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Scaling-Up Treatment for Moderate Wasting Using Locally Available Foods

Considerations for the Scale-Up of the Tom Brown and Porridge Mum Approaches in Five States in Nigeria



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Acronyms

FCT	Federal Capital Territory
FMOH	Federal Ministry of Health
FSL	food security and livelihoods
IMAM	integrated management of acute malnutrition
JSI	JSI Research & Training Institute, Inc.
LGA	local government area
MUAC	mid-upper arm circumference
NFIs	non-food items
PLW	pregnant and lactating women
RUTF	ready-to-use therapeutic food
SCFN	State Committee on Food and Nutrition
SPHCDA	State Primary Health Care Development Agency
TSFP	targeted supplementary feeding program
USAID	U.S. Agency for International Development
WFP	World Food Programme
WHO	World Health Organization

Introduction and Background

At the national level the burden of wasting among children under five in Nigeria has decreased from 18 percent to 7 percent between 2013 and 2015, but the current prevalence remains unacceptably high (NPC and ICF 2014, NPC and ICF 2019). Though there are moderately wasted children present across the country, the coverage of targeted supplementary feeding programs (TSFP) supported by WFP and its implementing partners is concentrated in the North East and is insufficient to meet needs even among the current target population. In response to the lack of management options for these children, implementing partners have developed innovative approaches that use locally available foods.

USAID Advancing Nutrition has completed case studies and a costing analysis on two approaches developed and implemented in Nigeria: Tom Brown and Porridge Mum. Both of these approaches are currently implemented in emergency contexts in the North East. Catholic Relief Services developed the Tom Brown approach, and several partners now implement it. Using this approach, women gather in groups to produce a flour, called Tom Brown, made from locally sourced ingredients including millet, maize, or sorghum, soya, and groundnuts. They use the flour to prepare a porridge for children ages 6 to 59 months with moderate wasting (mid-upper arm circumference [MUAC] \geq 115 mm to $<$ 125 mm). The children eat the porridge for a minimum period of eight weeks. The Porridge Mum approach, developed by Action Against Hunger, is designed to be implemented alongside other food and cash distribution programming. It is not designed specifically as a moderate wasting management approach, but rather provides support to pregnant and lactating women (PLW) or other caregivers with children under the age of two. The Porridge Mum group and its members receive electronic cash and/or voucher transfers to purchase foods to prepare nutritious recipes. Women gather at a communal cooking site where they learn to make the recipes through cooking demonstrations and receive monthly health and nutrition education sessions. Despite not being designed as a wasting management program, Porridge Mum groups seem to have a positive impact on the nutrition status of enrolled children. As a result, there is interest in using the approach to manage moderate wasting in areas where other services, such as targeted supplementary feeding programs (TSFP), are not available.

Stakeholders have expressed interest in scaling-up these approaches in other parts of Nigeria. However, the proposed implementation contexts vary greatly from the current implementation context in the North East. Before scale-up can begin, it is important to know if the necessary social protection networks, financial service providers, market conditions, and local partners are present to ensure that the approaches can be implemented successfully. Through this review exercise, USAID Advancing Nutrition documented these and other contextual factors in five states (Bauchi, Ebonyi, the Federal Capital Territory [FCT], Kebbi, and Sokoto) to support the planning of future programs and strategies through which these approaches can be scaled up should they be found to be appropriate and suitable for the examined contexts.

Purpose and Objectives

After documenting how the Tom Brown and Porridge Mum approaches are used to manage moderate wasting in North East Nigeria, this assessment was designed to assess the presence of the necessary conditions to determine the feasibility, scalability, and potential success of these approaches if implemented in Bauchi, Ebonyi, FCT, Kebbi, and Sokoto states.

The objectives of this assessment were to:

1. Assess if the necessary conditions (e.g., interest, appropriateness, market conditions, existing infrastructure, and potential partners) for scale-up are present in the five states and identify any gaps to consider before scale-up.

2. Understand if one approach may be more appropriate than the other, given the context.
3. Identify actions to increase the success of scale-up to be considered by government stakeholders and potential implementing partners and/or donors.

Methodology

The methods for this review have been adapted from the *Nine Steps for Developing a Scaling-up Strategy*, developed by ExpandNet and the World Health Organization (WHO 2010). Because this review assesses the feasibility of future scale-up, the specific implementing organizations, timeline, and funding sources have not yet been identified. Therefore, we selected a subset of the nine steps included in the guidance document:

- Step 1. Planning actions to increase the scalability of the innovation.
- Step 2. Increasing the capacity of the implementer organization to implement scaling-up.
- Step 3. Assessing the environment and planning actions to increase the potential for scaling-up success.

We will also examine elements of the following steps:

- Step 5. Making strategic choices to support vertical scaling-up (institutionalization).
- Step 6. Making strategic choices to support horizontal scaling-up (expansion/replication).

In the language of the assessment methodology, the “innovations” we assessed were the Tom Brown and Porridge Mum approaches and the assumed “user organization” is the State Primary Health Care Development Agency (SPHCDA). A description of each selected step is provided in Table 1.

