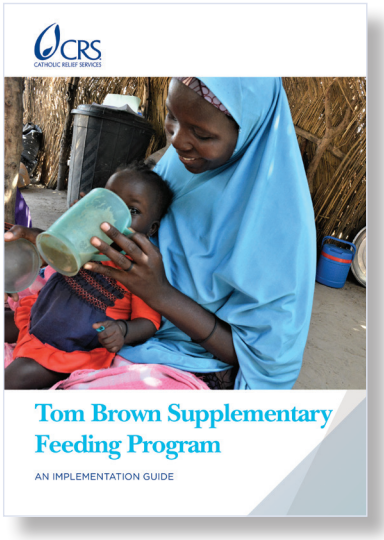
CATHOLIC RELIEF SERVICES

Tom Brown Supplementary Feeding Program

AN IMPLEMENTATION GUIDE



Cover: Nine-month-old Fatima and her mother participated in an eight-week supplementary feeding program that has prevented Fatima's moderate acute malnutrition from deteriorating into severe acute malnutrition.

Photo by Nonyelum Umeasiegbu/CRS

Disclaimer

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Contents

Acronyms

BSFP	Blanket Supplementary Feeding Program
CHW	Community health worker
CMAM	Community-based management of acute malnutrition
CNM	Community nutrition mobilizer
CRS	Catholic Relief Services
CSB	Corn soy blend
FBF	Fortified blended food
GAM	Global acute malnutrition
IYCF	Infant and young child feeding
LGA	Local government area
MAM	Moderate acute malnutrition
MEAL	Monitoring, evaluation, accountability and learning
MUAC	Mid-upper arm circumference
NGO	Nongovernmental organization
NE	Northeast
OTP	Outpatient therapeutic program
PLW	Pregnant/lactating women
PM	Project manager
RUSF	Ready-to-use supplementary food
RUTF	Ready-to-use therapeutic food
SAM	Severe acute malnutrition
SC	Stabilization center
SMILE	Sustainable Mechanisms for Improving Livelihoods and Household Empowerment
UN	United Nations
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WASH	Water, sanitation and hygiene

I. Overview and Introduction

This document provides detailed guidance on the Catholic Relief Services community-based supplementary feeding program, Tom Brown, for nutrition actors within or outside of CRS. **Its primary purpose is to provide practical information on Tom Brown programming so that the model of implementation can be replicated or adapted to help children with moderate acute malnutrition (MAM) from deteriorating to severe acute malnutrition (SAM).** This program is implemented in an emergency context in northeast Nigeria; however, nutrition actors could adapt it in non-emergency settings.

Tom Brown

The Tom Brown supplementary food powder is made from roasted ingredients such as soya beans and groundnuts. It is believed that the origin of the name is the instruction during preparation of "turn brown."

II. What is the CRS Tom Brown Supplementary Feeding Program?

A food supplement for children age 6-59 months with moderate acute malnutrition, Tom Brown is a powder produced from a blend of nutritious locally available ingredients and typically prepared as a porridge. CRS has a long history of including Tom Brown as part of its nutrition activities across Nigeria. This supplemental food has been provided as part of work to support orphans and vulnerable children, and as part of broader food security and nutrition efforts. For example, both the USAID-funded Feed the Future Nigeria Livelihoods Project and the Sustainable Mechanisms for Improving Livelihoods and Household Empowerment (SMILE) project provided caregivers with the powder to make porridge for their malnourished children at home.

Tom Brown is a food supplement produced from a blend of nutritious locally available ingredients and typically prepared as a porridge.

In 2018, CRS Nigeria decided to expand the use of Tom Brown into a humanitarian context to close an identified gap in services for children with moderate acute malnutrition (MAM). For more than 10 years, NE Nigeria—consisting of Borno, Adamawa and Yobe states—has been severely impacted by an insurgency led by non-state armed groups. This conflict has created massive displacement and undermined food security across NE Nigeria. According to a 2019 analysis (UNICEF 2019), about 70% of children suffering from MAM in Borno were not receiving treatment. CRS and its partners—Justice, Development and Peace Commission; Nira Community Development Foundation; and Northeast Youth Initiative for Development—piloted and scaled up the Tom Brown supplementary feeding program in targeted areas of Borno and Yobe. Within this project, CRS refined the distribution model from one in which caregivers were provided Tom Brown to use at home to one in which caregivers were actively engaged in the production of the supplemental food, as well as its use.

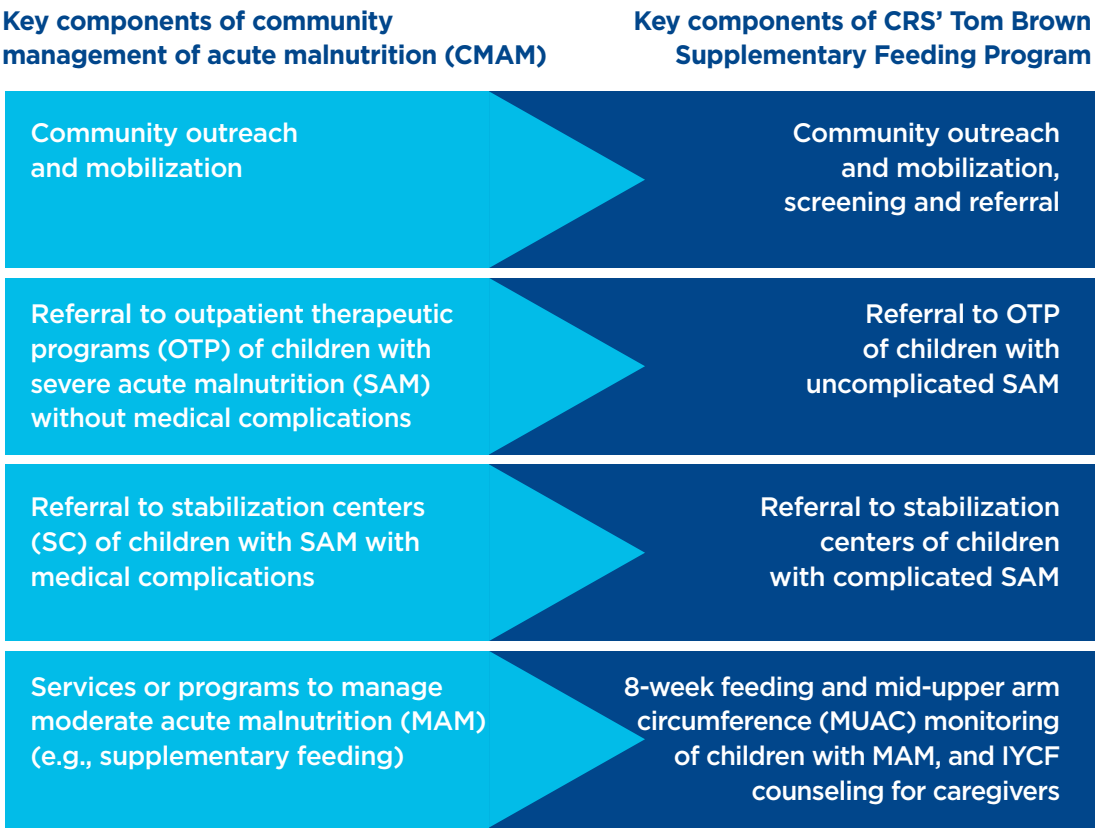
HOW DOES THE PROGRAM WORK?

The CRS Tom Brown supplementary feeding program aligns with the widely accepted community-based management of acute malnutrition (CMAM) approach to managing acute malnutrition in emergency and development situations. CMAM is considered the standard of care for managing acute malnutrition and has four major components:

- Community outreach and mobilization
- Management of severe acute malnutrition (SAM) without medical complications in outpatient therapeutic programs (OTPs)
- Inpatient management of SAM with medical complications in stabilization centers (SCs)
- Services or programs to manage MAM, such as supplementary feeding programs (USAID 2019)

The CRS Tom Brown supplementary feeding program's primary purpose is to help children with MAM recuperate and to prevent their deterioration to SAM through (1) screening and referral, (2) eight weeks of supplemental feeding, (3) infant and young child feeding (IYCF) counseling and (4) weekly MUAC monitoring. Figure 1 demonstrates how the Tom Brown program aligns with CMAM.

Figure 1. The Tom Brown program's alignment with CMAM



The CRS Tom Brown supplementary feeding program focuses on communities with no existing MAM services or programs. The program uses Tom Brown, a nutritious porridge made from locally sourced ingredients, to supplement the diet of children with MAM for eight weeks, and encourage the adoption of optimal IYCF behaviors among caregivers. The porridge contrasts with commercially prepared ready-to-use supplementary foods (RUSFs)—such as fortified blended foods (FBFs) or lipid-based nutrient supplements—which can be costly to procure, subject to copyright (e.g., Plumpy'Sup) and difficult to access in conflict settings. The Tom Brown model builds on the widely recognized Positive Deviance/Hearth model (CORE 2002) for community-based rehabilitation of malnourished children with adaptations appropriate for highly food-insecure environments.

HOW DOES CRS IMPLEMENT TOM BROWN?

CRS and its implementing partners work with community nutrition mobilizers (CNMs), individuals who live in the communities where Tom Brown programming is implemented. These mobilizers are trained by CRS and its partners on CMAM and optimal IYCF practices. They then screen children aged 6 to 59 months in their respective communities for acute malnutrition, and refer and enroll those with MAM into the Tom Brown program. Children identified with SAM are referred to existing OTPs for treatment. Lead mothers are chosen by the community, using the criteria in Appendix C, to oversee 12 caregivers of children with MAM. This group of 13 meets with their respective mobilizers weekly for eight weeks to prepare and distribute Tom Brown powder, and receive IYCF and hygiene messaging from the lead mothers, supported by mobilizers. The mobilizers also measure enrolled children's mid-upper arm circumference (MUAC) weekly for eight weeks to track their progress, conduct weekly home visits, and monitor preparation of Tom Brown powder and feeding practices. Oversight of caregivers by the mobilizers promotes the children's recovery and allows for any necessary adjustments during the program (e.g., hygiene, texture of Tom Brown, addressing any myths around IYCF the caregivers may have, etc.).

Community nutrition mobilizers screen children aged 6 to 59 months for acute malnutrition, and refer those with MAM to the Tom Brown program.

Tom Brown is a sustainable option for community-based supplementary feeding programs. Within NE Nigeria there has been high acceptance of the porridge given that it is a well-known meal and can be consumed by the whole family, not only children.[1] Other advantages include:

- Ingredients are locally accessible, and buying them locally strengthens markets.
- CRS' implementation model fosters social cohesion among caregivers.
- The program promotes positive behavioral change around IYCF and hygiene.
- Engaging the caregivers in preparing and packaging the powder for distribution reinforces how to feed and care for children with appropriate hygiene practices.
- Tom Brown powder is a potential source of income generation for caregivers after the program has ended.
- Recovery rates exceed Sphere standards (>75% recovered; see Appendix A. Results of Tom Brown Implementation).

1. Distribution of the Tom Brown rations by CRS is meant solely to feed the enrolled MAM child over the eight weeks. Using their own resources, families can produce additional Tom Brown to feed further family members not enrolled in the program.

