

# Final Evaluation Report

## Evaluation of Zambia's First 1000 Most Critical Days Programme

MAY 2018

Andrew Brudevold-Newman | Paula Dias | Hannah Ring  
Terry Roopnaraine | David Seidenfeld | Gelson Tembo

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## Abbreviations and Acronyms

AIR	American Institutes for Research
BCC	Behaviour Change Communication
CLTS	Community-led Total Sanitation
DAC	Development Assistance Committee
DFID	Department for International Development
DNCC	District Nutritional Coordinating Committee
FANSER	Food & Nutrition Security, Enhanced Resilience project
FES	Focused Ethnographic Studies
FGD	Focus Group Discussion
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Agency for International Cooperation)
GMP	Growth Monitoring Promoters
GRZ	Government of the Republic of Zambia
IDI	In-depth interview
IEC	Information Education and Communication
IFA	Iron and folic acid
IMAM	Integrated Management of Acute Malnutrition
IYCF	Infant and Young Child Feeding
KII	Key informant interview
MCD	Ministry of Community Development and Social Welfare
MCDP	First 1000 Most Critical Days Programme
MDES	Minimum detectable effect size
M&E	Monitoring & Evaluation
MLGH	Ministry of Local Government and Housing
MoA	Ministry of Agriculture, Livestock and Fisheries
MoE	Ministry of Education
MoGE	Ministry of General Education
MoH	Ministry of Health
MUAC	Mid-upper arm circumference
NFNC	National Food and Nutrition Commission
NGO	Nongovernmental organization
ODF	Open Defecation Free
PE	Process Evaluation
PI	Priority Intervention
RQA	Rapid qualitative assessment
SEA	Standard enumeration area
SLTS	School-led total sanitation
SMAG	Safe Motherhood Action Group
SUN	Scaling Up Nutrition
TOR	Terms of Reference
UNC	University of North Carolina
UNICEF	United Nations International Children's Emergency Fund
VFM	Value for Money
V-WASH	Village water, sanitation, and hygiene

WASH	Water, sanitation, and hygiene
WNCC	Ward Nutritional Coordinating Committee
ZDHS	Zambia Demographic Health Survey
ZECDAN	Zambia Early Childhood Development Action Network



## Executive Summary

**Background.** Undernutrition is one of the most serious global health problems. Stunting, wasting, and micronutrient deficiencies contribute to nearly 3.1 million child deaths annually (Bhutta et al., 2013). In Zambia, half the deaths of children under the age of 5 are attributed to maternal and child undernutrition, and almost 40 percent of the individuals under age 5 are stunted as a result of chronic malnutrition (ZDHS, 2014). Malnutrition, including iodine deficiency and inadequate vitamin intake, can lead to a host of negative development outcomes including decreases in cognition (Bardham, Macours, & Maluccio, 2013), decreases in school enrolment (Miguel & Kremer, 2004), and subsequent losses in labour productivity (Baird, Hicks, Kremer, & Miguel, 2011). Improving nutrition outcomes is likely to have substantial economic benefits (Alderman, Behrman, and Puett, 2016; Hoddinott et al. 2013). Recent research has highlighted that the consequences of malnutrition during children's first 1000 days of life are likely to be particularly severe (Almond & Currie, 2010). However, programs attempting to decrease chronic malnutrition must confront the multifaceted nature of the problem where a variety of factors including maternal health, child feeding practices, and child health interact with water and sanitation, health care, and education to contribute to stunting.

**Evidence on reducing stunting.** There is robust evidence that maternal health, child feeding, and child health interventions can improve nutrition and decrease chronic malnutrition but that they may also need to be complemented by interventions targeting other sectors to dramatically reduce stunting and maintain improvements. A pair of prominent studies published as part of The Lancet Series on Maternal and Child Undernutrition found that widespread implementation of a large range of evidence-based interventions with either 90 or 99% coverage would decrease stunting by 33-36 percent, while the implementation of ten core nutrition interventions at 90% coverage would decrease stunting by 20 percent (Bhutta et al., 2008; Bhutta et al, 2013).<sup>1</sup> Decreases in stunting of 20-36% would be laudable but would still fall far short of eliminating chronic malnutrition as a global health challenge. Recent evidence has highlighted that substantial improvements in stunting will require addressing the variety of underlying determinants of stunting which extend beyond nutritional intake to other sectors such as water, sanitation, and hygiene (WASH), which likely play a larger role than assumed in these earlier modelling efforts (Shekar et al., 2017).<sup>2</sup> Recognizing the multi-faceted nature of chronic malnutrition, an increasing number of countries are implementing multi-sectoral programmes designed to decrease stunting rates and maintain improvements.

**Mixed-methods approach.** This report presents the results of a mixed-methods, summative evaluation of Zambia's First 1000 Most Critical Days Programme (MCDP). The MCDP is a bundled, multi-sectoral programme that aims to reduce stunting in Zambia by 50% by focusing on the most critical period for stunting: pregnant and lactating mothers, and children under 2

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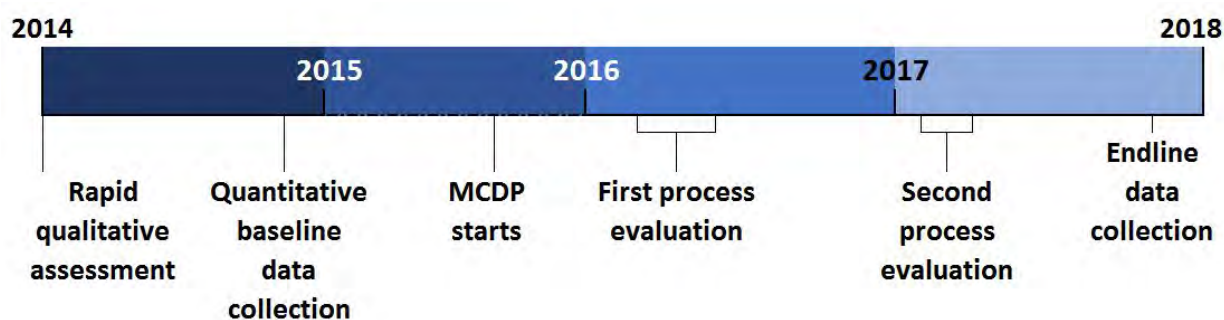
<sup>1</sup> The broad set of interventions modelled fall into three categories: general nutrition interventions, micronutrient interventions, and disease control interventions. The ten nutrition interventions modeled include: breastfeeding promotion; complementary feeding education; management of severe and moderate acute malnutrition; and supplementation of calcium, folic acid, maternal multiple micronutrients; maternal balanced energy protein, vitamin A, and zinc.

<sup>2</sup> The modelling efforts assumed that WASH interventions operated exclusively through a decreased prevalence of diarrhea while recent evidence also highlights the role of other WASH-related clinical conditions such as environmental enteropathy.

years of age. The programme focuses on bringing to scale a strategic subset of routine evidence-based interventions proven to reduce stunting: deworming and vitamin A supplementation; family planning; growth monitoring; iron and folic acid supplementation; iodised salt, micronutrients, and breastfeeding; fortified staples and specialised nutritional products; a mother- and baby-friendly hospital initiative; and management of severely malnourished children (National Food and Nutrition Commission of Zambia [NFNC], 2011). These interventions are supplemented by a range of trainings and behaviour change components designed to take advantage of potential complementarities between child health and improved maternal knowledge, WASH practices, and nutritional intake. The programme is led by the Zambia Food and Nutrition Commission (NFNC) and it involves the Ministry of Health (MoH), Ministry of Education (MoE), Ministry of Agriculture, Livestock and Fisheries (MoA), the Ministry of Community Development and Social Welfare (MCD), and the Ministry of Local Government and Housing (MLGH). CARE International is the main technical assistance and fund management partner and the MCDP is funded by the Scaling Up Nutrition network (SUN) in Zambia.

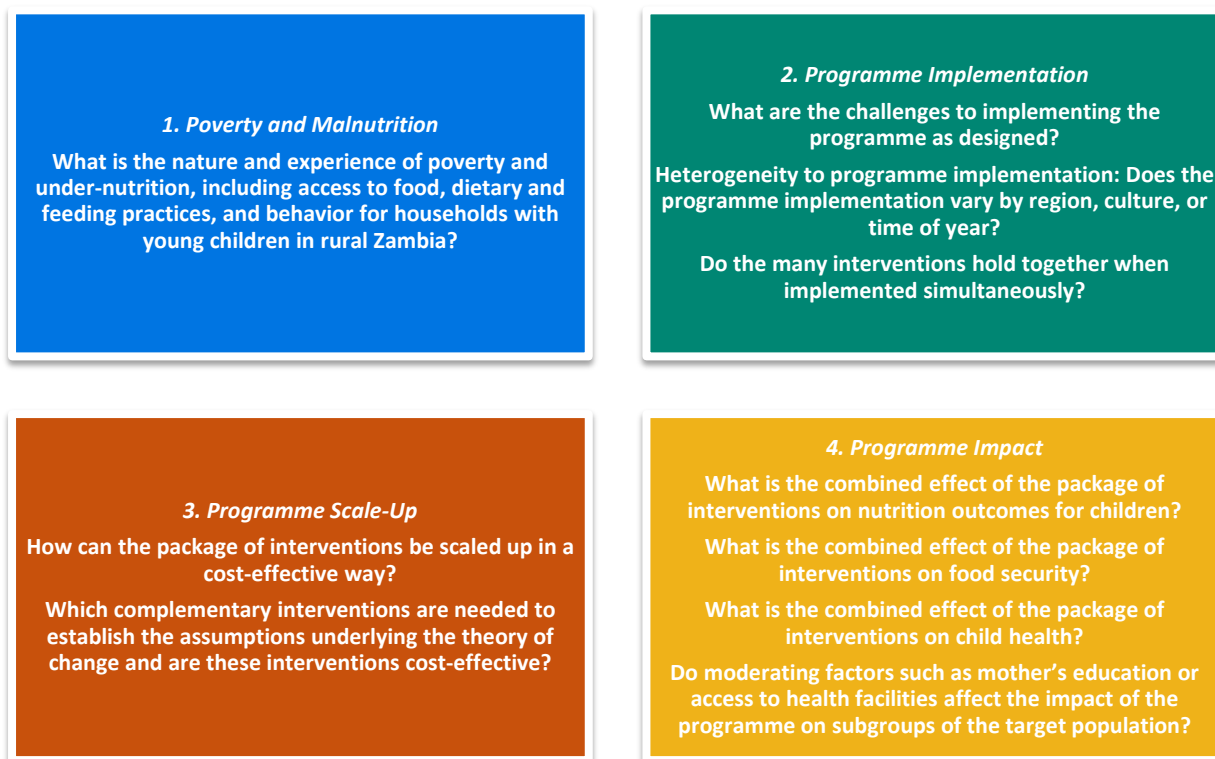
Our mixed-methods evaluation focuses on the implementation of the MCDP in two districts in Zambia: Chipata in Eastern Province and Mbala in Northern Province. We conducted qualitative data collection in these two districts to better understand programme delivery and programme experiences from the perspective of service providers, key stakeholders, and beneficiaries. We also conducted a household survey in these districts as well as two comparison districts, Katete in Eastern Province and Nakonde in Northern Province, which were selected at the inception stage of the research to be similar to the programme districts and to serve as a counter-factual to assess programme effects.

**Figure 1. Timeline of MCDP Evaluation Activities**



The research questions guiding our evaluation align with the different evaluation components and the project timeline, and broadly relate to understanding 1) pre-programme infant and maternal health and feeding practices, 2) challenges to current MCDP implementation, 3) additional challenges to scaled MCDP implementation and potential adaptations, and 4) effects of the MCDP (Figure 2).

Figure 2. Research Questions



### ***Poverty and Malnutrition***

What is the nature and experience of poverty and under-nutrition, including access to food, dietary and feeding practices, and behavior for households with young children in rural Zambia?

#### ***Feeding & Dietary Practices***

Data from the Rapid Qualitative Assessment (RQA) revealed that decisions involving finances (such as the purchase of food) are typically made by men; access to nutritious foods varies greatly by season, with far more food shortages reported in the dry season than the rainy season; and, for the most part, women determine for themselves how long they breastfeed their children. While the nutritional value of locally available foods is widely understood, we learned through the RQA that misconceptions exist about foods that are healthy or harmful to pregnant and breastfeeding women and children under two.

#### ***Work & Time Allocation***

Mothers and caregivers in rural Zambia are responsible for a wide variety of agricultural work and domestic chores in addition to caring for their children. While women often receive support

from other family members, husbands in particular are not always helpful (and in some cases, they seem to do more harm than good). Additionally, certain tasks—such as fetching water, collecting firewood, and preparing food—are traditionally female tasks. Based on the findings from the RQA, the research team suggested that MCDP implementers calculate the amount of time required for mothers and caregivers to actively participate in programme activities such as clinic visits. We suggested that efforts be made, when possible, to minimise the programme's impact on women's time. For example, whenever it is possible to disseminate information or supplies at the village level (as opposed to through the health centre), this should be done.

#### *Knowledge and Use of Mother, Infant, and Young Child Nutrition (MIYCN) and Health Services*

In both Chipata and Mbala, services and information for pregnant women, mothers, and caregivers are primarily available at antenatal clinics and clinics for children under the age of five (hereafter referred to as under-five clinics) at local health centres. In all wards visited for the RQA, women identified these clinics as their main source of nutrition and health information. However, many respondents reported difficulty following the advice dispensed at local health centres due to financial and time constraints. For example, purchasing recommended foods or preparing fresh foods can often be cost or time prohibitive. This information underscored the need to provide items such as fortified foods and supplements through the MCDP if their consumption is a critical component of the theory of change. We also observed varying degrees of understanding about existing nutrition programmes (such as the Chipolopolo home fortification programme) in the communities visited for this study, which suggested that the MCDP would benefit from a comprehensive communications strategy to ensure local acceptability and understanding of the programme's purpose.<sup>3</sup> Relatedly, we suggested a thorough analysis of the Chipolopolo programme to include an examination of implementation bottlenecks as well as weaknesses in the programme's information dissemination strategy. Lastly, given the role agriculture plays in determining dietary diversity in rural Zambia, we advised that the MCDP could potentially benefit from the inclusion of a nutrition-sensitive agricultural component, or from enhanced linkages with such programmes where they already exist.

### **Programme Implementation**

- **What are the challenges to implementing the programme as designed?**
- **Heterogeneity to programme implementation: Does the programme implementation vary by region, culture, or time of year?**
- **Do the many interventions hold together when implemented simultaneously?**

<sup>3</sup> Chipolopolo is a pilot programme of home fortification using micronutrient powders (MNP), implemented by the Zambian Ministry of Health (MoH) with the support of UNICEF, in five catchment areas in Mbala district: Kawimbe, Mbala Urban, Tulemane, Mpande, and Mambwe Mission. The pilot evaluated the use of MNP in combination with the promotion of adequate infant and young child feeding (IYCF) practices and early childhood development (ECD). See: [https://www.unicef.org/zambia/Effectiveness\\_Study\\_for\\_the\\_Development\\_of\\_a\\_Home\\_Fortification\\_Programme.pdf](https://www.unicef.org/zambia/Effectiveness_Study_for_the_Development_of_a_Home_Fortification_Programme.pdf)

### *Implementation Challenges*

Mid-term process evaluation data collections in 2016 and 2017 revealed implementation challenges with communication and coordination, planning and reporting, funding flows, and delivery of priority interventions (PIs)<sup>4</sup>. Communication and coordination challenges included a lack of vertical communication between district-level and ward-level stakeholders, as well as overlapping mandates and territories between ministries and sectors. Our 2016 data also revealed a lack of involvement of the Ward Nutritional Coordinating Committee (WNCC) in planning and decision-making, which resulted in a lack of WNCC ownership over programme activities and a mismatch between planned activities and local needs. Although we noted improvements in district-level communication and coordination in the 2017 process evaluation, these issues continued to be a challenge at the ward and health facility levels.

Challenges related to funding flows included lack of financial management capacity among district-level stakeholders, unclear and time-intensive procedures required to process and follow up on funding requests, and erratic funding disbursements. In 2016 in particular, erratic funding flows seriously hindered PI implementation, especially in the case of time-sensitive activities such as season-dependent agriculture plans and calendrical ones such as Breastfeeding Week. While the 2017 process evaluation showed improvement in funding flows, particularly in Chipata, funding issues persisted in Mbala and the issue of carryover permissions<sup>5</sup> continued in both districts.

### *Heterogeneity of Programme Implementation*

The monitoring and survey data indicate noteworthy differences in the programme implementation across region and time. The endline data indicate that about 40% of households with a child over 5 months of age in Chipata (39%) and Mbala (43%) districts reported receiving a training associated with the MCDP in the last six months. These averages belie wide variation within districts: the exposure rate within the sample wards in Mbala varied substantially as just 5% of households reported participating in a training in some wards and over 80% of households reporting participating in other wards. We find similar variation in Chipata where the exposure rate varied from 25% to 83%. We found no relationship between the participation rate of households in MCDP-related trainings and household proximity to the primary cities in each district (Mbala/Chipata) suggesting that the implementing organizations did not necessarily focus on nearby areas.

The programme monitoring data are reported as district aggregates. This makes it infeasible to rigorously assess when and where individuals received various MCDP components but we can use them to examine differences in programme implementation within districts across time and compare implementation across districts. Monitoring data from Mbala shows large differences in programme targets and number of beneficiaries across quarters: over 3,000 pregnant women were targeted (17 reached) to receive complementary feeding messages in Mbala in Q4 2016

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<sup>4</sup> The complete 2016 and 2017 process evaluation reports are included in Annexes H and I.

<sup>5</sup> Implementing partners were required to obtain permission to use funds from the previous quarter in the subsequent quarter, a requirement commonly referred to as "carryover permissions." Please see the full process evaluation reports (Annexes H and I) for further information on carryover permissions.

compared with 1,812 (1,036 reached) in Q2 2017. Comparable differences are found across many other indicators including number of women reached with iron and folic acid supplementation, number of babies initiated to breast feed within an hour of birth, and households trained on dietary diversity, indicating substantial differences in implementation across time within the same region.

The monitoring data also indicate significant differences in programme implementation across programme districts with substantial differences in numbers targeted and achieved in Chipata and Mbala: for example, over 1600 pregnant women were dewormed in Chipata in Q2 2017, more than 5 times as many as were dewormed in Mbala during the same period. The large differences across regions in implementation timing and scale may be attributable to differences in when funds were disbursed for different activities in the two regions as well as timelines for programme implementation in the two regions. However, an implementation approach that focuses on individual components at certain times may lessen the effect of the programme, which is designed to be delivered as a package and whose theory of change anticipates a bundled delivery.

#### *Complementarity of Priority Interventions*

Implementation challenges hindered the ability of priority interventions to be delivered in a coordinated and consistent manner to beneficiaries, potentially mitigating the positive effects of the MCDP programme on key outcomes such as stunting. It is important to note that the lack of statistically significant reduction in stunting is potentially a result of *implementation* failures, rather than *programme design* failures. The MCDP's multisectoral approach to combatting stunting has been validated by the literature (Bhutta et al., 2008; Bhutta et al, 2013). However, the programme's effectiveness depends on coordinated implementation across sectors, so that relevant priority interventions can 'converge' on a common population of beneficiaries. Our qualitative and quantitative data suggest that, due to an array of challenges, priority interventions were not implemented simultaneously in a consistent manner which limits our ability to assess the complementarity of the full package of interventions.

These implementation problems have caused delays in programme activities, gaps between trainings and input delivery, and resource challenges for the programme. A key element in the theory of change is that beneficiaries are exposed to all programme components: implementation challenges that lead to inconsistent delivery can hamper effects by negating any complementarities that may arise from multiple programme components. We find evidence of positive effects in a supplementary analysis that focuses on younger children who were more likely to have been exposed to multiple programme components.

## **Programme Scale Up**

- **How can the package of interventions be scaled up in a cost-effective way?**
- **Which complementary interventions are needed to establish the assumptions underlying the theory of change and are these interventions cost-effective?**

There are three main phases to scaling a programme or policy: the design, scaling-up, and scaling-out phases (McClure & Gray, 2015a). Each of the three phases of scaling (design, scale-up, and scale-out) have separate challenges to implementing the programme on a larger scale. The design phase serves to optimize programme implementation to provide proof of concept. One prominent challenge faced in the design phase is distinguishing between theory failure, where the theory of change is faulty and programme inputs are unlikely to yield expected impacts, and implementation failure, where the underlying theory of change is sound but implementation challenges preclude the inputs from yielding the expected impacts. Within the MCDP, the design phase relied on the Lancet Series, which established the efficacy of the combination of priority interventions (Bhutta et al., 2008; Bhutta et al, 2013), and the two process evaluations, which provided evidence on programme implementation and recommendations for how to improve programme delivery.

The scaling-up phase increases complexity by expanding the programme within the same target population or collaborating with a different implementer such as a government. The MCDP endline data suggest that not all eligible households within programme communities are receiving the various programme components suggesting a need to scale-up within existing MCDP districts to better reach all eligible households. Scaling up within programme communities is distinct from the scaling-out phase where additional complexity stems from replicating the programme in different contexts. Scaling out is likely to be a prominent challenge for the MCDP as GRZ and NFNC plan to expand coverage to at least 16 new districts over the next few years. It will be important to recognize that different districts will be at different stages of the scaling process with some focusing on scaling out and setting up the programmatic infrastructure while others aim to improve delivery within their district to reach more people. Detailed recommendations for scaling the programme in a cost-effective manner are included in Tables 1 and 2 (pages 14-17).

## **Programme Impact**

- **What is the combined effect of the package of interventions on nutrition outcomes for children?**
- **What is the combined effect of the package of interventions on food security?**
- **What is the combined effect of the package of interventions on child health?**
- **Do moderating factors such as mother's education or access to health facilities affect the impact of the programme on subgroups of the target population?**

The various implementation challenges discussed above led very few households to receive the complete package of interventions; our evaluation assesses the effects of the MCDP programme as implemented. We separately assess whether younger children, who were more likely to receive a bundle of interventions, had different outcomes.

**Effect on nutrition outcomes.** These effects combined to yield a positive but statistically insignificant reduction in stunting in the treatment districts relative to comparison districts: our estimates suggest that stunting fell by 4 percentage points more in treatment districts than comparison districts. This effect size falls below our minimum detectable effect size of 0.17 standardized mean differences suggesting that the effect size may be attributable to the programme but that it was smaller than what our sample is able to detect.

**Tracing effects along the theory of change.** We designed the evaluation to investigate effects of the programme on indicators throughout the programme theory of change. Examining effects along the theory of change is particularly important for two related reasons: first, many of the MCDP components relate to behaviour change and behaviour change experts believe that for a new norm to be sustained over time, the exposure and intensity of the change must be sufficiently high and may even require repeated exposure (Ory et al., 2010). As the evaluation period was relatively short, it will be important to examine effects on outcomes that the theory of change suggest may yield longer-term effects on nutritional outcomes. Second, the MCDP is a multi-sectoral programme with programme components targeting a variety of different outcomes and it is important to identify which programme components may be working well and which may need further refinement. Figure 3 presents difference-in-difference point estimates for the nutrition outcomes as well as key indicators: each dot indicates the coefficient size while the line indicates a 95% confidence interval range. Except for food security, all coefficients represent percentage point changes between baseline and endline in the intervention districts relative to the comparison districts: for example, the first line illustrates that we estimated a 9-percentage point increase in early breastfeeding knowledge in the MCDP districts relative to the comparison districts. The fact that the 95% confidence interval does not include 0 indicates that it is statistically significant at the 5% level. The results indicate positive and significant impacts across a range of outcomes along the theory of change.



**Food security and nutritional intake.** One of the first stages of the theory of change is increased knowledge and improved practices related to nutritional intake. Our analysis suggests that the MCDP was associated with improvements in important early nutritional intake: breastfeeding knowledge and practices related to the first provision of breastmilk increased among mothers in the treatment districts, relative to those in comparison districts, meaning that the proportion of mothers providing breastmilk within one hour of birth and thereby ensuring that the infant receives the associated colostrum increased by almost 10 percentage points.

Qualitatively, we found that virtually all respondents were familiar with the concepts of exclusive breastfeeding (although not necessarily with the term 'exclusive breastfeeding') and complementary feeding and reported practising these concepts.

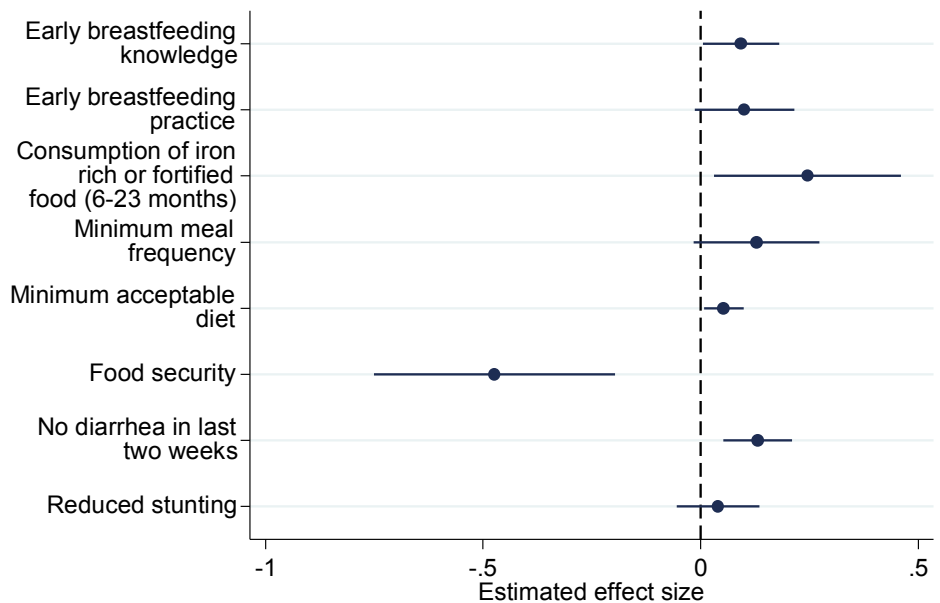
We found similarly encouraging improvements in nutritional intake

for slightly older children. Children aged 6-23 months were significantly more likely to consume iron rich or fortified foods, more likely to receive their required energy needs, and were more likely to receive a nutritionally acceptable diet.

**Child health, WASH, and diarrhoea.** The theory of change is explicit, however, that improving nutritional intake is unlikely to be sufficient to improve nutritional outcomes without improvements in other sectors such as health or WASH. Encouragingly, our analysis also finds evidence of improvements in outcomes related to these domains: we find that the probability of diarrhoea among sample children in the last two weeks fell significantly relative to children in the comparison districts.

Not all quantitative effects were positive, however: we estimate a 10-percentage point decrease in caregiver knowledge of proper complementary feeding practices MCDP districts relative to the comparison districts, although this result is primarily driven by large increases in knowledge

**Figure 3: Estimated programme effects**



Note: Points represent estimated effects from difference-in-differences regression analysis. Lines illustrate 95% confidence intervals on the effects.

in one of the comparison districts where, as described below, a similar program was implemented that may have more effectively increased complementary feeding knowledge. The relative decrease in knowledge seems to have had little impact on other measures given the encouraging results on dietary diversity and nutritional intake for children aged 6 months to 23 months that are detailed in the food security and nutritional intake subsection above. Our analysis also finds negative effects on household food security despite overall improvements in food security in treatment districts due to drastic improvements in the comparison districts. Additionally, we found no evidence of effects, either positive or negative, across a wide range of outcomes: the program did not change the proportion of pregnant women receiving iron and folic acid supplements or deworming pills, nor did it affect intermediate WASH outcomes such as handwashing or source of drinking water.

### Considerations and Limitations

**Multisectoral programme.** There are several potential explanations for the lack of significant effects on stunting. First, stunting is a multisectoral challenge and programme effects were not observed across all target MCDP sectors. Figure 4a presents a simplified conceptual framework illustrating how the various MCDP interventions combine to decrease stunting. This framework is based on the idea that improvements in nutritional intake or WASH are unlikely, on their own, to be sufficient to improve nutritional outcomes. Instead, the framework highlights that decreases in stunting likely a multisectoral approach that includes improvements across a variety of domains including nutritional intake, WASH, and preventative care. Key in this framework is the idea that there are important complementarities between programme components that improve

**Figure 4a: Core MCDP conceptual framework**



**Figure 4b: Observed MCDP pathways**



nutritional outcomes. Positive effects in some domains may not lead to improvements in nutritional outcomes without improvements in other, complementary domains. Figure 4b illustrates this concept as it applies to our results: effects in important domains such as nutritional intake through breastfeeding and feeding practices may have had limited effect on stunting due to a lack of effects in other domains such as the provision of preventative medicines.

**Competing programs.** Second, the implementation of a GIZ-funded programme similar to MCDP in one of the comparison districts reduced our statistical power to detect effects because some households in the comparison districts may have received components of the programme leading their outcomes to improve and making it more difficult to distinguish between whether the MCDP improved outcomes or whether outcomes across Zambia were improving. The programme, which was implemented in Katete, was implemented by the same organization as MCDP and targeted many of the same outcomes. We excluded wards in Katete that the implementing organization identified as receiving the programme. However, some components of the programme focused on district-wide systems-strengthening which may have impacted services throughout the district. The implementation of this programme changes the interpretation of Katete as a business-as-usual comparison for the MCDP districts: development programmes may be implemented across regions and the business-as-usual case in this context accounts for the potential introduction of similar programmes in comparison districts. This contamination of the comparison group should lead us to underestimate effects. The fact that we are able to detect effects across a variety of domains throughout the theory of change despite this contamination is encouraging.