Table 1. Description of Selected Analysis Steps

Step	Description
Step 1. Planning actions to increase the scalability of the innovation	<ul style="list-style-type: none"> • This step assesses innovations for scalability using the “CORRECT” attributes: <ul style="list-style-type: none"> — Credible in that they are based on sound evidence and/or advocated for by respected persons or institutions. — Observable to ensure that potential users can see the results in practice. — Relevant for addressing persistent or sharply felt problems. — Relative advantage over existing and standards protocols so that potential new implementing partners are convinced that the costs of implementation are warranted by the benefits. — Easy to install and understand rather than complex and complicated. — Compatible with the potential implementers’ established values, norms, and facilities; fit

Step	Description
	<p>well into the practices of the national program.</p> <ul style="list-style-type: none"> — Testable so that SPHCDA and other potential implementers can see the intervention on a small scale prior to large-scale adoption. ● This step helps assess if enough is known about the approaches, including their level of complexity and required resources, to begin scaling them up.
<p>Step 2. Increasing the capacity of the implementer organization to implement scaling-up</p>	<ul style="list-style-type: none"> ● For the purposes of this review, we considered the SPHCDA to be the “user organization” with the assumption that, despite the potential need for implementing partner support to introduce the approach(es), eventually they should be implemented by the government. ● In this step we assessed the following from the SPHCDA’s perspective: <ul style="list-style-type: none"> — Perceived need for the approach. — Implementation capacity. — Timing and circumstances. ● In this step, we did not conduct capacity strengthening but rather assessed the need for capacity strengthening before scale-up can take place.
<p>Step 3. Assessing the environment and planning actions to increase the potential for scaling-up success</p>	<ul style="list-style-type: none"> ● In this step, we identified the actors needed to be on board for the scale-up to be successful and existing activities/initiatives that could be leveraged to support scale-up.
<p>Step 5. Making strategic choices to support vertical scaling-up (institutionalization)</p>	<ul style="list-style-type: none"> ● This step considers the policy, political, legal, regulatory, budgetary, or other health systems changes required to facilitate the scale-up of the approaches. In the case of the selected approaches, this would include considerations to “formalize” Tom Brown and Porridge Mum as accepted approaches, alongside TSFP, for the management of moderate wasting in Nigeria. ● We looked at considerations at the national level for <ul style="list-style-type: none"> — Dissemination and advocacy. — Monitoring and evaluation.
<p>Step 6. Making strategic choices to support horizontal scaling-up (expansion/replication)</p>	<ul style="list-style-type: none"> ● This step looks at scaling up the approaches to new geographic areas. ● We looked at considerations at the state level for <ul style="list-style-type: none"> — Dissemination and advocacy — Cost/resource mobilization (illustrative only) — Monitoring and evaluation

Study Design

Data collection methods and data sources

This review used a mix of primary and secondary data sources.

Primary data collection consisted of qualitative key informant interviews (KIIs). A team of state-based research assistants conducted the organizational-level interviews. The lead consultant trained the research assistants. We did not conduct KIIs or focus group discussions with community members, vulnerable program beneficiaries, or anyone under the age of 18. KIIs were audio recorded upon receiving consent from the interviewees. An external vendor transcribed the audio recordings and the lead consultant checked the quality of the transcriptions.

Secondary data sources included program documents provided by implementing partners using the Tom Brown and Porridge Mum approaches in the North East and data gathered through several other USAID Advancing Nutrition-supported activities, including Tom Brown and Porridge Mum case studies, a costing exercise, and a mapping of existing implementing partners and wasting counter-referral services in USAID Advancing Nutrition's five supported states.

Sampling

The selection of geographic locations and key informants for this work was purposive. USAID requested an assessment of the future scalability of the two approaches in the states where USAID Advancing Nutrition is operational. These states include Bauchi, Ebonyi, Kebbi, Sokoto, and FCT.

Key informants were selected based on their expected knowledge of the implementation landscape in their respective states. In each state we spoke to the state nutrition officer (SNO) and representatives from the agriculture and social protection sectors who are part of the State Committee on Food and Nutrition (SCFN). We completed a total of 15 interviews (three per state).

Analysis

Data from the desk review and KIIs were summarized in a matrix according to themes for analysis. For the cost-related analysis, we used the cost of implementation of the Tom Brown and Porridge Mum approaches in North East Nigeria (USAID Advancing Nutrition 2023a) to construct a model to estimate the cost of bringing the programs to scale. The underlying cost data collected in North East Nigeria varied by program and phase so key assumptions have been documented and costs were annualized. We used an average cost of Tom Brown implementation (based on the costs analysis of Catholic Relief Services and Save the Children) and the cost of Porridge Mum. Assumptions in the model are based on these factors and the assumed cost implications that would be required. The development of the scale-up cost estimation model was an iterative process, considering the scenarios that are most feasible, probable, and have the most funding potential based on KII responses and desk review data. The costs of implementation in North East Nigeria were used as the basis of the scale-up cost estimation model, which was then updated based on factors that influence scale-up and their cost implications.

To model horizontal scale-up in the five additional states, we considered implementation by international implementing partners (similar to current implementation in North East Nigeria) and implementation through SPHCDA. For the latter, management and some indirect costs were reduced to reflect the lower cost structure of SPHCDA. Overall, the scale-up estimation model was based on additional assumptions relating to economies and diseconomies of scale, personnel allocation, and intervention modifications based on the KIIs. We held all fixed costs flat.

Ethical Considerations

The JSI Research & Training Institute, Inc (JSI) Institutional Review Board provided ethical review and approval for this work. Verbal consent was obtained from all key informants. No incentives were provided for participation in the study.

Limitations

Because this study used purposive sampling, the results are not generalizable to all potential implementation areas within the assessed states (e.g., specific LGAs or communities) nor are they representative of the opinions of all stakeholders. However, the findings still provide deep insights into what can be leveraged for scale-up and what gaps must be addressed as part of scale-up planning.

We did not speak to potential program clients (e.g., caretakers of children under 5 or pregnant women who might be potentially enrolled in Tom Brown or Porridge Mum approaches). Therefore, we are not able to include their perspectives on the appropriateness or acceptability of the approaches as part of our assessment. We also faced challenges in securing adequate time to complete KIIs with some stakeholders in FCT and Sokoto. This means that not all questions were asked in these states and some data is missing from our analysis.

For the estimation of the cost of horizontal scale-up, our primary data collection was limited to the KIIs. No additional state-specific cost data (e.g., prices of warehousing, food ingredients, program supplies, local transportation costs, etc.) was collected. We did not complete specific market analyses as part of data collection due to the high price variation caused by inflation during the study period. Therefore, the cost modeling uses price assumptions based on cost data collected as part of a cost analysis conducted in Borno state (USAID Advancing Nutrition 2023a).