Success Story:
Tom Brown Ambassadors

Amina* is a tailor and teacher in her community. Her child was screened and referred by CRS to a local health facility to be treated for severe acute malnutrition during the insurgency. When Amina was selected to be a lead mother for the CRS Tom Brown supplementary feeding program, she was inspired to help malnourished children in her community.

Amina shares her group's happiness with the feeding program, as caregivers are seeing their children gain weight and recover from malnutrition.

Amina says that the community quickly learned about the benefits of Tom Brown, and caregivers who were not benefiting from the program came on production days to learn how to prepare it and prevent their children from becoming malnourished.

One such community member was Fareeda, Amina's friend and fellow tailor. When Fareeda's daughter lost her appetite and began to lose weight, she asked Amina to teach her how to prepare Tom Brown for her daughter. Amina graciously taught her the quantities of ingredients and how to prepare and cook it.

Fareeda* then made a small batch of Tom Brown for her daughter and other family members. Fareeda's daughter recovered quickly.

Fareeda and her recovered child

Lead mother Amina

> *"The caregivers really achieved a lot from the Tom Brown program in my community and didn't want it to come to an end.*

"My sick child recovered with improved appetite and weight gain in less than two weeks," she said. Seeing the rapid improvement in their daughter's health, Fareeda's husband pledged his support to provide all the necessary ingredients for Tom Brown when needed. Tom Brown is now a regular meal in their home.

Amina promises to continue promoting the consumption of Tom Brown and improving knowledge on infant and young child feeding in her community. She said, *"I am willing to keep spreading the importance of infant and young child feeding and Tom Brown as a meal in my community and in the school where I teach."*

**Names have been changed to protect identities.*

With any feeding program, particularly in an emergency context, there will be risks. **Table 1** describes specific risks to the Tom Brown program and how CRS has worked to mitigate them.

Table 1. Risks and mitigation for CRS Tom Brown Supplementary Feeding Program

Risk	Mitigation
Caregivers may use the Tom Brown powder for purposes other than feeding their acutely malnourished child.	Tom Brown ingredients are local and familiar to participants because they have prepared the powder themselves. Thus these ingredients are not associated with any superstitious beliefs that could lead to avoidance or diversion.
	Community nutrition mobilizers (CNMs) use down-time during the preparation process to stress the importance of feeding the powder to the malnourished child.
	Frequent home visits from the CNM provide additional encouragement to families to feed the powder to the malnourished child.
CRS' program focuses only on children with MAM, and not children with SAM or healthy children.	All children are screened during house-to-house visits and, if they have SAM, are referred to existing partners at OTPs or SCs. CNMs also conduct follow-ups on referred children with SAM to ensure admission to a program.
	If caregivers of children with SAM are more than 30 minutes from OTP or SC services, CRS provides a small transport subsidy to support them in taking the child to the appropriate facility.
	The IYCF model promotes capacity building of lead mothers and caregivers, who are encouraged to teach friends and relatives.
Security challenges to programming may arise given the insurgency.	Double-ration distributions are made when necessary.
	The locally sourced materials have low visibility relative to commercially packaged products, and the small quantities in any given location mitigate against attention and theft by armed groups.
Preparing the porridge is time-consuming.	The group structure lightens the cleaning and dehusking workload, and the lead mother positively reinforces group participation.
	Caregivers are committed to their child's improvement, and invest personal time and resources in their recovery.
Activities may be temporarily suspended by violence.	CNMs are embedded in the community and can inform participants of the resumption of activities.
Participating families may be displaced by violence and unable to participate in the program in their new location.	The Tom Brown model educates participants to produce the supplement even when not actively engaged in the feeding program.
	Locally sourced ingredients can be located by participants even if they are displaced.

HOW DOES TOM BROWN COMPARE TO OTHER MAM APPROACHES?

Management of MAM broadly falls into two strategies: **prevention** and **treatment** (Lenters et al. 2016). Prevention strategies may include the promotion of breastfeeding and complementary feeding practices, micronutrient supplementation and deworming activities, cooking demonstrations and improved hygiene practices. Treatment strategies may include supplementary feeding programs, one of the four components of community management of acute malnutrition (CMAM) (Lenters et al. 2016; USAID 2019). Below is a comparison of MAM prevention and management strategies with the CRS Tom Brown Supplementary Feeding Program.

Table 2. How does Tom Brown compare to other MAM approaches?

Approach	Primary components	Comparison to Tom Brown
Blanket Supplementary Feeding Program (BSFP)	■ Supplementary food, usually a fortified blended food (FBF), is provided those identified as vulnerable (e.g., all children under 5 years) for a defined period of time. ■ The most commonly used commodity for a Blanket Supplementary Feeding Program (BSFP) is FBF (such as CSB++), which is mainly imported. ■ A preventive strategy for food-insecure populations and during the onset of emergencies to prevent further deterioration of nutrition status among the most vulnerable population. ■ Could be used to complement CMAM, especially in fragile contexts and locations with high food and nutrition insecurity and high global acute malnutrition (GAM) rates.	■ The CRS Tom Brown supplementary feeding program targets children aged 6 to 59 months with moderate acute malnutrition (MAM), while children with severe acute malnutrition (SAM) are referred to outpatient therapeutic programs (OTPs) or stabilization centers (SCs), as appropriate. ■ Locally sourced and prepared Tom Brown take-home rations are provided instead of FBF. ■ Primarily a recuperative strategy that focuses on healthy weight gain for children with MAM, while preventing deterioration to SAM. BSFP may complement the Tom Brown program model in fragile contexts where food and nutrition insecurity is high and there are high GAM rates.
CMAM	■ Uses community volunteers for active case finding of children with MAM or SAM using anthropometry (e.g., MUAC). ■ Centered around caregivers rehabilitating malnourished children in the community, when possible, using RUSF and/or RUTF. ■ Caregivers receive supplementary or therapeutic foods (RUSF and/or RUTF) as take-home rations, typically from a health care provider (facility or community health worker). ■ Routine monitoring of children's weight and/or MUAC to ensure the child is recovering. ■ Home visits sometimes included as part of protocols. ■ Intervention length varies – children receive treatment until they meet established discharge criteria.	■ The CRS Tom Brown program aligns with CMAM, while CRS refers children with SAM to OTPs or SCs, as appropriate. CRS' model is community-based, not facility-based. ■ Locally sourced and prepared Tom Brown take-home rations are provided instead of RUSF/RUTF. ■ Caregivers participate in the preparation of the food that will be used to rehabilitate their children. ■ Weekly monitoring of children using MUAC to ensure the child is recovering. ■ Weekly home visits to provide robust, individual support to each child. ■ Fixed-length (8-week) intervention.

Approach	Primary components	Comparison to Tom Brown
IYCF support groups	■ Focuses on improving knowledge of child care and feeding practices, and supporting adoption of improved practices. Food is typically not provided. ■ Typically targets all families with women of reproductive age or all families with pregnant/lactating women (PLW) or children under 2 or under 5 years of age. ■ Lead mothers, trained in IYCF and with support from community health workers (CHWs), meet at the community level to discuss nutrition- and health-related topics, such as exclusive breastfeeding, dietary diversity, complementary feeding practices, and personal and home hygiene with peers.	■ Focused on rehabilitating children with MAM. IYCF counseling and support is included as part of the rehabilitation, and food is also provided. ■ Specifically targets families whose children have MAM. ■ Families are encouraged to enroll in IYCF support groups as a complementary and follow-on activity to their child's rehabilitation activities.
Positive Deviance/ Hearth	■ Home- and neighborhood-based program that identifies the positive practices of caregivers of healthy children that can be shared with caregivers of (acutely or chronically) malnourished children of the same socioeconomic status. ■ Community volunteers and caregivers of malnourished children practice new cooking, feeding, hygiene and caring behaviors together. ■ Hearth sessions last 12 days (over 2 weeks), followed by post-participation follow-up over several months. ■ Caregivers cook a low-cost, locally available food together during each Hearth session. Multiple recipes are used, which are developed based on the cooking practices of low-income families with healthy children in the community. There are no take-home rations. ■ Participants provide the food that is cooked at the sessions and fed to children. The intervention is only considered appropriate for food-secure areas.	■ As the CRS Tom Brown supplementary feeding program targets food-insecure families, the program provides the food inputs. ■ Tom Brown is also home- and community-based. ■ CNMs, lead mothers, and caregivers practice Tom Brown preparation together, and CNMs provide weekly IYCF and hygiene counseling to caregivers. ■ The Tom Brown program lasts 8 weeks, with rations distributed weekly. ■ CRS focuses on reinforcing one basic recipe (Tom Brown), and working with mothers and caregivers on a few simple modifications they can use to enrich the recipe or adjust it to personal preferences, for example, introducing milk powder, various vegetables, or palm oil. Using a single recipe promotes mastery through repetition. ■ In addition to any meal they eat at the site, families receive a dry ration to take home for the week.

Source: Lenters et al. 2016

HOW DOES TOM BROWN COMPARE TO OTHER PRODUCTS?

In a 214-gram ration of Tom Brown, there are 43 grams of protein and 28 grams of fat. It is not fortified with micronutrients and therefore not a fortified blended food. Tom Brown's nutritional profile can be compared to other MAM treatment and prevention products, below.

Table 3: How does Tom Brown compare to other products?

Product	Ration size	Nutrient profile	Target groups	Recommended use
Corn soy blend +	200 g 20 g oil 15 g sugar	997 Kcal 28 g protein 32 g fat	24-59 months PLW	Treatment
Corn soy blend ++	200 g	840 Kcal 32 g protein 18 g fat	6-23 months	Treatment Prevention
Tom Brown	214 g	869 Kcal 43 g protein 28 g fat	6-59 months	Management Prevention
Plumpy Doz	46.3 g	247 Kcal 5.9 g protein 16 g fat	6-23 months	Prevention
Plumpy'Sup	100 g	537 Kcal 12.1 g protein 35 g fat	6-59 months	Treatment
Nutributter	20 g	108 Kcal 2.56 g protein 7.08 g fat	6-23 months	Prevention
Micronutrient Powder	1 g	1 reference nutrient intake of micronutrients	6-23 months 6-59 months PLW	Treatment Prevention

Sources: WFP 2020; NutVal 4.1; GAO 2011

HOW TO DETERMINE WHETHER TOM BROWN IS APPROPRIATE FOR THE CONTEXT

CRS has used Tom Brown successfully in the context of NE Nigeria, and believes it is scalable and applicable to other contexts if the following criteria are met:

- Unmet need for MAM services and/or supply chain challenges with RUSFs or FBFs;
- There is already care available for children with SAM (e.g., outpatient therapeutic programs or stabilization centers);
- Interest and availability of communities to participate in nutrition activities to benefit their own children;
- Large enough population density that 12 malnourished children can be identified within a reasonable walking distance (15-30 minutes);
- High levels of food insecurity; high GAM rates above World Health Organization emergency threshold of >15%;
- Local markets are functional, so that ingredients such as millet, sorghum and soya beans can be easily accessed and are available throughout the year; and
- Adequate storage facilities (i.e., warehouse).