**Looking forward.** The promising results across a variety of domains are encouraging for the Scaling Up Nutrition Phase 2 (SUN 2) which constitutes the second phase of the MCDP in Zambia. The positive results on nutritional intake among infants and young children together with improved WASH outcomes are encouraging. The significant effects on children under the age of 1 are particularly promising since younger cohorts of children are likely to have benefitted from MCDP for longer and may therefore reflect a more accurate estimate of programme effects going forward. The conceptual framework highlights that effects may need to be consistent throughout the theory of change to yield the goal of reduced stunting. The qualitative data suggest that effects may have been limited due to implementation challenges and inconsistent funding: improving these areas and ensuring programme effects across the domains may improve programme design for the SUN 2 implementation. Many of the sectoral interventions require continued implementation to impact future households: sustained impacts (increased nutritional intake, improved WASH outcomes, potential impacts on stunting) for future cohorts will require the ongoing programme implementation envisioned as part of SUN 2.

**Convergence of interventions and targeting.** One approach to improve the exposure of households to multiple sectoral interventions may be to use a targeting criterion for the programme. The programme's theory of change emphasizes that households should be exposed to multiple sectoral interventions to improve nutritional outcomes. The survey and monitoring data suggest that few households received all interventions – fewer than 5% of respondent households in the MCDP districts reported receiving an agricultural input and fewer than 2%

reported participating in an agriculture, nutrition, and WASH training – providing little opportunity for convergence and which may have limited the impacts of the programme. Targeting the programme to a smaller number of households identified as vulnerable to stunting or other poor nutritional outcomes may allow an implementing organization to better monitor exposure and ensure that participant households receive the full bundle of interventions. This approach has the added benefit of focusing resources on households with the greatest need. One challenge of this approach would be identifying the eligibility criteria to ensure that households with a high risk of child stunting are consistently targeted to receive the programme. Piloting and evaluating a targeted approach that emphasises greater convergence of the interventions may be beneficial.

### **Lessons Learned**

One of the key lessons from the process evaluations is that **the success or failure of different components of programme implementation often stems from the motivation of the WNCCs and the coordination between the District Nutritional Coordinating Committee (DNCCs) and the WNCCs.** We suggest conducting a positive deviance analysis to better understand the specific characteristics of functional and motivated WNCCs or DNCCs to inform the development of best practices and guide the formation of the analogous committees in the planned scale-up MCDP districts. This activity would involve identifying communities where the MCDP has been particularly effective and, through rigorous qualitative assessment, examining specific committee or community characteristics that could be responsible for the successful implementation. We suggest conducting this activity before forming the WNCCs and DNCCs in the new MCDP districts so that any lessons can be incorporated into their formation.

**A related lesson concerns communications and coordination.** While in general, horizontal communication and coordination across the participating line ministries has been promoted and increased by the MCDP's multi-sectoral imperatives, and vertical communication, from national (NFNC), to district (DNCC), to ward (WNCC), to community (health facility) level, has improved over the life of the programme, this is an area which needs attention and ongoing vigilance. In the first round of Process Evaluation (PE), WNCC members in Chipata expressed very strong concerns about vertical communication, coordination, and agency. Going forward, it will be critical to continue strengthening both vertical and horizontal coordination and communication, as these lie at the heart of successful implementation.

**Sensitization and behaviour change communication (BCC) have been one of the success stories of the MCDP,** in various PI areas, particularly promotion of best practices in breastfeeding, in nutrition and health knowledge, and in WASH. These efforts should be commended and continued. It is worth noting that the multiple modalities and sites employed for this BCC and sensitization work have been part of the success: breastfeeding promotion has been carried out in well-attended health facility sessions, as well as in breastfeeding mothers' groups, while WASH sensitization and infrastructural investment has taken place in communities and in schools. Although bottlenecks were found, demonstrations and practical activities were well-received where they were carried out.





An important lesson for any project focusing on social and behavioural change in rural Zambia concerns the **involvement of traditional leaders, who offer credibility and authority**. Traditional leaders were heavily involved in the WASH activities, and it would have been good to see their deeper involvement in the nutrition-oriented PIs as well.

**Under-5 days, health days, and growth monitoring were especially well-received by mothers.** This has been taken advantage of at times, by the MCDP, but we believe that the positive energy and momentum around these clinic and community-based activities is important and could be leveraged even more strongly to carry out MCDP activities, consolidate work done, and launch new MCDP actions.





### **Conclusions & Recommendations**

Through the various data collection activities during the evaluation of the MCDP (RQA, process evaluations, and impact evaluation), the research team identified a series of challenges and corresponding recommendations which are reflected in Tables 1 and 2. Table 1 contains PI-specific challenges and recommendations and Table 2 presents challenges and recommendations related to coordination, communication, and structural issues. Each recommendation is colour coded to reflect the progress made addressing it to date, with green meaning “mostly resolved,” orange meaning “partially addressed,” and red indicating that the issue “still requires attention.” Many of these challenges and recommendations are also discussed at length in earlier reports (please see the 2016 and 2017 full process evaluation reports, Annex H and I).

**Table 1. PI-Specific Challenges & Recommendations**

Information Source	Challenge	Recommendation	Status	Stakeholders
RQA, PE2, Endline	While the supply of IFA is consistent (98% of respondents at endline who received antenatal care reported receiving IFA pills), constraints remain as some facilities now limit the amount of tablets they provide to women during a visit, requiring them to make more frequent visits to the facility to replenish.	Establish standard protocols for supplement disbursement and establish local channels for the distribution of supplements and nutritional products.		SUN 2.0 implementers and funders (including relevant line ministries such as MOH), DNCC, and WNCC
RQA, PE1, PE2, Endline	While over 90% of women in the evaluation regions are aware of the proper exclusive breastfeeding practices for children under 6 months of age, only 76% of women follow these guidelines. Similarly, 24% of women lack comprehensive knowledge of optimal early breastfeeding practices and complementary feeding practices. Some women reported difficulties in practicing exclusive breastfeeding because of a cultural belief that excessive crying means that the baby is not satisfied by breastmilk alone. In addition, a few women reported receiving no help from their husbands in household chores and securing nutritious foods, a factor that further hinders mothers' ability to practice exclusive breastfeeding and optimal complementary feeding.	Ensure that clinics continue to support proper breastfeeding practices (early initiation of breastfeeding, six months of exclusive breastfeeding, on-demand feeding), complementary feeding, and healthy diets for pregnant and lactating women. Men should be included in this training and encouraged to support breastfeeding women by helping to reduce their workload and ensuring that they have better access to food. Further, conduct sensitisations to debunk the belief that excessive infant crying signifies a need for solid food intake.		SUN 2.0 implementers, line ministries, DNCC, WNCC, and clinic staff
PE2	Breastfeeding support groups which used to exist are no longer active.	Reinvigorate safe motherhood action groups (SMAGs) and other relevant women's groups at the community level. Encourage breastfeeding support groups to enroll new mothers to help ensure persistence.		SUN 2.0 implementers, line ministries, DNCC, WNCC, community health volunteers, local leaders
RQA	Given the prominence of groundnuts as a high-energy protein source, and the fact that groundnuts are often stored at home, it is important to consider the problem of aflatoxins (also an issue with maize) and their probable association with stunting and morbidity.	We understand that addressing aflatoxins has been explicitly incorporated into the theory of change for SUN 2.0. We anticipate MCDP programming to call attention to and work to minimize the risk of aflatoxins in relevant foods.		SUN 2.0 implementers and funders

PE2	Some respondents noted a need for training on how to tally and complete under-5 information during (GMP) sessions. The availability of under-5 cards can be inconsistent which can lead growth to go unmonitored until the mother receives an under-5 card. Over 92% of the children surveyed as part of the endline survey had an under-5 card but rates were lower for younger children as 18% of children aged 3 months or younger did not have a card.	Under SUN 2.0, continue training on GMP reporting and ensure immediate availability of under-5 cards for new-borns.	●	SUN 2.0 implementers, line ministries (most notably MoH), DNCC, WNCC, and clinic staff
PE1, PE2	Resources for growth monitoring and IMAM are inconsistently available: some facilities lack basic equipment such as scales, MUAC tape, and other GMP equipment while others lacked Plumpy'Nut® for IMAM.	DNCC and WNCC could work together to take inventory GMP and IMAM equipment and resources to identify gaps in equipment and supplies.	●	DNCC, WNCC
PE2, Endline	There is no indicator in the monitoring tools community volunteers are currently using to capture or record instances of diarrhoea which makes it difficult to track the provision of zinc. Further, qualitative data suggest that recipients of zinc may be unaware of what they are receiving.	Incorporate an indicator for diarrhoea into the monitoring tools for community health volunteers. Consider further sensitization of the role of zinc in diarrhoea treatment as part of SUN 2.0 programming.	●	DNCC, WNCC, community health volunteers
PE1, PE2, Endline	Coordination of cooking demonstrations and provision of necessary supplies (foods and utensils) remains a problem at the community level. Participants do not have consistent access to the foods used in cooking demonstrations. Rainy weather was also cited as a challenge to cooking demonstrations. In Chipata, the availability of cooking utensils continues to be a problem.	-If incorporating cooking demonstrations under SUN 2.0, ensure that the both the foods used and the cooking utensils required are readily available. -Encourage cooking demonstrations to incorporate and account for seasonally available foods. -Explore the possibility of exploiting synergies with livelihoods or social protection programming with the aim of reducing economic constraints on the purchase of nutritious foodstuffs.	●	SUN 2.0 implementers and funders (including relevant line ministries such as MOH), DNCC, and WNCC
RQA	Widespread food taboos hamper the dietary diversity of women and young children.	Incorporate nutrition messaging around food taboos into existing services provided to pregnant and lactating women to debunk food taboos. Consider visual messaging to convey these concepts to low-literacy populations.	●	SUN 2.0 implementers and funders (including relevant line ministries), DNCC, and WNCC

PE1, PE2, Endline	Agricultural inputs (poultry, goats, seedlings, etc.) are not consistently reaching beneficiaries. Only 5% of households in Chipata and Mbala reported receiving an agricultural input in the last 6 months. When they did reach programme communities, respondents noted high mortality rates of programme poultry and goats.	Reassess appropriate levels of inputs to distribute in programme communities. Ensure complementary training on proper care and breeding of programme animals.		SUN 2.0 implementers and funders (including relevant line ministries such as MoA), DNCC, and WNCC
RQA, PE2, Endline	Access to clean water is inconsistent across the evaluation districts: 85% of endline respondents in Chipata had access to water from an improved source in Chipata compared with just 40% in Mbala.	Collect information on water sources as part of M&E activities for SUN 2.0. As SUN 2.0 is scaled up, consider prioritizing water supply activities in areas such as Mbala where large portions of the population still receive their water from a non-improved source.		SUN 2.0 implementers and funders
PE2	Monitoring exposure to nutrition-sensitive messaging is difficult, particularly because nutrition-sensitive messaging is listed as a 'cross-cutting' indicator, which all ministries report against, potentially resulting in double-counting attendance.	Reconsider ways to monitor and measure exposure to nutrition-sensitive messaging.		SUN 2.0 implementers and funders (including relevant line ministries such as MoA), DNCC, and WNCC
PE1, PE2, Endline	Information Education and Communication (IEC) materials related to nutrition are being distributed in English only.	Develop and distribute IEC materials in local languages with visual aids for illiterate populations.		SUN 2.0 implementers and funders (including relevant line ministries such as MoA), DNCC, and WNCC



**Table 2. Coordination, Communication, and Structural Challenges & Recommendations**

Information Source	Challenge	Recommendation	Status	Stakeholders
PE1, PE2	Vertical communication, between district (DNCC) and ward (WNCC) levels, is perceived as problematic. Relatedly, WNCCs desire greater autonomy and responsibility for MCDP activities.	Consider ways to improve vertical communication: provide funding for more regular meetings and DNCC field trips, ensure that WNCCs receive more regular and complete briefings from the DNCCs. Seek ways to foster greater WNCC ownership of the programme activities, including involving WNCCs more actively in activity planning.	●	DNCC, WNCC
PE1, PE2	The current Monitoring & Evaluation (M&E) system (which requires extracting information from separate line ministries) is time-consuming and error-prone. As a result, M&E data are not consistently and accurately submitted.	Consider developing an M&E framework that is less complex than extracting information from separate line ministries. Consider requiring only consolidated reports from the DNCC, reducing the confusion and inconsistencies inherent in individual line ministry reporting. Train continuously on proper monitoring procedures for data collection, tools, and reporting.	●	SUN 2.0 implementers and funders (including relevant line ministries), DNCC, and WNCC
PE1, PE2	Funding flows and issues related to carryover funds hindered implementation of priority interventions.	Establish a clear policy on the use of carryover funds. Continue providing financial management training (which respondents during PE2 indicated was extremely helpful) and ensure coordination of line-ministry funding for activities requiring funds from multiple line ministries.	●	SUN 2.0 implementers
PE1, PE2, Endline	Some priority intervention activities were significantly delayed or rolled out incompletely, thus not reaching all intended beneficiaries.	Minimise incomplete interventions, such as training pump minders without subsequently providing borehole spares. In the event of funding constraints, consider a more complete roll-out in a smaller number of wards rather than an incomplete roll-out in many wards. Clearly define the transition from training to action, and make every effort to minimise the gap between these two.	●	SUN 2.0 implementers and funders (including relevant line ministries), DNCC, and WNCC

## Introduction

The purpose of this report is to present the final results from AIR's evaluation of Zambia's *First 1000 Most Critical Days Programme* (MCDP) and to synthesize findings from earlier data collection activities including the Rapid Qualitative Assessment (RQA) and two rounds of process evaluation data collection. The evaluation of the MCDP is a 3-year, mixed methods, non-experimental design with three components: a rapid qualitative assessment, a process evaluation, and a summative quantitative evaluation. The purpose of the evaluation is to learn if and how the programme changes the lives of pregnant women and children under 2 years old for an array of outcomes including young child nutrition; health, water and sanitation practices; and the use of health-related services. DFID Zambia contracted AIR and its partners Palm Associates and University of North Carolina (UNC) to conduct the evaluation of the MCDP.

### **Objectives of the Evaluation**

Although evidence on the effectiveness of specific nutrition interventions is strong (Bhutta et al., 2013; Bhutta et al., 2008), the evidence on how to deliver an integrated package of nutrition interventions at scale and in the most cost-effective ways is limited. The mixed methods evaluation of the MCDP was commissioned to better understand how such a programme works and how it can be scaled up nationally. The evaluation was designed to assess impact and collect information from along the causal chain to better understand what works and how. It is anticipated that findings from the evaluation will be used to inform the national scale-up of the MCDP.

### **The MCDP**

The National Food and Nutrition Commission (NFNC), in coordination with donors, including DFID, developed a bundled, multi-sectoral programme called The First 1000 Most Critical Days Programme (referred to as MCDP throughout this report), to address Zambia's child undernutrition. The MCDP began in 2015 and is funded by the Scaling Up Nutrition network (SUN) in Zambia. Its goal is to reduce stunting in Zambia by 50% by focusing on children under 2 years of age and pregnant and lactating mothers—the most critical period for stunting—bundling, strengthening, and bringing to scale a strategic subset of routine interventions proven to reduce stunting. The programme is led by the Zambia Food and Nutrition Commission (NFNC) and it involves the Ministry of Health (MoH), Ministry of Education (MoE), Ministry of Agriculture, Livestock and Fisheries (MoA), the Ministry of Community Development and Social Welfare (MCD), and the Ministry of Local Government and Housing (MLGH). CARE International is the main technical assistance and fund management partner.

The programme targets households with children under 24 months of age and includes a package of activities and supports that will focus on maternal and adolescent nutrition; deworming, and vitamin A supplementation; family planning; growth monitoring; iron and folic acid supplementation; iodised salt, micronutrients, and breastfeeding; fortified staples and specialised nutritional products; a mother- and baby-friendly hospital initiative; and management of severely malnourished children (NFNC, 2011).

The MCDP is currently being implemented in 14 districts in Zambia: Mumbwa in Central Province; Chipata and Lundazi in Eastern Province; Mansa and Samfya in Luapula Province; Chinsali in Muchinga Province; Kaputa, Kasama, and Mbala in Northern Province; Zambezi in North-Western Province; and Mongu, Kalabo, and Shang'ombo in Western Province. There are plans to scale-up the MCDP to 16 additional districts in the near future as part of the follow-on programme, SUN 2.0. At the district level, MCDP priority interventions are coordinated by the District Nutritional Coordinating Committee (DNCC), a multi-sectoral body composed by the district-level focal points of the line ministries mentioned above, implementing non-governmental organisations (NGOs), the District Administration Office, and the District Nutritional Coordinator, who is a figure appointed directly by NFNC for coordinating all MCDP activities. Specific activities under the interventions differ slightly by district and are established through an Implementation Work Plan. Each activity is led by one line ministry that is in charge of managing funds for that activity. However, monthly technical and financial reporting is consolidated and sent by the DNCC coordinator. As the fund manager, CARE reviews and approves quarterly disbursements. Other technical aspects such as capacity building for district staff or monitoring and evaluation (M&E) are led by the NFNC with technical assistance from CARE.

The structure of the MCDP is replicated at the ward level (an administrative subdivision of the district), where the Ward Nutritional Coordinating Committee (WNCC) is composed of a coordinator, traditional leaders, and representatives of line ministries at the ward level (for example, a teacher from the MoE or a camp officer from the MoA). By nature of its design, the MCDP requires a great deal of coordination and collaboration across ministries within the same district, but also across implementers, managers, funders, and technical assistance entities at both the district and national levels.

## Background and Theory of Change

Undernutrition is one of the most serious global health problems. Stunting, wasting, and micronutrient deficiencies contribute to nearly 3.1 million child deaths annually (Bhutta et al., 2013). In Zambia, half the deaths of children under the age of 5 are attributed to maternal and child undernutrition, and almost 40 percent of the individuals under age 5 are stunted as a result of chronic malnutrition (ZDHS 2014). Malnutrition, including iodine deficiency and inadequate vitamin intake, can lead to a host of negative development outcomes including decreases in cognition (Bardham, Macours, & Maluccio, 2013), decreases in school enrolment (Miguel & Kremer, 2004), and subsequent losses in labour productivity (Baird, Hicks, Kremer, & Miguel, 2011). Recent research has highlighted that the consequences of malnutrition during children's first 1000 days of life are likely to be particularly severe (Almond & Currie, 2010). However, programs attempting to decrease chronic malnutrition must confront the multifaceted nature of the problem where a variety of factors including maternal health, child feeding practices, and child health interact with water and sanitation, health care, and education to contribute to stunting.

There is robust evidence that maternal health, child feeding, and child health interventions can improve nutrition and decrease chronic malnutrition. Interventions to improve maternal nutrient intake include supplementation with iron, zinc, folic acid or multiple micronutrients. A recent meta-analysis of 12 studies in developing countries found that micronutrient supplementation during pregnancy is associated with increases in birthweight and approximately 10% reductions in the prevalence of low birthweight highlighting the value of maternal health interventions in improving infant health outcomes (Fall et al, 2009).

Inappropriate infant and child feeding practices, including insufficient dietary diversity, may also contribute to under- and malnutrition. Low dietary diversity is highly correlated with stunting across a variety of settings and studies improving infant and child feeding practices through the introduction of a minimum acceptable diet and appropriate complementary feeding practices have been shown to significantly improve the nutritional status of children and decrease their risk of stunting (Bhutta et al., 2013; Bhutta et al, 2008; Dewey & Adu-Afarwaha, 2008; Rah et al, 2010).

**Figure 5: Antenatal care is promoted at a local clinic**



Interventions targeting child health and the provision of healthcare to children are intimately tied to parental care seeking behaviour. Care-seeking behaviour can vary widely and can depend on socio-economic factors such as education and wealth, as well as local or traditional perspectives on the causes of illness (Beiersmann et al, 2007; Kembele et al, 2006). The impact of these factors on care-seeking behaviour can be substantial: research in Burkina Faso found that that an individual's income was the most reliable predictor of care-seeking behaviours, even surpassing that of the severity of illness (Dong et al, 2006). Studies in Zambia have yielded similar conclusions: care-seeking behaviour in individuals is found to be influenced by income, distance to health facilities, and ownership of a vehicle (Hjortsberg, 2003). Integrated community case management care is a promising approach designed to bring care closer to the people who need it, eliminating the need for long and arduous travel, while also reducing the resource strain on primary care centres (Seidenberg et al., 2012). However, the approach has not yet been adopted on a large enough scale to determine its nationwide viability.

Improving maternal health, child feeding practices and care seeking behaviours may all be necessary but potentially insufficient to dramatically decrease stunting. A pair of prominent

studies published as part of The Lancet Series on Maternal and Child Undernutrition found that widespread implementation of a large range of evidence-based interventions with either 90 or 99% coverage would decrease stunting by 33-36 percent, while the implementation of ten core nutrition interventions at 90% coverage would decrease stunting by 20 percent (Bhutta et al., 2008; Bhutta et al, 2013). Decreases in stunting of 20-36% would be laudable but would still fall far short of eliminating chronic malnutrition as a global health challenge.

Improving poor water quality and inadequate sanitation conditions is likely to be a precondition to dramatically decreasing stunting. Consistently poor hygiene conditions can lead to clinical conditions such as chronic diarrhoea and environmental enteropathy which may limit nutritional uptake and lead to chronic malnutrition despite high nutritional intake (Korpe and Petri, 2012). In Zambia, numerous programmes seek to improve water and sanitation services across the country, all of which have health and nutrition implications. The water and sanitation projects range from large reform projects that seek to improve financial sustainability and technical efficiency across the water sector to smaller-scale efforts such as community led total sanitation (CLTS) initiative which seeks to sensitize communities to the dangers posed to their drinking water by open defecation (World Bank 2016; Yeboah-Antwi et al, 2013). Harris et al. (2017) suggest, following Headley et al. (2014), that changes in Zambian WASH practices may underlie the 12 percentage point reduction in stunting seen from 2002-2014.

The MCDP in Zambia was designed with the multi-sectoral nature of chronic malnutrition in mind. In this sense, the programme marked a distinct break with past approaches, spearheaded by the National Food and Nutrition Commission, which was established under the 1967 National Food and Nutrition Act. From the 1970s through the first decade of the 2000s, approaches had centred around single micronutrient supplementation delivery at a national level, together with breastfeeding promotion policies. In 2011 Zambia joined the SUN movement, which opened the possibility of accessing the multi-donor SUN Fund which ultimately financed the MCDP (Harris et al. 2017).

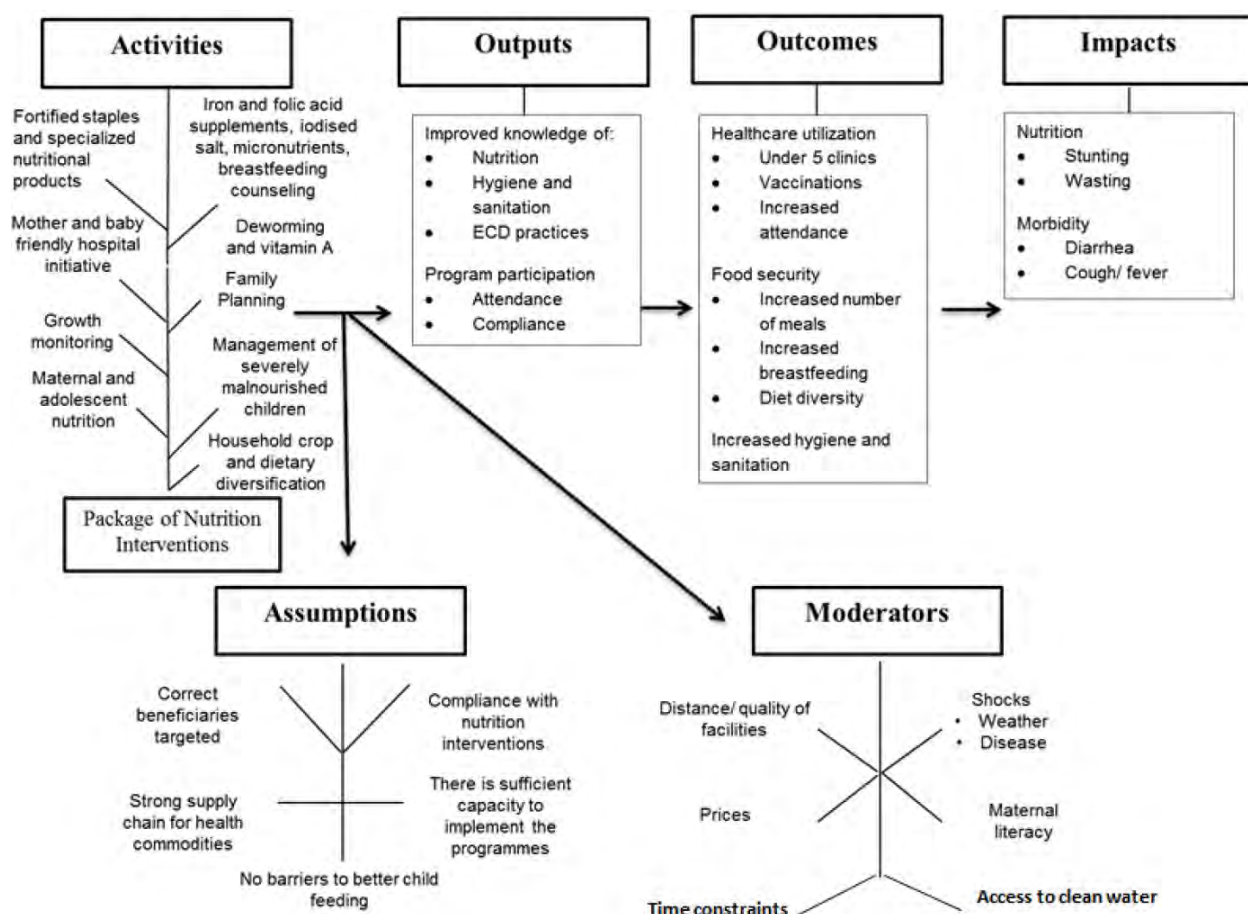
The MCDP aimed to bundle, strengthen, and bring to scale a strategic subset of routine interventions proven to reduce stunting including maternal nutrient supplementation, complementary feeding practices, growth monitoring, integrated management of acute malnutrition, dietary diversity, and water and sanitation. Prior to beginning our evaluation of the MCDP, AIR developed a theory of change (Figure 6 below) detailing our understanding of how the MCDP can affect child nutrition, the causal pathways involved, and the potential moderating and mediating factors. We then designed the evaluation around this theory of change, mapping out the causal chain between activities, outputs, outcomes, and effects, as well as the assumptions underlying the theory of change.

We measured indicators and collected data at each step of the causal chain to provide formative and summative evidence that can be used to explain what works and what needs modification to ultimately improve the programme design. First, we expect a direct effect of the programme on mothers' knowledge – including on child feeding, water and sanitation practices, and the use of healthcare services such as vaccinations and vitamin supplements – as well as on mothers'

participation in the programme. These outputs –increased knowledge and programme fidelity – are essential for the programme to realize its goals. The next step in the causal chain is the effect of these outputs on mothers’ behaviours, including their healthcare utilisation, food provision practices, and hygiene and sanitation practices. Ultimately, these behaviour changes should have effects on young children’s nutrition and health. The key idea of this theory is that any potential effect of the programme must work through the household through a change in behaviour and practices (including use of services).

Sociological and health theories of nutrition suggest that the effect of interventions may be weaker or stronger depending on local conditions in the community or household. To investigate heterogeneous programme effects, we also looked at factors such as child age and mother’s education which might moderate the impact of the programme. We also use the evaluation to test whether the assumptions underlying the theory of change hold true and suggest potential assumptions or causal pathways that might be missing.