Findings

Findings related to each of the selected assessment steps for developing a scale-up strategy are discussed in the sections that follow.

Step 1. Planning actions to increase the scalability of the innovation

Credibility of the Tom Brown and Porridge Mum Interventions

Partners have used the Tom Brown and Porridge Mum approaches in North East Nigeria since 2018 and 2017, respectively. Both approaches have been evaluated and reviewed by the organizations that originally designed them. In addition, both approaches have been documented through case studies conducted by USAID Advancing Nutrition. These case studies summarize information from implementing organizations along with information from other primary and secondary data sources (USAID Advancing Nutrition 2023b). Nigeria's National Guidelines for the Integrated Management of Acute Malnutrition include the Tom Brown recipe card, indicating some level of endorsement from the Federal Ministry of Health (FMOH) (FMOH 2022). Furthermore, implementing partners, federal and state level government officials, and donors have all expressed interest in scaling-up these approaches in other parts of Nigeria. We therefore conclude that these interventions are considered credible among stakeholders in Nigeria and that there is a good evidence base to inform scale-up and potential adaptations based on contextual differences across the country.

Observability of the Interventions

Implementation of both the Tom Brown and Porridge Mum approaches are ongoing in North East Nigeria. Interested state-level officials and implementing partners would be able to observe ongoing programming.

Relevance of the Approaches to the Selected States

We asked stakeholders from the selected states about their priority health and nutrition challenges, levels of food security, and levels of wasting in their states. We also asked about existing services to manage and treat wasting to gauge the relevance of Tom Brown and Porridge Mum to address wasting levels and fill service gaps.

It was difficult to fully assess the relevance of these approaches due to the limited information on wasting prevalence in most of the states, particularly those that are not categorized as ongoing emergencies. For Sokoto, which is considered part of the emergency response and therefore has updated prevalence data available, the approaches are clearly relevant based on very high wasting prevalence and low availability of services for the management of moderate wasting. The other four states have medium levels of wasting, according to WHO public health prevalence thresholds. However, the most recently available data is from 2018, and it is likely, given the economic circumstances in Nigeria, that these levels have increased due to increased food insecurity. Since there are limited resources for TSFP coverage, Tom Brown and Porridge Mum may be relevant in these contexts, based on potentially increasing prevalence of moderate wasting and the limited availability of management services.

Wasting Prevalence and Perceived Severity

The perceived severity of wasting ranged greatly across the five assessed states. Key informants were asked to rate wasting severity in their state on a scale of 1 to 10, with 1 being the highest severity. We then attempted to triangulate these perceptions with actual data on wasting prevalence in the states. Updated data is only available for Sokoto state, which is considered an emergency context and for which

data by LGA is regularly reported on and monitored by IPC. For the other states, we looked at data from the 2018 Nigeria National Nutrition and Health Survey. This information is summarized in table 2. Of all the states, stakeholders from Ebonyi reported the highest level of perceived wasting severity. Also of note is the relatively low perceived severity in Sokoto, which presently has some of the highest levels of wasting in the country.

Table 2. Summary of Wasting Severity by State

State	Perceived Severity	Available Prevalence Data	WHO Public Health Prevalence Threshold*
Bauchi	3-5	9.4% (NBS, NPopC, FMOH, 2018)	Medium (5–9%)
Ebonyi	8	7.1% (NBS, NPopC, FMOH, 2018)	Medium (5–9%)
FCT	no data, question not asked	5.5% (NBS, NPopC, FMOH, 2018)	Medium (5–9%)
Kebbi	3	7.4% (NBS, NPopC, FMOH, 2018)	Medium (5–9%)
Sokoto	5	18.1–22.3% (IPC 2023)	Very high (≥15%)

*Source: Cashin, K and Lesley Oot, 2018

Food Security

When asked about the food security situation, respondents in four out of five states reported that the food security situation in their states was normal. Only respondents in Bauchi reported poor food security. In Kebbi state, respondents said that some households had food security challenges based on high food prices. Security issues were mentioned by stakeholders in Sokoto and FCT as also affecting food security to some extent. Secondary data on food security for these states is limited. According to the most recent FEWSNET food security projections from September 2023, Ebonyi is facing minimal food insecurity (Phase 1); Bauchi, FCT, and Kebbi are stressed (Phase 2), and Sokoto is a mix of stressed and crisis (Phases 2 and 3), depending on the LGA (FEWSNET 2023). FEWSNET also points to macroeconomic circumstances as one of the driving factors behind food insecurity in the country.

Availability of Services to Manage Wasting

Four states (Bauchi, Ebonyi, FCT, and Sokoto) reported that services to manage moderate wasting were not available in these states. However, an informant stated that the Tom Brown approach is already being implemented in some parts of Ebonyi with support from Breakthrough Action. Stakeholders in Kebbi reported that they have already started piloting the Tom Brown approach and some training on Tom Brown has taken place in Bauchi with support from FHI360 and the Mennonite Economic Development Associates. A respondent in Sokoto also reported that an approach similar to Tom Brown had been piloted in one LGA, but further details about the specifics of the approach or the implementer were not provided in the interview. In FCT, only maternal infant and young child feeding counseling is provided in the absence of services to manage moderate wasting. Four states reported limited availability of treatment for severe wasting, three of which also mentioned facing ready-to-use therapeutic food (RUTF) shortages.

Relative Advantage Over Existing Moderate Wasting Approaches

As highlighted by stakeholders across the states, services to manage moderate wasting are limited. Resources for traditional moderate wasting management services, like TSFP, are limited and typically prioritized for emergency settings. In light of this, local food-based approaches may be an appropriate alternative to support children as these approaches do not rely on imported or specialized products, which are often a constraint for the scale-up of TSFP.

Ease of Installation and Understanding

Generally, stakeholders were more familiar with the Tom Brown approach than with the Porridge Mum approach. All stakeholders stated that these approaches seemed culturally acceptable. We were told that women often already gather for group activities so stakeholders did not anticipate resistance from community members or leaders.