CRS believes the Tom Brown program is scalable and applicable to other contexts if certain key criteria are met.

Currently, CRS has 12 caregivers per lead mother to reduce overhead costs and the time required to prepare Tom Brown. See Section III for additional information on how to design a Tom Brown model.

III. How to Plan for Tom Brown Programming

There is no standard approach to the CRS Tom Brown supplementary feeding program. For example, although it is provided in a humanitarian setting, it could also be adapted for non-emergency settings. The implementing organization could execute the program as a standalone project or in conjunction with other humanitarian assistance or resilience programming (discussed further in Integration with Other Programming).

The implementing organization must consider the following requirements: coverage area and stakeholder coordination, human resources, budget and materials, training, and monitoring and evaluation. Each of these is described further in the sections below.

DETERMINE COVERAGE AREA AND COORDINATE WITH STAKEHOLDERS

Tom Brown activities are implemented in areas with no existing MAM treatment or supplemental feeding activities. CRS also focuses on communities that have existing community management of acute malnutrition programming (i.e., OTPs or SCs) and the presence of at least one nutrition-sensitive program, such as water, sanitation and hygiene (WASH) or food security. CRS also leverages existing nutrition data to identify gaps in coverage, and locations with the greatest need of MAM intervention.

After identifying a gap in MAM services and/or management options in communities, an organization must coordinate with multiple stakeholders to determine coverage area:

- **Security:** Given the insurgency, CRS compiles and sends a list of targeted communities to its security team for a thorough security assessment. If the community is accessible and deemed safe for implementation by the security team and community leadership, then CRS may implement the feeding program in that community.
- **State actors:** Before implementing Tom Brown, organizations must coordinate with national and sub-national officials. For example, in Borno state, CRS liaises with local government area (LGA)[2] and Borno state nutrition officers to plan programming. This ensures coordination and buy-in by local government.
- **Non-state actors:** Ensuring no redundancy in MAM treatment efforts between the United Nations and nongovernmental organizations is critical for the successful implementation of Tom Brown programming. Meeting with UN Children's Fund (UNICEF) and existing nutrition sector actors to discuss the scope of nutrition programming and coverage areas must be done before implementing Tom Brown programming. The implementing organization must also coordinate closely with other nutrition actors to build strong referral pathways for children with SAM to ensure continuity of care.
- **Community leadership:** Implementing organizations must meet with local leadership to discuss the scope and purpose of the feeding program, answer any questions, request input for planning and implementation, and receive approval. For CRS, a community liaison officer conducts these conversations with the support of the nutrition programming team.

2. LGAs are subdivisions of Nigerian states. For example, Borno state is divided into 27 LGAs. They are third-level administrative divisions for which the local government is responsible.

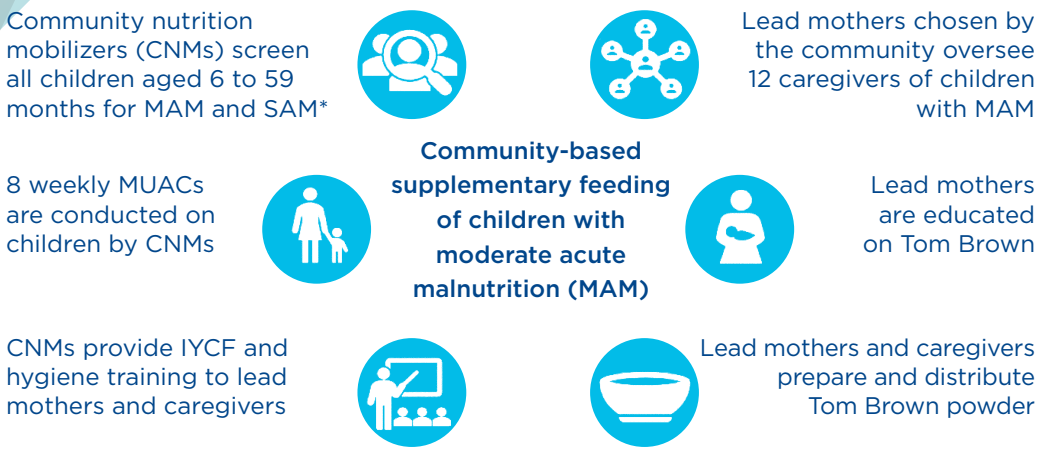
DETERMINE PROJECT SCOPE AND DESIGN

When deciding the scope and design of a Tom Brown supplementary feeding program, organizations must consider, at a minimum:

- **Targeted versus blanket supplementary feeding:** The CRS Tom Brown supplementary feeding program targets children with MAM aged 6 to 59 months, while children with SAM are referred to appropriate inpatient or outpatient facilities. If an organization decides to provide blanket feeding to an entire community, this will require additional overheads and will be more labor intensive.
- **Admission/enrollment criteria:** Children are admitted to the Tom Brown program based on MUAC measurements only; MUAC must be consistent with current definitions of MAM (11.5 cm ≤ MUAC < 12.5 cm), that is a MUAC of 11.5 cm or more but less that 12.5 cm. CRS does not measure weight-for-height at this time, but organizations could choose to do so; see the Appendix B: Frequently asked questions (FAQs) for additional information on why CRS does not use weight-for-height.
- **Mother-MUAC:** CRS recently began including caregivers in the MUAC screening process using the Mother-MUAC model (ALIMA 2016). Organizations may choose to include Mother-MUAC in their model to empower caregivers to understand their child's nutritional status.
- **Number of weeks of feeding:** The Tom Brown program currently lasts eight weeks. CRS does not discharge enrollees from the program even if they reach a healthy MUAC before the eight weeks has ended. CRS considers a child has recuperated when their final MUAC is 12.5 cm or greater. In future, CRS is considering using two consecutive MUACs of ≥12.5 cm to measure recuperation, which may extend the number of weeks of feeding.
- **Ratio of caregivers to lead mothers:** CRS has one lead mother per 12 caregivers to lessen the workload associated with preparing Tom Brown. The Tom Brown ingredient measurements are also based on 12 caregivers and one lead mother. An organization could choose to have fewer caregivers per lead mother, but would need to account for more time required to prepare the Tom Brown. CRS recommends 10 to 15 caregivers to share preparation responsibilities.

Figure 2 provides an additional overview of how the CRS supplementary feeding program works.

Figure 2. The CRS Tom Brown supplementary feeding program design



*Children with SAM are referred to an outpatient therapeutic program or stabilization center.

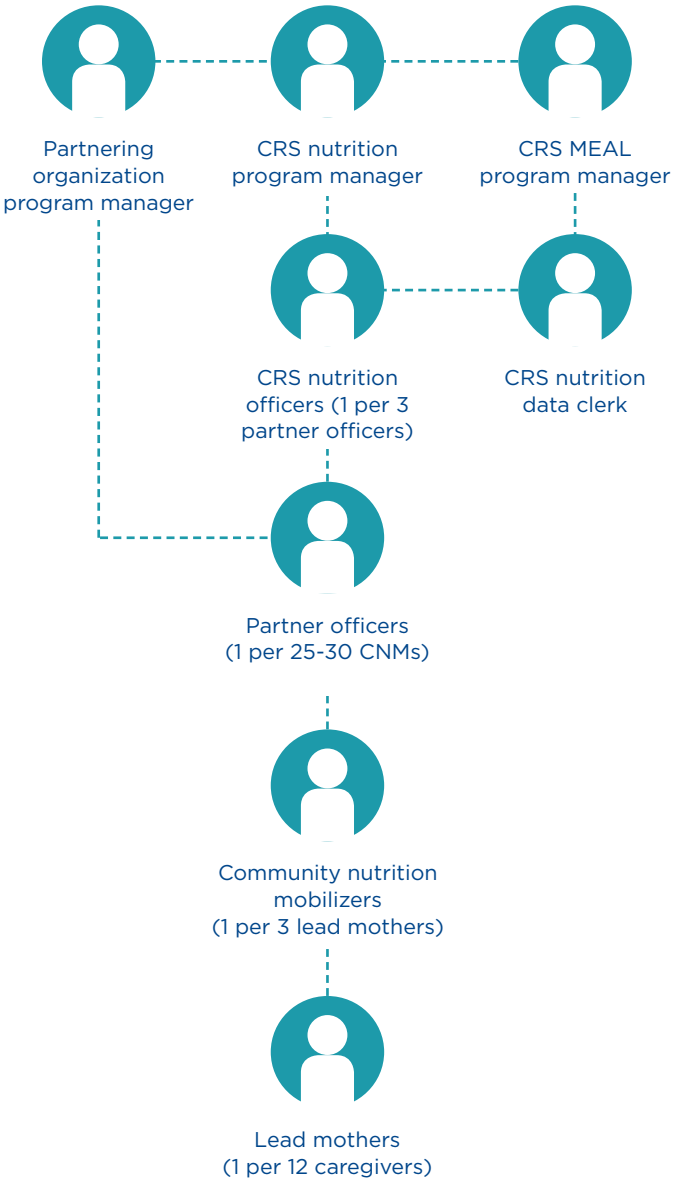
DETERMINE THE HUMAN RESOURCES REQUIRED

To plan for Tom Brown programming, organizations must consider whether implementing partners are required, or whether the organization will carry out the supplementary feedings alone. In the CRS Tom Brown model, the nongovernmental organizations that are CRS Nigeria's partners differ by location. Once the organization has decided whether it will partner or not, to scale up programming, the organization should consider:

- The number of nutrition project managers (PMs) and officers required to oversee and manage the Tom Brown program;
- The number of community health workers (CHWs), also known as CNMs, required to screen children in the community and oversee caregivers;
- The number of officers required to oversee CHWs/CNMs; and
- The number of monitoring, evaluation, accountability and learning (MEAL) staff required to plan, implement and oversee program monitoring and evaluation.

A CRS nutrition PM and MEAL PM work in concert with the PMs of the partnering organizations to provide oversight (Note: CRS currently partners with two organizations in Borno state). One CRS nutrition officer then oversees a maximum of three partner nutrition officers and three wards. This may be one ward in three separate LGAs of Borno state or even three wards within one LGA. Additionally, one partner officer is assigned per ward. **Figure 3** further demonstrates CRS' current organizational structure in NE Nigeria.

Figure 3. CRS Tom Brown organizational chart



There are numerous people involved in the Tom Brown program, each with varying roles. **Table 4** describes the roles and responsibilities of parties involved in the implementation. It is important to note that CNMs are *ad hoc* workers that receive daily pay and have contracts with the respective partner organization in that LGA. Lead mothers are volunteers that are provided with small incentives (e.g., cooking utensils or a small gratuity on completion of the program), but are not employees of CRS or the partnering organizations.