**Figure 6: Theory of Change for the MCDP**

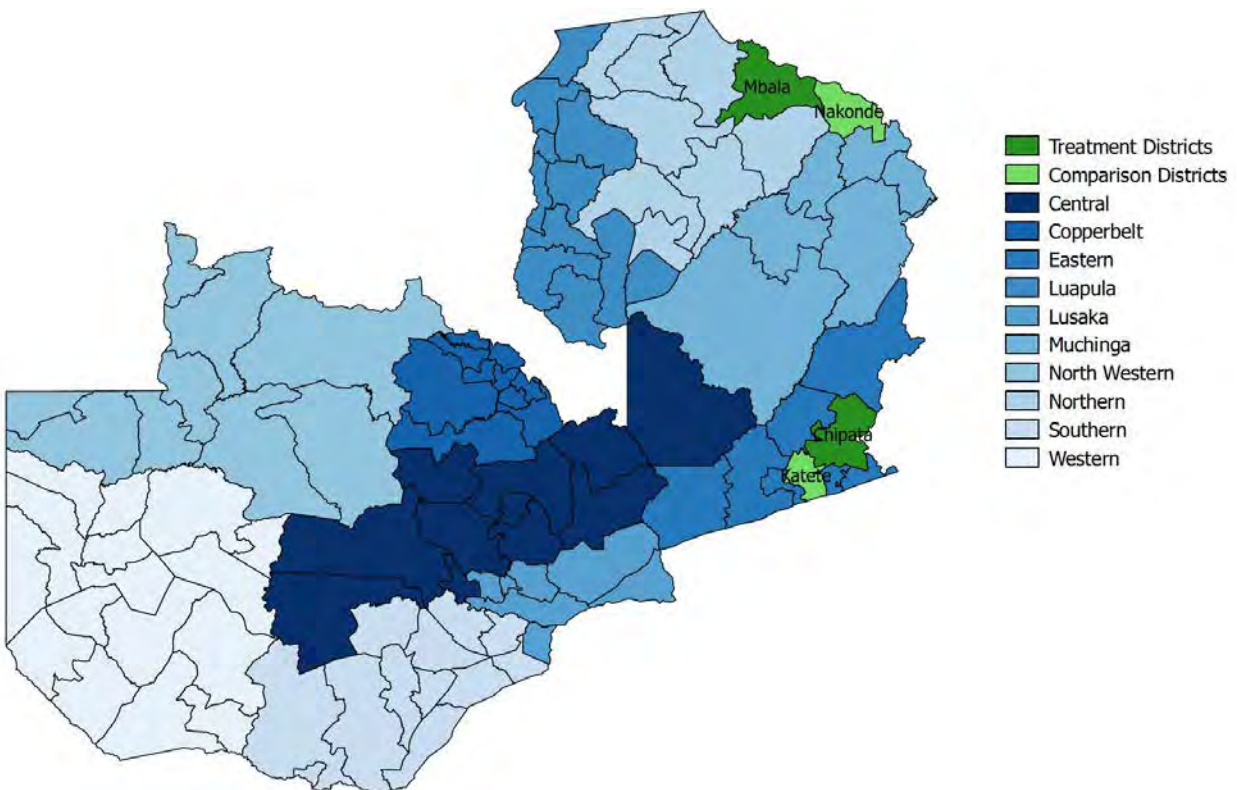


## Study Design

The evaluation of the MCDP in Zambia is a 3-year, mixed methods, non-experimental design with three components: a rapid qualitative assessment (RQA), a process evaluation with two rounds of data collection, and a formative quantitative evaluation. AIR's evaluation team has no actual or potential conflicts of interest that could compromise its independence and, thus, its capacity of exercising objective and impartial judgement on all issues associated with conducting an evaluation of the MCDP in Zambia.

AIR conducted the RQA prior to baseline quantitative data collection in 2014 and the results served as formative research on infant, young child, pregnant women's, and maternal dietary practices; drivers and constraints and uptake of existing maternal and child health interventions. The process evaluation, which included two rounds of data collection in 2016 and 2017, examined the fidelity of implementation in two treatment districts (Chipata and Mbala) and explored key implementation challenges and successes on the ground. Finally, the formative quantitative evaluation explored the effects of the package of interventions on beneficiary outcomes throughout the theory of change.

**Figure 7: Evaluation Districts in Zambia**



## Deviations from Original Terms of Reference

During the inception phase of the evaluation, DFID and AIR agreed that one element of the original terms of reference (TOR)—the value for money (VFM) assessment was premature given that the MCDP was still in the early phases of implementation. In the absence of a proper VFM assessment, we are somewhat limited in what we can say about the programme's efficiency and cost-effectiveness. Secondly, given the operational challenges identified in the first round of PE data collection in 2016, AIR and DFID signed a contract modification replacing the Standalone Qualitative Studies with an additional round of PE data collection in 2017.

## Research Questions & Development Assistance Committee Criteria

To preserve the chronology of the various evaluation components, avoid repetition, and present a large volume of research findings in an accessible manner, AIR and DFID agreed to structure the final evaluation report according to the specific evaluation research questions rather than the Development Assistance Committee (DAC) evaluation criteria of relevance, effectiveness, efficiency, and sustainability. The table below maps the DAC criteria to the evaluation research questions underlying this study.

DAC Criteria	DFID Question	MCDP RQs
Relevance	What is the combined effect of the interventions under the programme?	Do the many interventions hold together when implemented simultaneously?
	To what extent can this approach be scaled up?	How can the package of interventions be scaled up in a cost-effective way?
	To what extent do the different interventions meet the need of different groups (e.g. vulnerable disadvantaged or socially excluded groups)?	Do moderating factors such as mother's education or access to health facilities affect the impact of the programme on subgroups of the target population?
Effectiveness	Which interventions have worked well in which contexts and why?	<ul style="list-style-type: none"> <li>• What is the combined effect of the package of interventions on nutrition outcomes for children?</li> <li>• What is the combined effect of the package of interventions on food security?</li> <li>• What is the combined effect of the package of interventions on child health?</li> <li>• What are the challenges to implementing the programme as designed?</li> </ul>
	What has been the value added of the different approaches?	
	Do the assumptions in the programmes Theory of Change hold true?	Which complementary interventions are needed to establish the assumptions underlying the theory of change and are these interventions cost-effective?



	Have women in programme areas who are pregnant or have children under five increased their nutrition knowledge?	What is the combined effect of the package of interventions on nutrition outcomes for children?
<b>Efficiency</b>	Does the multi-sectoral approach provide value for money?	As explained in the section entitled “Deviations from the Original TOR,” AIR and DFID agreed not to conduct the Value for Money assessment.
	Are the results (output and outcome) achieved relative to the investment?	
<b>Sustainability</b>	Are the changes at outcome level likely to be sustained?	The proposal and inception report did not include specific research questions related to sustainability. However, the section “Looking Forward” (in the executive summary) includes the research team’s perspective on how outcome-level changes might be sustained moving forward.
	What are the positive and negative factors that determine the sustainability of the outcomes?	

## Stakeholder Consultation

Throughout the evaluation, the AIR team consulted with numerous individuals and organisations of all types (implementers, stakeholders, beneficiaries, and funders) to refine the design of the study, collect information, and share and validate findings. Consultations took place via meetings, email exchanges, formal presentations, and dissemination of full technical reports and technical briefs. AIR presented endline evaluation findings at the Zambia MoH’s “Evidence for Impact” symposium as well as the SUN Fund Steering Committee meeting in March 2018. Further dissemination efforts are being planned in consultation with DFID at the time of report writing. A full list of consultees is included in Annex F and the RQA and two process evaluation reports—which include lists of informants—are included as Annexes G, H, and I.

## Poverty & Malnutrition

**What is the nature and experience of poverty and under-nutrition, including access to food, dietary and feeding practices, and behaviour for households with young children in rural Zambia?**

The Rapid Qualitative Assessment (RQA) was conducted in October 2014 and served as formative research to sharpen the research team’s understanding of the theory of change, provide inputs to the design of the quantitative survey instruments, collect information about other programs in the study areas, and suggest refinements to the MCDP programme design. The RQA employed three primary methods of qualitative data collection: focused ethnographic studies (FESs); focus group discussions (FGDs); and social mapping.

**Figure 8. Village visited during the RQA in Nthope Ward, Chipata District**



### *Feeding & Dietary Practices*

Both FES and FGD respondents were asked a variety of questions about their knowledge of appropriate diets for mothers and young children, food security, dietary diversity, and any barriers they face in accessing nutritious foods. Data from the RQA revealed that decisions involving finances (such as the purchase of food) are typically made by men; access to nutritious foods varies greatly by season, with far more food shortages reported in the dry season than the rainy season; and, for the most part, women determine for themselves how long they breastfeed their children. There are a number of misconceptions about specific foods that are viewed as harmful for pregnant women, such as eggs and pork.<sup>6</sup>

### *Work & Time Allocation*

Mothers and caregivers in rural Zambia are responsible for a wide variety of agricultural work and domestic chores in addition to caring for their children. While women often receive support from other family members, husbands in particular are not always helpful (and in some cases, they seem to do more harm than good). Additionally, certain tasks—such as fetching water, collecting firewood, and preparing food—are traditionally female tasks. Based on the findings from the RQA, the research team suggested that MCDP implementers calculate the amount of time required for mothers and caregivers to actively participate in programme activities such as clinic visits. We suggested that efforts be made, when possible, to minimise the programme's impact on women's time. For example, whenever it is possible to disseminate information or supplies at the village level (as opposed to through the health centre), this should be done.

<sup>6</sup> Please reference the Rapid Qualitative Assessment (Annex G) for further details on MIYCF and food taboos.

*Knowledge and Use of Mother, Infant, and Young Child Nutrition (MIYCN) and Health Services*

In both Chipata and Mbala, services and information for pregnant women, mothers, and caregivers are primarily available at antenatal clinics and clinics for children under the age of five (hereafter referred to as under-five clinics) at local health centres. In all wards visited for the RQA, women identified these clinics as their main source of nutrition and health information. However, many respondents reported difficulty following the advice dispensed at local health centres due to financial and time constraints. For example, purchasing recommended foods or preparing fresh foods can often be cost or time prohibitive. This information underscored the need to provide items such as fortified foods and supplements through the MCDP if their consumption is a critical component of the theory of change. We also observed varying degrees of understanding about existing nutrition programmes (such as Chipolopolo) in the communities visited for this study, which suggested that the MCDP would benefit from a comprehensive communications strategy to ensure local acceptability and understanding of the programme's purpose. Relatedly, we suggested a thorough analysis of the Chipolopolo programme to include an examination of implementation bottlenecks as well as weaknesses in the programme's information dissemination strategy. Lastly, given the role agriculture plays in determining dietary diversity in rural Zambia, we advised that the MCDP could potentially benefit from the inclusion of a nutrition-sensitive agricultural component, or from enhanced linkages with such programmes where they already exist.

## Programme Implementation & Scale Up

- What are the challenges to implementing the programme as designed?
- Heterogeneity to programme implementation: Does the programme implementation vary by region, culture, or time of year?
- Do the many interventions hold together when implemented simultaneously?

- How can the package of interventions be scaled up in a cost-effective way?
- Which complementary interventions are needed to establish the assumptions underlying the theory of change and are these interventions cost-effective?

### First Process Evaluation

We conducted an initial process evaluation study in 2016, with a focus on implementation experiences, including communication and coordination, monitoring and reporting, financial flows, and successes and challenges in implementing each of the MCDP priority intervention areas. Process evaluations focus on implementation and uptake and help us to understand the fidelity of a given programme's implementation in order to learn whether the delivery of the programme deviated from the original plan and how any deviations may have affected costs and impacts. Process evaluations also provide evidence on how to reproduce the programme in other contexts and provides knowledge and lessons about implementation and design. For these reasons, a process evaluation is very much 'action research'. The first process evaluation focused principally on supply-side issues and employed qualitative approaches to gather information on

programme roll-out and implementation. Key topics included documenting the status of implementation activities, including not only what and where, but also how, the activities were implemented. We highlighted challenges, bottlenecks, and potential inefficiencies as well as positive findings to help inform future implementation.

The first process evaluation employed key informant interviews (KIIs) and focus group discussions. We interviewed key informants (particularly those involved in service provision) principally to elicit opinions about programme implementation. In these interviews we used a semistructured interview guide, focusing closely on topics pertinent to each category of key informant and allowing scope for probing and exploration of themes emerging from different responses. We carried out focus group discussions, also based on tailored guides, with health and nutrition staff and implementing actors throughout the programme chain from district to ward, health facility, and community. In addition, we conducted focus group discussions with agricultural and women's groups to collect early uptake data.

We collected the process evaluation data in the intervention wards of Chipata and Mbala districts. In consultation with stakeholders, it was decided to collect data in the same Chipata wards where the RQA was carried out in 2014, Nsingo and Nthope. Within these wards, the research team visited four health facilities, one school, and four agricultural camps. After discussions with DFID, the research team decided not to replicate the entire Chipata data collection in Mbala, but instead to carry out a more targeted and concise data collection exercise in that district, principally for the purposes of triangulation and comparison. Data was collected in Lusaka and Chipata in March and April 2016 and in Mbala in May 2016.

**Coordination and Communication.** In both Chipata and Mbala, we found that higher level actors (District, WNCC) had a good conceptual understanding of the implications of the multisectoral paradigm and coordinated approaches to implementation. This understanding diminished, however, further down the programme chain. Furthermore, although some coordination in activity planning and implementation (chiefly in the area of sensitisation) was under way (particularly in Mbala), coordination was limited by the overall slowness of activity roll-out. In terms of planning and communication, we found challenges particularly along the vertical axis, in particular between the WNCCs and their respective DNCCs: In both districts, WNCC members felt they did not have particularly good communication with their DNCCs and that their role had been limited to simply carrying out the orders of the DNCC. We heard calls for greater ownership and autonomy. Finally, moving up a level, we noted that line ministry focal points on the DNCC in Chipata reported poor communications with CARE, in which repeated requests for funding carry-over went unanswered.

**Monitoring.** Respondents we spoke to at the central, district, and ward levels indicated that monitoring processes were not being consistently or systematically carried out. The first process evaluation followed the creation, but preceded the implementation of a harmonised monitoring and evaluation plan. As the unified monitoring tool for the MCDP had not been adopted, programme implementers improvised to extract relevant data from their respective line ministries to monitor activities. Using existing ministry registries created an additional burden for those

responsible with the task of reporting. Although the programme targeted and would therefore report only on children of ages 0–2, ministry registries focused on children 0–5 years old, meaning MCDP staff had to spend time extracting the information for the children of ages 0–2 from the registries. Furthermore, confusion over which activities are SUN-funded and which would occur without the MCDP represented a significant challenge for reporting.

**Flow of Finances.** Financial processes and the flow of funds represented perhaps the most significant obstacle to MCDP implementation at the time of the first process evaluation. We identified substantial mistrust of accountability over finances between the central, district, and ward levels, causing significant challenges in communication and coordination of financial reporting and approval procedures. Delays in funding disbursements posed significant problems to the implementation of several intervention time-sensitive activities, reducing their effectiveness. In addition, when districts needed to ‘carry over’ funding from one quarter to another, the procedures necessary to request this approval caused further delays for interventions.

**Delivery of Priority Interventions.** Findings from the first process evaluation identified many successes and several challenges for implementers delivering the programme’s priority interventions. In Chipata, distribution of Iron and folic acid (IFA) tablets, vitamin A, and deworming activities were occurring regularly, and respondents noted that they had sufficient tablets to distribute. Most respondents felt that SUN funds had not significantly added to existing IFA tablets, Vitamin A, and deworming activities, though some explained that the MCDP had been successful in making the activities routine. MCDP activities in breastfeeding also had systematised a focus on appropriate breastfeeding practices. In Chipata, a separate breastfeeding mothers’ group was established, and sensitisation was occurring frequently with pregnant women to encourage and educate them on feeding.

Respondents in Mbala reported a shift in dialogue about child feeding resulting from the MCDP. Some respondents we spoke with in Chipata described a training they had received on Infant and Young Child Feeding (IYCF), explaining how valuable it was, but others within the same ward revealed they had not yet had an opportunity to attend the training, highlighting perhaps inconsistent targeting efforts. Resource challenges also were mentioned by ward-level MCDP implementers, who expressed a need for additional resources, particularly for cooking demonstrations and community training activities.

Respondents provided mixed opinions on the ways in which the MCDP added to growth-monitoring activities. Training growth promoters and growth monitoring volunteers had not occurred in either district as a result of funding constraints. In addition, in Chipata, insufficient growth monitoring and Integrated Management of Acute Malnutrition (IMAM) inputs had been provided, making it difficult to conduct adequate sensitisation to malnutrition and inhibiting growth-monitoring activities. At the same time, in Chipata, implementers emphasised that because of the MCDP, they were conducting significantly more sensitisations on stunting, and that pregnant and breastfeeding women consequently better understood the link between malnutrition and stunting.

We found that several SUN activities targeting dietary diversity had been completed in Chipata and Mbala. Respondents mentioned several sensitisation activities which had been integrated into regular ministry functions, as well as cooking demonstrations in Mbala, both of which targeted farmers and women's groups. Respondents in Chipata reported more challenges in carrying out activities because of a lack of funding, and noted that the trainings which had been provided were reported to be too superficial. In contrast, in Mbala, the district office conducted training and multiple cooking demonstrations, and by conducting fewer and targeted trainings they were distributing agricultural inputs systematically.

We found significant variations between the districts in WASH activities, likely because Mbala was already a pilot district for a Ministry of Education and UNICEF-funded community-led total sanitation intervention. In Chipata, this intervention area largely focused on chlorination of wells and orientation of pump menders, and in Mbala activities served to reinforce previous activities done under the UNICEF Community-led Total Sanitation (CLTS) project. WASH activities required substantial coordination between multiple ministries and other NGOs conducting relevant activities, and respondents indicated that the MCDP had not been in contact with other NGOs to ensure that efforts were appropriately targeted and not duplicated.

We found that while community sensitisation to the MCDP priority intervention areas was ongoing, the rollout of formalised nutrition messaging was limited. The information education and communication (IEC) materials which respondents mentioned had been developed centrally and were in English, and consequently not as effective as they could have been because the targeted recipients of these materials could not read English. Respondents expressed a clear need for tailored messaging appropriate to the localised traditions and customs which perpetuate poor IYCF practices.

### **Second Process Evaluation**

Building on the findings of the First Process Evaluation, we conducted a "rapid follow-up" process evaluation in 2017, with a focus on implementation experiences, including coordination and communication, planning and reporting, funding flows, and successes and challenges in implementing each of the MCDP priority intervention (PI) areas. Data collection for the rapid follow-up took place in the two evaluation study districts (Chipata and Mbala) in early 2017, one year after the initial process evaluation.

The second process evaluation comprised KIIs and FGDs. We interviewed key informants (particularly those involved in service provision) principally to elicit opinions about programme implementation. In these interviews we used a semi-structured interview guide, focusing closely on topics pertinent to each category of key informant, and allowing scope for probing and exploration of themes emerging from different responses. We conducted focus group discussions, also based on tailored guides, with health and nutrition staff and implementing actors throughout the programme chain from district, to ward, to health facility and community level.

In consultation with stakeholders, it was decided to collect data in the same Chipata wards where the RQA was carried out in 2014 and the first round of process evaluation data was collected in

2016: Nsingo and Nthope. Within these wards, the research team visited two health facilities and an agricultural camp. Heavy rains in Mbala prevented the same depth of field visits, but we visited a community of beneficiaries and a school in Intala and Kawimbe wards, without formal focus group discussions or KIIs involved. To get a broader sense of implementation at the community level we also conducted focus group discussions with ward nutritional coordinators from at least six implementation wards per district.

**Coordination and Communication.** We heard mixed feedback regarding MCDP programme communication and coordination during the second round of process evaluation data collection. Coordination had generally improved at the ward- and community-levels, which represented a positive development over the prior year's findings. Consciousness and uptake of the multi-sectoral model remained strong at higher levels of the implementation chain, although some red flags were raised: respondents noted that the ability of all the ministries to "converge" and reach a single household with all of the PIs was a lingering challenge. Additionally, communication with NFNC was reported to be problematic in both Chipata and Mbala, with focal points in Chipata explaining that a lack of communication caused challenges in coordinating and planning MCDP trainings that require master trainers from the NFNC. In contrast to findings from the initial process evaluation, respondents in both districts noted improvements in their communication and overall relationship with CARE. For the most part, communication processes were functioning better at the district level than at the ward and health facility level.

**Planning and Reporting.** In terms of planning, respondents raised core challenges regarding the involvement of national-level line ministries in planning and implementation processes. At the district level, however, DNCC members in Chipata and Mbala emphasized that planning processes had improved over the prior year, as respondents discussed in particular the annual planning workshops. WNCC members expressed continued frustration about their relatively limited involvement in decision making and planning, although as we note, this is in line with the overall top-down planning structure of the MCDP. We found substantial improvement in monitoring and reporting processes between the two process evaluations although the roll out of the new M&E system for the MCDP was delayed due to funding constraints. Despite the progress, we identified a need for further capacity development in all ministries with the exception of the MoH. We identified several barriers to effective and efficient monitoring, including transportation of data to a central point in the ward, how the different line ministries divide up geographic spaces and create their own "boundaries" to report against, and duplication of information reported on by multiple ministries.

**Funding Flows.** Respondents noted improvements in funding flows by the time of the second process evaluation. In both Chipata and Mbala districts, focal points described attending financial management trainings within the past year, with topics specifically covering requests, reconciliation, and financial reporting. These trainings were described positively, and respondents found them helpful in addressing reporting issues that were identified in the first process evaluation. Despite this, we identified several challenges related to financial management and flow that remained from the first process evaluation. One such challenge cited by respondents involved delays in receiving funds, which impacted coordination across ministries, who then received funds at different times which subsequently affected the implementation of PIs. Additionally, the issue of carryover funding continued to cause

challenges as respondents explained that the request process for carryover funding required multiple approvals and caused delays which impacted implementation schedules. There also appeared to be challenges surrounding communication and transparency about available funding and decision making over how resources could be used.

**Delivery of Priority Interventions.** The follow-up process evaluation did not explore implementation of the priority interventions in as much depth but still identified important insights. Respondents in Chipata believed that SUN stood out from other programs in terms of its approach to IFA tablets, vitamin A, and deworming, as outreach activities under this PI emphasized the importance of taking the tablets; this sensitization coupled with the availability of tablets has had an impact on women's uptake of the IFA tablets. However, responses were mixed regarding whether the stock of all three inputs were sufficient at health facilities at any given time under this PI, and one district focal point noted that it had been almost a year since they received inputs under the SUN, leaving them to rely on MoH distributions. MCDP activities regarding breastfeeding included promotion during routine activities conducted at community health facilities. Respondents in Chipata stated that they believed their sensitization had resulted in an impact on women's knowledge about breastfeeding—at the same time, however, they acknowledged that there continued to be a gap between the knowledge and behaviour change by women in the communities. Additionally, some of the positive findings from the first process evaluation, such as the active breastfeeding support groups, had dissipated in the intervening period.

We found minimal changes in the implementation of growth monitoring and IMAM activities. Although respondents noted that they had received some growth monitoring equipment in the past year, length boards—which are essential for measuring children under 2 years of age—were not included in the distributions. Additionally, a lack of under-5 cards and mid-upper arm circumference (MUAC) tape caused challenges for growth monitors, who had to improvise their record keeping and malnutrition referrals. Respondents continued to express a need for trainings in each of these areas for community volunteers.

We found clear progress regarding activities related to the availability of nutritious foods and dietary diversity. Respondents in Chipata and Mbala described several practical activities and demonstrations, and also discussed the agricultural inputs that were procured and distributed to communities, noting that targeting of recipients and the “pass on” approach was proving to be effective. Multiple cooking demonstrations had taken place over the prior year although community-level collaboration across ministries was noted as a challenge for these activities.

We continued to note regional differences between Chipata and Mbala with regard to WASH activities: in Chipata, respondents described several trainings held under this PI for village water, sanitation, and hygiene (V-WASH) committees, district staff, and WNCC members, and multiple people discussed the community sensitization activities. Despite these activities, the lack of access to a safe water supply in many communities in both study districts continues to be a fundamental obstacle to behaviour change.



In Chipata, respondents described progress on formalizing nutrition-sensitive messaging. Over the prior year, a formal public awareness campaign took place around nutrition, ongoing radio programs were mentioned, and respondents in both districts described integrating nutrition messaging into multiple types of SUN activities. Despite this improvement, we found that implementers still distributed IEC materials in English, which is not read or spoken by many targeted beneficiaries of the SUN programme.

### **Heterogeneity of Programme Implementation**

The monitoring and survey data indicate noteworthy differences in the programme implementation across region and time. The endline data indicate that about 40% of households with a child over 5 months of age in Chipata (39%) and Mbala (43%) districts reported receiving a training associated with the MCDP in the last six months. These averages belie wide variation within districts: the exposure rate within the sample wards in Mbala varied substantially as just 5% of households reported participating in a training in some wards and over 80% of households reporting participating in other wards. We find similar variation in Chipata where the exposure rate varied from 25% to 83%.

We examined whether the variation in the participation rate of households in MCDP-related trainings was related to the distance to the main district cities of Mbala and Chipata. To do this, we first calculated the distance between each of the cities and the sampled wards in their respective districts and then ran a regression of the exposure rate on the distance. This regression has a small number of observations as it only includes one per sampled ward for a total of 24 observations and we interpret the findings as exploratory. The estimated coefficient is negative, which indicates that exposure goes down as distance increases, but statistically insignificant: thus, we find no relationship between the participation rate of households in MCDP-related trainings and the proximity of the sample wards to the primary cities in each district (Mbala/Chipata).

The programme monitoring data are reported as district aggregates. This makes it infeasible to rigorously assess when and where individuals received various MCDP components but we can use them to examine differences in programme implementation within districts across time and compare implementation across districts. Monitoring data from Mbala shows large differences in programme targets and number of beneficiaries across quarters: over 3,000 pregnant women were targeted (17 reached) to receive complementary feeding messages in Mbala in Q4 2016 compared with 1,812 (1,036 reached) in Q2 2017. Comparable differences are found across many other indicators including number of women reached with iron and folic acid supplementation, number of babies initiated to breast feed within an hour of birth, and households trained on dietary diversity, indicating substantial differences in implementation across time within the same region.

The monitoring data also indicate significant differences in programme implementation across programme districts with substantial differences in numbers targeted and achieved in Chipata and Mbala: for example, over 1600 pregnant women were dewormed in Chipata in Q2 2017, more than 5 times as many as were dewormed in Mbala during the same period. The large

differences across regions in implementation timing and scale may be attributable to differences in when funds were disbursed for different activities in the two regions as well as timelines for programme implementation in the two regions. However, an implementation approach that focuses on individual components at certain times may lessen the effect of the programme, which is designed to be delivered as a package and whose theory of change anticipates a bundled delivery.

### **Complementarity of Priority Interventions**

Implementation challenges hindered the ability of priority interventions to be delivered in a coordinated and consistent manner to beneficiaries, potentially mitigating the positive effects of the MCDP programme on key outcomes such as stunting. It is important to note that the lack of statistically significant reduction in stunting is potentially a result of *implementation* failures, rather than *programme design* failures. The MCDP's multisectoral approach to combatting stunting has been validated by the literature (Bhutta et al., 2008; Bhutta et al, 2013). However, the programme's effectiveness depends on coordinated implementation across sectors, so that relevant priority interventions can 'converge' on a common population of beneficiaries. Our qualitative data suggest that, due to an array of challenges, priority interventions were not implemented simultaneously in a consistent manner which limits our ability to assess the complementarity of the full package of interventions.

These implementation problems have caused delays in programme activities, gaps between trainings and input delivery, and resource challenges for the programme. A key element in the theory of change is that beneficiaries receive exposure to all programme components: implementation challenges that lead to inconsistent delivery can hamper effects by negating any complementarities that may arise from multiple programme components. We find evidence of positive effects in a supplementary analysis that focuses on younger children who were more likely to have been exposed to multiple programme components.

There are three main phases to scaling a programme or policy: the design, scaling-up, and scaling-out phases (McClure & Gray, 2015a). Each of the three phases of scaling (design, scale-up, and scale-out) have separate challenges to implementing the programme on a larger scale. The design phase serves to optimize programme implementation to provide proof of concept. One prominent challenge faced in the design phase is distinguishing between theory failure, where the theory of change is faulty and programme inputs are unlikely to yield expected impacts, and implementation failure, where the underlying theory of change is sound but implementation challenges preclude the inputs from yielding the expected impacts. Within the MCDP, the design phase relied on the Lancet Series, which established the efficacy of the combination of priority interventions (Bhutta et al., 2008; Bhutta et al, 2013), and the two process evaluations, which provided evidence on programme implementation and recommendations for how to improve programme delivery.

The scaling-up phase increases complexity by expanding the programme within the same target population or collaborating with a different implementer such as a government. The MCDP endline data suggest that not all eligible households within programme communities are

receiving the various programme components suggesting a need to scale-up within existing MCDP districts to better reach all eligible households. Scaling up within programme communities is distinct from the scaling-out phase where additional complexity stems from replicating the programme in different contexts. Scaling out is likely to be a prominent challenge for the MCDP as GRZ and NFNC plan to expand coverage to at least 16 new districts over the next few years. It will be important to recognize that different districts will be at different stages of the scaling process with some focusing on scaling out and setting up the programmatic infrastructure while others aim to improve delivery within their district to reach more people. Detailed recommendations for scaling the programme in a cost-effective manner are included in Tables 1 and 2 (pages 14-17).

## Programme Impact

- What is the combined effect of the package of interventions on nutrition outcomes for children?
- What is the combined effect of the package of interventions on food security?
- What is the combined effect of the package of interventions on child health?
- Do moderating factors such as mother's education or access to health facilities affect the impact of the programme on subgroups of the target population?

## Overall design of summative quantitative evaluation

AIR designed the summative quantitative evaluation to compare households with children under two years old in the two treatment districts of Chipata and Mbala, which were selected to receive the MCDP, against households in the two comparison districts of Katete and Nakonde, which were not selected to receive the programme. The comparison districts were selected by the NFNC, CARE, and the research team to be similar to the treatment districts by agro-ecological characteristics, culture, level of child morbidity and malnutrition, and level of development. Our analysis uses a difference-in-differences framework to control for observed differences and time-invariant unobserved differences between the treatment and comparison groups at baseline. This study followed ethical standards for data collection. Potential respondents were given the option to refuse to participate in the study and understood that their refusal would not affect their ability to benefit from any programme that might be introduced into the area. They were also told that they could refuse to answer any question and that their information would remain anonymous, with no identifying information shared with anyone outside of the research team. The research design and protocols were all reviewed and passed ethical clearance from the ethical review board.