We asked stakeholders about several key factors that would impact the ease of scale-up of the approaches. Stakeholders in all five states mentioned concerns about water quality and safety, which would impact households' ability to safely prepare foods at home. It may be necessary to ensure additional time is spent on water and food safety messaging as part of the education sessions.

Stakeholders in Ebonyi, Kebbi, and Sokoto mentioned concerns around warehouse availability. This concern would only apply to Tom Brown programming and could potentially be mitigated depending on the implementation model used. As long as the necessary food items (a mix of maize, millet, or sorghum along with groundnuts and soya) are readily available in local markets and do not require bulk purchase and storage, it may be possible to reduce warehousing needs. However, there would be tradeoffs to consider in terms of cost of bulk purchases versus costs of inputs, transportation, and storage costs.

Porridge Mum, and in some instances Tom Brown, relies on cash/voucher transfers for the purchase of foods for cooking demonstrations and home use. While this approach relies less on warehousing infrastructure, it does rely heavily on the existence of cash/voucher programming infrastructure. Three states (Bauchi, FCT, and Sokoto) have ongoing e-transfer programs and Ebonyi had previous e-transfer programming. Mobile phone coverage was mentioned as a challenge in Ebonyi and Sokoto states, which could have implications for the set up or expansion of an e-transfer program component. In Kebbi, where stakeholders did not report any ongoing or past e-transfer programming, setting up this system would represent a larger up-front investment that would need to be accounted for in planning, timelines, and budgets for scale-up of either program with a cash/voucher component. Mobile coverage in Kebbi was reported as good, which is important for this program component.

Food availability in markets, inclusive of the correct items of good quality and adequate quantity, are necessary for both of these local food-based approaches to be feasible. Stakeholders in all five states felt that food availability in markets or through home-based or small-scale producers would be adequate. However, our data collection did not ask about each of the specific inputs, particularly those required to produce Tom Brown flour. A more detailed assessment of the markets in selected communities would be required before introducing these approaches. Only in Sokoto did respondents raise concerns about cooking fuel.

Compatibility

Questions on compatibility were only asked in three of the five states (these questions were not asked in FCT and Sokoto due to interview time constraints). In general, stakeholders who were asked about compatibility felt that the approaches were in line with the states' missions and values regarding supplementary feeding approaches. Some respondents raised concerns about resources, particularly those related to logistics. In Ebonyi, one stakeholder mentioned that the recipes may need to be adjusted to better align with the foods that are grown in the various states. However, it was not clear if there were specific concerns about the availability of the ingredients required to produce Tom Brown flour or if this was a general concern. Of the foods the informant mentioned (yam, potato, and cocoa),

only yam and potato would be relevant to the recipes used in the Porridge Mum approach, which can be adapted based on local food availability and preferences.

Testability

The approaches have already been implemented for many years in emergency contexts and should be transferable to other locations without the need for major technical changes. If states wanted to adjust the approaches (e.g., shift Tom Brown to a fully cash/voucher-based model or, based on market status and food security, adjust Porridge Mum recipes to meet local tastes and align with available foods), this could be done on a smaller scale to test these changes in the new implementation context. However, certain cost implications would be reduced if the approaches were introduced at a larger scale. Visits could potentially be arranged to active implementation sites in the North East so that future implementers could observe the approaches without needing to test or pilot them in their own states first.

Step 2. Increasing the capacity of the implementer organization to implement scaling-up

For this component of the assessment, we looked at perceived need, implementation capacity, and policy environment as it relates to nutrition and wasting management. Questions related to this step were omitted from the FCT data collection process due to time constraints.

Based on the information gathered under step 1, the perceived need for approaches to manage wasting varied. With the exception of Bauchi, the perception of the severity of wasting in was mid to low on the 1 to 10 scale. However, Tom Brown programming is already underway or in an early state of piloting in three of the five states (Bauchi, Ebonyi, and Kebbi) so there does seem to be an openness to scaling-up these approaches in those states despite the fact that wasting did not seem to be a high-level concern.

Information provided by stakeholders on their implementation capacity was not detailed enough to draw clear conclusions about what additional support the SPHCDAs would need to implement and scale-up these approaches. Based on some of the responses to KII questions, while stakeholders had some understanding of the Tom Brown approach, none seemed to have the level of knowledge needed to properly plan for and implement them on their own. Support from an implementing partner would be needed to help with initial training and infrastructure development (e.g., building Porridge Mum kitchens). Stakeholders noted they would need financial support for logistics, transportation, and procurement. However, to ensure these approaches are more sustainable than traditional TSFP, which relies on partner-procured or in-kind product purchases, it may be prudent to plan for financial transition from the implementing partner to the SPHCDA from the outset of program design and rollout. None of the stakeholders mentioned concerns related to cash and voucher programming; however, it is unclear how well the stakeholders understood this key design component for Porridge Mum or its potential use in more food security environments for Tom Brown.

All stakeholders noted that nutrition was a policy priority and that they had state nutrition champions, including some in key positions like the executive chairman in Bauchi.

Step 3. Assessing the environment and planning actions to increase the potential for scaling-up success

For this step, we asked stakeholders about who needs to be engaged and on board to ensure that the scale-up of these approaches is possible. Respondents from three states (Bauchi, Kebbi, and Sokoto) mentioned the importance of the SCFNs in the scale-up process. In Bauchi, the LGA committees for

food and nutrition and the ward development committees were also mentioned. Other political actors and possible champions are summarized in tables 3 and 4.

Table 3. Political Actors

State	Political actors
Bauchi	The Office of His Excellency (governor) and the wife of the executive governor who leads the Almeida foundation.
Ebonyi	The governor, his wife, the commissioners of ministries including finance, budget, and planning; Ministry of Agriculture because of support for the production of vitamin A-rich cassava and potato; local government chairman and development center coordinator.
FCT	No data.
Kebbi	State governor who can mobilize communities whenever a memoranda of understanding is signed.
Sokoto	Ministry of Agriculture, Women Affairs, Ministry of Education, Ministry of Health, Ministry of Budget and Economic Planning, and Ministry of Information.