Table 4. Roles and responsibilities of Tom Brown stakeholders

Role	Responsibilities	Estimated daily hours
CRS	■ Program oversight and management ■ Community liaison ■ Data cleaning and analysis ■ Reporting to donors	Full-time
Implementing partners	Daily program management in the community, including: ■ Data quality control ■ Oversight and training of CNMs ■ Community liaison	Full-time
CNMs	■ Screen, refer and enroll participants ■ Conduct weekly Tom Brown preparation and IYCF group counseling ■ Train lead mothers on Tom Brown preparation ■ Train lead mothers and caregivers on MUAC assessment	Full-time during period of implementation
Lead mothers	■ Coordinate caregiver group and ensure active participation in weekly Tom Brown activities ■ Receive ingredients and a small cash payment to cover related costs ■ Coach caregivers on preparation and use of Tom Brown ■ Serve as change agents on IYCF and hygiene to the community	Part-time (approx. 11 hours/week)
Caregivers	■ Prepare Tom Brown weekly ■ Receive weekly follow-up IYCF and hygiene counseling; ensure child has follow-up MUAC ■ After program, transition to monthly IYCF support group meetings ■ Receive training on MUAC assessment and appropriate interventions ■ Share knowledge of Tom Brown with family and community members not participating in the program ■ Serve as change agents on IYCF and hygiene to the community	Part-time (approx. 11 hours/week)

DETERMINE BUDGET AND MATERIALS REQUIRED

CRS' budget is based on a feeding program for children with MAM aged 6 to 59 months and a program design as described previously. With larger feeding programs, the cost per participant will fall, and with recurring implementation cycles, costs will also fall, given that CNMs will already have been trained. Costs to budget for include, at a minimum:

With recurring implementation cycles, costs will fall, given that community nutrition mobilizers will already have been trained.

- **Data collection and analysis tools:** Such materials include, at a minimum, MUAC tapes for screening/enrollment and Mother-MUAC to promote home monitoring of children's malnutrition; referral slip booklets; screening and weekly follow-up booklets; software and devices to capture MUACs (e.g., Android devices and KoBo Collect, a data collection software compatible with Android devices); and computer software to compile, clean and analyze data (e.g., Microsoft Excel and Power BI).
- **Tom Brown preparation materials:** Lead mothers are provided with cooking utensils, mats on which to dry ingredients, soap, handwashing stations, and a stipend for cooking fuel and water (where it is unavailable).
- **Ingredients:** CRS' logistics team procures the ingredients for storage in its warehouse. They are purchased no more than two weeks before preparation and distribution to avoid prolonged storage and aflatoxin contamination. CRS and its implementing partners conduct random vendor inspections for quality control, as well as educate lead mothers on visual inspection of grains and how to report poor quality. CRS has created an illustrated guide of high-quality versus poor-quality grain.

CRS has created an illustrated guide of high-quality versus poor-quality grain.

- **Financial support or incentives:** CRS and its partners provide daily wages to CNMs. For lead mothers, CRS provides a small stipend for milling and transport costs, as well as a gratuity at the end of the program. When scaling this approach to other areas, it will be important to align CNM (or CHW, if used) and lead mother incentives to other local standards (including government guidance and/or the practices of local NGOs or agencies).
- **IYCF and hygiene education materials:** Counseling cards on appropriate IYCF and hygiene practices are provided to CNMs to assist with group sessions.
- **Training requirements (see below):** CNMs and lead mothers must be properly trained and educated for successful implementation of the feeding program.
- **Program management:** To include supervision and oversight of Tom Brown activities, travel and other overhead costs.

DETERMINE TRAINING REQUIREMENTS

Community nutrition mobilizers play a critical role in the success of the CRS Tom Brown supplementary feeding program, given their role of overseeing the program, and providing IYCF and hygiene guidance at the community level. Thus, the implementing organization must prepare and deliver thorough training to CNMs. A sample training schedule by CRS is included in Appendix E. Training of CNMs is a joint effort between CRS and the partner organization, and lasts five days. CNMs then step down their practical training to lead mothers, who also serve as change agents in the community. Trainings should be concise and clear, and conducted in the local language. Implementing organizations should consider the following when preparing training:

Community nutrition mobilizers play a critical role in the success of the CRS Tom Brown supplementary feeding program.

- Trainings listed in Table 5.
- Training venue and materials (e.g., notepads and pens, presentation materials, data collection devices for practice, Tom Brown ingredients for preparation, etc.).
- Number of trainers required and roles during training. CRS asks state nutrition officers to facilitate trainings, along with implementing partner officers. LGA nutrition focal persons may be invited to help facilitate training.

Table 5. Required trainings for CNMs and lead mothers

Stakeholder	Training	Duration	Trainer(s)
CNM	IYCF and hygiene support group training, to include: ■ Tom Brown practical training and theory ■ Data collection tools	5 days	CRS and implementing partner
	IYCF and hygiene refresher (quarterly)	5 days	CRS and implementing partner
	Fire safety training	1 day	Implementing partner
Lead mothers	Tom Brown practical and theory	3 days	CNM
	Fire safety training	1 day	CNM

DETERMINE MEAL TOOLS REQUIRED

The implementing organization must develop a clear monitoring and evaluation plan in alignment with organizational and donor policies and procedures, including:

- Logical framework with goal(s), outcomes, indicators, data sources and assumptions
- Monitoring plan and activities
- Evaluation plan and activities (e.g., baseline and endline surveys)
- Feedback, complaints and response mechanisms
- Data management and quality control plan

ADDITIONAL PLANNING CONSIDERATIONS

Implementing organizations will also need to consider donor requirements when preparing for Tom Brown implementation, as well as the operating environment. For example:

- Donor requirements
  - Anthropometric requirements (e.g., weight-for-height, or MUAC only)
  - Reporting requirements (e.g., global acute malnutrition rates or other indicators)
- Operating context
  - Harvest and lean seasons
  - Integration of complementary programming (e.g., food assistance, shelter, WASH, health, protection/gender etc.)
  - Tailoring IYCF and hygiene counseling to the local context

A community volunteer trained by Catholic Relief Services visits a mother to screen her seven-month-old child for malnutrition. Photo by Michael Stulman/CRS

IV. How to Implement Tom Brown Programming

The CRS Tom Brown supplementary feeding program includes: (1) screening and referral; (2) eight weeks of supplemental feeding; (3) infant and young child feeding (IYCF) counseling; and (4) weekly MUAC monitoring. In total, the supplementary feeding program lasts about 11 to 13 weeks (**Figure 4**): 2 to 4 weeks to screen all children in a community and enroll children with MAM into the program, then 9 weeks to prepare and distribute take-home rations of Tom Brown and monitor enrollees' progress. Although Tom Brown is prepared and distributed for eight weeks, MUAC measurement still occurs the week after the distribution has ended.

Each CRS Tom Brown supplementary feeding program lasts for up to 13 weeks.

Figure 4. Duration of the CRS Tom Brown supplementary feeding program

SCREENING AND ENROLLMENT

In target locations, CNMs go from house to house screening all children aged 6 to 59 months for acute malnutrition using MUAC tapes. To facilitate community-level screening, CRS does not currently use weight-for-height as a Tom Brown admission criterion; see the FAQs for further information. CNMs also assess children for the presence of edema, an indicator of SAM. As described in Section II, CRS enrolls only children with MAM, a MUAC of 11.5 cm or more, but less than 12.5 cm (11.5cm ≤ MUAC < 12.5cm) into the program.

The CNM informs the caregiver of the MUAC results (e.g., healthy MUAC, MAM or SAM) and records these on the data collection device (i.e., KoBo Collect on Android device). If the child has SAM, the CNM counsels the caregiver and refers the caregiver and child to the nearest OTP or SC, as appropriate. If the child has MAM, the CNM counsels the caregiver and informs them of the Tom Brown program. If the caregiver provides consent, the CNM writes a referral slip and records the child's referral ID on the data collection device. If the child has a healthy MUAC, the CNM encourages the caregiver and counsels them on appropriate IYCF and hygiene practices. After screening and upon enrollment, CNMs reassess the child's MUAC to ensure their nutrition status has not deteriorated to SAM (see Figure 5 for further details on MUAC assessment frequency).

CHOOSING AND EDUCATING LEAD MOTHERS

Lead mothers are selected by the responsible partner's nutrition officer in collaboration with the CNMs and community leaders. Lead mothers are well-respected community members that must have ample space in their compound to host preparation activities (e.g., washing and drying of grains, hosting and facilitating IYCF counseling, etc.), with good personal and home hygiene.

Lead mothers are well-respected community members who each oversee 12 caregivers for eight weeks.

One lead mother oversees 12 caregivers for eight weeks. Before lead mothers and caregivers convene to prepare Tom Brown, CNMs provide practical education to lead mothers on the nutritional benefits of Tom Brown, the ingredients required, and how to make the powder for take-home rations. CNMs provide this step-down training to lead mothers over three days. These step-down trainings are provided in large groups; for example, in a community, 27 CNMs were divided into two groups, and each group oversaw the education and training of no more than 25 lead mothers.

WEEKLY TOM BROWN PREPARATION

Each week, 12 caregivers convene at the lead mother's home. The caregivers and lead mother choose a schedule that works best for them, usually taking the first three days of each week to prepare Tom Brown and distribute take-home rations. A sample weekly schedule is included in **Table 6**. This schedule is repeated for eight weeks. To enable optimum access of the services, the caregivers' households are mapped and then each is assigned to the nearest lead mother's home.

To prepare 13 weekly Tom Brown rations (one for each of the 12 participating children and the lead mother), caregiver groups need cereal, soya beans and groundnuts in a ratio of 6:3:1:

- 6 measures of millet, sorghum and/or maize (16 kg total; 8 kg of millet and 8 kg of sorghum, for example)
- 3 measures of soya beans (8 kg)
- 1 measure of groundnuts (2.7 kg).[3]

Each enrollee takes home a weekly ration of 1.5 kg of blended Tom Brown powder (about 214 g per day). Caregivers are counseled by CNMs and lead mothers to feed their enrolled child Tom Brown porridge two to three times per day in addition to their daily diet.

3. The Tom Brown recipe is adaptable based on locally available ingredients. For example, whatever legume is available may be used in place of soya beans, or any available cereal may be used in place of sorghum or millet.

Table 6. Sample Tom Brown weekly schedule

Day	Activities	Hours per day
Day 1	■ The caregivers convene at the lead mother's house, and wash their hands and all cooking utensils with soap and water. ■ They begin soaking the soya beans in clean water. This is done for 24 hours or overnight. Soaking eases the removal of the husk from the beans and reduces the naturally occurring toxins present in raw, unprocessed soy.	1 hour maximum
Day 2	■ Caregivers wash their hands and all cooking utensils with soap and water. ■ Millet and sorghum are soaked in water for 2 hours. This allows the grain to be free of debris and softer for milling the next day. If using maize instead of sorghum, it will also need to be soaked for 2 hours. ■ Caregivers drain the water from the grain, and then rinse all ingredients with clean water. ■ Caregivers dehusk the soya beans (and maize, if maize is used instead of sorghum). ■ Caregivers place the millet, sorghum (or maize) and dehusked soya beans on a clean mat in the shade to dry. They should not be placed in the sun to increase the drying speed as this will cause some nutrient loss. ■ CNM provides IYCF and hygiene counseling to the group (*note: this can be done on day 2 or day 3*).	About 5 hours
Day 3	■ Caregivers wash their hands and all cooking utensils with soap and water. ■ Caregivers roast the dry soya beans and groundnuts until golden brown. ■ Caregivers lightly roast the sorghum (or maize) and millet. ■ All the ingredients are mixed together. ■ The lead mother takes ingredients to a miller, who grinds ingredients together into a powder. ■ The mixed powder is then portioned and packaged by the lead mother into 1.5 kg take-home rations for each enrolled child for the week. ■ CNM assesses MUAC of enrolled child and records on data collection device (*note: this could be carried out the following day in the caregiver's home if the child is not present on share-out day*).	About 5 hours

COUNSELING ON INFANT AND YOUNG CHILD FEEDING

An important component of the Tom Brown model is group counseling on infant and young child feeding and hygiene for positive and sustainable behavior change. CRS uses the group counseling sessions to empower caregivers and lead mothers to serve as change agents in the community and thereby improve community health. CNMs use these sessions to discuss complementary feeding and exclusive breastfeeding, dietary diversity, personal and home hygiene, as well as disease prevention (e.g., measles and malaria), and good health-seeking behaviors.