## Limitations

One prominent limitation of the study is the fact that one of the comparison districts received a programme similar to MCDP which limits our study's ability to measure the true effect of the programme in the treatment area. Specifically, Katete district, was selected to receive the GIZ-funded Food & Nutrition Security, Enhanced Resilience (FANSER) Project. Katete was selected to receive the FANSER intervention after the MCDP study design was finalized and the MCDP baseline data were collected. The FANSER project included three intervention domains as part

of its 2015-2019 term: improving dietary diversity of pregnant and/or lactating women and children under two years of age, strengthening DNCCs, and feeding results back into the national SUN process (Sanchez, 2016). The FANSER Project was implemented in Katete by the same organization, CARE International, that implemented the MCDP in Chipata and Mbala and supported the DNCCs' implementation of the MCDP programme (Sanchez, 2017). The introduction of FANSER into Katete is troubling because the district was enrolled in the sample to serve as a counterfactual for Chipata, which received the MCDP. The fact that Katete received the FANSER intervention invalidates its use as a comparison district as it no longer represents a valid counterfactual for Chipata.

Our sampling procedure accounted for the FANSER project by excluding the three wards in Katete where CARE indicated that they implemented FANSER, minimizing the chance that respondents to this study were directly impacted by FANSER programming. However, the programme also included district-wide systems strengthening components which, combined with the significant overlap between MCDP components and core Ministry of Health activities, suggests that FANSER may have significantly changed conditions even in wards where it was not active. The survey data suggest that the FANSER project had district-wide effects in Katete in a similar fashion to the MCDP implementation in Mbala and Chipata: 36% of households in our sample in Katete reported receiving one training associated with the SUN programme such as a nutrition, agriculture, cooking, or hygiene training, a rate only slightly lower than the two treatment districts of Mbala (39%) and Chipata (42%) and significantly higher than the rate in the other comparison district, Nakonde (25%). The possibility of contamination of the comparison districts due to another programme beyond the control of this study, is one of the reasons why the evaluation was designed as a formative and summative evaluation rather than a pure impact evaluation.

A second and somewhat related challenge that affected both the quantitative and qualitative components is the difficulty distinguishing between respondents' participation in MCDP activities from participation in other interventions not supported by MCDP. For example, many MCDP services are provided through health clinics that existed prior to the MCDP and which provide many of the MCDP services as part of standard care procedures. The existing provision of the MCDP services in the same facilities made it difficult for both survey and qualitative respondents to identify what services were MCDP-sponsored services and what were typical clinic services. Indeed, a primary aim of the MCDP was systems strengthening which could help districts better administer the MCDP interventions independent from the MCDP.

### ***Minimising Bias in Qualitative Research***

All data collected in the social sciences is subjective to a greater or lesser degree. Qualitative approaches seek to extract value from subjectivity as a way of understanding how individuals experience the world (or in this case, a programme), while quantitative approaches generally seek to control for it. 'Journey mapping,' for instance, is 'biased' insofar as it is comprised of individual accounts of clinic attendance experiences. It is inherently subjective, but it is this subjectivity which allows us, as researchers and evaluators, to understand something of what mothers experience when they take their children to health facilities. Likewise, in the food card

exercise, while we charted meal construction choices systematically and objectively, the more valuable part of the exercise was the discussion around the choices made: discussions which by their very nature were positioned, contextual, and subjective. In sum, qualitative research welcomes the texture which greater subjectivity brings to our social analysis.

Nevertheless, the research team took numerous measures to ensure the rigour and validity of qualitative research findings. We designed and pretested research protocols to ensure that questions were not leading or biased (White & Phillips, 2012); conducted a comprehensive training session for enumerators on effective research techniques, researcher reflexivity (i.e., recognising one's role and biases in the research process), and the process of asking open-ended questions; and encouraged interviewers to conduct member checks with interviewees when appropriate throughout the research process (Creswell & Miller, 2000). Further, we used techniques of triangulation (asking the same questions to multiple respondents) and probing (use of sub-questions or probes, which seek to establish logical trains of thought and expression) to ensure that our findings were consistent and contextually valid. We have also gathered evidence for potential, external influencing factors to mitigate the tendency for evaluators to see a relationship between the programme and outcomes where none exists.

## Endline Quantitative Data Collection & Analysis

### Endline data collection

Endline data collection took place between October and November 2017 and consisted of 1,196 household surveys conducted across the four evaluation districts: Chipata, Katete, Mbala, and Nakonde. All enumerators underwent five days of training which covered the survey instrument, data collection best practices, and how to collect anthropometric measurements.

AIR and Palm Associates led the training on the survey instrument and data collection best practices, and were joined by an NFNC nutritionist for the training on collecting children's anthropometric measurements. As part of the training, all tools were pre-tested in communities outside Lusaka during which enumerators administered the household survey and collected children's anthropometric measurements under the guidance of NFNC and DNCC representatives. The piloting process ensured that respondents understood the questions in the survey instrument and that the electronic data collection software was correctly coded. The research team incorporated

Figure 9. A rural health care facility in Chipata



enumerator feedback into the final survey instruments.

The sampling procedure involved first pooling all census wards in the treatment districts and pooling the wards in the comparison districts. We then dropped all urban wards as well as the three wards in Katete that the implementing organization indicated received the FANSER project and 11 wards in Chipata that did not receive the MCDP. From the remaining pools of treatment wards and comparison wards, we randomly selected 24 wards and then randomly selected one standard enumeration area (SEA) from within each ward, with probability proportional to size. This procedure yielded a sample of 24 SEAs across the treatment districts and 24 SEAs across the comparison districts for a total of 48 SEAs. We conducted a listing exercise to identify all households with a child under the age of two and enrolled either 25 randomly-selected eligible households or all eligible households if there were fewer than 25.

Trained enumerators conducted a household survey with the primary caregiver of each sample household. The survey collected information on a range of topics from each sample household to examine programme effects on outcomes throughout the theory of change. The enumerators also collected anthropometric measures (height and weight) for the youngest child in the household. Enumerators were trained in proper anthropometric measuring techniques by NFNC. Anthropometrics were collected for 1,096 children under the age of two.

Table 3 presents the summary statistics for our endline sample. The average age of women in our evaluation sample is 27 years old. Education levels are generally low: women in the sample have an average of 4.9 years of education with 63% having completed primary school and 20% having completed secondary school. The average age of children in the sample differs slightly across the two treatment arms: the average age in the comparison districts is 11.6 months while the average age in the treatment districts is 10.3.

The summary statistics also provide data on exposure to the MCDP components. The endline data indicate that only 3% and 5% of households in comparison and treatment districts, respectively, received any agricultural inputs, including via pass on, indicating that few households directly benefitted from agricultural inputs. Similarly, participation in trainings related to nutrition, agriculture, or WASH was fairly mixed with 40% of households in the treatment districts indicating that they had participated in one of the trainings in the prior six months. The data on the trainings clearly indicate the challenge of the FANSER implementation in Katete as 33% of households in the comparison districts report having participated in trainings in the prior six months. The slightly lower but similar exposure rate to MCDP-related programming in Katete suggests that households in this district may not represent a valid counterfactual of what would have happened to households in Chipata had the MCDP not been implemented. As described in the quantitative data analysis section below, we consider an alternative empirical approach that restricts attention to the districts in Northern Province (Mbala and Nakonde) to try and avoid the contamination issue associated with the FANSER implementation.

**Table 3. Endline sample summary statistics**

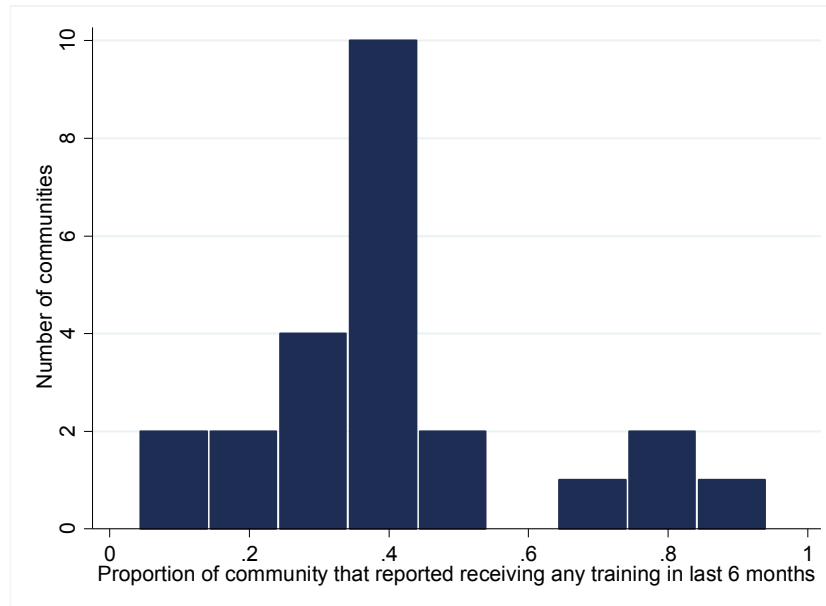
	n	Districts	
		Comparison	Treatment
Child age	1192	10.95 (7.156)	10.21 (6.815)
Child gender [1=female]	1192	0.54 (0.5)	0.47 (0.499)
Age of mother	1192	26.7 (7.389)	25.99 (7.234)
Maternal education	1192	4.86 (18.043)	5.22 (3.393)
Mother completed primary school	1192	0.57 (0.481)	0.67 (0.481)
Mother completed secondary school	1192	0.22 (0.352)	0.17 (0.414)
Father education	1172	6.39 (9.771)	8.59 (4.857)
Father completed primary school	1192	0.48 (0.5)	0.53 (0.496)
Father completed secondary school	1192	0.14 (0.228)	0.25 (0.434)
Household size	1192	4.57 (2.185)	5.03 (2.417)

Note: Mean reported with standard deviation in parentheses.

The endline data also inform our understanding of exposure to the MCDP within communities. Figure 10 illustrates the proportion of households in each MCDP community that participated any training in the prior six months. These data show that approximately 40% of households in most MCDP communities report participating in a training in the last six months. There is, however, substantial variation in the proportion of households that participated in trainings with over 70% of households having participated in trainings in four of the evaluation communities.

The evaluation team also drew on monitoring data provided by the implementing organisation. However, these secondary data were not consistently available and, when reported, were only available at the district level.

Figure 10. Exposure to MCDP trainings within the 24 MCDP endline communities (n=595)



### Quantitative data analysis

The difference-in-differences analysis approach corresponds to the regression specification:

$$y_{it} = \alpha + \beta \cdot (Treatment \times Post) + \gamma \cdot Treatment + \tau \cdot Post + X_{it} + \epsilon_{it}$$

where  $y_{it}$  is outcome  $y$  for household  $i$  in time  $t$ ,  $Treatment$  is a dummy variable equal to one for households in treatment districts,  $Post$  is a dummy variable equal to one for households in the endline,  $X_{it}$  are household demographic characteristics, and  $\epsilon_{it}$  are conditionally mean-zero error terms clustered at the ward level. The coefficient  $\beta$  represents the effect of the programme under the assumption that the comparison districts represent a valid counterfactual for the treatment districts.

We also run a supplementary analysis that compares changes in outcomes in Mbala to those observed in Mbala's comparison district: Nakonde. This supplementary analysis removes Katete due on the introduction of FANSER, which potentially invalidated its use as a comparison district, as well as Chipata which no longer had a valid comparison group. This analysis should mitigate the contamination issue attributable to FANSER but suffers from weaknesses of its own; the original study was powered to compare pooled results across the two treatment districts and the two comparison districts while the supplementary analysis compares only Mbala and Nakonde and therefore has less statistical power. The smaller sample size in the analysis increases the probability of both false positives (identifying an effect where there was not an effect) and false negatives (rejecting an effect where there was an effect).

Tracing effects through the theory of change and validating observed effects through the effect pathways is particularly important in our analysis due to the challenges associated with our main



analysis (contamination) and our supplementary analysis (low power). We discuss all observed effects but highlight how these challenges could affect the effects.

## Endline Qualitative Data Collection & Analysis

The final qualitative data collection that took place in October 2017 relied on in-depth interviews (IDIs) to solicit opinions on beneficiary experiences with and exposure to MCDP interventions. In qualitative research, questions—and the responses they elicit—tend to be discursive and descriptive, while the analysis privileges explanation and interpretation over quantification. In general, qualitative approaches allow researchers to explore and understand the experiences, opinions, and perspectives of their informants in greater depth than that offered by quantitative approaches. In turn, the use of qualitative approaches entails sacrifices in terms of generalisability and comparability. Samples chosen for qualitative studies are always smaller and often nonrandomised or purposively selected. There is growing evidence that qualitative sample sizes of 10-12 are large enough to reach saturation (Bernard, 2011: 154), or the point at which sampling more data will not bring new information on a particular research question (Seale, 1999). Further, in an experimental study on data saturation, (Guest et al., 2006) documented saturation at 12 qualitative interviews.

We conducted a total of 48 IDIs in four wards in Chipata and Mbala. This number allowed us to reach the ideal qualitative sample size of 12 interviews per ward. Our sample was comprised of:

- Pregnant women (3 per ward for a total of 12);
- Mothers of children aged 4-6 months at the time of data collection (3 per ward for a total of 12);
- Mothers of children aged 7-24 months at the time of data collection (3 per ward for a total of 12); and
- Male spouses/partners of women in each of the three categories above (3 per ward for a total of 12).

Our qualitative instrument (see Annex C) included general questions about beneficiaries' sources of information on nutrition and experiences in accessing services at the clinic, as well as specific questions about each priority intervention. These latter questions were aimed at obtaining information about priority intervention delivery, such as knowledge gained in sensitisations and inputs received through MCDP, as well as the beneficiaries' experiences in putting these into practice in their everyday lives. For instance, regarding breastfeeding, we asked women to describe any sensitisation meetings about breastfeeding they had received, and explain what they learned in these sensitisations. In order to understand how they put this knowledge into practice, we asked questions such as, "What does exclusive breastfeeding mean to you?" and "Are you putting this into practice? How easy or difficult was it for you to do this?" Further, to understand more fully the challenges women may face in practicing exclusive breastfeeding, we asked about what type of help or support they received from their family members when they needed to breastfeed.

All interviews were digitally recorded, transcribed, translated into English, and coded using the NVivo qualitative data analysis software package. The research team created a preliminary coding structure (see Annex D) based on the research questions, interview protocols, and memos of themes that emerged during data collection. A coding structure is essentially a tool for sorting qualitative data into key categories of interest to the research. Then, the AIR qualitative team conducted data reduction, a process that consists of reading through the entirety of text coded under each category and determining the key themes and trends that emerge from the data. During this process, researchers characterised the prevalence of responses, examined differences among groups, and identified key findings related to the research questions. The insights acquired during coding and data reduction serve as the foundation for writing up the qualitative findings for each priority intervention cluster.

## Findings

This section uses the MCDP theory of change to guide our investigation of programme effects along the various causal pathways to improved nutrition outcomes. We structure our analysis in six clusters that each represent a different stage of the theory of change including appropriate nutritional intake, uninhibited nutritional uptake, and appropriate identification and management of malnourished individuals. The theory of change highlights the importance of each of these clusters as the multisectoral MCDP programme relies on effects across all areas to take advantage of any potential complementarities between programme components and to ease any potential binding constraint. For each cluster, we explore quantitative effects before triangulating with detailed qualitative findings by priority intervention.

The first cluster examines effects on MCDP priority interventions related to the clinical provision of supplements and treatments to mothers and young children including IFA tablets, vitamin A, and deworming. These priority interventions represent an early pathway in the theory of change and aim to improve foetal development and the overall health of the mother. Interventions in this cluster are standard care practices administered at health clinics and effects may be indicative of effects on clinic practices.



**Figure 11. Mothers in the evaluation districts were interviewed as part of the endline qualitative data collection**

The second and third clusters move along the theory of change from the clinics to the households and examine effects on the nutritional intake of children. In these clusters, we examine effects on the different stages of feeding including breastfeeding and complementary feeding, as well as nutritional content and dietary diversity. Improved nutritional intake represents a key pathway in the theory of change by providing children with appropriate nutrients at an appropriate frequency for optimal child development.

The fourth cluster focuses on WASH indicators and outcomes, and is emblematic of the multisectoral nature of the MCDP. The theory of change posits that improved nutritional intake is unlikely to be sufficient to improve nutritional outcomes if nutritional uptake is deficient. Improved WASH outcomes may facilitate nutritional uptake by reducing health conditions that limit uptake such as environmental enteropathy.

The fifth and sixth clusters relate to growth monitoring and malnutrition management, and nutrition-sensitive messaging. These clusters represent additional pathways through which the programme may impact nutrition by identifying problems early and establishing management protocols.

We close out the section by examining the final stage of the theory of change and estimating effects of the programme on stunting and other nutrition outcomes.

### ***IFA, Vitamin A, Deworming***

The first three priority interventions target improved health of pregnant mothers and young children through the clinical provision of evidence-based therapies: iron and folic acid tablets, vitamin A supplements, and deworming pills. These interventions represent an early stage of the theory of change and aim to improve foetal development and the overall health of the mother. We find little evidence of improved provision of IFA, vitamin A, or deworming pills in the treatment districts relative to the comparison districts. The lack of effects on IFA provision may be due to the almost-universal pre-programme supply of the tablets: 97% of women in both the treatment and comparison districts reported receiving the tablets even before the programme started. The lack of effects for both vitamin A and deworming pills may be the result of dramatic increases across both treatment and comparison districts in the provision of these medications: vitamin A uptake increased from 54% at baseline to 76% at endline with a slightly larger increase in comparison areas than in treatment areas. Deworming medication saw a similar percentage point increase, albeit from a lower base, rising from 29% at baseline to 52% at endline. Panel A of Table 4 presents the results of the difference-in-difference analysis of the effect of MCDP on these outcomes for the full evaluation sample. These results indicate that the provision of these medicines dramatically increased over the evaluation period with no additional gain for treatment districts relative to comparison districts.

We find similar trends in results when we compare changes in the provision of these treatments in Mbala to changes in Nakonde. We find little evidence of changes in IFA pill distribution which may be due to the widespread provision of the pills even prior to the MCDP introduction.

Interestingly, the use of deworming pills almost doubled between baseline and endline in Mbala (37% to 70%) while there was little change in usage in Nakonde (56% to 52%), suggesting that MCDP may have led to improved distribution and usage of deworming pills. Panel B of Table 4 presents the effects for Northern Province by comparing changes in outcomes in Mbala to those in the comparison district of Nakonde. The observed adherence rates for each of these regimens broadly agrees with the qualitative data collected where there is high understanding and familiarity of the IFA pills, and mixed understanding for both vitamin A supplements and deworming pills.

**Table 4. Effects on IFA, vitamin A, and deworming**

	Panel A: Full Sample			Panel B: Northern Province Analysis		
	n	Mean dep. var.	MCDP Effect (s.e)	n	Mean dep. var.	MCDP Effect (s.e)
Mother received iron and folic acid pills	2386	0.983	-0.03 (0.016)	1116	0.973	-0.02 (0.023)
Child received vitamin A dose	1736	0.69	-0.11 (0.065)	809	0.667	-0.05 (0.11)
Child received deworming pills	1103	0.414	0.10 (0.092)	483	0.39	0.38 *** (0.119)

Notes: All regressions include indicator variables equal to one for endline observations, district, and demographic controls. Regressions are weighted to account for the multi-stage sampling design. Standard errors are clustered at the ward level.

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

### Iron & Folic Acid

Virtually all the qualitative respondents in both Chipata and Mbala were able to explain that red tablets (iron, though only identified as such in one case) were taken to ‘increase the blood’ (the vernacular expression for increasing haemoglobin), and that yellow tablets (folic acid, though as with the iron supplement, only one respondent identified it by name) served to increase appetite. Respondents reported that they knew this from the clinics, although one respondent from Mbala stated that she had learned from her friends rather than the clinic. These findings are in line with 2017 PE findings, which reported particularly successful sensitization campaigns around IFA tablets, and suggest that these trends have continued. Similarly, uptake compliance is virtually universal, for both respondents reporting on current pregnancies, and for those describing previous pregnancies. One respondent reported falling asleep and forgetting her doses, two others stated that the tablets made them vomit (in neither case was it clear which tablet caused the nausea), and two offered no explanation, even when pressed by the research team. As was the case for knowledge, this represents a continuation of the high demand for IFA tablets which key informants related to good sensitization.

Respondents reported only minimal challenges accessing the iron and folic acid tablets with excellent supply across the sample. One mother stated that her clinic (Kova, in Chipata) had at one point run out of folic acid, but almost all mothers reported receiving sufficient (or more) tablets to last them until their next clinic visit. This represents a definite improvement on the 2017 results: while supplies of IFA tablets were generally good at that point, one Chipata ward reported inconsistencies and limitations in IFA tablet supply, in part due to a transition from SUN supply to MoH supply.

## **Vitamin A**

We found low knowledge of the benefits and dietary sources of Vitamin A. Almost no respondents were able to answer questions about benefits or food sources; the majority stated that they did not know, or had forgotten what they had been told in the clinic. Others suggested that it was available only in capsule form (not in foods, nor in droplets), that it served as a dewormer, and as an anti-malarial. Vitamin A is provided in droplet form at the clinic, to pregnant women and under-5s. As with dewormer provision, results were generally better for children and worse for pregnant women. While only 4 mothers reported that their under-5s had not received Vitamin A, 20 women across the clinics reported that they had not received the supplement during pregnancy.

The 2017 PE captured less information about dewormers and Vitamin A than was elicited this year, so there are insufficient grounds for comparison.

## **Deworming**

We found varied levels of knowledge of worms, how they enter the body, what problems they cause, what symptoms they present, and the importance of avoidance and deworming treatment: although most respondents were able to provide information on at least some of these areas, very few were able to comment on all. Five respondents (three from Chipata's Kova clinic, one from Mbala's Kawimbe and one from Mwambezi, also in Mbala) stated that they had received no information from medical or nursing personnel at clinics or under-5 days.

This PI stipulates the provision of deworming tablets to pregnant women and under-5s. Uptake of dewormers was reported to be good, where they were provided: while provision to children is quite consistent across the clinics included in the sample, supply of dewormers to pregnant women was reported to be less reliable, although this should also be caveated given that several respondents did not remember if they had received them.

## ***Breastfeeding and Complementary Feeding***

Breastfeeding and complementary feeding represent the first stages of infant and young child nutritional intake and the MCDP aimed to improve knowledge and practices of mothers for both feeding periods.

Table 5 presents the regression results for a range of breastfeeding and complementary feeding knowledge and practice outcomes. Panel A indicates improved early breastfeeding knowledge and practice suggesting that MCDP components increased the proportion of mothers initiating breastfeeding within 1 hour of birth. In contrast to these encouraging results on early breastfeeding knowledge, there is no evidence that the programme changed exclusive breastfeeding knowledge or exclusive breastfeeding practices. The programme is estimated to have had a negative effect on complementary feeding knowledge but knowledge in both of the treatment districts and Nakonde were largely unchanged indicating that the negative effect is almost entirely driven by an increase in knowledge in Katete which may be attributable to the FANSER project. The negative coefficient is particularly surprising in light of the qualitative results below which highlight significant exposure to complementary feeding sensitizations.

The results from the Northern Province analysis for infant and young child feeding knowledge and practices are similar to the estimates stemming from the full sample with a few notable exceptions (Panel B of Table 5). First, the programme is estimated to have had a significantly negative effect on early breastfeeding knowledge in Mbala relative to Nakonde which contrasts with the positive estimated coefficient for the full sample. The negative coefficient stems from a 13-percentage point increase in knowledge in Nakonde with little change in Mbala. Second, the Northern Province analysis suggests a large increase in minimum feeding knowledge stemming from both decreases in Nakonde and increases in Mbala.

**Table 5. Infant and young child feeding knowledge and practices**

	Panel A: Full Sample			Panel B: Northern Province Analysis		
	n	Mean dep. var.	MCDP Effect (s.e)	n	Mean dep. var.	MCDP Effect (s.e)
Early breastfeeding knowledge	2392	0.763	0.09 ** (0.043)	1122	0.777	-0.14 *** (0.049)
Early breastfeeding practice	2391	0.664	0.10 * (0.057)	1121	0.632	0.07 (0.09)
Exclusive breastfeeding knowledge under 6 months	2392	0.91	-0.07 (0.062)	1122	0.903	-0.10 (0.109)
Excusive breastfeeding practice	649	0.762	-0.10 (0.072)	307	0.762	-0.22 * (0.125)
Complementary feeding knowledge	2392	0.748	-0.10 *** (0.03)	1122	0.73	-0.04 (0.051)
Minimum feeding knowledge	2384	0.603	0.02 (0.069)	1116	0.488	0.31 *** (0.073)

Notes: All regressions include indicator variables equal to one for endline observations, district, and demographic controls. Regressions are weighted to account for the multi-stage sampling design. Standard errors are clustered at the ward level.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

### Breastfeeding

Virtually all qualitative respondents were familiar with the practice of exclusive breastfeeding until six months of age. However, many did not know the concept by name (“exclusive breastfeeding”). Many reported learning about exclusive breastfeeding in the Under-5 clinic (“when I go for scale”), and others reported receiving information from the hospital, during antenatal or post-natal care. As a woman from Mbala stated, “I learnt at the scale that you are supposed to breastfeed for six months before giving any other food.” Only three respondents reported learning this information from SUN.

Respondents learned to breastfeed soon after birth (*“When the baby is born and cries, I breastfeed him/her”*) and to breastfeed often (12 times a day was cited multiple times). Many women, however, stated that they did not know why early breastfeeding was important. Some understood that early breastfeeding was important for the nutritious qualities of colostrum (locally referred to as *“first milk”* or *“yellow stuff”*), but a few women mentioned learning from village members that you should not breastfeed immediately after the birth of the child because the *“first milk”* contains diseases. Further, respondents reported learning information about hygiene in breastfeeding sensitizations, such as washing hands before feeding and after changing diapers. Many associated the practice of exclusive breastfeeding with healthy growth and intelligence in children.

Most women reported practicing exclusive breastfeeding with no major challenges. However, a few women reported having difficulties in practicing exclusive breastfeeding because of the belief that excessive crying means that the baby is not satisfied by breastmilk alone. Some women described an internal conflict between responding appropriately to their baby's cries and practicing exclusive breastfeeding. A woman from Chipata described this dilemma as follows,

*“The baby cries sometimes and I think he is hungry but we are scared of going to the hospital if we feed the baby porridge as they said it will disturb him and give him diseases. It is difficult as the baby is also a person and need [sic] to eat. When the child cries I think maybe the milk is not enough.”*

As this quote suggests, there is a culturally engrained view that excessive crying means that breastmilk alone does not meet the baby's nutritional needs. In this view, providing food to infants before six months is an appropriate maternal response. At the same time, this quote is evidence that exclusive breastfeeding sensitizations are effective, because respondents are aware and afraid of the health risks of giving food and/or water to infants before six months. This can create feelings of anxiety and insecurity for some mothers, as they attempt to be responsive to their babies while putting in practice the information they learned through sensitizations.

### **Complementary Feeding**

A majority of qualitative respondents reported receiving sensitizations about complementary feeding. Respondents consistently related information they received in sensitizations, such as feeding babies over six months nutritious foods along with continued breastfeeding, and feeding children often (3 times a day). In terms of specific food items, respondents learned that they should feed children porridge with groundnuts, nshima, eggs, vegetable soup, pumpkin leaves, tomatoes, rape beans, bananas and oranges. A few respondents reported difficulties putting these lessons into practice because of lack of access to some foods, such as sugar, groundnuts and relish.

### **Availability of Nutritious Foods & Dietary Diversity**

Increased access to nutritious foods represents a crucial component in the theory of change by facilitating increased consumption of nutritionally diverse foods. There are two main MCDP



activities related to access to nutritious foods and dietary diversity for pregnant and lactating women: the first is cooking demonstrations accompanied by sensitisation on nutritious diets and the second is provision of agricultural inputs such as poultry, goats, and seedlings.

The endline survey provides insights into the prevalence of the cooking demonstrations and receipt of agricultural inputs. Approximately 15% of households in the treatment districts reported participating in a cooking demonstration over the prior 6 months compared with just 8% for households in the comparison districts. Again, the influence of the FANSER project is clear: despite its assignment to the comparison group, the same proportion of households that report participating in a cooking demonstration in the comparison district of Katete as the treatment district of Chipata.

Table 6 illustrates the proportion of the endline sample that report receipt of various agricultural inputs with only 5% of the sample reporting receipt of any agricultural input. The data suggest little penetration of the agricultural inputs (or pass-on inputs) to a broad portion of the programme areas.

**Table 6. Receipt of agricultural inputs**

	Comparison n=597	Treatment n=595
Received at least one input	3%	5%
Received goats	1%	1%
Received chickens	0%	2%
Received fruit trees	0%	1%
Received beans	0%	1%
Received orange maize	1%	0%
Received vegetables	0%	1%
Received other crops	1%	1%
Received fish fingerlings	0%	0%
Received other inputs	1%	1%
Received groundnuts	0%	1%

Despite little provision of agricultural inputs, our regression estimates suggest that the MCDP had positive and significant effects on children's consumption of nutritious foods. Table 7 presents the estimates of the effect of the MCDP on a range of food consumption indicators. The first three indicators consistently suggest improved outcomes for households in treatment districts relative to comparison districts where minimum meal frequency and minimum acceptable diet refer to sufficiently diverse foods and caloric intake for infants and young children based on their age. Accompanying these positive results for children are results that suggest that dietary diversity and food security decreased for adults. The last indicator presented in the table measures food insecurity using the Household Food Insecurity Access Scale; our

results suggest that households became more food insecure as a result of the programme.<sup>7</sup> The estimated coefficients are consistent across both samples.