Table 4. Potential Champions

State	Potential Champions
Bauchi	None mentioned.
Ebonyi	The wife of the governor who is showing more passion for nutrition, the governor, the deputy governor, the wife of the deputy governor, the commissioner. Anybody that shows more commitment can be a champion.
FCT	No data.
Kebbi	The former Director Public Health, State Ministry of Health, is the nutrition champion, who is still acting in most of the nutrition activities and can be helpful to recruit more champions.
Sokoto	No data.

We also asked stakeholders about existing programs that could be leveraged as part of scaling up the Tom Brown or Porridge Mum approaches. As noted in the results for step I, three of the states (Bauchi, FCT, and Sokoto) have ongoing e-transfer programs that could potentially be used for cash/voucher transfers. USAID Advancing Nutrition, as part of another activity, also conducted a mapping of community-based services that could be leveraged to reduce and/or prevent relapse of children discharged from wasting treatment services. This exercise found that few programs exist at the community level to provide these kinds of supportive services, which also implies that the range of existing programs and partners to support Tom Brown or Porridge Mum scale-up may also be limited.

Stakeholders provided some additional insight into the types of programs that are ongoing but the details of these programs (e.g., timeframe, activities, and implementing partners) were not shared. Available information on existing programs and projects are summarized in table 5.

Table 5. Existing Programs, Projects, and Implementing Partners

State	Program or Project
Bauchi	Ongoing food security and livelihoods (FSL) and mother-to-mother support group activities.
Ebonyi	Ongoing FSL and mother-to-mother support group activities. <i>E-transfer component of FSL program reported to have stopped.</i>
FCT	Ongoing e-transfer program.
Kebbi	Community-based nutrition programs, existing care groups, or mother-to-mother support groups. <i>No existing FSL or e-transfer programming.</i>
Sokoto	No data.

Step 5. Making strategic choices to support vertical scaling-up (institutionalization)

Although government systems in Nigeria are highly decentralized—with states having a high degree of autonomy on their policy development, planning, and budgeting processes—higher level policy guidance and direction from the federal government is also needed to ensure some degree of consistency in strategies to address public health concerns like wasting. Here we look at the need for dissemination and advocacy to promote these approaches at the national level and existing monitoring and evaluation systems to help monitor broader national scale-up efforts.

Dissemination and advocacy

We know that Tom Brown is already known by national policy makers given the inclusion of the Tom Brown recipe card in the *National Guidelines for the Integrated Management of Acute Malnutrition*. However, Tom Brown flour is characterized as a “blended complementary food” and not as a supplementary food used for the management of moderate wasting (FMOH 2022). Nevertheless, this may be a facilitating factor for future scale-up. It is unclear why the Tom Brown approach has not been fully integrated into the national integrated management of acute malnutrition (IMAM) guidelines as a management approach. Through discussions with key informants as part of our case study documentation, we learned about tensions between implementers of Tom Brown and WFP and reluctance to accept Tom Brown as an alternative to TSFP.

Porridge Mum and its recipes are not mentioned in the current version of the National IMAM Guideline. This is not surprising because although moderately wasted children are admitted to Porridge Mum programs, they are not currently classified as programs to manage moderate wasting. In general, the approach seems to be less well known than Tom Brown. Again, this may simply be because stakeholders speak of Tom Brown as an alternative way to manage moderate wasting, and this is not the primary objective of Porridge Mum.

Advocacy and dissemination efforts aimed at both the FMOH and WFP would be beneficial as part of a scale-up planning process. This report, along with the costing study and the case studies, could provide an opening for these discussions as they have expanded the evidence base for these approaches in Nigeria.

Monitoring and Evaluation

Although Nigeria has a health management information system, data from Tom Brown and Porridge Mum programming are not routinely captured in these systems. As part of our case study documentation efforts, we found that implementers do not systematically analyze program outcomes. This is likely because many of the approaches do not discharge children from programs once they reach a healthy MUAC status. Instead, they are retained in the program for the full program period. However, if programs using local foods are designed to manage moderate wasting and support children with recovery, it is critically important to know if children are actually achieving 'normal' nutritional status and if these programs are meeting Sphere minimum standards and/or country-specific performance standards. Systems for reporting on outcomes related to moderate wasting management exist in Nigeria, both through routine reporting systems and the Nutrition Cluster. However, consensus on and oversight from the FMOH on reporting outcomes for local food-based approaches such as Tom Brown and Porridge Mum is required. Standardized indicators and monitoring expectations for all partners and states implementing these programs would enable better long-term monitoring and evaluation of impact as the approaches reach scale.

Step 6. Making strategic choices to support horizontal scaling-up (expansion/replication)

In step 6 we look at scaling up these approaches at the state level (horizontal scaling-up). Here we discuss actions for dissemination and advocacy, cost and resource mobilization, and monitoring and evaluation.

Dissemination and advocacy

Tom Brown is more well-known than Porridge Mum in the five states we assessed. However, the level of familiarity with the program seemed to vary. In Kebbi, one respondent said that the scale-up of the Tom Brown approach is already accepted by the state government but needs strong political commitment to ensure adequate funding. In other states, based on stakeholder responses, it seems that there is more work to be done to more clearly explain the objectives and designs of the two approaches.