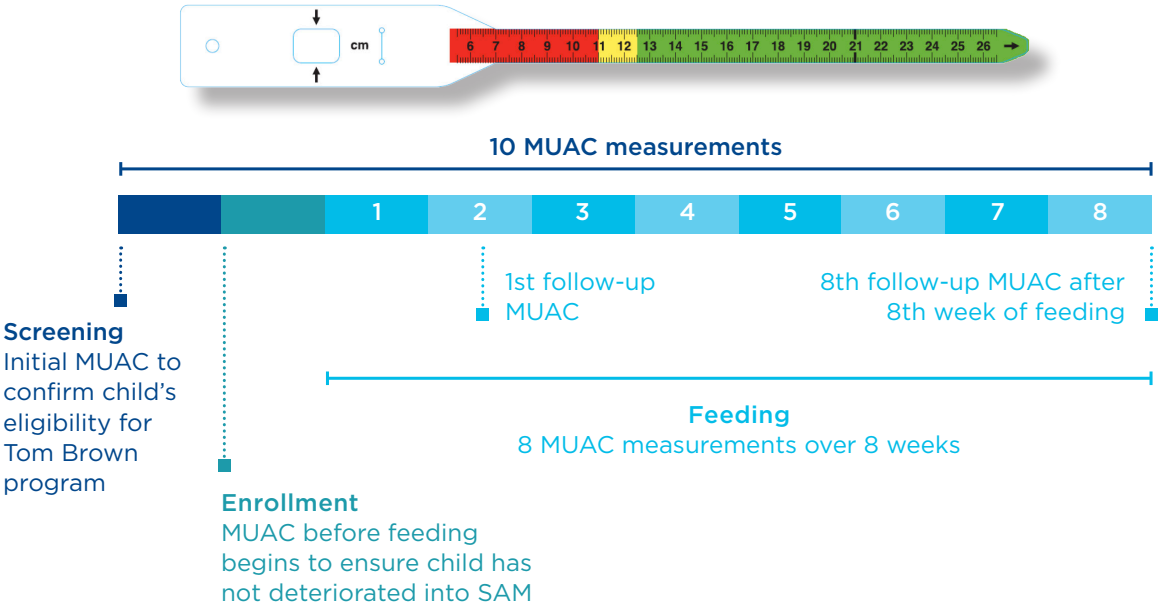
Upon graduation from Tom Brown, if there are no existing support groups by other actors, caregivers are transitioned into IYCF support groups where they can come together at least once a month to discuss and share knowledge on optimal IYCF and hygiene practices to ensure the stable and healthy state of the children and the household in general. In this forum, caregivers are also trained on Mother-MUAC assessment and appropriate intervention. In communities where support groups exist, caregivers are referred to join these if they are not already members.

MUAC MONITORING

Community nutrition mobilizers will assess the enrollee's MUAC weekly to monitor their growth, and record the results in KoBo Collect. If at any time the child is found to have SAM, they will be referred to an OTP or SC, as appropriate. Enrollees with SAM are still encouraged to take the weekly Tom Brown ration. Again, if the child reaches a healthy MUAC before the completion of the eight-week feeding program, the child still receives weekly take-home rations and IYCF counseling to prevent relapse. Caregivers of children who do not reach a healthy MUAC by the end of the program are encouraged to take their children for medical assessment, to identify and address any underlying health issues that may be contributing to their failure to recover. In areas where Tom Brown activities will be continuing, they are also re-enrolled in a subsequent round of Tom Brown (up to a maximum of two rounds). Figure 5 demonstrates the frequency of MUAC assessments by CNMs.

Caregivers of children who do not reach a healthy MUAC by the end of the program are encouraged to take their children for medical assessment, to identify and address any underlying health issues.

Figure 5. Frequency of MUAC assessments by CNMs



INTEGRATION WITH OTHER PROGRAMMING

Tom Brown programming can be integrated into other complementary programming, such as shelter, WASH or food assistance.

Tom Brown programming can be integrated into other complementary programming, such as shelter, WASH or food assistance. As mentioned in Section III, CRS chooses to implement Tom Brown programming where nutrition-sensitive programming already exists. CRS Nigeria ensures food assistance recipients receive e-vouchers to buy nutrient-rich foods in the market. Thirty percent of the e-voucher "wallet" is restricted to nutrient-rich foods, such as vegetables and proteins. Many of the ingredients to make Tom Brown, except for sugar and cloves (preservative), can be purchased with the e-vouchers. Thus, the food assistance program promotes the purchase and production of Tom Brown to combat acute malnutrition in children. Other examples of nutrition-sensitive programming that could be integrated with Tom Brown include:

- Homestead food production
- WASH programming (e.g., improved latrines, boreholes, handwashing stations)
- Women's empowerment programming
- Livestock production
- Livelihoods diversification

Public health and the Tom Brown program

Besides instability resulting from the decade-long insurgency, NE Nigeria has endemic vector-borne diseases, such as malaria, as well as outbreaks of highly infectious diseases, including cholera, coronavirus and measles. CRS and its partners ensure appropriate adaptation of programming to prevent further outbreaks that could worsen the health of already vulnerable children.

With coronavirus, CRS has assumed community transmission and adopted Mother-MUAC instead of door-to-door MUAC screenings, handwashing stations at lead mothers' homes, physical distancing of two meters, the use of masks and hand sanitizer, and fewer caregivers in each IYFC group. CNMs include appropriate messaging on disease prevention during weekly IYCF sessions, including on coronavirus, measles, cholera and malaria. If a child falls ill, the CNM refers them to the nearest health facility and closely monitors their well-being.

V. How to Promote the Sustainability of Tom Brown Programming

CRS cultivates a model of continual learning and improvement for its Tom Brown program, as evidenced by its movement from a four-week pilot in 2018 to the eight-week program it maintains today. Efforts to evaluate the sustainability of the CRS Tom Brown model and assess relapse rates of past enrollees are underway. From past monitoring and evaluation reports, CRS Nigeria has noted high community acceptance and cross-sharing of Tom Brown as two pathways to promoting the sustainability of the program.

COMMUNITY ACCEPTANCE

A primary factor in promoting the success of Tom Brown is the community itself, from receiving approval by community leadership to the participation of lead mothers and caregivers. The Tom Brown program uses a porridge made from familiar and locally accessible ingredients. The recipe can also be adapted, as needed. If sorghum is not available, maize or millet can be used. Further, any of the three cereals (i.e., sorghum, millet or maize) can be used alone in addition to groundnuts and soya beans. Caregivers need only remember the ratio—6:3:1—to prepare Tom Brown on their own.

Community nutrition mobilizers ensure that, once the program has ended, caregivers can continue to prepare the nutritious meal on their own.

CRS' participatory Tom Brown model also enhances the capacity building of participants. CNMs lead participants through the preparation process to help ensure that, once the program has ended, caregivers can continue to prepare the nutritious meal on their own, if they wish, as well as share their practical knowledge.

CROSS-SHARING

Tom Brown participants have frequently expressed that non-participating members wish to learn how to make the porridge after seeing the enrolled child's recovery. In other instances, past participants have learned to recognize the signs of acute malnutrition in other community members' children and either shared Tom Brown powder or taught the community member how to prepare it. CRS encourages its program participants to share their knowledge of Tom Brown and IYCF practices with family members and other non-participating community members in order to promote the sustainability of the feeding program and prevent acute malnutrition.

VI. Lessons Learned

The operating context in NE Nigeria presents unique challenges to nutrition programming. Attacks in areas of operations have restricted access to or caused the high mobility of populations. For example, in areas of Yobe, communities in Gujba and Gulani LGAs were inaccessible given movement restrictions. To promote programming continuity, CNMs encouraged caregivers who had the means (e.g., farmed grains or the ability to buy grains) to prepare Tom Brown in small quantities and continue feeding children. At other times, to promote continued feeding, CRS has provided double distributions of take-home rations because of instability or religious holidays.

In another community where program participants had no water, CRS provided a small stipend for lead mothers to buy water for the weekly preparation of Tom Brown. CNMs also counseled caregivers on water hygiene (e.g., boiling and filtering) in areas with no clean water, to prevent diarrheal disease through the contamination of Tom Brown.

CRS' most important lessons learned, however, relate to the duration of the feeding program. The first pilot program lasted four weeks in Kaga LGA in 2018. Some 65% of the enrolled children had at least one normal MUAC (≥12.5 cm) within four weeks of feeding. A second four-week pilot was implemented in Magumeri and Gubio LGAs in 2018, and 77% of enrolled children had at least one normal MUAC. However, CRS staff observed several relapse cases and decided to conduct another pilot lasting six weeks. The percentage of enrolled children with at least one normal MUAC improved again, this time to 87%. CRS decided to extend feeding to eight weeks, recognizing that higher MUACs are better predictors of sustained health. Thus, extending the duration of the program allows children more time to gain additional weight. Further, the extended duration provided higher levels of oversight and concentrated resources (e.g., more IYCF and hygiene support by CNMs), as well as more time for caregivers to strengthen their social connections.

CRS' most important lessons learned relate to the duration of the Tom Brown supplementary feeding program.

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Appendix A: Results of Tom Brown Implementation

Between 2019 and 2020, CRS has screened 61,100 children for acute malnutrition and enrolled 4,138 children under USAID Office of Food for Peace funding. The proportion of children with healthy mid-upper arm circumferences (MUACs) exceeded Sphere standards' minimum recovery rate of 75%, shown in Figure 1. To date, 3,692 children out of 4,138 enrollees (89%) have finished the program with a healthy MUAC.