**Table 7. Consumption of nutritious and diverse foods**

	Panel A: Full Sample			Panel B: Northern Province Analysis		
	n	Mean dep. var.	MCDP Effect (s.e)	n	Mean dep. var.	MCDP Effect (s.e)
Consumption of iron rich or fortified food (6-23 months)	1739	0.377	0.25 ** (0.107)	812	0.269	0.24 (0.157)
Minimum meal frequency	1733	0.427	0.13 * (0.072)	806	0.406	0.12 (0.098)
Minimum acceptable diet	2391	0	0.05 ** (0.023)	1121	0	0.06 * (0.032)
Food insecurity access scale	2392	6.325	3.16 *** (0.921)	1122	4.43	3.33 ** (1.189)

Notes: All regressions include indicator variables equal to one for endline observations, district, and demographic controls. Regressions are weighted to account for the multi-stage sampling design. Standard errors are clustered at the ward level.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

### Access to Nutritious Foods

Across all four wards in Chipata and Mbala, at least some respondents indicated they cannot afford nutritious foods or that such foods are not available. A female respondent from Chipata (Kova) indicated that locally grown foods such as pumpkin leaves and groundnuts are readily available, however the foods that need to be purchased are less accessible: *“The things that we cultivate there is no difficulty only those that we need to buy that is where the problem is.”* Respondents from Mbala shared a similar view, adding that chicken and fish can be particularly difficult to obtain.

*“Eating diverse diets require money, so when you don't have [money] it means you cannot manage to do everything that you have learnt.”*  
-Pregnant woman, Mbala (Mwambezi)

<sup>7</sup> This finding is supported by estimates that suggest that respondents consumed fewer meals (average meals fell from 2.55 to 2.48) and were less likely to have consumed 3 or more meals in a day (fell from 53% to 48%). The difference-in-differences estimates for these changes are negative and significant indicating that adult food security and dietary diversity fell in program regions relative to comparison regions.

### **Cooking demonstrations**

Cooking demonstrations appear to have been inconsistently implemented across wards: most of the qualitative respondents in Mbala reported attending cooking demonstrations, while most Chipata respondents reported not having attended. We observe similar patterns in the quantitative data where respondents in Mbala report having attended a nutrition training in the last 6 months almost 30 percent more frequently than respondents in Chipata. Of the qualitative sample who reported attending, most were able to recall the details of the demonstration, including food preparation techniques. Respondents recalled learning how to make maize porridge, pounded groundnuts and peanut butter. A few respondents described being upset that implementers did not give food for children to take home at the end of the cooking demonstrations.

At the same time, respondents faced challenges in practicing what they learned from cooking demonstrations. Many respondents across wards cited lack of access to some foods, such as groundnuts, relish, and sugar. A pregnant woman from Chipata (Mboza) stated the difficulty in applying what she learned from cooking demonstrations.

*“At times we follow these things but at times we fail just like that. It is because of the way we live here in the village. (...) Sometimes these things it is you fail to find them. (...) Like relish you may fail to find relish. (...) But like groundnuts to put in the porridge that often becomes scarce, you find that it finishes and you start cooking porridge without groundnuts for the child.”*

This is in contrast with the 2017 process evaluation, which found that in the view of implementers at the district and ward levels, food items used in cooking demonstrations were accessible to beneficiaries. Our results suggest instead that beneficiaries face challenges in accessing these food items in their everyday lives.

### Dietary Diversity, Food Card Exercise

During IDIs we asked men and women several specific questions about what they believe to be appropriate diets for young children and pregnant women.

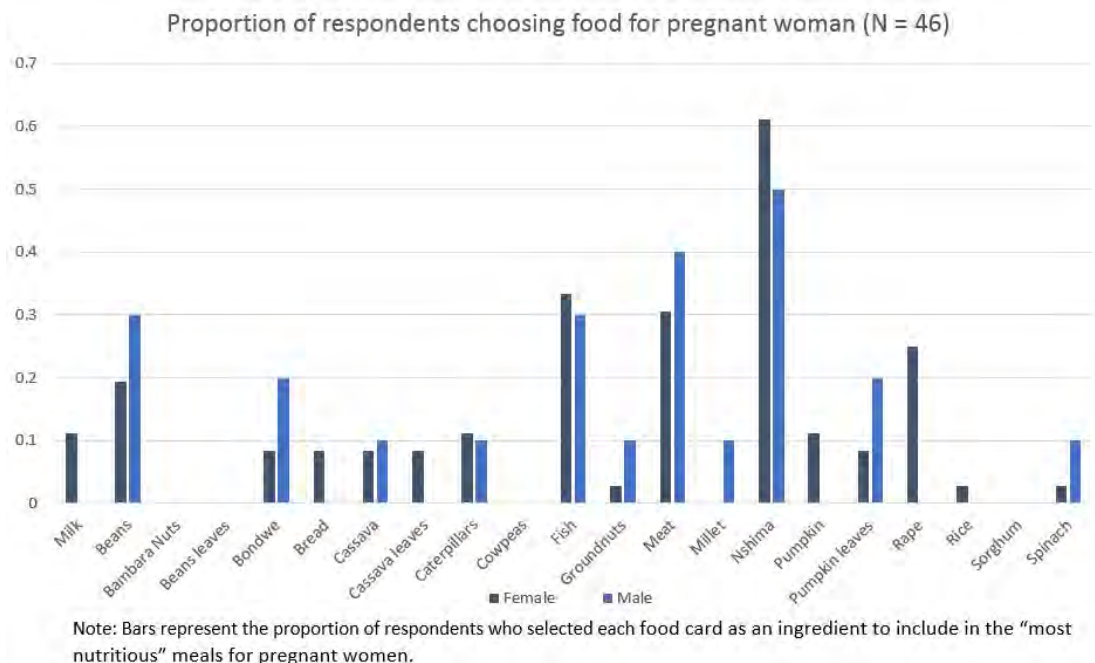
This line of questioning included a food card sorting exercise in which participants were asked to “build” nutritious meals for young children (aged 7-24 months) and pregnant women. Participants were presented with food cards (index cards with pictures of common local vegetables, meats, and starches) and asked to select three food cards to create two of the “most nutritious” meals for young children and one nutritious meal



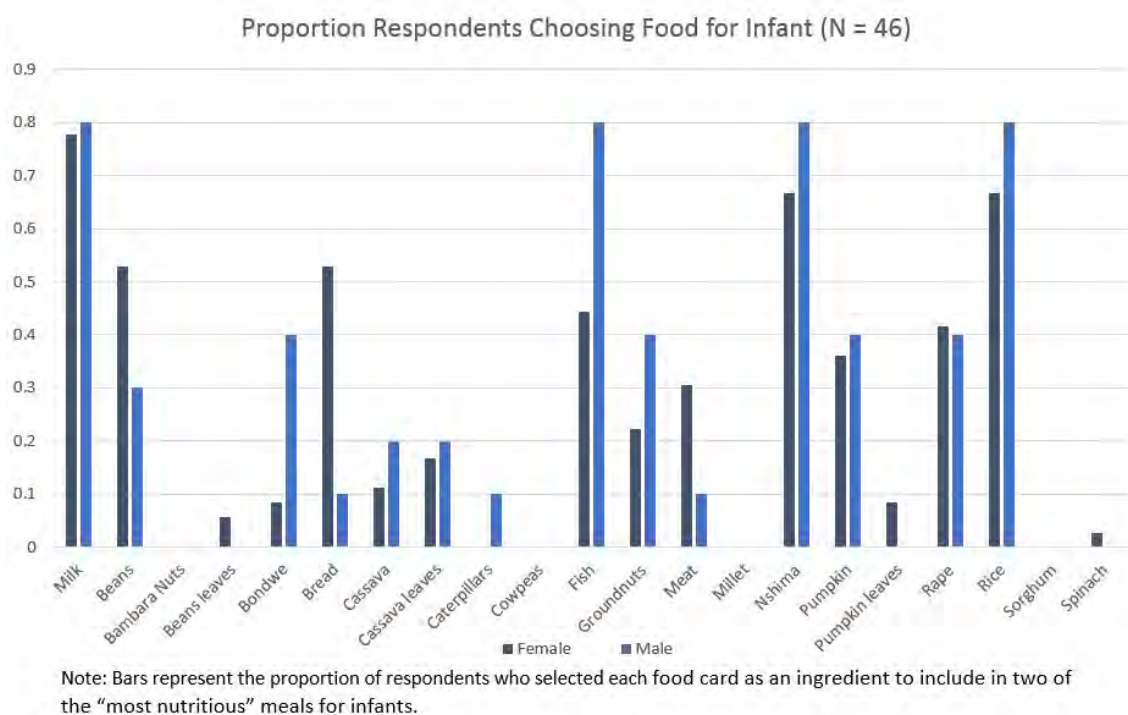
**Figure 12. Food card exercise during endline qualitative data collection.**

for a pregnant woman. The food cards generated discussions around the reasons for selecting certain foods and shed light on local perceptions of nutritious foods and meals. There are several key results from this exercise. First, there is general agreement among men and women in their choice of food for pregnant women. Both genders agree that pregnant women should consume nshima, meat, and fish, with beans being the next most common choice. Second, there is a general divergence between men and women about their preferred source of protein for infants. Men prefer that infants obtain their protein from fish and groundnuts while women prefer beans and meat. Neither men nor women choose Bambara nuts, cowpeas, millet, or sorghum as foods for infants. Similarly, no men and only a small portion of women choose leaves as a food for infants.

**Figure 13. Ideal meal for pregnant women: food card responses**



**Figure 14. Ideal meal for infants: food card responses**



## Inputs Received

Our qualitative respondents reported mixed experiences within a community about whether they received agricultural inputs: some respondents reported having received inputs while others in the same location did not. Chipata (Kova) and Mbala (Kawimbe) had a higher number of respondents reporting inputs received. Respondents often attributed lack of inputs received to lack of or delayed payment of cooperative fees. Respondents described receiving fertilizer, maize seed, goats, sweet potato seeds, banana, orange and pawpaw trees, as well as chickens. However, it is not clear if all of these inputs were distributed by SUN.

Most respondents felt that these resources were fairly distributed. Nonetheless, they also described challenges in receiving inputs. Many respondents complained of resource shortages or a lower amount of resources than they expected to receive. To mitigate these shortages, some were told that they should share the offspring of the animals and plants they received with their friends and neighbours. Others created groups to keep these animals collectively. A woman from Chipata (Kova), for instance, described how she contributed to a group that kept goats donated by the programme. Everyone in the group had to help feed the goats by giving maize bran to the “*chairperson for the goats.*”

At the time of data collection, the inputs received did not necessarily yield the expected nutritional benefits. Two respondents from Chipata (Kova) and Mbala (Kawimbe), respectively, reported that the goats they received died due to diseases. Two other respondents said that the fruit trees they had planted had not yet started to bear fruit. Further, those who were late in joining cooperatives received inputs too late for planting season.

Respondents unanimously reported using inputs on their farms rather than selling them. It is unclear if this indicates that respondents do not sell inputs, or that the sale of inputs is a taboo subject that would not be captured by self-reported data.

Overall, respondents believe that receiving inputs increased the amount or range of foods available to them. Most respondents stated that receipt of inputs has provided “enough” food for recipients’ families or “more” food than before. Further, some reported that inputs received yielded a greater variety of foods, including groundnuts, maize, sunflower, cowpeas and fish. One respondent from Chipata (Kova) noted that an e-voucher system that was implemented in his village has slowed down farming, resulting in food shortages in his community.

## WASH

The MCDP has multiple programme components aiming to improve WASH-related indicators stemming from the demonstrated relationship between stunting and nutritional uptake. The theory of change highlights that improved nutritional intake may not be insufficient to improve nutritional outcomes. Improving WASH conditions may be a prerequisite to improved nutrition outcomes by facilitating improved nutritional uptake.

Table 8 presents our estimates of the effect of MCDP on a range of WASH indicators. We consistently find no evidence for positive or negative effects of the MCDP on WASH indicators

including whether households wash their hands with soap, whether they have an improved water source, or whether they have an improved latrine. The one significant result is a negative effect of the programme on safe disposal of faeces which is almost universally practiced but which fell slightly in treatment districts between baseline and endline. It is important to note that while we found no evidence of statistically significant improvements in the WASH indicators, our results suggest significant decreases in whether children had diarrhoea in the past two weeks. The estimated decrease stems from a smaller increase in diarrhoea prevalence between baseline and endline in treatment areas than occurred in comparison districts. Interestingly, the diarrhoea rates in both comparison districts rose dramatically while the rates in the treatment districts remained relatively stable suggesting that the FANSER programme may not have been effective at improving sanitation outcomes.

**Table 8. WASH indicators**

	n	Panel A: Full Sample		Panel B: Northern Province Analysis		
		Mean dep. var.	MCDP Effect (s.e)	n	Mean dep. var.	MCDP Effect (s.e)
Family washes hands with soap	2392	0.683	-0.13 (0.114)	1122	0.697	0.04 (0.121)
Improved water source	2380	0.327	0.07 (0.121)	1116	0.067	0.21 (0.132)
Improved latrine	2392	0.062	-0.07 (0.061)	1122	0.097	-0.16 (0.127)
Safe disposal of feces	2392	0.968	-0.06 *** (0.019)	1122	0.98	0.02 (0.017)
No diarrhea in last two weeks	2388	0.731	0.13 *** (0.04)	1118	0.728	0.20 *** (0.041)

Notes: All regressions include indicator variables equal to one for endline observations, district, and demographic controls. Regressions are weighted to account for the multi-stage sampling design. Standard errors are clustered at the ward level.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Sensitization, delivered via standard community- and school-led total sanitation [CLTS and School-led total sanitation (SLTS)] ‘triggering’ protocols, is a key pillar of the MCDP WASH component. Another important intervention component is infrastructure including digging new boreholes, installing pumps, and providing spare parts for pumps and piping, as well as maintenance training. In both Chipata and Mbala, WASH sensitization has been impressive: virtually all respondents reported receiving training, either within the community, or at the clinic. Respondents also reported that their children received the sensitization at school, indicating that

the SLTS component is active. Most respondents were able to discuss the importance of handwashing, when and where it should be done, and the need for a dedicated handwashing station in the home. Most respondents were aware of the need for latrines to have covers and demonstrated a good understanding of the dangers of open defecation. Interestingly, respondents occasionally attributed the WASH component to both the MCDP programme activities and traditional chiefs suggesting that the mobilization brought traditional leadership on board. Most households who participated in the qualitative data collection reported having implemented the latrine recommendations. Access varied as all households in Mbala had latrines, while in Chipata, 7 did not. Conversely, in Chipata, borehole and well access was much better, with only one household reporting that their main water source was a river. In Mbala, 15 households reported obtaining water from rivers outside their communities.

These findings represent a continuation of the generally positive results captured in the 2017 PE—which described a highly active workstream around sensitization and infrastructural inputs. It was noted in 2017 that Mbala was likely to be ‘ahead’ of Chipata in the WASH sector because of its status as a UNICEF CLTS pilot district, which meant that even prior to the MCDP, it had a ‘strong pre-existing WASH presence’, particularly in the behaviour change area. This would help to explain the better latrine coverage in Mbala when compared with Chipata, although given that in 2017, the WASH activities in Mbala were moving from ‘software’ (behaviour change via CLTS and ODF celebrations) to the ‘hardware’ of infrastructure investment: borehole drilling and maintenance, it is harder to understand why so many households continue to obtain drinking water from unprotected sources.



### **Growth Monitoring, IMAM, and Zinc**

This outcome cluster relates to the early identification and treatment of malnutrition symptoms. From a theory of change perspective these outcomes help to identify early and treat cases of malnutrition that may arise despite the other MCDP components. Early identification is important as it provides the opportunity for timely and appropriate treatment before conditions worsen (UNICEF, 2010).

Regular growth monitoring supports the early identification

of growth faltering and stunting (Fink et al., 2017). The Integrated Management of Acute Malnutrition (IMAM) is a structured care approach that works to ensure the provision of appropriate care to malnourished children. Chronic or severe diarrhoea can also lead to growth faltering and zinc supplementation has been shown to be an effective treatment for acute diarrhoea in children aged 5 and younger with encouraging evidence for improved growth outcomes in children (Lazzerini, 2016; Mayo-Wilson et al., 2014).

### **Growth Monitoring**

Mothers are diligent and enthusiastic about taking their children to the clinic or to Under-5 days for growth monitoring: 94% of mothers surveyed as part of the endline survey reported that their child attended an under-5 clinic in the prior 6 months. One mother from the Kawimbe catchment area offered a typically positive response *“I feel good when my children are being weighed. It feels good to know the weight of a child, especially when it is going up. I also like the teachings about child feeding. They also give deworming medicine.”* Other mothers reported feeling happy and excited that their children were growing and putting on weight.



**Figure 15. Mothers shared their experiences with MCDP components**

Growth monitoring activities focus on weighing, completing the Under-5 cards, and offering advice about nutrition and child feeding. Children are weighed frequently—in many cases, as often as once a month. Mothers in the sample reported deviations from this high frequency approach with some reporting that their child's height was taken infrequently and others that MUAC was measured instead. It is difficult to say whether this is a result of a protocol decision or an issue of equipment access. In 2017, we found that procurement of length boards was inconsistent, leading to less length measurement of under-2s. Height boards were however widely available and used.

### **IMAM**

Most mothers demonstrated familiarity with the use of the MUAC tape for identifying cases of acute malnutrition. Only two stated that they did not know about the tape. Some misunderstandings about the colour bands emerged: one mother stated that the yellow band indicated a healthy MUAC, whereas it actually flags situations where a child is at risk of acute malnutrition. No mother in our sample reported having been told that her child was suffering from acute malnutrition and only one mother reported that she had been told her child was malnourished. The mother of the malnourished child was unsure whether the child was diagnosed with acute or chronic malnutrition and she was instructed to enrich the complementary foods with groundnuts and soya, but was not given any kind of therapeutic food at the clinic. In 2017, there were inconsistencies in access to MUAC tapes: in Chipata's Nsingo ward, for example, community health volunteers were using weight and observations to assess children's nutritional status.

### **Zinc**

The provision of zinc as part of the clinic-based treatment protocol for diarrhoea is a core component of the MCDP. In both Chipata and Mbala, sensitization work about zinc produced limited effect on the mothers interviewed: very few heard of zinc or had any knowledge about it. Although, mothers commonly reported diarrhoea among children, most of the mothers who took their children to the clinic listed Oral Rehydration Solution, flagyll (for giardia), and on occasion paracetamol as the treatment received. Mothers did not generally mention Zinc as a treatment, although probing revealed that in some cases mothers received small white tablets, which field researchers confirmed as zinc—though this was not known to the mothers. In two cases, mothers thought that they had been prescribed Piroton, an anti-histamine: in both cases, these tablets were zinc. In 2017, health staff reported satisfaction with the administration of zinc because it reduced the severity of diarrhoea. We did not assess beneficiary knowledge about the use of zinc.

### ***Nutrition-Sensitive Messaging & Sources of Nutrition Information***

Nutrition messaging is the component of the 1000 MCDP which aims to generate and impart nutrition knowledge and health information to local communities. The nutrition messaging implementation plan was developed at the national level, guided by a communication and advocacy strategy, and provided to the implementing districts. Various entities manage the development of a nutrition messaging package that depends on the specialisation of the entity in relation to the messages being developed. For instance, messages to do with Maternal and Infant and Young Child Feeding, Complementary Feeding and Growth Monitoring Promotion fall

under the auspices of the NFNC in conjunction with the MoH, whilst IMAM falls solely under MoH, and those on WASH under the MLG. Equally, the MoA oversees the development of messages carrying nutrition-sensitive agricultural activities and processes. Hence, the communication activities executed by district officers in their communities all essentially emanate from the national level. This collaborating unit also is responsible for producing the various specialised IEC materials used in trainings conducted under the MCDP.

Respondents reported receiving information about nutrition primarily at the clinic (antenatal or under-5) but also from community health workers, SUN, friends and family, Safe Motherhood Action Groups (SMAGs), and the Mawa food security project funded by Feed the Future. Those that reported receiving nutrition information from SUN indicated they heard SUN-sponsored nutrition-related messages on the radio or that SUN visited their local clinic to teach about nutrition. A female respondent from Chipata (Mboza) said, “*The SUN people came and taught us. No, there is no one else talking about child feeding.*” In both Chipata and Mbala, several respondents reported that representatives from SUN had visited clinics and indicated they would be visiting villages as well but had not yet done so. Several men reported that their wives were trained by SUN when they went to the clinic for under-5 but that they themselves had not received SUN training. Of the respondents who reported benefiting from other assistance programmes (Farmer Input Support Programme, Social Cash Transfer Programme, Programme Against Malnutrition), the majority said they do not receive messages about nutrition from those other programmes.

## **Nutrition and Morbidity Effects**

The theory of change recognizes that stunting is a multisectoral problem and postulates that the above priority interventions combine to represent a multisectoral solution to improve nutritional outcomes and decrease stunting rates. The endline data indicate that across the evaluation districts, stunting decreased by about 2.5 percentage points between baseline and endline.

Table 9 presents the associated regression estimates comparing changes in nutrition outcomes in MCDP districts against changes in the comparison districts. Panel A indicates that stunting fell by approximately 4 percentage points more in the treatment districts than in the comparison districts but that the additional decline was statistically insignificant. The negative coefficient is encouraging given the implementation of FANSER in one of the comparison districts which should bias our result towards zero and therefore suggests that our estimate is likely to be an underestimate of the true effect of the programme.

We can mitigate the impact of the FANSER project on our analysis by focusing on the evaluation districts in the Northern Province. Our results here suggest a large and significant reduction in stunting as a result of the programme. The effect measured here does not, however, stem from an overall reduction in stunting but rather from a significant increase in the stunting rate measured in Nakonde where the prevalence of stunted children increased from 16% to 33%. The low baseline stunting rate in Nakonde may have been attributable to random sampling and represents a rate far below national stunting estimates. The fact that stunting rates were unchanged in Mbala between baseline and endline suggests that the estimated effect may be

sample reversion to the mean in Nakonde rather than an improvement in stunting as a result of the MCDP.

**Table 9. Nutrition outcomes**

	Panel A: Full Sample			Panel B: Northern Province Analysis		
	n	Mean dep. var.	MCDP Effect (s.e)	n	Mean dep. var.	MCDP Effect (s.e)
Reduced stunting	2193	0.658	0.04 (0.047)	1028	0.686	0.15 ** (0.072)
Wasted	2191	0.067	0.06 * (0.031)	1022	0.084	0.07 (0.042)
Underweight	2338	0.108	0.04 (0.032)	1091	0.136	0.02 (0.044)

Notes: All regressions include indicator variables equal to one for endline observations, district, and demographic controls. Regressions are weighted to account for the multi-stage sampling design. Standard errors are clustered at the ward level.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## Heterogeneous effects

The theory of change identifies several subgroups for whom the MCDP may be particularly beneficial. Annex A presents the full results from three sets of subgroup analyses: children of primary school educated mothers, infants under age 1, and girls. More educated mothers may be more receptive to trainings or information campaigns and therefore their children may be more likely to benefit from the MCDP. Similarly, the parents of younger children were potentially able to benefit from the MCDP for a greater proportion of the child's life compared to an older child who may have already been born when MCDP was introduced and was therefore unable to benefit from in utero components. Finally, parents may invest in health or nutrition differently depending on whether their child is a boy or a girl so we examine whether the programme had a differential impact by the gender.

The estimates from the different subgroups present a consistent picture of the effects of the programme. Results from each of the groups indicate improvements in nutritional intake related to either breastfeeding practices or later dietary diversity, decreases in diarrhoea, and mixed impacts on nutritional outcomes.

The estimated effects on stunting for children under age 1 are particularly encouraging. Our results indicate that stunting among children under age 1 fell by 9 percentage points more in treatment districts relative to the comparison districts. This is particularly encouraging given the

delay in impacts associated with nutrition interventions: the children under age 1 are likely to have had the greatest exposure to the MCDP and therefore more likely to have been able to benefit from the multiple programme components for a greater portion of their development. Encouraging effects for this subpopulation could indicate that the programme is affecting positive change by overcoming the multifaceted constraints to nutrition.

### **Changes in outcomes in MCDP districts**

In this section, we present the change in outcomes over time (pre-post differences) in the evaluation areas of Chipata and Mbala. We caution against attributing these changes to the MCDP as many other confounding events could also have led to the changes observed here: for example, if the harvest in the evaluation areas was better at endline than at baseline, we may find improved access to nutritious foods and incorrectly attribute it to the MCDP rather than annual differences in harvest yields. Our preferred analysis uses changes in the outcomes in non-MCDP districts (Katete and Nakonde) as a benchmark of what would likely have happened in the programme areas in the absence of the MCDP and the effect of the programme is assessed by comparing the changes in outcomes in the programme areas to changes in outcomes in the comparison areas. We present the pre-post differences to inform policy discussions on the levels and trends of key indicators (Table 10).

**Table 10. Pre-post changes in outcomes in MCDP districts**

	n	Mean dep. var.	Pre-Post Change (s.e)
<b>Nutritional Status Indicators</b>			
Reduced stunting	1073	0.658	0.06 ** (0.026)
Wasted	1071	0.067	0.03 (0.021)
Underweight	1166	0.108	0.00 (0.029)
<b>Breastfeeding and other nutrition indicators</b>			
Early breastfeeding knowledge	1195	0.763	0.08 ** (0.033)
Exclusive breastfeeding knowledge definition	1195	0.317	0.15 ** (0.066)
Early breastfeeding practice	1194	0.664	-0.10 ** (0.04)
Exclusive breastfeeding knowledge under 6 months	1195	0.91	-0.11 * (0.052)
Complementary feeding knowledge	1195	0.748	-0.02 (0.03)
Minimum feeding knowledge	1190	0.603	0.08 ** (0.034)
Consumption of iron rich or fortified food (6-23 months)	854	0.377	0.01 (0.086)
Minimum meal frequency	854	0.427	0.03 (0.055)
Minimum acceptable diet	1194	0	0.17 *** (0.019)
Food insecurity access scale	1195	6.325	10.34 *** (0.696)
No diarrhea in last two weeks	1193	0.731	-0.01 (0.028)

Notes: Pre-post change is the coefficient on an indicator variable equal to one for endline observations. Regressions also include district dummies and demographic controls. Regressions are weighted to account for the multi-stage sampling design. Standard errors are clustered at the ward level.

## Other Qualitative Findings

In addition to questions about MCDP priority interventions, we also asked respondents about their familiarity with MCDP and SUN, their knowledge about stunting, the level of spousal involvement in IYCF, and their typical experience visiting the local health clinic. These findings from these lines of questioning shed light on the success of MCDP/SUN sensitisation efforts and paint a fuller picture of how households in MCDP treatment areas are accessing health services and caring for young children.

### Programme Awareness & Stunting Knowledge

#### Awareness of MCDP, SUN, WNCC

Most qualitative respondents in the four wards the research team visited at endline were not aware of the First 1000 Most Critical Days Programme, ‘1000 Days’, ‘MCDP’, or SUN. That said, many more recognized SUN than MCDP: in Chipata (Mboza), a male respondent stated, *“No I don’t know [MCDP]. Yes I have heard of the SUN programme. It is about scaling up nutrition and they work with the clinic and they also do some boreholes.”* For both SUN and 1000 Days, there were respondents who had seen posters or heard the programmes mentioned on the radio but did not know what they were. In Chipata (Kova), for example, a female respondent commented: *“No, I have never heard of it from anyone but I have seen a poster at the clinic which says 1000 critical days.”*

For those that had heard of the MCDP or SUN, both programs were primarily associated with child feeding and in rare cases preventing stunting: *“The programme is called 1000 days because it reduces stunting.”* Respondents familiar with SUN or the MCDP typically described the programmes using phrases such as “they come to teach us” or “they had a meeting” or referred to SUN or MCDP trainings at the under-5 clinic.



Figure 16. Clinic in Chipata (Kova Ward) with an MCDP information board

The vast majority of qualitative respondents did not recognize the Ward Nutrition Coordinating Committee or ‘WNCC’. However, the few that were aware of the WNCC associated it with trainings related to nutrition and staying healthy during pregnancy.

### **Knowledge of Stunting**

Nearly all qualitative respondents had some understanding of the concept of stunting, and a handful were aware of SUN's aim to reduce the prevalence of stunting. While the official measure of stunting is height for age, respondents largely understood the term to refer to children who are not growing properly or not weighing enough. According to many respondents, eating sufficient quantities of nutritious foods helps prevent stunting. However, some misconceptions exist about the causes of stunting. In both Chipata and Mbala, several respondents shared their belief that stunting results from inadequate child spacing: *"Stunting comes when the mother gets pregnant whilst the child is still very young. The child stops breast feeding and doesn't eat well. It causes the child not to grow well."* Another respondent said, *"Some children get stunted or are short maybe because the parents are short"* while others suggested stunting is a result of a mother's illness or a pregnant woman not eating enough during pregnancy. In terms of stunting prevalence, responses ranged from "none at all" to "a lot" of stunted children in their communities.

### **Clinic Experiences, "Journey Mapping"**

During IDIs with women at endline, we incorporated a "journey mapping" activity designed to elicit detailed information about women's experiences accessing local health clinics. We explored practical issues such as travel and wait time, reasons for attending the clinic, who typically goes to the clinic, interactions with clinic staff, availability of medicine and supplies, and what women like and dislike about visiting the clinic. Since many MCDP services are offered through clinics and clinic accessibility was identified as a potential moderating or mediating factor in the theory of change for the MCDP, the information generated through this exercise is quite valuable.