Cost and resource mobilization (illustrative only)

Questions about the availability of resources for scale-up of these approaches were only asked to stakeholders in Bauchi, Ebonyi, and Kebbi. Respondents stated that there are currently no resources available for this type of activity. Based on information from our Nigeria-based team, it is also very unlikely that FCT and Sokoto would have resources available for these programs either. We did not ask stakeholders about current levels of state-level government funding for nutrition or for wasting management services specifically. However, information gathered as part of previous consultations facilitated by USAID Advancing Nutrition found that most wasting management activities are heavily reliant on donors, UN agencies, and implementing partner support. For example, local manufacturers of RUTF foods indicated that very few state governments purchase RUTF directly. Stakeholders in Kebbi mentioned that in the past the state had purchased small amounts of RUTF but political commitment for this had waned with a change in government (USAID Advancing Nutrition 2022). Based on this information, it is not surprising that stakeholders would say that funding for local food-based interventions for moderate wasting management is unavailable.

An important part of advocating for funding for any type of program is having an idea of how much the program will cost to implement, as well as the driving costs for starting and scaling the program. Based on the cost of implementation of the Tom Brown and Porridge Mum approaches in North East Nigeria, we have estimated the cost of bringing the programs to scale in Bauchi, Ebonyi, FCT, Kebbi, and Sokoto. The following results, presented in tables 6 and 7, are adapted from the previous cost analysis in North East Nigeria (USAID Advancing Nutrition 2023a). To estimate scale-up costs in additional Nigerian states, we removed societal costs (opportunity costs to program participants, represented by a shadow wage, and donated storage space) and presented only institutional costs. These are the costs that would need to be directly budgeted for by donors and implementing partners. However, as discussed later in this report, societal considerations and their cost implications are critically important to the scalability of the programs.

Table 6 summarizes the results from our costing exercise in North East Nigeria. According to the results, the Porridge Mum approach seems to be more resource intensive than Tom Brown and results in a higher cost per beneficiary enrolled. However, given the shorter overall implementation time frame—only seven months compared to several years for the Tom Brown partners—there are likely some investments in capital costs and staff capacities that did not have a chance to average out (or depreciate). With a longer period of implementation at-scale, the cost per beneficiary enrolled may decrease. In addition, Porridge Mum has a broader range of program components and also includes PLW as beneficiaries. The total cost per child (Tom Brown) and total cost per beneficiary, as well as the monthly cost per child/beneficiary, are more comparable than the total costs for the assessment period.

Table 6. Institutional Costs by Program in North East Nigeria

Program	Tom Brown¹	Porridge Mum
Total Institutional Cost	\$1,909,457.52	\$770,678.31
Time period of implementation covered in costing study	23 months	7 months
Monthly Cost	\$83,019.89	\$110,096.90
Number of children/beneficiaries ² enrolled during study period	8,133	1,872
Total Cost Per Child/Beneficiary Enrolled	\$234.78	\$411.69
Monthly Cost per Child/Beneficiary	\$10.20	\$58.81

Table 7 displays the breakdown of the total implementation costs by cost category for each approach. A summary of the items included in each cost category is provided in Annex I.

¹ These figures are an average of the Tom Brown implementation costs for two organizations, Catholic Relief Services and Save the Children. The costing study also looked at implementation costs for Premiere Urgence Internationale. However, cost data for this organization was incomplete and therefore excluded from our cost summary and modeling.

² Because Porridge Mum also provides services to PLW, we count both PLW and their children as beneficiaries. We used a 1:1 ratio of PLW and children for this calculation.

Table 7. Institutional Program Expenditures by Cost Category (USD) in North East Nigeria

Cost Category	Tom Brown	Porridge Mum
Supplementation	\$1,185,374.74	\$269,852.96
Community	\$9,308.62	\$21,544.77
Supply	\$85,172.27	\$43,232.46
Training	\$26,891.19	\$27,770.43
Supervision	\$272,982.39	\$55,073.41
Management	\$329,728.33	\$274,236.78
Kitchen Construction	n/a	\$78,967.50
TOTAL	\$1,909,457.52	\$770,678.31

From the adapted cost estimates of the Tom Brown and Porridge Mum programs implemented in North East Nigeria, we applied the considerations listed in table 8 to the scale-up cost estimation model, based on information provided through KIs.

Table 8. Cost Implications of Horizontal Scale-Up to Additional States

State	Program or Project Assumptions
Bauchi	<ul style="list-style-type: none"> Some training on Tom Brown has taken place with support from FHI360 and the Mennonite Economic Development Associates. Ongoing FSL and mother-to-mother support group activities. Ongoing e-transfer program. Food availability in markets or through home-based or small-scale producers would be adequate
Ebonyi	<ul style="list-style-type: none"> Tom Brown approach is already being implemented in some parts of Ebonyi with support from Breakthrough Action. Ongoing FSL and mother-to-mother support group activities. E-transfer component of FSL program reported to have stopped. Limited mobile phone coverage. Concerns about warehouse availability. Food availability in markets or through home-based or small-scale producers would be adequate.

FCT	<ul style="list-style-type: none"> • Ongoing e-transfer program. • Food availability in markets or through home-based or small-scale producers would be adequate.
Kebbi	<ul style="list-style-type: none"> • Piloting of Tom Brown has begun. • Existing community-based nutrition programs, care groups, or mother-to-mother support groups. • No existing FSL or e-transfer programming. • Concerns about warehouse availability. • Food availability in markets or through home-based or small-scale producers would be adequate.
Sokoto	<ul style="list-style-type: none"> • Concerns about warehouse availability. • No data on FSL programs. • Ongoing e-transfer program. • Limited mobile phone coverage. • Food availability in markets or through home-based or small-scale producers would be adequate. • Concerns about cooking fuel.

To assess the illustrative unit cost of scale-up per state for implementation by an implementing partner, the following assumptions were made:

- For those states with no existing FSL program (Ebonyi, Kenna, and Sokoto), supplementation costs were increased by 30 percent and supply costs were increased by 50 percent to account for the FSL system costs within those two cost categories (though primarily in the supply cost category).
- Storage costs in Sokoto were increased by 75 percent because of the significant concerns over warehousing.
- Community outreach costs for Porridge Mum were also increased by 50 percent above the cost in North East Nigeria since awareness of the approach seemed limited.
- Community outreach costs for Tom Brown were increased by 50 percent for the states where the approach has not yet been piloted (Kebbi, FCT, and Sokoto).