Figure 1. Recovery rate by pilot/season

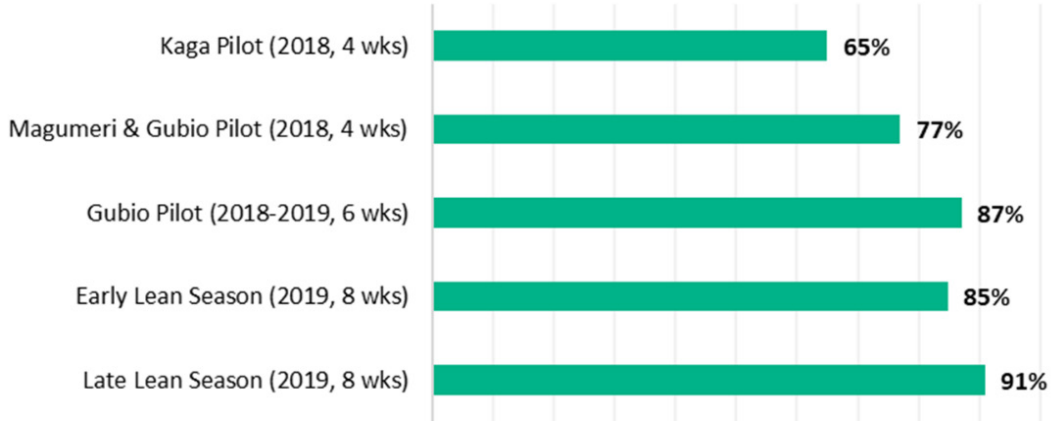
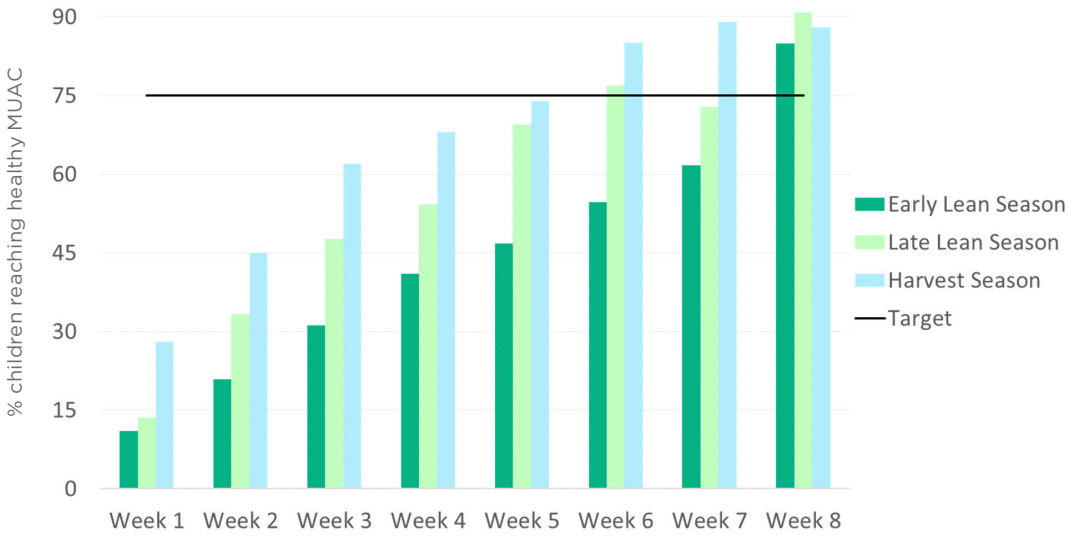


Figure 2 illustrates the proportion of enrollees with healthy MUACs (≥12.5 cm) by follow-up week for programming in 2019 under FFP funding (early lean season, late lean season and harvest season). As demonstrated below, more than 75% of enrollees had healthy MUACs at week 8 for all periods.

Figure 2. Healthy MUACs by week



Appendix B: Frequently Asked Questions (FAQs)

What is Tom Brown?

Tom Brown is a powder blended from nutritious locally available ingredients—cereal (e.g., millet and sorghum), soya beans and groundnuts—that is made into a porridge to supplement children's diets. The powder is prepared by program participants over the course of three days: the first day to soak the soya beans; the second day to dehusk and dry the soya beans, soak and rinse the millet or sorghum, and dry the ingredients; and the third day to roast and mill the ingredients, and prepare the powder for take-home rations. It is known locally as a *pap* or *bulum* and is a common household meal in Nigeria.

What is Tom Brown's history at CRS?

CRS and its partners (Justice, Development and Peace Commission, Northeast Youth Initiative for Development, and Nira Community Development Foundation) started the current Tom Brown program after observing gaps in care for children identified as having moderate acute malnutrition (MAM) and prolonged shortages of ready-to-use supplementary food. It has been implemented in six local government areas (LGAs) in NE Nigeria's Yobe (Gujba and Gulani) and Borno states (Gubio, Jere, Kaga and Magumeri) since 2018. CRS stopped implementing Tom Brown feeding programs in Yobe in late 2019. CRS has a long history of including Tom Brown as part of its nutrition activities across Nigeria. This supplemental food has been provided as part of work to support orphans and vulnerable children and as part of broader food security and nutrition efforts. For example, both the USAID-funded Feed the Future Nigeria Livelihoods Project and the Sustainable Mechanisms for Improving Livelihoods and Household Empowerment (SMILE) project provided caregivers with the ground, mixed powder to make porridge for their malnourished children at home.

How does the CRS Tom Brown supplementary feeding program work?

CRS and its implementing partners work with community nutrition mobilizers (CNMs), individuals who live in the communities where Tom Brown programming is implemented. These mobilizers are trained by CRS and its partners on CMAM and optimal IYCF practices. They then screen children aged 6 to 59 months in their respective communities for acute malnutrition, and refer and enroll those with MAM into the Tom Brown feeding program. Children identified with SAM are referred to existing OTPs for treatment. Lead mothers are chosen by the community, using the criteria in Appendix C, to oversee 12 caregivers of children with MAM. This group of 13 meets with their respective mobilizers weekly for eight weeks to prepare and distribute Tom Brown powder, and receive IYCF and hygiene messaging from the lead mothers, supported by mobilizers. The mobilizers also measure enrolled children's mid-upper arm circumference (MUAC) weekly for eight weeks to track their progress, conduct weekly home visits and monitor preparation of Tom Brown powder and feeding practices. Oversight of caregivers by the mobilizers promotes the children's recovery and allows for any necessary adjustments during the program (e.g., hygiene, texture of Tom Brown, addressing any myths around IYCF the caregivers may have, etc.).

How is Tom Brown porridge cooked?

To make the porridge from the milled powder:

- Spoon the preferred quantity of Tom Brown powder into a clean bowl and mix it with clean water at room temperature to make a paste.
- Pour clean water into a clean cooking pot and place it on the fire to boil. The quantity of water should be about 3 times the measure of the paste.
- Gently pour the paste into the boiling water while stirring at a moderate speed to prevent lumps.
- Continue to stir with the pot on the fire until the porridge cooks and thickens. This may take 5 to 15 minutes depending on the quantity.

Why does CRS target only children with MAM for Tom Brown?

CRS introduced Tom Brown to respond to an identified gap in services for children with MAM in targeted states. According to the Borno State Nutrition Sector 2019 Achievements and Analysis (UNICEF 2019), about 70% of children suffering from MAM in Borno did not receive treatment. The CRS Tom Brown activities target areas where there are no other existing MAM treatment or supplemental feeding activities. In areas where these programs exist, CRS does not provide Tom Brown to avoid duplication. Further, Tom Brown is not designed to meet the specific nutritional needs of children with SAM. Tom Brown can also be consumed by healthy children, if so desired, although in the CRS model, caregivers are encouraged to feed Tom Brown solely to a malnourished child.

Why does CRS only use one recipe for its Tom Brown feeding program?

CRS reinforces the Tom Brown recipe consistently in the community through caregiver groups for qualitative repetition, addressing specific IYCF messages, and ensuring individual caregivers can make the porridge hygienically in their homes after the program ends. Introducing more recipes would provide more options and dietary diversity, but could reduce repetition and thus mastery of nutrition program staff, CNMs and lead mothers to ensure consistent quality control and appropriate IYCF practices. Because the project provides the ingredients, the recipe is made up entirely of dry or shelf-stable ingredients, which offer greater flexibility for storage and distribution, with less risk of perishing and reduced food safety concerns. CRS advises caregivers on a few simple modifications that they can use to enrich the recipe with additional dietary diversity, such as adding various vegetables (e.g. Amaranthus), fruit, milk, palm oil or margarine. Sugar, honey or molasses are presented as options that can be used in small quantities if needed to make the food more palatable. CRS currently recommends, but does not provide, non-essential ingredients or financially incentivize their purchase. CRS prioritizes sustainability and ensuring caregivers are able to recreate the basic recipe with limited financial resources when the intervention ends, and even train their neighbors, friends and relatives with ease. The food items must be affordable and localized for caregivers to produce them from personal farms or buy in a local market. In promoting dietary diversity, CRS also engages its caregivers in at least a one-hour nutrition education session consisting of the dietary diversity (four-star diet)[4] sessions, and conducts follow-up home visits for effective IYCF sensitization.

4. A four-star diet includes each of the following food components (stars): a staple, a legume, a fruit or vegetable, and an animal-sourced food. UNICEF. ND. The Community Infant and Young Child Feeding Counseling Package.

Does CRS accept referrals of children with MAM from other organizations?

CRS does not currently accept referrals of children with MAM from other organizations largely because of the grouping of caregivers. If the child and caregiver referred do not live close to the other participants, it would be difficult to place them in a group of caregivers. Also, the referring organization may have different criteria for identifying MAM (e.g., using weight-for-height instead of MUAC). Finally, because MUAC can change rapidly when referrals are not acted upon immediately, the referred child may achieve a healthy MUAC before completing the referral to CRS, and would therefore not be eligible to participate in CRS programming. CRS is eager to continue exploring viable options for referral networks, and this will likely need to include joint planning of malnutrition activities by the referring and referee organizations to ensure compatibility.

What happens if a child is screened and found to have severe acute malnutrition (SAM) or it develops SAM during Tom Brown programming?

During the screening process, community nutrition mobilizers take MUAC readings of all children aged 6 to 59 months and assess them for edema. If the child's MUAC is below 11.5 cm or if the child has edema, each an indicator of SAM, the child is referred to the nearest outpatient therapeutic program (OTP) center or stabilization center (SC). During the Tom Brown feeding program, CNMs conduct weekly follow-ups and take MUAC readings. If any MUAC falls below 11.5 cm, children are referred to the nearest OTP or SC, as appropriate, and the family is encouraged to continue participating in the Tom Brown intervention. The supplemental food ration allows them to prepare a more nutrient-rich porridge for their malnourished child to use in place of other typical home staples, and they learn how to prepare Tom Brown at home to help protect nutrition after discharge. Tom Brown does not contain any fortification, supplements or medication, and thus does not present a risk of "overdose" when eaten in combination with ready-to-use therapeutic food (RUTF).

What happens if a child still has MAM at the end of the 8-week Tom Brown intervention?

Caregivers of children who do not reach a healthy MUAC by the end of the program are encouraged to take their children for medical assessment, to identify and address any underlying health issues that may be contributing to their failure to recover. In areas where Tom Brown activities will be continuing, they are also re-enrolled in a subsequent round of Tom Brown (up to a maximum of two rounds).

Does CRS enroll children with MAM that are also beneficiaries of an OTP?

If a child is found to have MAM during screening but is identified as a beneficiary of an OTP, CRS will not enroll the child in the supplementary feeding program. The OTP will treat the child through recovery.

If there is a large influx of community members who missed screening and referral, can they enroll in Tom Brown if their child has MAM?