### **Travel and Wait Time**

Most women reported traveling to the clinic by foot, with some who live farther away going by bicycle. Travel times ranged from a few minutes to several hours. When visiting the clinic for under-5 (which is the primary reason most women reported going to the clinic), women wait two to three times: once before "teaching", once before the children are weighed (and the weight is recorded in the under-5 card), and once before injections. There was some disagreement about the typical amount of wait time during under-5 clinic visits, with some reporting minimal wait time (10 minutes or less) and others reporting several hours of total wait time. Wait times seem to be slightly longer in the two Chipata wards, with noticeably less waiting reported in Mbala (Kawimbe especially). Several women reported being asked to clean the premises before receiving clinic services, with one woman from Chipata (Mboza) saying, *"When we arrive there we are told to clean the chairs where to seat, clean the surrounding, draw water and then we start the lessons."*

### **Interactions with Clinic Staff & Availability of Supplies**

While respondent perceptions of clinic staff in all four wards were largely positive, in both Chipata (Kova) and Mbala (Kawimbe), a few respondents reported negative interactions with health clinic staff that included being yelled at or being punished. To this end one woman from



Kova said of her clinic experience, *“The only thing I am not happy with is that sometimes [the in-charge] is moody, so some people are scared to talk to her. Whenever they hear that it is the elderly sister on duty they fear and feel bad.”* In Mbala (Kawimbe) one woman stated, *“[Clinic staff] punish and you can even get upset...If the under-5 card is torn...They tell us to fetch water.”* Another woman from Kawimbe added that the doctor there frequently shouts at patients: *“There is nothing good at the clinic... the doctor talks too much. He likes shouting at us that we are very dirty and that we should be taking the children to the clinic on time before the condition gets worse.”* While complaints were less pronounced in Mwambezi, two pregnant women from that ward expressed concerns that there were no female nurses there to help with delivery or answer sensitive questions.

### **Reasons for Visiting Clinic, Who Attends**

In both Chipata and Mbala, respondents reported widespread participation in both the antenatal clinic and under-5 clinic, with under-5 being the primary reason cited for visiting the clinic. Apart from under-5, women said they mostly attend the clinic when their child is sick with fever or diarrhoea. Both female and male respondents indicated that women primarily go to the under-5 clinic alone (either walking by themselves or with other women from their village), although a small number of women said their husbands attend under-5 with them. A male respondent from Mbala (Mwambezi) clearly expressed his view that women are responsible for bringing children to the under-5 clinic and indicated own lack of knowledge about what is taught there: *“No I don’t go for under-5... under-5 is just for women. I don’t even know what they teach there.”* Similarly, in Chipata (Kova) a female respondent recounted, *“Last time I asked my husband to take the child for scale<sup>8</sup> because I was not feeling well, he refused. He said, “Men don’t take children for under-5, only women do that.”* According respondents, men are more likely to attend antenatal clinic visits with their wives, however, and particularly for the initial registration visit.

### **Challenges**

The main challenges female respondents identified about going to the clinic were delays, although a handful of women mentioned other challenges including being yelled at by clinic staff<sup>9</sup>, being fined for being late, medicine shortages, and the lack of shelter when under-5 is held outdoors. Regarding delays, a woman from Chipata (Kova) lamented, *“They delay a lot...They take too long to start the lessons... I end up being at the clinic the whole day without doing anything at home.”* A woman from Mboza expressed a similar complaint, saying *“I would really like for us to be taught more quickly when we arrive. That is why some people get upset because we have to wait for others who come late.”*

### **Best Part of Visiting Clinic**

When asked what they like best about visiting the clinic, women across all four wards most frequently mentioned seeing their children weighed and seeing the weight increase. To this end a woman from Chipata (Mboza) commented, *“So that is the best experience I have, knowing the*

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<sup>8</sup> Under-5 is also referred to as “scale” due to the fact that children are weighed at the clinic during under-5.

<sup>9</sup> Discussed in section on Interactions with Clinic Staff.

weight” while another from Kova said, *“I feel good taking my child for under-five especially when the weight is increasing.”* Women also mentioned enjoying the lessons (*“I really like the lessons... That is what is nice because it teaches us how to look after the child”*) and getting medicine for themselves or their children.

### **Spousal Support for Women in IYCF**

#### **Support in childcare**

Fathers in our qualitative sample tend to see themselves as resource providers to their wives and children. For example, one father from Mbala (Kawimbe) stressed his responsibility as a resource provider, *“My job is to make sure that my children are fully catered for in terms of food. They have enough food. Then in terms of dressing they need to dress ok. Then I need to make sure that all my children go to school. This is my job.”* Mothers are generally responsible for daily activities like feeding and bathing, as well as health-related activities such as taking their children to the clinic.

About half of the fathers interviewed see themselves as having a larger role in caregiving, although this role is largely limited to occasions when the mother is unavailable. These fathers reported contributing a bit more, such as helping feed and bathe the children, playing with them, helping them with homework, and taking them to the clinic when sick. However, this seemed to occur in exceptional circumstances where the mother was unable to do so, such as when she is sick or having difficulties. Another father from Mbala (Kawimbe) described how he only stepped in when his wife was unavailable. *“I also change their clothes when the mother is not around; I bath them and put on them clean clothes. I only wash for them when the mother has gone far and has no chance to come and wash for the children.”*

#### **Support in access to nutritious foods**

Most fathers saw their role as providing resources for their wives to feed their children. Across all wards, fathers secured access to food by farming and buying some food items. A male respondent from Chipata (Kova) described his role succinctly: *“The work that I do that involves the children is that for the children to eat, I need to look for the food so that the wife can cook for the children... If you have not gotten an education then it is the story of cultivating, then you can sell some of the produce to buy what is needed at home.”* Fathers reported cultivating cabbage, onion, cucumber, potatoes, rape, beans, groundnuts, maize, soya beans, sunflower, sweet potatoes, and pumpkin leaves. Among the foods respondents reported buying were milk, kapenta (fish), rape, rice, eggs, dry fish, potatoes, buns, sugar, meat, vegetables, and drinks. Some respondents described setting aside produce to deal with periods of food scarcity. One respondent from Mbala (Kawimbe) explained this strategy in the following way.

*“So (...) the first budget is that we need to put some [produce] aside which will be enough for us and the children. You know that at times here money is not found so if I put the groundnuts then one day the wife will pound and put in the relish. Then we would have stored some beans and when we want we will get some (and cook) since you may not have money. (...) Then we need to put away enough maize so that the children will not suffer with hunger. At least we will know that they have food.”*

### **Support in breastfeeding**

The majority of women in our sample reported receiving breastfeeding support from their husbands, usually in the form of nutritious foods and help with chores. A woman from Mbala (Kawimbe) stated a typical response,

*“My husband buys bananas, bread and sugar so that I can eat in order to help produce enough milk for the baby. He also helps me by holding the baby when she is crying. When I am busy and the baby is crying my husband tells me to sit down and breast feed the baby while he continues to finish up whatever I was doing.”*

Further, many fathers saw their role as providing food to support their wives' breastmilk production. For instance, a father from Chipata (Kova) added that he bought food which will make his wife have enough milk. Another respondent from Chipata (Kova) stated, *“I buy food like bananas and super shake for [my wife] to produce enough milk for the baby.”* In addition, a relatively small number of women cited receiving breastfeeding support from other family members, such as mothers and older children.

At the same time, some women reported that they received no breastfeeding support from their husbands. A pregnant woman from Mbala (Kawimbe) explained the challenges she faced in breastfeeding her baby and completing her chores.

*“Men are difficult but you find that the baby has proved difficult and you have other work to do. Maybe you sit down to breastfeed the baby and the chores are waiting for you, then it becomes dark, he will start saying; you were just seated doing nothing.”*

While the number of women who reported receiving no help was comparatively small, it does point to some underlying challenges for women in practicing exclusive breastfeeding while dealing with the gendered division of labour in the household.

## **Conclusion**

The primary aim of Zambia's MCDP is to reduce stunting, and to that end our evaluation found that while stunting levels fell more in programme treatment districts than in comparison districts, the larger reduction in stunting in treatment districts is not statistically significant. That said, we found promising results related to increased knowledge of nutrition and improved practices related to nutritional intake. For example, practice of early breastfeeding in treatment districts increased significantly: the proportion of mothers providing breastmilk within one hour of birth increased by almost 10 percentage points in treatment districts versus comparison districts. Qualitatively, we found that virtually all respondents we spoke to in treatment wards were familiar with the concepts of exclusive breastfeeding (although not necessarily with the term 'exclusive breastfeeding') and complementary feeding and reported practising these concepts. We also found encouraging improvements in nutritional intake for slightly older children in treatment districts, with children aged 6-23 months significantly more likely to consume iron rich

or fortified foods, more likely to receive their required energy needs, and more likely to receive a nutritionally acceptable diet.

As reflected in the theory of change, improving nutritional intake alone without addressing potentially harmful health, sanitation and hygiene practices is not sufficient to improve nutritional outcomes. Encouragingly, our analysis also finds evidence of improvements in outcomes related to WASH: we find that the probability of diarrhoea among sample children in the last two weeks fell significantly relative to children in the comparison districts. Not all findings from the quantitative household survey were positive, however. For example, our analysis revealed a decline in caregiver knowledge of proper complementary feeding in MCDP treatment districts relative to comparison districts and greater improvements in household food security in comparison districts than in treatment districts. We also found no evidence of effects (positive or negative) in uptake of IFA supplements or deworming pills.

There are three potential explanations for the MCDP's lack of significant effects in reducing stunting that we reiterate below:

- Reduction in stunting rates requires multi-sectoral improvements in terms of knowledge of nutrition, access to nutritious foods, uptake of IFA tablets and deworming, proper WASH practices, active growth monitoring, and adoption of effective IYCF practices. While we found positive changes in some of these areas, these encouraging results are not necessarily sufficient to overcome a lack of progress in other areas.
- The GIZ-funded FANSER programme, which is quite similar to the MCDP, was implemented in one of the evaluation's comparison districts (Katete) and reduced our statistical power to detect effects. While we excluded FANSER programme districts from our sample, it is possible that some of the systems-strengthening components may have improved the delivery of health services throughout the district. The implementation of FANSER in Katete changes our interpretation of Katete as a "business-as-usual" comparison for the MCDP districts and creates the potential for contamination. On the positive side, however, contamination of the comparison group should, in theory, lead us to underestimate effects and it is encouraging that we are still able to detect effects across a variety of domains throughout the theory of change despite this contamination.
- The process evaluations conducted in 2016 and 2017 revealed a number of implementation challenges that compromised the delivery of PIs in MCDP treatment wards. Most notably, challenges with communication, coordination, planning and reporting as well as erratic funding flows seriously hindered PI implementation. As a result, beneficiaries were less likely to be exposed to all programme components required to affect meaningful change in stunting rates.

As Zambia looks ahead to the next phase and scaling of the MCDP--SUN 2.0--the positive effects of the MCDP on young children's nutritional intake and improved WASH outcomes such as the reduction in diarrhoea are encouraging initial steps towards ultimately reducing the

prevalence of stunting in Zambia. Indeed, we do see a reduction in stunting among younger children in the sample who were likely to have a greater exposure to the programme. In particular, if SUN 2.0 is able to improve coordination, communication, and regularity of funding flows, PI implementation is likely to be more consistent and bring a greater likelihood of positive effects across all of the domains required to contribute to a reduction in stunting.

### **Dissemination**

High-quality research with concrete policy recommendations is a necessary, but not sufficient, condition for policy impact. To achieve maximum policy impact, it is important to engage with key stakeholders from the beginning of the evaluation. To achieve this goal, we will work closely with DFID while maintaining our independence.

The AIR team will actively support DFID in disseminating research findings from this study to policy makers and researchers via presentations at academic and policy conferences, as well as policy briefs. In particular, we envision presenting at venues such as the Zambia Early Childhood Development Action Network (ZECDAN), the 8th Annual Health Research Conference in Lusaka, the Z-CHARM Health Research Consortium, and meetings of the Permanent Secretaries. Importantly, AIR will ensure that the dissemination of research findings will be customized to the audience. For example, we do not expect MoH officials or district-level staff to read full project reports or peer-reviewed papers. Thus, we will emphasize the use of policy and research briefs in the dissemination of our findings to policy makers. Our briefs will be written in simple, non-technical language, and will be easily visualized. We will create the following briefs: 1) An infographic that concisely communicates main findings (one page); 2) an abbreviated, non-technical executive summary (five pages); and 3) a brief that conveys relevant operational recommendations to district-level staff such as the DNCC.

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## **Annex A: Heterogeneity Analysis**

This annex presents the results from subgroup analysis that examines difference-in-differences results for children under 1 year of age (Table 11), girls (Table 12), and children in households where the mother completed primary school (Table 13).

**Table 11: Difference-in-differences estimates for children under 1 year of age**

	n	Mean dep. var.	MCDP Effect (s.e)
Mother received iron and folic acid pills	1282	0.981	-0.02 (0.021)
Early breastfeeding knowledge	1285	0.76	0.09 * (0.044)
Exclusive breastfeeding knowledge definition	1285	0.371	-0.06 (0.117)
Early breastfeeding practice	1285	0.682	0.07 (0.067)
Exclusive breastfeeding knowledge under 6 months	1285	0.922	-0.03 (0.069)
Excusive breastfeeding practice	649	0.762	-0.10 (0.072)
Complementary feeding knowledge	1285	0.748	-0.08 * (0.039)
Minimum feeding knowledge	1281	0.557	0.07 (0.088)
Consumption of iron rich or fortified food (6-23 months)	633	0.369	0.09 (0.116)
Minimum meal frequency	632	0.516	0.11 (0.079)
Minimum acceptable diet	1285	0	0.06 ** (0.027)
Food insecurity access scale	1285	6.252	3.43 *** (0.858)
Family washes hands with soap	1285	0.698	-0.09 (0.111)
Safe disposal of feces	1285	0.966	-0.05 * (0.027)
No diarrhea in last two weeks	1282	0.75	0.11 ** (0.047)
Reduced stunting	1119	0.774	0.09 * (0.051)
Wasted	1112	0.089	0.03 (0.044)
Underweight	1250	0.083	0.00 (0.028)

Notes: All regressions include indicator variables equal to one for endline observations, district, and demographic controls. Regressions are weighted to account for the multi-stage sampling design. Standard errors are clustered at the ward level.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 12: Difference-in-differences estimates for girls**

	n	Mean dep. var.	MCDP Effect (s.e)
Mother received iron and folic acid pills	1191	0.987	-0.05 ** (0.018)
Early breastfeeding knowledge	1193	0.74	0.15 *** (0.05)
Exclusive breastfeeding knowledge definition	1193	0.345	-0.05 (0.106)
Early breastfeeding practice	1193	0.651	0.07 (0.056)
Exclusive breastfeeding knowledge under 6 months	1193	0.895	-0.06 (0.076)
Excusive breastfeeding practice	319	0.711	0.01 (0.088)
Complementary feeding knowledge	1193	0.727	-0.10 ** (0.044)
Minimum feeding knowledge	1188	0.577	0.12 (0.088)
Consumption of iron rich or fortified food (6-23 months)	873	0.368	0.28 ** (0.117)
Minimum meal frequency	870	0.419	0.18 * (0.09)
Minimum acceptable diet	1193	0	0.06 * (0.035)
Food insecurity access scale	1193	5.918	3.39 *** (1.084)
Family washes hands with soap	1193	0.691	-0.11 (0.113)
Safe disposal of feces	1193	0.964	-0.03 (0.026)
No diarrhea in last two weeks	1192	0.711	0.14 ** (0.059)
Reduced stunting	1101	0.706	-0.03 (0.057)
Wasted	1104	0.064	-0.01 (0.041)
Underweight	1163	0.078	0.03 (0.033)

Notes: All regressions include indicator variables equal to one for endline observations, district, and demographic controls. Regressions are weighted to account for the multi-stage sampling design. Standard errors are clustered at the ward level.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 13: Difference-in-differences estimates in households where mothers completed primary school**

	n	Mean dep. var.	MCDP Effect (s.e)
Mother received iron and folic acid pills	1505	0.982	-0.02 (0.021)
Early breastfeeding knowledge	1508	0.785	0.06 (0.043)
Exclusive breastfeeding knowledge definition	1508	0.369	-0.05 (0.095)
Early breastfeeding practice	1508	0.668	0.05 (0.065)
Exclusive breastfeeding knowledge under 6 months	1508	0.919	-0.07 (0.065)
Excusive breastfeeding practice	419	0.796	-0.14 (0.09)
Complementary feeding knowledge	1508	0.749	-0.09 ** (0.037)
Minimum feeding knowledge	1503	0.589	0.03 (0.08)
Consumption of iron rich or fortified food (6-23 months)	1086	0.354	0.29 ** (0.115)
Minimum meal frequency	1085	0.438	0.17 ** (0.078)
Minimum acceptable diet	1508	0	0.11 *** (0.035)
Food insecurity access scale	1508	5.767	3.22 *** (0.945)
Family washes hands with soap	1508	0.709	-0.12 (0.118)
Safe disposal of feces	1508	0.974	-0.04 * (0.024)
No diarrhea in last two weeks	1505	0.756	0.13 ** (0.05)
Reduced stunting	1372	0.705	0.07 (0.066)
Wasted	1367	0.071	0.05 (0.04)
Underweight	1472	0.094	0.05 (0.035)

Notes: All regressions include indicator variables equal to one for endline observations, district, and demographic controls. Regressions are weighted to account for the multi-stage sampling design. Standard errors are clustered at the ward level.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$



## Annex B: Quantitative Endline Survey 2017

### First 1000 Most Critical Days Program Quantitative Endline Survey 2017 Chipata, Katete, Mbala and Nakonde Districts

#### 1. Metadata – ALWAYS FILL IN BASIC INFORMATION BEFORE THE INTERVIEW

Cluster id

1. Today's date: -- (DD-MM-YY) Household Number

2. Time start interview: :  (24 hr clock) 3. Time end interview: :  (24 hr clock)

4. Province:

5. District:

6. Ward

7. CSA

8. SEA

9. Village/locality name

10. Intended respondent and Pid

11. Enumerator name

18. Main language used by enumerator in this interview?

- (1) *Tonga* (5) *Bemba*  
(2) *Nyanja* (6) *Other, specify: \_\_\_\_\_*  
(3) *English*  
(4) *Lozi*

19. Main language used by respondent in this interview?

- (1) *Tonga* (5) *Bemba*  
(2) *Nyanja* (6) *Other, specify: \_\_\_\_\_*  
(3) *English*

(4) *Lozi*

20. Was a translator used? (1= YES; 2 = NO)

21. Response status







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<b>PID OF CHILD</b>  3 YES, MOTHER LIVES IN HOUSEHOLD= <b>4 WRITE PID OF MOTHER</b>  5 6 YES, BUT MOTHER DOES NOT LIVE IN THIS HOUSEHOLD=88>>1_11 7 8 NO, MOTHER IS DEAD=99 9 >> 1_11 10 <b>11</b> DON'T KNOW IF ALIVE, BUT DOES NOT LIVE I HOUSEHOLD=98>>1 11	12 PID for child's biological mother 13 14 15	PID for child's primary care-taker if biological mother dead or doesn't live in household.  INTERVIEW THE CHILD'S PRIMARY CARETAKER IF THE MOTHER CANNOT ANSWER THE QUESTIONS	16 What is the marital status of mother or, if mother dead or not in hh, primary caregiver of child? 17 18 NEVER MARRIED=1 19 MARRIED=2 20 SEPARATED=3 21 DIVORCED=4 22 WIDOWED=5 CO-HABITING=6	What was the highest grade mother/caregiver of child attained? 23 [USE CODES BELOW]  [ENTER 00 IF DID NOT COMPLETE GRADE 1]	Is the biological father of [NAME] alive? 24 YES, FATHER IS ALIVE 25 26 <b>27</b> NO, FATHER IS DEAD=99	What was the highest grade father of child attained? 28 [USE CODES BELOW]  [ENTER 00 IF DID NOT COMPLETE GRADE 1]

**GRADE CODES:** - GRADE 1 TO 12=CODES 01 TO 12      GRADE 12 GCE (O-LEVEL)=CODE 12      GRADE 12 GCE (A-LEVEL)=CODE 13      COLLEGE=CODE 14  
 UNDERGRADUATE UNIVERSITY STUDENTS=CODE 15      POST-GRADUATE CERTIFICATE/DIPLOMA STUDENTS=CODE 16      MASTERS DEGREE  
 STUDENTS=CODE 17      DOCTORAL LEVEL AND ABOVE STUDENTS=CODE 18

Section 2: IYCF behaviour; only for children 0-23 months. [Respondent: Intended Respondent= caregiver of a child 0-23 months, randomly chosen if more than one. If woman has more than one child under 2, pick the youngest child. If twins, pick one at random. ]			
2_1.	29 Does child have a U5 Health Card? 30 31 <b>IF YES, PLEASE ASK TO SEE CARD.</b>	32 YES=1 33 NO=2 34 SEEN=3 35	
2_2.	What is [NAME's] birth date?  <b>RECORD FROM HEALTH CARD OR BIRTH REGISTRATION DOCUMENT IF AVAILABLE. [VERIFY WITH 1_4 ON ROSTER]</b> 36	37 DD MM YY	. .   . .
2_3.	Has [NAME] ever been breastfed?	1= Yes 2= No >>2_7 38 98= Don't know	
2_4.	How long after birth did you put [NAME] to the breast?	<b>IF LESS THAN 1 HOUR RECORD '00'</b> <b>IF LESS THAN 24 HOURS RECORD NUMBER OF HOURS, OTHERWISE RECORD DAYS</b>  <u>UNIT CODE</u> 1=HOURS 39 2=DAYS 40	(NUMBER) UNIT: __
2_5.	Is [NAME] still breastfed?	1= Yes 2= No>> 2_7 98= Don't know 41	
2_6.	Was [NAME] breastfed yesterday during the day or at night?	- 1= Yes - 2= No 42 98= Don't know	
2_7.	- For how long did you breastfeed...? <b>INDICATE THE NUMBER OF MONTHS e.g. 01, 03, 0 5, 10</b>	<b>IF LESS THAN ONE MONTH ENTER 00</b> 43	

2_9.	Now I would like to ask you about some medicines and vitamins that are sometimes given to infants. - Was [NAME] given any vitamin drops or other medicines as drops yesterday during the day or at night?	1= Yes 2= No 98= Don't know	
2_10.	Was [NAME] given [LOCAL NAME FOR ORS] yesterday during the day or at night?	1= Yes 2= No 98= Don't know	
2_11.	How many times did you breastfeed [NAME] last night between sunset and sunrise? <small>IF ANSWER IS NOT NUMERIC PROBE FOR APPROXIMATE NUMBER</small>	44 45      __  __	
2_12.	How many times did you breastfeed [NAME] during the daylight hours? <small>IF ANSWER IS NOT NUMERIC PROBE FOR APPROXIMATE NUMBER</small>	46 47      __  __	
2_13.	At what age (in months) did you first give [NAME] water or other fluids? <small>[IF LESS THAN ONE MONTH ENTER 00] [IF NOT APPLICABLE ENTER 97]</small>	48 49      __  __	
2_14.	At what age in months did you first give [NAME] other food? <small>[IF LESS THAN ONE MONTH ENTER 00] [IF NOT APPLICABLE ENTER 97]</small>	50 51 52      __  __	
2_15.	Now I would like to ask you about liquids or foods that [NAME] had yesterday during the day or night. I	53     Plain water 54     YES=1 NO=2	
2_16.	am interested in whether your child had the item I mention even if it was	Juice or juice drinks? YES=1 NO=2	

2_17.	combined with other fluids or foods?	Clear Broth? YES=1 NO=2	
2_18.	Now I would like to ask you about liquids or foods that [NAME] had yesterday during the day or night. I am interested in whether your child had the item I mention even if it was combined with other fluids or foods?	Thin Porridge? YES=1 NO=2	
2_19.		Milk such as tinned, powdered, or fresh animal milk? (Includes Mabisi) YES=1 NO=2>>Q20	
2_19a.		IF YES: How many times did (NAME) drink milk?	
2_20.		Infant formula? YES=1 NO=2>>Q21	
2_20a.		IF YES: How many times did (NAME) drink infant formula?	
2_21.		Yogurt? YES=1 NO=2	
2_21a.		IF YES: How many times did (NAME) eat yogurt?	
2_22		Any other liquid such as Supershake or Maheu? YES=1 NO=2>>Q23	
2_22a.		Munkoyo or Tbwa? YES=1 NO=2	
2_23.		Please describe everything that [NAME] ate yesterday during the day or night, whether at home or outside the home.	56 Bread, rice, noodles, or other foods made from grains, including thick-grained porridge? 57 YES=1 58 NO=2 59 Don't Know=98
2_24.	a) Think about when [NAME] first woke up yesterday. Did [NAME] eat anything at that time? If yes: Please tell me	60 White potatoes, white yams, manioc, cassava, or any other foods made from roots? 61 YES=1 62 NO=2 63 Don't Know=98	

2_25.	everything [NAME] ate at that time. Probe: Anything else? Until respondent says nothing else. If no, continue to Question b).	64 Pumpkin, carrots, squash or sweet potatoes that are yellow or orange inside? 65 YES=1 66 NO=2 67 Don't Know=98	
2_26.	b) What did [NAME] do after that? Did [NAME] eat anything at that time?	68 Any dark green, leafy vegetables? 69 YES=1 70 NO=2	
2_27.	If yes: Please tell me everything [NAME] ate at that time. Probe: Anything else? Until respondent says nothing else.	71 Ripe mangoes, papayas, masuku? 72 YES=1 73 NO=2 74 Don't Know=98	
2_28.	Repeat question b) above until respondent says the child went to sleep until the next day.	75 Any other fruits or vegetables? 76 YES=1 77 NO=2 78 Don't Know=98	
2_29.	If respondent mentions mixed dishes like a PORRIDGE, sauce or stew, probe:	79 Liver, kidney, heart or other organ meats? 80 YES=1 81 NO=2 82 Don't Know=98 83	
2_30.	c) What ingredients were in that ( <i>MIXED DISH</i> )? Probe: Anything else? Until respondent says nothing else.	84 Any meat, such as beef, pork, lamb, goat, chicken, or duck? 85 YES=1 86 NO=2 87 Don't Know=98	
2_31.	As the respondent recalls foods, look at the corresponding food and write '1' in the column next to the food group. If the food is not listed in any of the food groups below, write the food in the box labeled 'other foods'. If foods are used in small amounts for seasoning or as a condiment, include them under the condiments food group.	88 Eggs? 89 YES=1 90 NO=2 91 Don't Know=98	
2_32.		92 Fried or dried fish or shellfish? YES=1 93 NO=2 94 Don't Know=98	
2_33.		95 Any foods made from beans, peas, lentils or nuts? YES=1 96 NO=2 97 Don't Know=98	
2_34.		98 Cheese or other foods made from milk? YES=1 99 NO=2 100 Don't Know=98	

2_35.	55	Once the respondent finishes recalling foods eaten, read each food group where '1' was not circled, ask the following question and Circle '1' if respondent says yes, '2' if no and '8' if don't know: Yesterday during the day or night, did [NAME] drink/eat any <b>(FOODGROUPITEMS)</b> ?	Any sugary foods such as chocolates, sweets, candies, pastries, cakes, or biscuits? YES=1 101 NO=2 102 Don't Know=98	
2_36.		Any oil, fats, or butter, or foods made with any of these? YES=1 NO=2 103 Don't Know=98		
2_37.		104 Condiments for flavour, such as chilies, spices, herbs, or fish powder? 105 YES=1 106 NO=2 107 Don't Know=98		
2_38.		108 Any other solid, semi-solid, or soft food? YES=1 NO=2 109 Don't Know=98		
2_39.		Any insects? YES=1 NO=2 Don't Know=98		
2_40.		Other? YES=1 NO=2>>Q41 Don't Know=98		
2_40b.		Specify		
2_41.		How many times did [NAME] eat solid, semisolid, or soft foods other than liquids yesterday during the day or at night? 110		
2_42.		Did (NAME) drink anything from a bottle with a nipple yesterday during the day or night? YES=1 NO=2 Don't Know=98	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
2_43.		Yesterday, during the day or night, did [NAME] consume any food to which you added a [powder or sprinkles] like this? [show Chipolopolo powder]		

		Show common types of micronutrient powders available in survey area. YES=1 NO=2 Don't Know=98	
--	--	--	--

<b>SECTION 3: KNOWLEDGE OF FEEDING RECOMMENDATIONS</b> [Intended respondent only]			
3_1.	How soon after birth should a newborn be put to the mother's breast to suckle? DO NOT READ RESPONSES.	WITHIN 1 HOUR= 1 MORE THAN 1 HOUR AFTER DELIVERY= 2 DON'T KNOW= 98	
3_2.	For infants under six months, in general, what do you consider to be the <u>best</u> food? DO NOT READ RESPONSES.	BREASTMILK ONLY= 1 ANIMAL MILK ONLY= 2 INFANT FORMULA ONLY= 3 MILK OR FORMULA WITH BREASTMILK= 4 GRUEL/PORRIDGE= 5 OTHER= 6 <b>[SPECIFY]</b> _____	
3_3.	If a woman is breastfeeding her baby exclusively, what do you think she can give her baby in addition to breastmilk?  <b>[DO NOT READ RESPONSES].</b> <b>1=YES</b> <b>2=NOT MENTIONED]</b>	WATER	
		FORMULA MILK	
		EXPRESSED BREASTMILK (HEAT TREATED OR NOT)	
		OTHER MILKS (NOT BREASTMILK)	
		OTHER LIQUIDS (TEA, JUICE, ETC)	
		TRADITIONAL MEDICINES	
		MEDICINES/VITAMINS FROM THE HEALTH CENTER	
		SOME SEMI-SOLID FOODS (PORRIDGE, ETC.)	
		NOTHING	
		OTHER <b>[SPECIFY]</b> _____	
	DON'T KNOW		
3_4.	Do you think an exclusively breastfed baby needs water?	YES= 1 NO= 2 DON'T KNOW= 98	

