changing and irregular rainfall patterns and droughts. Greater drought frequency increases livestock morbidity and mortality because of reduced availability of forage, increased disease incidences and a breakdown of marketing infrastructure.					
Social Protection					
XXX	Marsabit				0
	Isiolo				0
Notes: Due to the lack of quantitative data for these behaviors, they will be discussed during county engagement to determine if any should be added to the priority list.					
LIVELIHOODS SYSTEMS					
Economic Strengthening					
Young women participate in savings and loan groups	Marsabit	20%	5	4	4.5

BEHAVIORS	County	BEHAVIOR PREVALENCE	BEHAVIOR GAP (1–5)	POTENTIAL TO IMPACT RESULTS (1–5)	Overall Average
	Isiolo	20%	5	4	4.5
Farmers use collective marketing of crops	Marsabit	2%	5	5	4.67
	Isiolo	5%	5	4	4.67
Notes: A small share of households in Marsabit, Saku subcounty practice crop farming (15%). Very few women are in control of resources within their household, including seemingly, purchasing and allocation of necessary foodstuffs. The greater gap is in utilizing groups and collective saving, production, and marketing strategies in as much as these communities are communal in their social structures.					
SYSTEMS, FORMAL AND INFORMAL INSTITUTIONS					
Land and Water Use					
Local Governments restore own and community farming lands to support increased crop production and diversification	Marsabit	45%	3	4	3.25
	Isiolo				0
Local leaders ensure equitable water use policy is available and implemented	Marsabit				0
	Isiolo				0
Notes: Land and water policies are either underway or for some the policy is enacted http://assembly.isiolo.go.ke/wp-content/uploads/2017/08/Water-Bill.pdf, but the water use policy being implemented by leaders is not captured. In Marsabit, there are no permanent rivers in the county, but four drainage systems exist. Chalbi Desert is the largest of these drainage systems. Most parts of county experience acute shortage of water and only 4 per cent of the households use piped water. This seasonality leads to productivity losses in livestock due to physiological stress occasioned by temperature increase; and change in water availability which essentially affects fodder quantity and quality.					
Education					
Vulnerable households use quality education services	Marsabit	15%	5	2	3.3
	Isiolo	25%	5	2	3.3
Notes: In these two counties, majority of schools are located at distances that are more than five kilometers posing a challenge of accessibility to educational facilities. In Marsabit this stand at 84.4%, Isiolo 74%					
Family Systems: Early Childhood Development, Household Decision Making and Gender					
Parents use positive discipline with children	Marsabit				
	Isiolo				
	Marsabit	7%			5

BEHAVIORS	County	BEHAVIOR PREVALENCE	BEHAVIOR GAP (1–5)	POTENTIAL TO IMPACT RESULTS (1–5)	Overall Average
Couples share decision making within the household	Isiolo	11%			5

Notes: while the ownership of assets among males in household in Marsabit is 54% and in Isiolo 46%, asset ownership among female head in Marsabit is 15% and Isiolo 19%
In Isiolo and Marsabit , majority of children who are out of or children who drop out of school due to lack of school fees/ school levies, family labor - children act as source of family labor especially during prolonged drought period, Lack of food at home and schools and family migration with livestock to areas without schools and inter-tribal conflicts, radicalization in schools, **high gross indiscipline**, **peer pressure,** child pregnancies, child marriages and female genital mutilation (FGM), This vulnerability affects the attainment of children's right to education and wellbeing where the most vulnerable children never realize their dreams and cannot fulfil their potential. This is carried over from one generation to another and hinders county human capital development.

ENVIRONMENT AND SEASONALITY

Rainfall Variability and Climate Extremes and Ecological Diversity

Communities practice water conservation-based irrigation	Marsabit	No data		3	3
	Isiolo	No data		3	3

Notes: In Isiolo county, Small Scale Irrigation development (20%), Rehabilitation and Modernization of Irrigation Scheme (20%), Rehabilitation of dams (30%); Others: Fencing of pasture lands (30%) e.g., Rapsu, Malkadalka, Oldonyiro, Bulesa, etc.
In Marsabit County which is characterized by inadequate water availability and poor water quality as a result of salinity, pollution, poor water supply services by the county government, and a complex water management system. Pasture is essential for the survival of livestock, and thus flexibility in search for pasture especially during drought is a strategic activity to bolster livelihood options. Within the Chalbi lowlands, Kalacha is the only place where water is plentiful. Kalacha town has successfully diversified pure pastoralism with agro-pastoralism. Badasa irrigation scheme.

"Several conservancies have generated an economic model to facilitate community development through initiatives of environmental conservation (AFD-Northern Rangeland Trust project). Meanwhile, this switch to community management as part of the flexible legal framework of common locus has facilitated the practice of "land grabbing." The unclear legal framework defining lands rights, parks and community areas may limit the ability of the authorities to implement conservancies and community-based projects."

Appendix 2: Factor Categories

The following table describes the various factors that were assessed during the field work. These are derived from the socio-ecological model of behavior change but adapted to reflect Nawiri's specific goal and context.

Type of factor	Research Question
Accessibility	To what extent do any of the following impact a family's ability, opportunity, or motivation to practice this behavior? • Cost • Time • Distance and transport • Availability of necessary inputs (and how does that change with the seasons?) • Physical access • Opportunity costs Privacy or Stigma
Local Leadership	To what extent does local leadership decisions and policies affect a family's ability, opportunity, or motivation to practice this behavior?
Service provider competencies	If receiving a service, to what extent do the competencies of the provider impact a family's ability to practice this behavior? *These competencies can include clinical skills, such as diagnosis or treatment of illness, but also soft skills and attitudes including respect for and effective communication with the family.* (These providers cut across, teachers, agricultural and livestock extension workers, facility, and community healthcare providers)
Service experience	If receiving a service, to what extent does the experience of accessing that service impact a family's ability, opportunity, or motivation to practice this behavior? The experience might include hours of service availability, needed equipment, quality, infrastructure, privacy constraints and other.
Family and community support	To what extent does a family or individual within a family have family and community support for practice of this behavior? How important is that support to its practice. Support can include proactive or passive help, encouragement, or attitudes toward a behavior

	by family members, peers, colleagues, or others in the community at large. It can be in the form of monetary or material support if required, moral support, acceptance and approval, transfer of knowledge or task shifting. Cultural beliefs that are linked to specific age, gender, or stages of life for the individual, family, household, or community can contribute to several factors.
Gender	To what extent do gender norms and dynamics influence the individual or family's opportunity, ability, or motivation to practice the behavior? These dynamics can include decision making, control of income, status and roles assigned to girls/women among other considerations.
Norms	Beyond gender, to what extent do other social norms impact an individual or family's opportunity, ability, and motivation to practice the behavior? These norms include the acceptability and standards for practice of a behavior dictated by religious, cultural, or other social networks, including workplace norms. They might also include the presence or absence of sanctions and enforcement (both formal like fines and informal like shame or stigma).
Attitudes and beliefs	To what extent does the primary actor's personal judgment, feeling, or emotion toward this behavior influence their opportunity, ability, or motivation to practice it. This can include an individual's perceived value of the behavior, perceived threat, fear, or consequences of practicing or not practicing the behavior, perceived convenience, or emotional response to the behavior.
Self-efficacy	To what extent does the primary actor's personal confidence in their ability to exert control over successfully practicing this behavior influence their opportunity, ability, or motivation to practice it?
Knowledge	To what extent does a lack of required information or understanding of information impede practice of this behavior?
Skills	Does the family or primary actor have the necessary skills to completely and competently perform a set of tasks related to practice of the behavior?

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