In addition to the above assumptions and related cost implications, we also reduced management costs by 75 percent when we modeled the costs for implementation by SPHCDA.

Using an average enrollment rate for Tom Brown programs from North East Nigeria (8,133 children for Tom Brown and 1,872 PLW and children for Porridge Mum), we have estimated the unit cost per child/beneficiary for scale-up in the five additional states.

Table 9. Estimation of Unit Cost of Scale-Up Per State (Illustrative Only)

State	Tom Brown	Porridge Mum
Illustrative unit cost of implementation through implementing partners		
Bauchi	\$234.78	\$417.44
Ebonyi	\$278.50	\$460.69
FCT	\$234.78	\$417.44
Kebbi	\$286.93	\$478.01
Sokoto	\$286.93	\$478.01
Illustrative unit cost of implementation through SPHCP		
Bauchi	\$204.37	\$307.57
Ebonyi	\$248.10	\$350.82
FCT	\$204.37	\$307.57
Kebbi	\$256.52	\$368.14
Sokoto	\$256.52	\$368.14

Monitoring and evaluation

Questions related to the monitoring and evaluation of the scale-up of the Tom Brown and Porridge Mum approaches were difficult for stakeholders to answer. Of those who were asked these questions, all noted that additional human resources or partner support would be required to monitor these programs. Some indicators were proposed and included numbers of women trained and other maternal, infant, and young child nutrition indicators. None of the respondents specifically mentioned standard CMAM indicators (e.g., number of cured, died, or defaulted) or even tracking the number of children enrolled. This suggests that stakeholders may not have fully understood the objectives of the programs to propose appropriate indicators.

Discussion

In this section, we respond to the first two objectives of this assessment:

1. Assess if the necessary conditions (e.g., interest, appropriateness, market conditions, existing infrastructure, and potential partners) for scale-up are present in the five states and identify any gaps to be considered before scaling-up the approaches.
2. Understand if one approach may be more appropriate than the other, given the context.

Presence of necessary conditions for scale-up

Based on the level of detail provided by stakeholders in response to our interview questions, we are unable to determine if all the necessary conditions for scale-up are present in the five states assessed.

Before scale-up takes place, more detailed assessments are needed of the market conditions (e.g., food types, quantities, quality, and vendors), warehousing infrastructure, and the state of e-transfer technology/programs (e.g., existing programs, service providers, and cell phone coverage). These factors are some of the key cost drivers, and if the conditions are not favorable, implementation may not only be difficult but also not cost-effective. Start-up costs would also vary by context depending on the status of the required conditions for implementation, especially the existence of a cash/voucher and e-transfer system. All recurring costs would increase with the number of children served (increased coverage).

However, we did determine that the Tom Brown and Porridge Mum approaches are likely appropriate for these contexts. There is a need for services to manage moderate wasting, and stakeholders felt these two approaches would be culturally appropriate. Interviewed stakeholders expressed some interest in the approaches, with two states (Ebonyi and Kebbi) already starting to introduce some elements of the Tom Brown approach.

At the national level, there also seems to be a high level of interest in local food-based approaches to manage moderate wasting. Efforts should be made by implementing partners and donors to capitalize on this momentum by advocating for the FMOH to take a more serious look at these approaches, particularly in light of the recently released updated *WHO Guideline on the Prevention and Management of Wasting and Nutritional Oedema (Acute Malnutrition) in Infants and Children Under 5 Years* (WHO 2023).

Appropriateness of approaches based on context

Based on this assessment, we cannot state with certainty that either Tom Brown or Porridge Mum is more appropriate for the different state contexts. However, we can point to a list of key considerations for stakeholders making a final decision about which approach to scale-up and where.

Quantities and types of foods available in local markets

Porridge Mum uses a variety of recipes that can be selected, or potentially adapted, based on the types of ingredients available in the market. Tom Brown flour is based on a standardized recipe, which requires either millet, maize, or sorghum along with soya and groundnuts. If sufficient quantities of these ingredients are not available in the local market, then considerations must be made about the feasibility (in terms of logistics and cost) of transporting the ingredients in the necessary quantities to the communities. If this is not feasible, then Porridge Mum might be a better approach in these contexts.

Warehousing infrastructure

Stakeholders noted that warehousing infrastructure is generally lacking in the states assessed. For Tom Brown, this could be an important consideration depending on how often and from where the ingredients for the Tom Brown flour are procured. However, if market conditions allow, Tom Brown

groups may be able to procure the necessary inputs on a weekly basis by using cash or voucher transfers, thus eliminating the need for storage. There are no warehousing requirements for Porridge Mum, so in situations where weekly procurement of Tom Brown food items is not possible nor is adequate warehousing available, this approach may be a better fit.

Existing e-transfer programs and infrastructure

A key component of Porridge Mum is the provision of a cash or voucher transfer to participants to buy the necessary foods to replicate Porridge Mum meals at home. In more food secure settings with more functional markets, Tom Brown programs have also used a cash/voucher system for Tom Brown groups to purchase their own ingredients on a weekly basis. Setting up an e-transfer system can be costly and requires specific expertise, including considerations related to the data security and privacy of individuals enrolled in the transfer system. Ideally, stakeholders that scale-up Porridge Mum will be able to leverage existing e-transfer programs in the implementation area. If they do not yet exist, they must be carefully planned for as part of the scale-up planning process. If adequate time and budget are not available, then a Tom Brown approach that provides in-kind food items may be a better fit.

Population density

Both the Tom Brown and Porridge Mum approaches are community-based, unlike TSFP which tend to be more closely linked to health facilities that serve multiple communities. Considerations about which type of program to scale-up should be related to information on population density. This is particularly true for Porridge Mum, which requires a communal kitchen. Ideally, this type of infrastructure investment would be used over a longer period of time and serve many Porridge Mum cycles. While Tom Brown does not require any construction of facilities, it does require access to milling facilities.