3_5.	<p>At what age do you think a mother needs to introduce foods in addition to breastmilk?</p> <p><b>[DO NOT READ RESPONSES. RECORD ONE RESPONSE.]</b></p>	<p>AT BIRTH= 1                  IN 1ST MONTH= 2                  2-3 MONTHS= 3                  4-5 MONTHS= 4                  6 MONTHS= 5                  7-9 MONTHS= 6                  WHEN BREASTMILK IS NOT ENOUGH= 7                  OTHER= 8  <b>[SPECIFY]</b></p> <hr/> <p>DON'T KNOW= 98</p>	
3_7.	<p>In general, how many times per day should a breastfed baby 6-8 months of age be fed soft, semi-solid, or solid food?</p> <p><b>[DO NOT READ RESPONSES.]</b></p>	<p>1 TIME OR FEWER PER DAY= 1                  2 TIMES PER DAY= 2                  3 TIMES PER DAY= 3                  4 OR MORE TIMES PER DAY= 4                  DON'T KNOW= 98</p>	
3_8.	<p>In general, how many times per day should a breastfed baby 9-11 months of age be fed soft, semi-solid, or solid food?</p> <p><b>[DO NOT READ RESPONSES.]</b></p>	<p>1 TIME OR FEWER PER DAY= 1                  2 TIMES PER DAY= 2                  3 TIMES PER DAY= 3                  4 OR MORE TIMES PER DAY= 4                  DON'T KNOW= 98</p>	
3_10.	<p>How many times per day should a NON-breastfed child 6-23 months be fed soft, semi-solid, or solid food?</p> <p><b>[DO NOT READ RESPONSES.]</b></p>	<p>1 TIME OR FEWER PER DAY= 1                  2 TIMES PER DAY= 2                  3 TIMES PER DAY= 3                  4 OR MORE TIMES PER DAY= 4                  DON'T KNOW= 98</p>	
3_11.	<p>How many times per day should a NON-breastfed child 6-23 months be given infant formula, cow milk, other animal milk, or dairy products, such as yogurt or cheese?</p> <p><b>[DO NOT READ RESPONSES.]</b></p>	<p>1 TIME OR FEWER PER DAY= 1                  2 TIMES PER DAY= 2                  3 TIMES PER DAY= 3                  4 OR MORE TIMES PER DAY= 4                  DON'T KNOW= 98</p>	



<b>SECTION 3b: OTHER FEEDING PRACTICES AND ATTITUDES</b>			
3b_1.	If [NAME] has had low appetite while ill, how do you feed [NAME] during the 2 weeks after the illness?	FEED THE SAME QUANTITY AS USUAL= 1 FEED SMALLER QUANTITY THAN USUAL= 2 FEED LARGER QUANTITY THAN USUAL= 3 CHILD HAS NOT YET BEEN ILL= 4 DON'T KNOW= 98	
3b_2.	How much do you talk directly to [NAME] when you are feeding him/her complementary food?  <b>[DO NOT READ RESPONSES. WRITE FIRST RESPONSE GIVEN.]</b>	I TALK RARELY WHILE FEEDING= 1 I TALK SOME OF THE TIME WHILE FEEDING= 2 I TALK MOST OF THE TIME WHILE FEEDING= 3 CHILD EXCLUSIVELY BREASTFED=4	
3b_3.	At what age do children usually start trying to feed themselves nsima?  <b>[DO NOT READ RESPONSES. WRITE FIRST RESPONSE GIVEN.]</b>	YOUNGER THAN 6 MONTHS= 1 6-8 MONTHS= 2 9-11 MONTHS= 3 12-14 MONTHS= 4 OLDER THAN 14 MONTHS= 5 DON'T KNOW= 98	

<b>SECTION 4: UNDER-5 EXPERIENCE</b>		
<b>[To be completed for intended respondent about index child 0-23 months]</b>		
4_1.	Has [NAME] been taken to a well-baby or under 5 clinic for a check-up in the last 6 months? This includes outreach visits	YES=1 NO=2 Don't Know=98
4_2.	111 Was the child weighed with a scale during the last under-5 check up?	112 YES= 1 113 NO= 2 DON'T KNOW= 98
4_3.	114 Was the child's height or length taken using a length board during the last under-5 check up?	115 YES= 1 116 NO= 2 DON'T KNOW= 98
4_4.	117 Did the community worker or the nurse give you any feedback about how the child is growing?	118 YES, CHILD IS GROWING WELL=1 119 YES, CHILD IS NOT GROWING WELL=2 120 NO FEEDBACK=3
4_5.	121 Enumerator: check the under-5 card: how is the growth direction in the weight chart?	122 CHILD GREW FROM PREVIOUS VISIT=1 123 CHILD WEIGHT IS FLAT FROM PREVIOUS VISIT=2 124 CHILD WEIGHT DECREASED FROM PREVIOUS VISIT=3 125 NO UNDER-5 CARD=4 126 UNDER 5 CARD PRESENT, BUT NO RECORD OF THE FINAL VISIT=5
4_6.	Was [NAME] given any drug for intestinal worms in the <b>last six months</b> ?  Please check under-5 card	127 YES, CARD SEEN=1 128 YES, CARD NOT SEEN=2 129 NO=3 130 DONT KNOW=98 131
4_7.	Has [NAME] received a Vitamin A dose in <b>the last 6 months</b> ?  Please check under-5 card	132 YES, CARD SEEN=1 133 YES, CARD NOT SEEN=2 134 NO=3 135 DONT KNOW=98 136

Section 5: CHILD HEALTH AND CARE SEEKING BEHAVIOR		
[To be completed for intended respondent about index child 0-23 months]		
5_2.	Has [NAME] had diarrhoea in the <b>last 2 weeks</b> ?	YES=1 NO=2>>5_10
5_3.	Was there any blood in the stools?	YES=1 NO=2
5_4.	Now I would like to know how much [NAME] was given to drink during the diarrhoea (including breastmilk). Was he/she given less than usual to drink, about the same amount, or more than usual to drink?	MUCH LESS=1 SOMEWHAT LESS=2 ABOUT THE SAME=3 MORE=4 NOTHING TO DRINK=5 137 DON'T KNOW=98
5_5.	When [NAME] had diarrhoea, was he/she given less than usual to eat, about the same amount, more than usual, or nothing to eat? <b>IF LESS, PROBE:</b> Was he/she given much less than usual to eat or somewhat less?	MUCH LESS=1 SOMEWHAT LESS=2 ABOUT THE SAME=3 MORE=4 STOPPED FOOD=5 NEVER GAVE FOOD=6 138 DON'T KNOW=98
5_6.	Did you seek advice or treatment for the diarrhoea from any source?	YES.....1 NO.....2>>5_10
5_7.	Where did [NAME] seek treatment for this condition?	PUBLIC FACILITY=1 PVT FACILITY=2 PHARMACY=3 TRADITIONAL HEALER=4 DID NOT SEEK=5 OTHER=6 <b>[SPECIFY]</b>
5_8.	Was he/she given any of the following to drink at any time since he/she started having the diarrhoea: 1. A fluid made from a special packet called [ <b>LOCAL NAME FOR ORS PACKET E.G MANZI AMOYO</b> ]? 2. A pre-packaged ORS liquid? 3. A government-recommended homemade fluid?	YES.....1 NO.....2
5_9.	Was he/she given zinc tablets in addition to what you mentioned above?	YES=1 NO=2
5_10.	Has [NAME] been ill with a fever at any time in the last 2 weeks?	YES.....1 NO.....2>>5_12
5_11.	Where did [NAME] seek treatment for this condition?	PUBLIC FACILITY=1 PVT FACILITY=2 PHARMACY=3

		TRADITIONAL HEALER=4 DID NOT SEEK=5 OTHER=6 <b>[SPECIFY]</b> _____	
5_12.	Has [NAME] had an illness <b>with a cough</b> at any time in the <b>last 2 weeks</b> ?	YES=1 NO=2>> <b>NEXT SECTION</b>	
5_13.	When [NAME] had an illness with a cough, did he/she breathe faster than usual with short, rapid breaths or have difficulty breathing?	YES=1 NO=2	
5_14.	Where did [NAME] seek treatment for this condition?	PUBLIC FACILITY=1 PVT FACILITY=2 PHARMACY=3 TRADITIONAL HEALER=4 DID NOT SEEK=5 OTHER=6 <b>[SPECIFY]</b> _____	

<b>SECTION 6: CHILD DEVELOPMENT</b>			
<b>[to be completed for intended respondent about index child 0-23 months]</b>			
6_1.	How many children's books or picture books do you have for [NAME]?		____
6_2.	I am interested in learning about the things that [NAME] plays with when he/she is at home.  Does he/she play with: Homemade toys (such as dolls, cars, or other toys made at home)? If the respondent says "Yes", then probe to learn specifically what the child plays with to ascertain the response	YES=1 NO=2 DON'T KNOW=98	
6_3.	Does he/she play with: Toys from a shop or manufactured toys? If the respondent says "Yes", then probe to learn specifically what the child plays with to ascertain the response	YES=1 NO=2 DON'T KNOW=98	
6_4.	Does he/she play with: Household objects (such as bowls or pots) or objects found outside (such as sticks, rocks, animal shells or leaves)? If the respondent says "Yes", then probe to learn specifically what the child plays with to ascertain the response	YES=1 NO=2 139 DON'T KNOW=98	
6_5.	Sometimes adults taking care of children have to leave the house to go shopping, wash clothes, or for other reasons and have to leave young children.  On how many days in the past week was [NAME]: Left alone for more than an hour?  If 'None' enter '0'. If 'Don't Know' enter '98'	<b>140</b> <b>141</b> <b>142</b> <b>143</b>	____
6_6.	On how many days in the past week was [NAME]: Left in the care of another child, that is, someone less than 10 years old, for more than an hour? If 'None' enter '0'. If 'Don't Know' enter '98'	144	____
6_7.	IN THE PAST 3 DAYS, I WANT TO FIND OUT IF YOU OR ANY HOUSEHOLD MEMBER OVER 15 YEARS OF AGE ENGAGED IN ANY OF THE FOLLOWING ACTIVITIES WITH (NAME)?	145	
6_7_1.		146 YES=1 147 NO=2	
6_7_2.	Read Books	148 YES=1 149 NO=2	
6_7_3.	Told Stories	150 YES=1 151 NO=2	
6_7_4.	Sang Songs	152 YES=1 153 NO=2	
6_7_5.	Took [NAME] outside the home, compound, yard or enclosure?	154 YES=1 155 NO=2	

6_7_6.	Played with [NAME]  Named, counted, or drew things with [NAME]	156 YES=1 157 NO=2	
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<b>SECTION 7: MATERNAL HEALTH</b>			
<b>[to be completed for intended respondent about index child 0-23 months]</b>			
7_4.	During any of your antenatal care was any of the following done at least once?		
7_4_1.	Were you weighed?	YES= 1 NO= 2	
7_4_2.	Was your height measured?	YES= 1 NO= 2	
7_4_3.	Was your blood pressure measured?	YES= 1 NO= 2	
7_4_4.	Did you give a urine sample?	YES= 1 NO= 2	
7_4_5.	Did you give a blood sample?	YES= 1 NO= 2	
7_4_6.	Did you receive deworming tablets?	YES= 1 NO= 2	
7_4_8.	Did you receive vitamins?	YES= 1 NO= 2	
7_5.	During this pregnancy were you offered counselling and testing for HIV?	YES= 1 NO= 2	
7_4_7.	Did you receive IFA (Iron and folic acid) tablets?	YES= 1 NO= 2	
7_4_7pills	How many pills did you receive?		
7_6.	When [NAME] was born, was s/he very large, larger than average, average, smaller than average, or very small?	V.LARGE= 1 LARGER THAN AVERAGE= 2 AVERAGE= 3 SMALLER THAN AVERAGE= 4 VERY SMALL=5 DK= 98	
7_7.	Who assisted with the delivery of [NAME]? <b>[IF RESPONDENT SAYS NO ONE, PROBE TO DETERMINE WHETHER ANY ADULTS WERE PRESENT AT THE DELIVERY.]</b> <b>[RECORD ALL PERSONS MENTIONED]</b>	DOCTOR= 1 NURSE= 2 MIDWIFE= 3 CLINICAL OFFICER= 4 TRADITIONAL BIRTH ATTENDANT= 5 RELATIVE/FRIEND= 6 OTHER [SPECIFY]= 7	

SECTION 8: REPRODUCTION- MOTHER OR PRIMARY CAREGIVER [to be completed for intended respondent]			
8_1.	Are you currently pregnant?	YES= 1 NO= 2 DK= 98	
8_2.	(if not pregnant or don't know) Sometimes women and men use methods to limit or space their births; Are you currently using any method to limit or space your births?	1=PILLS 2=IMPLANTS 3=3 MONTH OR 1 MONTH SHOT 4=IUD 5=CONDOMS 6=NATURAL METHODS (RHYTHM OR WITHDRAWAL) 7=STERILIZATION 8=FOAM OR BARRIER METHOD 9=NO METHOD 10=OTHER (SPECIFY) _____  [NOTE: IF A PERMANENT AND A NON-PERMANENT METHOD ARE MENTIONED, RECORD THE MOST LONG-TERM METHOD.]	
8_3.	How many children to whom you have given birth are currently living in the household?	____ ____	
8_4.	How many children to whom you have given birth are alive but do not live in the household?	158 159 160  ____ ____	
8_5.	Have you ever given birth to a boy or girl who was born alive but later died?	1=YES 2=NO	



<b>SECTION 9: HOUSEHOLD CONDITIONS</b> [ intended respondent]			
9_1.	What is your main toilet facility?  (VERIFY BY OBSERVING THE TYPE OF FACILITY, DON'T JUST ASK)	FLUSH TOILET (INSIDE OR OUTSIDE)= 1 VENTILATED IMPROVED PIT= 2 PIT LATRINE WITH SLAB= 3 PIT LATRINE WITHOUT SLAB= 4 BUCKET/OTHER CONTAINER= 5 NONE= 6	
9_2.	Ask: do you have a functioning handwashing station?	1= YES, VERIFIED BY OBSERVATION 2= NO (either she said no or she said yes but verification failed)	
	I would like to talk handwashing. When do you wash your hands?	BEFORE FOOD PREPARATION=1 BEFORE EATING=2 BEFORE FEEDING CHILDREN=3 AFTER DEFECCATION=4 AFTER CLEANING BABY'S BOTTOM=5 OTHERS=6 [SPECIFY]	
9_3.	What do you and your family members usually use to wash hands?	SOAP OR DETERGENT (BAR, LIQUID, POWDER) = 1 ASH, MUD, SAND = 2 NONE / WATER = 3 OTHERS (SPECIFY) = 4	
9_4.	If responded soap, ash, mud or sand: May I see it?	1= YES, VERIFIED BY OBSERVATION, close to handwashing station 2= YES, VERIFIED BY OBSERVATION, not near the handwashing station or if handwashing station does not exist 3= NO (either she said no or she said yes but verification failed) 4= REFUSED TO SHOW	
9_5.	When do you wash your hands with soap?  <b>[MULTIPLE RESPONSE POSSIBLE. DO NOT READ THE CHOICES BUT PROBE AND MARK ALL THAT APPLY]</b>  YES= 1 NO= 2	a. BEFORE FOOD PREPARATION	
		b. BEFORE EATING	
		c. BEFORE FEEDING CHILDREN	
		d. AFTER DEFECCATION	
		e. AFTER CLEANING BABY'S BOTTOM	
		161 f. OTHERS [SPECIFY] 162 163 _____ -	

9_6.	<p>The last time <b>[NAME OF INDEX CHILD]</b> passed stools, What was done to dispose of the stools?</p> <p><b>[IF STOOL WAS DISPOSED OF PLEASE ASK HOW]</b></p>	<p>CHILD USED TOILET OR LATRINE= 1          STOOL PUT/RINSED INTO TOILET OR LATRINE= 2          PUT/RINSED INTO DRAIN OR DITCH= 3          THROWN INTO GARBAGE= 4          BURIED= 5          LEFT IN THE OPEN= 6          OTHER=7  <b>[SPECIFY]</b>          _____          —</p>	
9_7.	<p>What is the <b>main</b> source of <b>drinking water</b> for this household?</p>	<p>164          165 DIRECTLY FROM RIVER/          LAKE/STREAM/DAM=1          RAINWATER= 2          UNPROTECTED WELL= 3          PROTECTED WELL= 4          BOREHOLE= 5          UNPROTECTED SPRING= 6          166 PROTECTED SPRING= 7          PUBLIC TAP= 8          OWN TAP= 9          167 OTHER TAP (EG FROM          NEARBY BUILDING)= 10          - WATER KIOSK= 11          - BOUGHT FROM OTHER          VENDOR= 12          - BOTTLED WATER= 13          OTHER= 14  <b>[SPECIFY]</b>          _____          -</p>	
9_8.	<p>How long does it take to go to the water source, get water, and come back?</p>	<p>168  <b>169 ENTER NUMBER OF MINUTES OR USE CODES BELOW</b>          170          171  __ __           172          173 ON PREMISES = 996          174 DON'T KNOW = 998</p>	
9_9.	<p>Thinking about today 2 years ago, has your water source changed or has it been improved?</p>	<p>YES, new water source. It is now closer=1 → go to 9_10          YES, new water source. It is now further out from my house=2 → go to 9_10          Same location for water source, improved quality=3 → go to 9_11          No=4 → go to 9_12</p>	

9_10.	Why has it changed? (do NOT read out aloud, rather listen and tick the corresponding answer)	New borehole was constructed=1 Old borehole previously not functioning was amended=2 Old borehole no longer working=3 Respondent moved=4 Old water source dried up=5 Old water source was contaminated=6 The available water sources didn't change, but for whatever circumstance the old one was too far/too dangerous=7 Other=8→ Other, specify: _____	
9_11.	How did the quality of the water improve?	New borehole was constructed=1 They are now treating the water=2 Other: specify _____	
9_12.	Do you treat your drinking water?	YES= 1 NO= 2>>9_14 175	
9_13.	What do you usually do to treat the water?  <b>RECORD ALL THAT APPLY</b>	BOIL=1 ADD BLEACH/CHLORINE=2 STRAIN THROUGH A CLOTH =3 USE WATER FILTER (CERAMIC/SAND/COMPOSITE/ETC.)=4 SOLAR DISINFECTION =5 LET IT STAND AND SETTLE =6  OTHER= 7 <b>[SPECIFY]</b> _____ DON'T KNOW =98	
9_14.	Main material of the roof?	ASBESTOS SHEETS= 1 ASBESTOS TILES=2 OTHER/NON-ASBESTOS TILES=3 IRON SHEETS= 4 GRASS/WOOD/THATCH=5 CONCRETE=6	
9_15.	Main material of the floor?	EARTH/SAND= 1 WOOD PLANKS= 2 PALM/BAMBOO= 3 FINISHED FLOOR (WOOD TILES, CONCRETE, VYNIL, ETC.) =4	
9_16.	Main material of the wall?	NATURAL WALLS (MUD, CANE, PALM, TRUNKS)= 1 RUDIMENTARY WALLS (STONE OR BAMBOO WITH MUD, ETC.)= 2 FINISHED WALLS (BRICKS, CEMENT, WOOD PLANKS, ETC.)= 3	

9_17.	Main type of energy for lighting?	KEROSENE/PARAFFIN= 1 ELECTRICITY= 2 SOLAR PANEL= 3 CANDLE= 4 DIESEL= 5 OPEN FIRE= 6 TORCH= 7 NONE= 8					
9_18.	Main type of energy for cooking?	FIREWOOD=1 CHARCOAL=2 COAL=3 KEROSINE/PARAFFIN=4 GAS=5 ELECTRICITY=6 SOLAR=7 CROP/LIVESTOCK RESIDUES=8					
9_19.	Does your household have any of the following durable items?  YES= 1 NO= 2	CLOCK					
		RADIO					
		PRESSING IRON					
		TELEVISION					
		BICYCLE					
		BED					
		MATTRESS					
		SOFA OR LOUNGE SUIT					
		CHAIR					
		TABLE					
		OX-CART					
		PLOUGH					
		OX-DRAWN HARROW					
		HAMMER MILL					
TREADLE PUMP							
CANOE OR BOAT							
FISHING NET							
AXE							
HOE							
9_20.	How much agricultural land does your household own? <b>[SEE APPENDIX 1 IN THE ENUMERATOR MANUAL FOR FIELD CONVERSIONS]</b>	(IN HECTARES)	<table border="1" style="width: 100%; height: 40px;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table>				
9_21.	For how long has your household been living in this location? <b>[RECORD ANSWER IN YEARS OR MONTHS]</b>	(YEARS)	<table border="1" style="width: 100%; height: 20px;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table>				
(MONTHS)	<table border="1" style="width: 100%; height: 20px;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table>						

<b>OR IN COMBINATION, AS NECESSARY]</b>			
9_22.	Does your household own livestock, poultry or any other farm animal?	YES= 1 NO= 2	NUMBER
	If yes, how many?		
	<b>[WRITE 2 IF NONE AND SKIP TO THE NEXT ANIMAL]</b>		
	CATTLE		
	HORSE/ DONKEY/ MULE		
	GOATS		
	SHEEP		
	PIGS		
POULTRY			
OTHER (SPECIFY)			

<b>SECTION 10: EXPOSURE TO FIRST 1000 DAYS ACTIVITIES</b> [ intended respondent]			
<b>Subsection A: Exposure to nutrition sensitization</b>			
10a_1.	In the past month, i.e. since [cite the date 30 days ago] has anyone talked or sensitized you around nutrition for you or your child?	YES=1 NO=2→ please prompt to make sure. Then skip to 10a_6	
10a_2.	How many times did someone sensitize you around nutrition in the past month?	Once=1 2-3 times= 2 More than 3 times=3	
10a_3.	Who talked to you about nutrition? Please select all that apply. These should be people who talked to you about nutrition in the past month only.	A community worker=1 <i>Specify: what kind of community worker?</i> _____ A nurse or health care worker=2 Someone from the district=3 Another government worker such as a teacher, CWAC, camp officer=4 Other=5; Specify	
<i>For each of the people who talked to them about nutrition, respond to the following questions:</i>			
10a_4a 1/10a_4a5.	You said that a community worker/nurse or HCW/someone from the district/another government worker/Other came and talked to you in the past month. How long was that event?  (if the nutrition talk was part of a bigger event, for example under-5, just ask for how long did they talk about nutrition)	Talked about nutrition for less than 5 minutes=1 5-15 minutes=2 15-30 minutes=3 More than 30 minutes=4	
10a_5b 1/10a_5b5	Where was that?  Do NOT prompt the answers, let respondent	At a SUN agricultural interest group meeting=1 During Under-5 (outreach or at clinic)=2 At home=3	

	answer freely and then tick appropriate answer	At an event called just for this purpose=4	
		At a women's agricultural group=5	
		At a cooking demonstration=6	
		Other=7: specify 7a	
10a_6	Now think back to up to 6 months ago, i.e., since [cite the date 6 months ago]. Beside the people you mentioned before, has anyone else talked about nutrition to you in these past 6 months?	YES=1	
		NO=2 → please prompt to make sure. Then skip to Subsection B	
10a_7.	How many times did someone sensitize you around nutrition in the past month? Count the ones you already mentioned in the past month if any, plus any other in the	Once=1	
		2-3 times= 2	
		More than 3 times=3	
10a_8.	Who talked to you about nutrition? Please select all that apply. These should be people who talked to you about nutrition in the past 6 months only- do not include the ones you have already mentioned before.	A community worker=1 <i>Specify: what kind of community worker?</i> _____	
		A nurse or health care worker=2	
		Someone from the district=3	
		Another government worker such as a teacher, CWAC, camp officer=4	
		Other=5; Specify	
<i>For each of the people who talked to them about nutrition, respond to the following questions:</i>			
10a_9a 1/10a_9a5.	You said that a community worker/nurse or HCW/someone from the district/another government worker/Other came and talked to you in the past month. How long was that event?  (if the nutrition talk was part of a bigger event, for example under-5, just ask	Talked about nutrition for less than 5 minutes=1	
		5-15 minutes=2	
		15-30 minutes=3	
		More than 30 minutes=4	

	for how long did they talk about nutrition)		
10a_10 b1/ 10a_10 b5	Where was that?  Do NOT prompt the answers, let respondent answer freely and then tick appropriate answer	At a SUN agricultural interest group meeting During Under-5 (outreach or at clinic) At home At an event called just for this purpose At a women's agricultural group At a cooking demonstration Other: specify _____	
<b>Subsection B: Exposure to agriculture trainings</b>			
10 b_ 1.	In the past month, i.e. since [cite the date 30 days ago] has anyone given you any training for agricultural inputs	YES=1 NO=2 → please prompt to make sure. Then skip to 10b_6	
10 b_ 2.	How many times did someone train you about agricultural inputs in the past month?	Once=1 2-3 times= 2 More than 3 times=3	
10b_3.	Who talked to you? Please select all that apply. These should be people who talked to you about nutrition in the past month only.	A community worker=1 <i>Specify: what kind of community worker?</i> _____ A nurse or health care worker=2 Someone from the district=3 Another government worker such as a teacher, CWAC, camp officer=4 Other=5; Specify	
<i>For each of the people who talked to them about agricultural trainings, respond to the following questions:</i>			
10b_4a 1/10b_ 4a5.	You said that a community worker/nurse or HCW/someone from the district/another government worker/Other came and talked to you in	Talked about nutrition for less than 5 minutes=1 5-15 minutes=2 15-30 minutes=3	



	the past month. How long was that event?  (if the nutrition talk was part of a bigger event, for example under-5, just ask for how long did they talk about nutrition)	More than 30 minutes=4	
10b_5 b1/10b_5b5	Where was that?  Do NOT prompt the answers, let respondent answer freely and then tick appropriate answer	At a SUN agricultural interest group meeting At a farmers' group (mixed men and women) At home At an event called just for this purpose At a women's agricultural group Other: specify _____	
10b_6	Now think back to up to 6 months ago, i.e., since [cite the date 6 months ago]. Beside the people you mentioned before, has anyone else trained you in agricultural inputs in these past 6 months?	YES=1  NO=2→ please prompt to make sure. Then skip to XX	
10b_7.	How many times did someone train you in agricultural inputs in the past 6 months? Count the ones you already mentioned in the past month if any, plus any other in the	Once=1 2-3 times= 2 More than 3 times=3	
10b_8.	Who talked to you about nutrition? Please select all that apply. These should be people who talked to you about nutrition in the past 6 months only- do not include the ones you have already mentioned before.	A community worker=1 <i>Specify: what kind of community worker?</i> _____ A nurse or health care worker=2 Someone from the district=3 Another government worker such as a teacher, CWAC, camp officer=4 Other=5; Specify _____	
For each of the people who talked to them about nutrition, respond to the following questions:			

10 b_ 9a 1/ 10 _9 a5 .	You said that a community worker/nurse or HCW/someone from the district/another government worker/Other came and talked to you in the past month. How long was that event?  (if the nutrition talk was part of a bigger event, for example under-5, just ask for how long did they talk about nutrition)	Talked about nutrition for less than 5 minutes=1 5-15 minutes=2 15-30 minutes=3 More than 30 minutes=4	
10 b_ 10 b1 /1 0b _1 0b 5	Where was that?  Do NOT prompt the answers, let respondent answer freely and then tick appropriate answer	At a SUN agricultural interest group meeting At a farmers' group (mixed men and women)t clinic At home At an event called just for this purpose At a women's agricultural group Other: specify	
<b>Subsection C: Exposure to ODF activities</b>			
10 c_ 1.	In the past month, i.e. since [cite the date 30 days ago] has anyone talked or sensitized you around issues of ODF, or around having a latrine and handwashing?	YES=1 NO=2→ please prompt to make sure. Then skip to 6	
10 c_ 2.	How many times did someone sensitize you around nutrition in the past month?	Once=1 2-3 times= 2 More than 3 times=3	
10 c_ 3.	Who talked to you this? Please select all that apply. These should be people who talked to you about nutrition in the past month only.	A community worker=1 <i>Specify: what kind of community worker?</i> _____  A nurse or health care worker=2 Someone from the district=3	

		Another government worker such as a teacher, CWAC, camp officer=4	
		Other=5; Specify	
<i>For each of the people who talked to them about odf training, respond to the following questions:</i>			
10c_4a 1/10c_4a5.	You said that a community worker/nurse or HCW/someone from the district/another government worker/Other came and talked to you in the past month. How long was that event?  (if the talk was part of a bigger event, for example under-5, just ask for how long did they talk about nutrition)	Talked about nutrition for less than 5 minutes=1 5-15 minutes=2 15-30 minutes=3 More than 30 minutes=4	
10c_5b 1/10c_5b5	Where was that?  Do NOT prompt the answers, let respondent answer freely and then tick appropriate answer	At a SUN agricultural interest group meeting=1 During Under-5 (outreach or at clinic)=2 At home=3 At an event called just for this purpose=4 At a women's agricultural group=5 At a cooking demonstration=6 Other=7: specify 7a	
10c_6	[Note: don't know if I should do this section on the 6 months back for everyone or only those who responded no to the one month- still TBD]  Now think back to up to 6 months ago, i.e., since [cite the date 6 months ago]. Beside the people you mentioned before, has anyone else talked about to you around issues of ODF, or around having a latrine and handwashing in these past 6 months?	YES=1 NO=2 → please prompt to make sure. Then skip to Subsection D	
10c_7.		Once=1	

	How many times did someone sensitize you around this in the past 6 months? Count the ones you already mentioned in the past month if any, plus any other in the	2-3 times= 2 More than 3 times=3	
10c_8.	Who talked to you about this? Please select all that apply. These should be people who talked to you about nutrition in the past 6 months only- do not include the ones you have already mentioned before.	A community worker=1 <i>Specify: what kind of community worker?</i> _____ A nurse or health care worker=2 Someone from the district=3 Another government worker such as a teacher, CWAC, camp officer=4 Other=5; Specify	
<i>For each of the people who talked to them about odf training, respond to the following questions:</i>			
10c_9a 1/10c_9a5.	You said that a community worker/nurse or HCW/someone from the district/another government worker/Other came and talked to you in the past month. How long was that event?  (if the talk was part of a bigger event, for example under-5, just ask for how long did they talk about nutrition)	Talked about nutrition for less than 5 minutes=1 5-15 minutes=2 15-30 minutes=3 More than 30 minutes=4	
10c_10 b1/10c_10b5	Where was that?  Do NOT prompt the answers, let respondent answer freely and then tick appropriate answer	At a SUN agricultural interest group meeting During Under-5 (outreach or at clinic) At home At an event called just for this purpose At a women's agricultural group At a cooking demonstration Other: specify _____	

10c_11	Do you know what ODF mean?  (Ask for definition then select appropriate answer based on their response)	Yes=1 No=2 → end of subsection	
10c_12	Do you know if you currently live in an ODF district?	I don't know=98 I don't live in an ODF district=1 I live in an ODF district=2	
<b>Subsection D: Exposure to cooking demos</b>			
10d_1.	In the past month, i.e. since [cite the date 30 days ago] have you participated into a cooking demo?	YES=1 NO=2 → go to 2	
10d_2.	What about in the past 6 months?	YES=1 NO=2 → please prompt to make sure. Then skip to next subsection	
10d_3.	Think back to the past 6 months, so since [date 6 months ago]. How many times did you participate into a cooking demo?	Once=1 2-3 times= 2 More than 3 times=3	

**Subsection E: Agricultural Inputs**

In the past 12 months, i.e. since [cite the date 1 year ago] have you received any of the following agricultural or livestock inputs that you did not buy?