CRS does not enroll children into its supplementary feeding program on a rolling basis. If there is a sudden influx of new community members or if a community member approaches a CNM to request being added to the program, the CNM will provide IYCF counseling and educate the community member on Tom Brown. The community member would then wait for the next round of CRS screening to enroll. There have also been cases in which CRS applied for additional funding to scale up programs in locations with a higher prevalence of MAM.

What are the enrollment and recovery or cure criteria for Tom Brown?

Children aged 6 to 59 months with MUAC readings of greater than or equal to 11.5 cm but less than 12.5 cm may be enrolled in the program. CRS enrolls children based only on their MUAC reading and currently does not measure weight-for-height. CRS uses a MUAC reading as it is a simple, accurate and rapid diagnostic tool appropriate for use in resource-limited settings, while using weight-for-height would require additional training of community health workers.

The CRS Tom Brown supplementary feeding program is of fixed duration. Children are provided with eight weeks of feeding whether or not they recover within that period. Currently, CRS deems a child as recuperated when their final follow-up MUAC is ≥12.5 cm. However, CRS is considering additional definitions of recuperation (e.g., two consecutive MUACs ≥12.5 cm for future programming).

How effective is Tom Brown?

Some 3,692 children out of 4,138 enrollees (89%)[5] have finished the program with a healthy MUAC. This exceeds the Sphere standards' recommended minimum recovery rate of 75% for children with acute malnutrition. Caregivers of children who do not reach a healthy MUAC by the end of the program are encouraged to take their children for medical assessment, to identify and address any underlying health issues that may be contributing to their failure to recover. In areas where Tom Brown activities will be continuing, they are also re-enrolled in a subsequent round of Tom Brown (up to a maximum of two rounds).

How does Tom Brown compare with other products?

Tom Brown is not considered a ready-to-use supplementary food (RUSF), and nor is it a fortified blended food (FBF) as it is not fortified with micronutrients. In a 214-gram ration of Tom Brown, there are 43 grams of protein and 28 grams of fat. Tom Brown's nutritional profile can be compared with other MAM treatment and prevention products, below.

5. Recovery rate 89.2%, non-recovery rate 9.6%, death rate 1.2%.

Product	Ration size	Nutrient profile	Target groups	Recommended use
Corn soy blend +	200 g 20 g oil 15 g sugar	997 Kcal 28 g protein 32 g fat	24-59 months PLW	Treatment
Corn soy blend ++	200 g	840 Kcal 32 g protein 18 g fat	6-23 months	Treatment Prevention
Tom Brown	214 g	869 Kcal 43 g protein 28 g fat	6-59 months	Management Prevention
Plumpy Doz	46.3 g	247 Kcal 5.9 g protein 16 g fat	6-23 months	Prevention
Plumpy'Sup	100 g	537 Kcal 12.1 g protein 35 g fat	6-59 months	Treatment
Nutributter	20 g	108 Kcal 2.56 g protein 7.08 g fat	6-23 months	Prevention
Micronutrient Powder	1 g	1 reference nutrient intake of micronutrients	6-23 months 6-59 months PLW	Treatment Prevention

Sources: WFP 2020; NutVal 4.1; GAO 2011

What are the advantages, risks and mitigation when implementing Tom Brown?

Tom Brown is a sustainable option for community-based supplementary feeding programs. Within NE Nigeria there has been high acceptance of the porridge given that it is a well-known meal and can be consumed by the whole family, not only children.[6] Other advantages include:

- Ingredients are locally accessible and buying them locally strengthens markets.
- CRS' implementation model fosters social cohesion among caregivers.
- The program promotes positive behavioral change around IYCF and hygiene.
- Engaging the caregivers in preparing and packaging the powder for distribution reinforces how to feed and care for children with appropriate hygiene practices.
- Tom Brown powder is a potential source of income generation for caregivers after the program has ended.
- Recovery rates exceed Sphere standards (>75% recovered; see Appendix A: Results of Tom Brown Implementation).

6. Distribution of the Tom Brown rations by CRS is meant solely to feed the enrolled MAM child over the eight weeks. Using their own resources, families can produce additional Tom Brown to feed further family members not enrolled in the program.

With any feeding program, particularly in an emergency context, there will be risks. **Table 7** describes specific risks to the Tom Brown program and how CRS has worked to mitigate them.

Table 7. Risks and Mitigation for Tom Brown Programming

Risk	Mitigation
Caregivers may use the Tom Brown powder for purposes other than feeding their acutely malnourished child.	Tom Brown ingredients are local and familiar to participants because they have prepared the powder themselves. Thus these ingredients are are not associated with any superstitious beliefs that could lead to avoidance or diversion.
	Community nutrition mobilizers (CNMs) use down-time during the preparation process to stress the importance of feeding the powder to the malnourished child.
	Frequent home visits from the CNM provide additional encouragement to families to feed the powder to the malnourished child.
CRS' program focuses only on children with MAM, and not children with SAM or healthy children.	All children are screened from house to house and, if they have SAM, referred to existing partners at OTPs or SCs. CNMs also conduct follow-ups on referred children with SAM to ensure admission to a program.
	If caregivers of children with SAM are more than 30 minutes from OTP or SC services, CRS provides a small transport subsidy to support them in taking the child to the appropriate facility.
	The IYCF model promotes capacity building of lead mothers and caregivers, who are encouraged to teach friends and relatives.
Security challenges to programming may arise given the insurgency.	Double-ration distributions are made when necessary.
	The locally sourced materials have low visibility relative to commercially packaged products, and the small quantities in any given location mitigate against attention and theft by armed groups.
Preparing the porridge is time-consuming.	The group structure lightens the cleaning and dehusking workload, and the lead mother positively reinforces group participation.
	Caregivers are committed to their child's improvement, and invest personal time and resources in their recovery.
Activities may be temporarily suspended by violence.	CNMs are embedded in the community and can inform participants of the resumption of activities.
Participating families may be displaced by violence and unable to participate in the program in their new location.	The Tom Brown model educates participants to produce the supplement even when not actively engaged in the feeding program.
	Locally sourced ingredients can be located by participants even if they are displaced.

Appendix C: Lead Mother Selection Criteria

The implementation of the community-led Tom Brown supplemental feeding program is championed through the work of lead mothers from the communities that CRS supports. A lead mother is a woman selected in collaboration with her community who is in high standing with community leadership and members of her community. The potential lead mother is encouraged to consult and seek the consent of her husband and other adults in the household, to ensure family harmony will not be compromised should she accept this new role.

Each lead mother receives a three-day training session in the community on IYCF messaging and the preparation of Tom Brown along with the other selected lead mothers. Upon completion of the required trainings and after assembling the group of caregivers with whom she will work, the lead mother will be provided with all cooking utensils needed and trained on leading the group for eight weeks.

A lead mother should:

- be well known in her community and by her community leaders;
- have a harmonious relationship with her community members (especially women's group);
- be of childbearing age and/or not more than 60 years of age. A lead mother does not need to be a biological mother or caregiver of a child (0-59 months), or of a MAM child. A lead mother can be any adult woman who is physically active and accepted by the community to lead a group of fellow women;
- be willing to serve voluntarily as a change agent in support of improving infant and young child feeding practices in her community, and conduct weekly Tom Brown production in her house;
- have ample space and enough shade to accommodate 12 women within her compound; and
- have access to water.

Finally, each lead mother will receive the following compensation for supporting the Tom Brown program:

- A small, weekly stipend to cover the costs of firewood, grinding/milling of food items and the transportation of items;
- At the end of the eight weeks, the cooking utensils provided to support the program will be given to the lead mother for her personal use; and
- At the end of the eight weeks, each lead mother will be given a small gratuity as a token of appreciation.

Appendix D: Tom Brown Recipe Card


Soya beans


Sorghum


Millet


Groundnuts

PREPARATION

Recipe

(You can use any measure, cup or bowl of your choice but ensure the ratio of 6:3:1 is maintained.)

- 6 measures of millet, sorghum and/or maize*
- 3 measures of soya beans
- 1 measure of groundnuts

Day 1

- The group washes their hands and the cooking utensils in soap and water.
- The soya beans are soaked in clean water for 24 hours or overnight. This eases the removal of the husk from the beans and reduces the naturally occurring toxins present in raw/ unprocessed soya beans.
- If using maize, soak it overnight.

Day 2

- The group washes their hands and the cooking utensils in soap and water.
- In the morning, remove the husks from soya beans.
- Soak millet or sorghum for 1 to 2 hours and wash clean. If using maize, rinse it.
- Spread washed soya beans, millet and/or sorghum in the shade to dry.

Only dry grains in the shade

In hot and sunny weather, the grains should remain in the shade until they are completely dry. They should not be placed in the sun to increase drying speed as this can cause some nutrient loss.

Day 3

- The group washes their hands and the cooking utensils in soap and water.
- Roast the dry soya beans and groundnuts until golden brown.
- Lightly roast the sorghum and millet. If using maize, remove the husks before or after roasting. Maize can also easily be dehusked in a milling machine.
- Mix all the ingredients together for milling.
- The ingredients are taken to be milled into a powder.
- Portion and package the mixed powder into airtight containers.
- A small measure of cloves can be added to the mixture before grinding to act as a preservative.
- Add various vegetables (e.g. Amaranthus), fruit, milk, palm oil or margarine for a more diverse meal. A small quantity of sugar, honey or molasses can also be added per personal preference. Adding a spoon of palm oil to the porridge provides vitamin A (for healthy eyes).


Removing the husks from the soya beans.

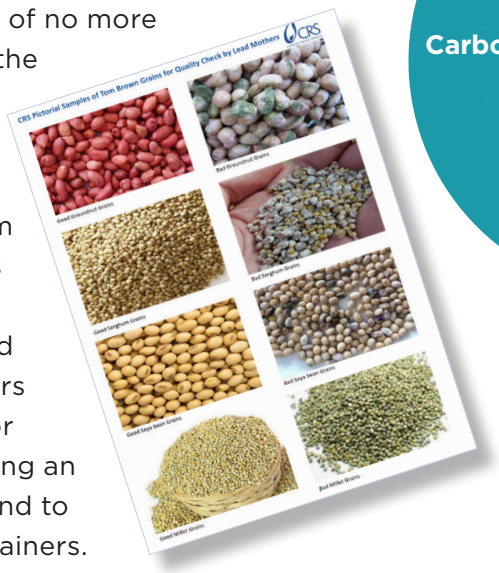
HOW TO COOK THE PORRIDGE

- Spoon your preferred quantity of powder into a clean bowl, and mix it with clean water at room temperature to make a paste.
- Pour clean water into a clean cooking pot and put it on the fire to boil. The quantity of water should be about 3 times the measure of your paste.
- Gently pour the paste into the boiling water while stirring at a moderate speed to prevent lumps.
- Continue to stir the pot on the fire until the porridge cooks through and thickens. This may take 5 to 15 minutes depending on the quantity.