Societal cost considerations

When assessing the cost of implementation in North East Nigeria, societal costs were included in addition to institutional costs. Although societal costs are a small proportion of total program costs, ranging from three to six percent, societal costs are critically important for the scalability of the programs.

Even small societal costs, in terms of an overall program budget, could be quite significant as opportunity costs to an individual. When compared to the minimum wage in Nigeria (30,000 Naira, or \$39.00), beneficiary mothers are conducting activities that require a level of effort valued at more than 10 percent of the monthly minimum wage. Our analysis also suggests that there are higher opportunity costs when cash/vouchers are used, including the additional time that volunteers (e.g., Tom Brown lead mothers and Porridge Mum secretaries) must spend to purchase food from vendors. It is also important to note that our analysis did not include additional opportunity costs to beneficiary mothers in Porridge Mum groups to purchase foods using their individual vouchers or to prepare new or additional meals during the week.

Way Forward

In this section, we identify actions to increase the success of scale-up to be considered by government stakeholders and potential implementing partners and/or donors.

Hold policy discussions about using food based-approaches for moderate wasting management

To enable scale-up, a federal-level decision on the inclusion of these approaches as accepted alternatives to TSFP for the management of moderate wasting needs to be made to guide decision making at the state level. Because lack of funds is a significant barrier, we recommend lobbying and advocacy efforts to generate funding from the government and donors for treatment for moderate wasting using locally available foods. State actors could also consider creating a donor coalition for funding to share the financial burden and leverage commitment and potential impact from multiple donors.

The recently updated *WHO Guideline on the Prevention and Management of Wasting and Nutritional Oedema (Acute Malnutrition) in Infants and Children Under 5 Years* emphasizes the use of nutrient-dense foods, inclusive of locally available foods that are typically consumed by households, to support the recovery of moderately wasted children (WHO 2023). This presents an opportunity to discuss the use of approaches such as Tom Brown and Porridge Mum for the management of moderate wasting, particularly in lower risk children or areas that may not be prioritized for TSFP. A counter-referral mapping exercise that we undertook in these same five states found that there were no services available to refer children to after discharge from a treatment program. Approaches like Tom Brown and Porridge Mum could potentially be used to support children post-discharge as a way to prevent relapse.

These discussions should also include decisions about standardizing reporting on outcomes across program types so that all children who are managed for moderate wasting are being tracked and reported on in both routine national health information systems and through the Nutrition Cluster reporting system, as appropriate (see recommendation “Agree on monitoring and evaluation standards for both scale-up and routine monitoring of program implementation”). Overall, there is a need to prioritize increased ownership and awareness of the treatment of moderate wasting using locally available foods and increased advocacy for policy and program support.

Develop a national scale-up plan

This particular review only examined five states where these approaches could potentially be scaled up. In two of these states, some elements of Tom Brown have already been introduced. To capitalize on existing learning from partners who have been implementing these programs in the North East and to ensure experiences from other smaller pilot initiatives are taken into account, nutrition stakeholders, under the leadership of the FMOH, should develop a scale-up plan for the management of moderate wasting. This plan should not only be limited to Tom Brown and Porridge Mum approaches but also take into account the current coverage and planned scale-up of TSFP sites. This will help to ensure maximum coverage and reduce duplicative efforts. This will also minimize confusion among those seeking care who may be confused about too many similar programs.

The scale-up plan should also include a capacity strengthening element to ensure that the program quality for all approved approaches is maintained. It may be appropriate to establish a national pool of trainers who can provide support to states and implementing partners that wish to introduce moderate wasting management services in their catchment areas.

Agree on monitoring and evaluation standards for both scale-up and routine monitoring of program implementation

USAID Advancing Nutrition’s work to document local food-based approaches in different contexts showed that implementing partners should be more rigorous with the types of data they collect for these programs and how outcomes are analyzed. Based on this work, it was recommended that all programs that manage moderately malnourished children should adhere to and report into the same information systems (e.g. DHIS-2 and/or Nutrition Cluster reporting) as partners implementing TSFP (USAID Advancing Nutrition 2023b). This can also include a revisiting of in-service training practices to ensure contextual relevance to scale-up locations and effective in-service training and supervision.

As part of the scale-up planning process, stakeholders should define key indicators to monitor both the process of scaling-up (e.g., number of sites, beneficiaries enrolled) but also, and potentially more importantly, the outcomes of these programs (e.g., number of children cured, died, or defaulted). For Porridge Mum, which also supports enrolled PLW, additional indicators may need to be defined to get a more holistic view of this approach’s outcomes. By collecting outcome data, additional studies and evaluations can be completed, including cost effectiveness analyses, to inform future strategic scale-up decisions, particularly given the scarcity of financial and human resources mentioned repeatedly by state-level stakeholders.

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Annex I: Cost category details

Supplementation costs include direct program implementation costs, such as stipends paid to community-based volunteers, food ingredients, non-food items (NFIs), costs of referrals and case findings, and cost of vouchers and associated fees. This also includes personnel costs specific to treatment, such as field assistants.

Community outreach costs include printed materials, allowances, and incentives related to community outreach, specific travel costs, and personnel costs specific to community outreach.

Supply costs include storage and transportation of food ingredients and NFIs.

Training costs include per diem for trainers, transportation reimbursement for participants and trainers, training materials, room hire, materials, etc.

Supervision costs include personnel costs, such as nutrition officers and technical and program staff, and providing supervision to the Tom Brown and Porridge Mum programs (not program management costs). Supervision costs also include institutional costs of joint supervision conducted with government staff, where appropriate.

Management costs include broader program management; monitoring, evaluation, and learning; and shared indirect and operating costs (including office rent).

Kitchen construction costs include only those costs to construct the kitchens for the Porridge Mum program and the direct cooking demonstration setup costs.



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