A caregiver prepares Tom Brown. Photo by Laura Elizabeth Pohl/CRS

IMPORTANT TIPS

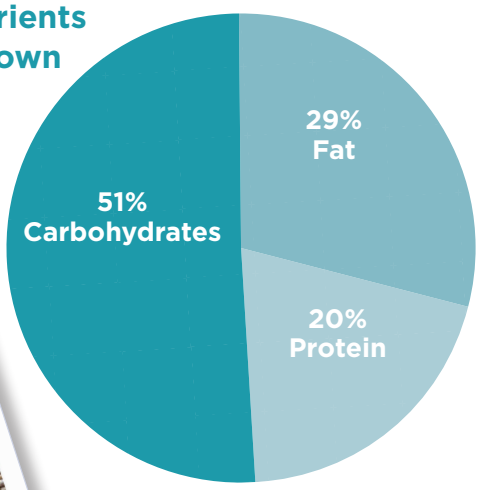
- Lightly roasting the grains at a low heat helps to eliminate moisture, and makes the powder finer after milling. This also means the porridge will cook faster.
- Tom Brown powder can last for about 6 months when stored free from moisture in an airtight container.
- Recognizing that the powder may not always be stored in ideal conditions, CRS recommends a storage period of no more than two months to minimize the likelihood of spoilage or contamination.
- To ensure good quality grains, CRS procures only from certified vendors and inspects all inputs to ensure they are free from visual moisture, mold or contamination. Lead mothers are taught to inspect grains for contamination before use—using an illustrated guide (pictured)—and to store products in airtight containers.
- Where available on the local market, use bio-fortified grains, or grains fortified with vitamins and/or minerals that meet local needs



Wash your hands

Wash hands with soap and clean water before and after porridge preparation.

Energy supplied by macronutrients in Tom Brown porridge



Tom Brown:

- is good for children 6 months and over, after exclusive breastfeeding.
- is good for everyone over the age of 6 months.
- can serve as a family breakfast.

Appendix E: Sample CNM Training Schedule

Included below is an example five-day training schedule for community nutrition mobilizers by Catholic Relief Services and one of its implementing partners, the Justice, Development and Peace Commission. Members of the monitoring, evaluation, accountability and learning team and the Borno state nutrition officer were also involved in the five-day training. Implementing organizations can adapt the topics and schedule, as necessary.

DAY 1

TIME	ACTIVITY	PERSON RESPONSIBLE
9:00 – 9:30 am	Arrival and registration	CRS nutrition data clerk
9:30 – 9:40 am	Welcome address	CRS nutrition officer
9:40 – 10:00 am	Introduction and setting of ground rules	CRS nutrition officer
10:00 – 10:15am	Objectives and expectations	CRS nutrition officer
10:15 – 10:30 am	Pre-test	CRS nutrition officer
10:30 - 11:00 am	**TEA BREAK**	**All**
11:00 am – 12:00 pm	What is malnutrition? ▪ Types of malnutrition ▪ Types of acute malnutrition ▪ Causes of malnutrition ▪ How to identify malnutrition	State facilitator
12:00 – 1:00 pm	What is community management of acute malnutrition (CMAM)? ▪ Components of CMAM	State facilitator
1:00 – 2:00 pm	**PRAYERS AND LUNCH**	**All**
2:00 – 2:30 pm	Infant and young child feeding (IYCF): Why it matters	State facilitator
2:30 – 3:00pm	Nutrition for pregnant and breastfeeding women	State facilitator
3:00 – 3:30 pm	Recommended IYCF; breastfeeding practices; dangers of mixed feeding	State facilitator
3:30 – 3:40 pm	**PRAYERS AND BREAK**	**All**
3:40 – 4:15 pm	Tom Brown ▪ What is Tom Brown? ▪ Ingredients and measurement	CRS nutrition officer
4:15 – 4:30 pm	Tom Brown Practical Day 1 Measurement and soaking of soya beans	CRS and JDPC nutrition officers

DAY 2

TIME	ACTIVITY	PERSON RESPONSIBLE
8:00 am – 8:30 am	Arrival/Opening prayers	Volunteer
8:30 am – 8:45 am	Recap of previous day's activities	CRS nutrition officer
8:45am – 10:00 am	Tom Brown Practical Day 2 Washing and drying of grains	CRS and JDPC nutrition officers
10:00 – 10:30 am	**TEA BREAK**	**All**
10:30 – 11:30 am	Breastfeeding practices, hygiene, and birth spacing	State facilitator
11:30 am – 12:00 pm	Recommended Infant and Young Child Feeding (IYCF) and complementary feeding ▪ Feeding at 6 months ▪ Feeding 6-9 months ▪ Feeding 9-12 months ▪ Feeding 12-24 months	State facilitator
12:00 – 12:30 pm	▪ Feeding practices (cont.) ▪ Feeding the sick child <6 months ▪ Feeding the sick child >6 months ▪ Growth monitoring	State facilitator
12:30 – 1:00 pm	Types of complementary foods and food diversity	State facilitator / CRS nutrition officers
1:00 – 2:00 pm	**PRAYERS AND LUNCH**	**All**
2:00 – 2:30 pm	Kitchen gardening and fruit trees; small animal breeding	State facilitator
2:30 - 3:30 pm	Positive counseling skills ▪ Listening and learning skills ▪ Building confidence and giving support skills	State facilitator / CRS nutrition officers
3:30 – 3:40 pm	**PRAYERS AND BREAK**	**All**
3:40 – 4:15 pm	IYCF three-step counseling	State facilitator
4:15 – 4:30 pm	Q&A	CRS nutrition officer

DAY 3

TIME	ACTIVITY	RESPONSIBLE
8:00 – 8:30 am	Arrival/Opening prayers	Volunteer
8:30 – 8:45 am	Recap of previous day's activities	JDPC nutrition officer
8:45 – 10:00 am	Tom Brown Theory and Practical Day 3 Roasting grains	CRS and JDPC nutrition officers
10:00 – 10:30 am	**TEA BREAK**	**All**
10.30 – 11:30 am	Anthropometry ▪ MUAC Screening ▪ Edema ▪ Weight measurement ▪ Height measurement	State Facilitator
11:30 am – 1:00 pm	Methodology of implementation (CRS) ▪ Community engagement ▪ Lead mother selection ▪ Weekly production of Tom Brown ▪ IYCF sessions in Tom Brown programming ▪ Weekly follow-up	CRS nutrition manager
1:00 – 2:00 pm	**PRAYERS AND LUNCH**	**All**
2:00 – 3:30 pm	Accountability, feedback and response	CRS accountability officer
3:30 – 3:40 pm	**PRAYERS AND BREAK**	**All**
3:40 – 4:10 pm	Accountability (cont.): Safeguarding essentials (prevention of sexual exploitation and abuse)	CRS gender focal point/ accountability officer
4:10 – 4:30 pm	Q&A	CRS nutrition manager

DAY 4

TIME	ACTIVITY	RESPONSIBLE
8:00 – 8:30 am	Arrival / Prayers	All
8:30 – 8:45 am	Recap of previous day's activities	CRS nutrition manager
8:45 – 10:00 am	Tom Brown porridge preparation (theory) and cooking demonstration (practical)	CRS and JDPC nutrition officers
10:00 - 10:30 am	**TEA BREAK**	**All**
10:30 – 11:00 am	IYCF support group ▪ Characteristics ▪ Mode of discussion (e.g., facilitation skills, participation)	CRS nutrition officer
11:00 am – 12:00 pm	Qualities of a good IYCF support group meeting	CRS nutrition officers
12:00 – 12:30 pm	One-on-one counseling	CRS nutrition officers
12:30 – 1:00 pm	One-on-one counseling practical (group work)	CRS nutrition officers
1:00 – 2:00 pm	**PRAYERS AND LUNCH**	**ALL**
2:00 – 3:00 pm	Support group meeting practical (group work) ▪ Referral to OTP ▪ Referral to SC ▪ Referral to SFP	CRS nutrition manager
3:00 - 3:30 pm	Introduction to hard copy reporting tools ▪ Screening/follow-up register ▪ Referral slip/booklet ▪ IYCF register	CRS MEAL manager
3:30 – 3:40 pm	**PRAYER BREAK**	**ALL**
3:40 – 4:15 pm	Introduction to Kobo data collection tools ▪ Screening tool ▪ Follow-up tool ▪ IYCF SG attendance ▪ Home visit IYCF key message tool	CRS MEAL manager
4:15 – 4:30 pm	Q&A	CRS nutrition manager

DAY 5

TIME	ACTIVITY	RESPONSIBLE
8:00 – 8:30 am	Arrival / Prayers	CNM
8:30 – 8:45 am	Recap of previous day's activities	CRS nutrition officer
8:45 – 10:00 am	Recap of Monday through Thursday	CRS nutrition manager
10:00 – 10:30 am	**TEA BREAK**	**All**
10:30 am – 1:00 pm	Data tools practical (group work) ▪ Scenarios and filling in of tools (hard copy) ▪ Scenarios and filling in of KoBo collection tools	CRS MEAL manager
1:00 – 2:00 pm	**LUNCH AND PRAYERS**	**All**
2:00 – 3:00 pm	Data tools practical (cont.)	All
3:00 – 3:30 pm	Detailed implementation plan	CRS nutrition manager
3:30 – 4:00 pm	Post-test	CRS nutrition officer

Appendix F: Sample Tom Brown Detailed Implementation Plan

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Person responsible (support)
Recruit and onboard project staff	X													Country/Program Management Team
Update and finalize data tools	X													Nutrition TA, MEAL coordinator, nutrition data clerk
Meet with state and partner nutrition officers to review targets, determine geographic areas, and map referral	X	X												CRS nutrition officer/ PM
Identify community mobilizers for Yobe and Kaga ▪ Advert ▪ Long list ▪ Short list ▪ Interview ▪ Contract	X	X												Partner nutrition officer (CRS nutrition officer)
Prepare and procure CNM training	X													CRS nutrition officers
Training of community mobilizers (Yobe and Borno, consecutively) (4-5 days) ▪ Screening and referrals ▪ Data tools ▪ IYCF ▪ Tom Brown approach ▪ Working with lead mothers		X												Nutrition officers (data clerk)
Develop agenda and materials for Monthly CNM meetings				X	X	X	X	X	X	X	X	X	X	Nutrition project manager (CRS and partner nutrition officer)
Monthly CNM meeting (successes, challenges, refresher training, data submission, reports, updates, etc.)				X	X	X	X	X	X	X	X	X	X	Partner nutrition officer (CRS nutrition officer)
Identify lead mothers in Borno and Yobe, and identify supply needs			X											Community mobilizers (partner nutrition officers)

Procure cooking kits			X											Procurement (CRS nutrition project officers)
Training of lead mothers (Tom Brown and IYCF)			X											Community mobilizers (partner nutrition officers)
Nutrition screening				X			X			X				Community nutrition mobilizers
SAM and MAM case referrals				X			X			X				Community nutrition mobilizers
Follow-up of SAM and MAM referrals				X	X	X	X	X	X	X	X	X	X	Community nutrition mobilizers
Procurement of the local ingredients			X	X		X	X		X	X				Procurement (CRS nutrition officers)
Storage and transport of ingredients to communities					X	X		X	X		X	X		Partners (nutrition project officers)
8-week Tom Brown sessions					X	X		X	X		X	X		Lead mothers (community nutrition mobilizers)

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