	Input	Was this a pass-on from another community member?	How many units?	What was the monetary value?	Who was the sponsor?	What happened with it?
10e_1.	Goats YES=1 NO=2 If no skip to next item	YES, pass-on=1 NO, directly from district or	# goats: ____	ZMW ____ —	The government, no help from other funders=1 The SUN through the government=2 Some other funder (ex WFP, UNICEF) through the government=3	How many of these goats you received are: Slaughtered for consumption: number ____ Lost due to death: number ____

			sponsor= 2			An NGO directly=4 → Which one, specify:  I don't know=98	Sold (all or part of it)  Still alive
10e_2.	Chicken	YES=1 NO=2 If no skip to next item	YES, pass- on=1 NO, directly from district or sponsor= 2	# chickens:  _____	ZMW _____  —	The government, no help from other funders=1 The SUN through the government=2 Some other funder (ex WFP, UNICEF) through the government=3 An NGO directly=4 → Which one, specify:  I don't know=98	How many of these chickens you received are: Slaughtered for consumption: number _____ Lost due to death: number _____ Sold (all or part of it)  Still alive
10e_3.	Fruit trees	YES=1 NO=2 If no skip to next item	YES, pass- on=1 NO, directly from district or sponsor= 2	# fruit trees:  _____	ZMW _____  —	The government, no help from other funders=1 The SUN through the government=2 Some other funder (ex WFP, UNICEF) through the government=3 An NGO directly=4 → Which one, specify:  I don't know=98	How many of these fruit trees you received are: Cut for consumption: number _____ Died/lost: number _____ Sold _____ Still alive
10e_4.	Beans to plant	YES=1 NO=2 If no skip to next item	YES, pass- on=1 NO, directly from district or sponsor= 2	# Kgs  _____	ZMW _____  —	The government, no help from other funders=1 The SUN through the government=2 Some other funder (ex WFP, UNICEF) through the government=3 An NGO directly=4 → Which one, specify:  I don't know=98	Have you already harvested: 1= YES 2= NO  If yes, how much did you harvest: _____ Kgs How much did you consume: _____ Kgs How much did you sell: _____ Kgs How much did you store: _____ Kgs
10e_5.	Orange maize	YES=1 NO=2 If no skip to next item	YES, pass- on=1 NO, directly from	# Kgs  _____	ZMW _____  —	The government, no help from other funders=1 The SUN through the government=2 Some other funder (ex WFP, UNICEF) through the government=3	Have you already harvested: 1= YES 2= NO  If yes, how much did you harvest:

			district or sponsor=2			An NGO directly=4 → Which one, specify: _____ I don't know=98	____ Kgs How much did you consume: ____ Kgs How much did you sell: ____ Kgs How much did you store: ____ Kgs
10e_6.	Groundnuts	YES=1 NO=2 If no skip to next item	YES, pass-on=1 NO, directly from district or sponsor=2	# Kgs _____	ZMW ____ —	The government, no help from other funders=1 The SUN through the government=2 Some other funder (ex WFP, UNICEF) through the government=3 An NGO directly=4 → Which one, specify: _____ I don't know=98	Have you already harvested: 1= YES 2= NO  If yes, how much did you harvest: ____ Kgs How much did you consume: ____ Kgs How much did you sell: ____ Kgs How much did you store: ____ Kgs
10e_7.	Other crops: specify  (example , orange fleshed sweet potato)	YES=1 NO=2 If no skip to next item	YES, pass-on=1 NO, directly from district or sponsor=2		ZMW ____ —	The government, no help from other funders=1 The SUN through the government=2 Some other funder (ex WFP, UNICEF) through the government=3 An NGO directly=4 → Which one, specify: _____ I don't know=98	Have you already harvested: 1= YES 2= NO  If yes, how much did you harvest: ____ Kgs How much did you consume: ____ Kgs How much did you sell: ____ Kgs How much did you store: ____ Kgs
10e_8.	Other crops: specify:	YES=1 NO=2 If no skip to next item	YES, pass-on=1 NO, directly from district or sponsor=2		ZMW ____ —	The government, no help from other funders=1 The SUN through the government=2 Some other funder (ex WFP, UNICEF) through the government=3 An NGO directly=4 → Which one, specify: _____ I don't know=98	Have you already harvested: 1= YES 2= NO  If yes, how much did you harvest: ____ Kgs How much did you consume: ____ Kgs How much did you sell: ____ Kgs

							How much did you store: ____Kgs
10e_9.	Vegetables (seedlings or the same vegetable to plant)	YES=1 NO=2 If no skip to next item	YES, pass-on=1 NO, directly from district or sponsor=2		ZMW ____ —	The government, no help from other funders=1 The SUN through the government=2 Some other funder (ex WFP, UNICEF) through the government=3 An NGO directly=4 → Which one, specify: _____ I don't know=98	
10e_10	Fish fingerlings	YES=1 NO=2 If no skip to next item	YES, pass-on=1 NO, directly from district or sponsor=2		ZMW ____ —	The government, no help from other funders=1 The SUN through the government=2 Some other funder (ex WFP, UNICEF) through the government=3 An NGO directly=4 → Which one, specify: _____ I don't know=98	Since you received them, have you consumed or sold any of the fish? Number of fish consumed _____ Number of fish sold _____ Not yet consumed or sold _____
10e_11	Other	YES=1 NO=2 If no skip to next item	YES, pass-on=1 NO, directly from district or sponsor=2		ZMW ____ —	The government, no help from other funders=1 The SUN through the government=2 Some other funder (ex WFP, UNICEF) through the government=3 An NGO directly=4 → Which one, specify: _____ I don't know=98	



SECTION 11: SELF ASSESSED POVERTY AND FOOD SECURITY							
[Intended respondent]							
INTRODUCTION: I am now going to ask about your household welfare.							
11_1.	Do you consider your household to be non-poor, moderately poor or very poor?	NON POOR= 1 176 MODERATELY POOR= 2 VERY POOR= 3		11_8.	In the <b>past four weeks</b> , did you or any household member have to eat some foods that you really did not want to eat because of a lack of resources to obtain other types of food?		
11_2.	Compared to <b>12 months ago</b> , do you consider your household to be better off, the same or worse off now?	BETTER OFF= 1 THE SAME= 2 WORSE OFF= 3 NOT APPLICABLE= 4		11_9.	In the <b>past four weeks</b> , did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food?	NO= 0 RARELY (ONCE OR TWICE)=1 SOMETIMES (THREE TO TEN TIMES)= 2	
11_3.	How many meals excluding snacks do you normally have in a day?	ONE= 1 TWO= 2 THREE= 3 - MORE THAN THREE= 4		11_10.	In the <b>past four weeks</b> , did you or any household member have to eat fewer meals in a day because there was not enough food?	OFTEN (MORE THAN TEN TIMES)= 3	
11_4.	How many times in the <b>past four weeks</b> did your household eat fish, poultry or animal products?	ZERO= 1 ONCE= 2 TWICE= 3 THRICE= 4 FOUR TIMES= 5 FIVE TIMES= 6 MORE THAN FIVE TIMES= 7		11_11.	In the <b>past four weeks</b> , was there ever no food to eat of any kind in your household because of lack of resources to get food?		

11_5.	How many times in the <b>past one week</b> did your household eat vegetables?			11_12.	In the <b>past four weeks</b> , did you or any household member go to sleep at night hungry because there was not enough food?		
11_6.	In the <b>past 4 weeks</b> , did you worry that your household would not have enough food?  [FIRST PROMPT FOR 'YES' OR 'NO'. IF 'YES', ASK HOW OFTEN]	NO= 0 RARELY (ONCE OR TWICE)=1 SOMETIMES (THREE TO TEN TIMES)= 2 OFTEN (MORE THAN TEN TIMES)= 3		11_13.	In the <b>past four weeks</b> , did you or any household member go a whole day and night without eating anything because there was not enough food?		
11_7.	In the <b>past 4 weeks</b> , were you or any household member not able to eat the kinds of food you preferred because of a lack of resources?	NO= 0 RARELY (ONCE OR TWICE)=1 SOMETIMES (THREE TO TEN TIMES)= 2 OFTEN (MORE THAN TEN TIMES)= 3		11_13a.	In the <b>past four weeks</b> , did you or any household member have to eat a limited variety of foods due to a lack of resources?		

SECTION 12: ACCESS TO FACILITIES AND PROGRAMS [Intended respondent]									
	12_1.	12_2.			12_3.	12_4.	12_5.	12_6.	
Name of government program	<p><b>In the last 12 months</b>, has any member of your household received money or goods, including food, clothing, livestock or medicines from any of the following government programs</p> <p>1=YES 2=NO&gt;&gt;NEXT PROGRAM/12_3</p>	<p>What is the total value of assistance received from this program <b>in the last 12 months</b>?</p> <p>[CONVERT IN-KIND ASSISTANCE TO KWACHA.]</p> <p>KWACHA&gt;&gt;NEXT PROGRAM</p> <p>ZMW NGWEE</p>			<p><b>In the last 12 months</b> has any member of your household received money or goods, including food, clothing, livestock or medicines from any NGO, church or other non-government group?</p> <p>1=YES 2=NO&gt;&gt;12_5</p>	<p>What is the total value of assistance received from all these non-government sources <b>in the last 12 months</b>?</p> <p>[CONVERT IN-KIND ASSISTANCE TO KWACHA.]</p> <p>ZMW NGWEE</p>	<p><b>In the last 12 months</b>, has any member of your household received money or goods, including food, clothing, livestock or medicines from individuals who are not part of your household?</p> <p>1=YES 2-NO&gt;&gt;NEXT SECTION</p>	<p>What is the total value of assistance received from all these non-household members <b>in the last 12 months</b>?</p> <p>[CONVERT IN-KIND ASSISTANCE TO KWACHA.]</p> <p>ZMW NGWEE</p>	
12_1a. FARM INPUT SUBSIDY PROGRAM (FISP)		12_2a.							
12_1b. PWAS		12_2b.							
12_1c. CASH TRANSFER PROGRAM		12_2c.							

12_1d. OTHER SPECIFY 1		12_2d.							
12_1e. OTHER SPECIFY		12_2e.							
12_1f. OTHER SPECIFY		12_2f.							

SECTION 13: CHILD ANTHROPOMETRICS [TO BE COMPLETED FOR index child]			
13_2.	13_2_1	13_2_2	13_2_3
177 Enumerator check if the child has bilateral oedema or not. 178 179 180 YES=1 NO=2 181 Don't Know=98	182 Weight in Kilograms. 183 184 <b>USE ONE                      DECIMAL PLACE.</b> 185 186  __  __ . __ -	187 Height in centimetres. 188 <b>[FOR                      CHILDREN 0-23                      MONTHS MEASURE                      HEIGHT LYING                      DOWN.                      FOR CHILDREN AGE                      24 MONTHS                      MEASURE HEIGHT                      STANDING UP.]</b> 189 190 <b>USE ONE                      DECIMAL PLACE.</b> 191 192  __  __  __  . __	193 How is height captured? 194 195 LYING DOWN....1 196 STANDING UP....2 197 NOT CAPTURED...3 198 199 200

THE END OF INTERVIEW

## Annex C: 1000 Days Endline Research: Beneficiary In-Depth-Interview Guide

### Module/informant grid

Priority Intervention	Pregnant	4-6 months	7-24 months
Dietary diversity	X	X	X
IFA	X		
BF		X	X
Access to nutritious foods	X	X	X
Growth monitoring		X	X
CF			X
Deworming	X		X
Vitamin A			X
IMAM		X	X
WASH	X	X	X
Nutrition-sensitive messaging	X	X	X
Zinc			X

### General Questions

1. Have you ever heard of the 1000 Days programme? Some people call it the SUN programme.
  - a. If yes, please tell us what you know about it. Why is it called First 1000 Days?
  - b. What is the WNCC and what does it do in this community?
2. From what sources do you get information about nutrition, health, pregnancy or child feeding?
  - a. What kind of information do you receive? What have you learned?
3. Who is doing nutrition work in this community? Can you describe any nutrition work done in this community (*please prompt for home visits, "under-5" days, sensitizations*)
4. What is stunting? Do you think stunting is a big problem in your community? If yes, what kinds of things are being done to reduce or prevent it?

### Journey Mapping

Have you attended a clinic for antenatal visits, or for Deworming, Vitamin A, IMAM, or Zinc **in the past month? Which of these services did you receive?** *If they did not attend for any these services, skip this section.*

I'd like for you to take me through your last experience going to the clinic to receive [*name the PI-related services they mentioned receiving in the past month*].

1. Which clinic did you attend for (antenatal visits/Deworming/Vitamin A/IMAM/Zinc)?
2. What prompted you to go to the clinic?
3. Who typically goes to the clinic for these specific services? Do other family members ever take your baby, or go with you?
4. How long does it take you to get to the clinic? Do you travel by foot, bicycle, or car?
5. Do you have to pay for transportation?
  - a. If so, how much?
6. What happens once you arrive at the clinic?
7. How long do you wait to see someone at the clinic?
8. What happens next?
9. How many times do you have to wait during the same visit in order to receive different services? Please describe.
10. Please describe your interactions with staff at the clinic.
11. Does the clinic have enough supplies (like iron tablets, zinc tablets, or vitamin A capsules) for the services you/your baby need? *If not: what happens?*
12. What time do you arrive and around what time have you been treated? Do you return home right away? (*please prompt for total amount of time spent at clinic if unclear*)
13. What do you like best about your experience attending the clinic?
14. What about your experience attending the clinic is the most difficult, or in need of improvement?

## **Priority Intervention Questions (please consult grid above)**

### **Dietary Diversity**

1. Have you received any sensitization on the importance of a diverse diet?
  - a. Where did you receive this? Was it a meeting? Please describe. Did you receive it more than once?
  - b. Why are diverse diets important?
  - c. What topics were discussed in these sensitizations?

- d. Was there anything you would have preferred to be different about the sensitization?  
Other things you would have liked to learn?
2. Please tell us about any difficulties you might have putting into practice the things you have learned about diverse diets.
3. Have you attended any cooking demonstrations about diverse diets?
  - a. If so, who organized it and who was there? Was it part of another event?
  - b. Can you tell me what things you learned in the cooking demonstration?
  - c. Where was the cooking demonstration held? Was it nearby or far away?
  - d. Was there anything you would have preferred to be different about the demonstration?  
Other things you would have liked to learn?

**IFA**

4. Did you take or are you taking IFA during pregnancy? Please tell us about your experience receiving iron and folic acid (IFA) during pregnancy.
  - a. Did you take all the IFA you were given? Please explain why if you did not.
5. *If already delivered:* Was there enough IFA to cover the whole period?
6. *If currently pregnant:* When you visit the clinic for IFA do they give you enough until your next visit?
7. What was explained to you about using the IFA? Please tell us about the explanation you were given.
8. Please tell us about receiving IFA in other pregnancies (*probe on this according to answers provided in preceding question*)
  - a. If yes, which ones?

**BF**

9. Please describe any sensitization meetings about breastfeeding you have received.
  - a. What have you learned?
10. What have you learned (and from whom) about starting breastfeeding soon after the baby is born?
  - a. How long after the baby is born should you put the baby to your breast?
  - b. Why is it important to do this?
  - c. How easy or difficult was it for you to do this?
11. How many months are you supposed to feed the baby from the breast only? Where did you learn this from?



- a. What does exclusive breastfeeding mean to you? What fluids or foods can you give your child during exclusive BF?
  - b. Are you practicing exclusive breastfeeding?
  - c. How easy or difficult was it for you to do this?
  - d. Can you tell us why exclusive breastfeeding is important?
12. What type of help or support do you receive (if any) from your family members when you need to breastfeed the baby? *(such as husband assisting in the home)*

### **Access to nutritious foods**

13. What agriculture/fruit or livestock or fish farming groups in this village? Are there any women's groups in this village?
14. When were these groups started?
15. Have you received any inputs: agricultural/fruit, or livestock, or fish for fish farming?
16. Who in this community has received inputs? Do you know any women who didn't get inputs?
17. Do you think distribution has been fair? Please explain why or why not.
18. What have you done with the inputs *(please be specific—prompt to ask about any sale of inputs)*?
19. What kind of sensitization have you received about the inputs?
20. How have these inputs changed the amount of food you eat, or the range of different foods you eat?

### **CF**

21. What kind of sensitization have you received on the importance of a good complementary feeding?
  - a. Where did you receive this? Was it a meeting? Please describe.
  - b. What did you learn in this sensitization? What is good complementary feeding?

### **NOW DO THE FOOD CARD EXERCISE (ATTACHED AT END OF GUIDE)**

22. Are you able to put into practice the things you have learned? Please explain any difficulties you may have.
23. Have you attended any cooking demonstrations about complementary feeding?

- a. If so, who organized it and who was there? Was it part of another event?
- b. Can you tell me what things you learned in the cooking demonstration?
- c. Where was the cooking demonstration held? Was it nearby?
- d. Was there anything you would have preferred to be different about the demonstration?

### **Deworming**

24. When was the last time you received deworming treatment? When was the last time your children received deworming treatment?
25. Do you know why deworming is important? Was this explained to you? Was it explained to you how we get worms in our bodies? How can we avoid getting worms?

### **Vitamin A**

26. Have you received any Vitamin A?
27. Why is Vitamin A important? How else can we get Vitamin A, other than through capsules?
28. When was the last time your youngest child received Vitamin A?

### **Growth monitoring**

29. How often is your youngest child weighed, either in the village or in the clinic?
  - a. When was this done the last time?
30. Can you tell me about this experience when you child was weighed? Was the child's length also measured? How often is the child's length measured?
31. Have you ever been told that your child is malnourished or too small?
32. Who told you this? How did they decide this?
33. Please can you show me your Under-5 card?

### **IMAM**

34. Have you ever been told that any of your children were suffering from acute malnutrition?
35. How was this condition identified? Did they use the MUAC tape?
36. How was this explained to you? Do you understand why they use it? What did you learn?
37. What counselling did you receive about how to care for your child?
38. Did the child receive any special foods or liquids or medicines? Please describe.

39. Please describe any advice you were given on how to avoid malnutrition in the future?

#### WASH

40. Where do you obtain your household water from?

41. Have any new boreholes been installed in this community? Or have any boreholes been repaired that weren't previously working? (*Probe for who/what organization installed or repaired the borehole*)

**42. Researchers: please observe and note presence or absence of a pit latrine and handwashing station at informant's home, if the interview is conducted there. Otherwise, please ask informant whether she has these facilities.**

43. What training or sensitization about hand-washing or open defecation have you received? What have you learned?

44. Has anyone visited you at home to talk about open defecation free communities?

45. If you have any school-going children, can you tell us what kind of sensitization on hygiene they received in school? Have they talked about this at home and what did they say?

#### Nutrition-sensitive messaging

46. Do you benefit from any kind of social programme? (such as cash transfer/grants, for example Social Cash Transfer or Food Pack). If yes, is the programme affiliated with SUN or separate?

a. If so, do you ever hear about nutrition as part of that programme? (for example, on payment days or through the CWACs)

47. Do you ever hear about nutrition issues *anywhere other than* the health centre and the places you previously mentioned?

#### Zinc

48. Have any of your children suffered from diarrhea during the last 6 months?

a. If so, what did you do the last time that your child had diarrhea?

b. Have you ever brought your child to the health centre because of diarrhea? If yes, what did they do there?

49. Were they given zinc as part of this treatment?

50. Was the use of the zinc explained to you? Did you understand how much and how often to give zinc to your child?

#### QUESTIONS FOR MEN

1. Have you ever heard of the First 1000 Days programme? Some people call it the SUN program.
  - a. If yes, please tell us what you know about it. Why is it called First 1000 Days?
  - b. What is the WNCC and what does it do in this community?
2. Who is doing nutrition work in this community? Can you describe any nutrition work done in this community (*please prompt for home visits, under-5 days, sensitizations*)
3. Please tell us about any SUN programme activities in this community. Which ones of these have you participated in? What kinds of things have you learned?
4. Please share with us anything your wife has told you about nutrition.
5. Please tell us about any other sources where you have heard any nutrition information.
6. Please tell us about any ways in which you participate in childcare activities (*researchers, prompt for feeding, changing, washing, playing, supervising, attending clinic either to accompany wife or child, care of sick children or wife, under-5*).
7. Please share with us any ways you support your wife in breastfeeding (*prompt for doing household chores and making sure she has plenty of rest and nutritious food*).
  - a. After how long should a child first be put on the breast to suckle following birth?
  - b. What does exclusive breastfeeding mean, and how long should it be done?
8. Please tell us about any ways in which you help:
  - a. Your wife to eat a range of nutritious foods;
  - b. Your young child to eat a range of nutritious foods.
9. Please describe any hygiene and washing facilities you have built at your home and explain why.

## **NOW DO THE FOOD CARD EXERCISE WITH THE HUSBAND**

### **FOOD CARD EXERCISE**

For this activity, you will use the deck of food cards which you have been provided. Please begin by explaining to the caregiver that you are going to play a game: you will place all the cards face-up on the ground or on a table, and her or his job will be to 'build' two 'most nutritious' meals for a child older than 6 months, and one nutritious meal for a pregnant woman. Please also check that s/he is familiar with the foods depicted on the cards. If the index child is an appropriate age (6-23 months) you can refer to the index child. If the index child is in the 0-5 month range, you could say "please make the most nutritious meals which you could feed to the baby when s/he is one year old". Each meal should be made up of three cards chosen by the caregiver, and after each meal is 'built', you should:

- a) Note the cards chosen on the grid below,

- b) Initiate a discussion about the reasons for the choices, noting these down on the grid below. In the discussion, ask how many meals should ideally be fed to the child, and to a pregnant woman,
- c) Remove the cards used from the deck,
- d) Ask the caregiver to 'build' another child meal, noting the cards chosen on the grid,
- e) Return all the cards to the deck and repeat the activity, asking the caregiver to 'build' one pregnant woman's meal. Note the results below.

*Response grid, food card grouping activity*

Child Meal 1		
First food	Second food	Third food
Discussion (including ideal number of meals)		
Child Meal 2		
First food	Second food	Third food
Discussion		
Meal for Pregnant Woman		
First food	Second food	Third food
Discussion (including ideal number of meals)		

## Annex D: 1000 Days Qualitative Endline Research Coding Outline

### 1000 Days Qualitative Endline Research Coding Outline

- I. Awareness and description of 1000 Days/SUN programme
  - a. Description of program
  - b. General awareness of nutrition
- II. Awareness of WNCC
- III. Information sources
- IV. Awareness of stunting
- V. Journey map
  - a. Journey and practical issues
  - b. Experience at clinic
    - i. Waiting
    - ii. Strengths
    - iii. Challenges
  - c. Clinic resources
- VI. Dietary Diversity
  - a. Activities
    - i. Description
    - ii. Challenges
  - b. Awareness of Dietary Diversity
- VII. IFA
  - a. Activities
    - i. Description
    - ii. Challenges
  - b. Knowledge about IFA
  - c. Inputs received
- VIII. Breast Feeding
  - a. Activities
  - b. Knowledge about exclusive BF
  - c. Practice of exclusive BF
- IX. Access to Nutritious Foods
  - a. Activities
    - i. Description of village groups
    - ii. Sensitization
    - iii. Challenges
  - b. Inputs received
    - i. Fairness of distribution

- ii. Use of inputs
    - c. Perceived influence of inputs
- X. Complementary Feeding
  - a. Activities
  - b. Knowledge about CF
- XI. Deworming
  - a. Activities
  - b. Knowledge about deworming
- XII. Vitamin A
  - a. Knowledge about Vitamin A
  - b. Inputs received
- XIII. Growth Monitoring
  - a. Activities
  - b. Knowledge about growth monitoring
  - c. Under 5 cards
  - d. Access to height boards and scales
- XIV. IMAM
  - a. Activities
    - i. Description
    - ii. Challenges
  - b. Knowledge about MUAC tape
- XV. WASH
  - a. Activities
    - i. Description
    - ii. Training and sensitization
    - iii. Challenges
  - b. Knowledge about WASH
  - c. Access to water and latrines
- XVI. Nutrition-Sensitive Messaging
  - a. Involvement in FISP, cash transfer, other program
  - b. Sensitization from other programs
- XVII. Zinc
  - a. Activities
  - b. Knowledge about Zinc
  - c. Inputs received
- XVIII. Topics discussed only by Men
  - a. Participation in childcare activities
  - b. Support for wife in BF
  - c. Support for access to nutritious foods

## Annex E: Terms of Reference\_Zambia 1000 MCDP



<b>Title:</b>	Evaluation of the “Tackling Maternal and Child Undernutrition in Zambia” programme
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### 1. Background

DFID, on behalf of Government of Zambia and other donors, wishes to secure the services of a highly qualified evaluation firm to design and conduct an evaluation of the 1000 Days Programme in a selected number of districts. The purpose of the evaluation is to assess to what extent the adoption of a multi-sectoral approach to nutrition with “bundled,” as opposed to peace-meal, nutrition interventions has contributed to improved health and nutrition outcomes.

#### Undernutrition in Zambia

Zambia has one of the highest rates of childhood undernutrition in the world:

- **46% of under-5 children are stunted** (too short for their age), **5%** acutely malnourished (too thin for their height) and **15%** underweight (too thin for their age).
- **53%** of children have Vitamin A deficiency and **46%** have iron deficiency anaemia.
- **9.3% of the children are born underweight** indicating poor maternal nutrition.

UNICEF estimates that undernutrition contributes to up to 50% of deaths among children under five in Zambia. Globally, under-nutrition is thought to account for a third of child deaths. In addition, the damage caused by poor neo-natal and infant nutrition during the first two years of life is largely irreversible.

Decisively tackling undernutrition in Zambia needs a response that cuts across health, local government and other sectors. DFID has advocated for this “multi-sector” response internationally, launching a Nutrition Position Paper at the UN General Assembly in September 2011. DFID is a major supporter of the international Scaling Up Nutrition (SUN) movement.

DFID and other donors are planning to provide substantial resources (about US\$25 million) to support the implementation of the new national “First 1000 Most Critical Days Programme” in at least 14 districts. Funding from DFID, Irish Aid and other donors will be channelled through a Scaling Up Nutrition Fund to coordinate resources and support to national programme priorities.



The programme will provide funding for:

1. Provision of a minimum package of evidence-based direct nutrition interventions, including: promotion of exclusive breastfeeding and appropriate complementary feeding; distribution of Vitamin A, iron and folic acid supplements; distribution of multiple micronutrients; promotion of nutritionally adequate diets for pregnant and adolescent women; (note: there are still discussions on the minimum package but this is likely to consist of about 5-6 direct nutrition interventions);
2. Support selected nutrition-sensitive interventions such as homestead food production and crop diversification for improved household dietary consumption and linkages with the identified nutrition interventions (e.g. existing social protection programmes in intervention areas);
3. Build long-term Zambian institutional capacity through technical assistance to key line Ministries and the National Food & Nutrition Commission which is mandated to coordinate nutrition across Government;
4. Research to build the evidence base of how best to scale up what works to tackle undernutrition in Zambia.

Whilst there is a large body of evidence on the impact of individual health nutrition interventions, there is limited evidence on the impact of their combination or of “bundles” of individual interventions. Because this is a new national programme whereby a **package of nutrition interventions will be provided to the same target groups in a phased manner**, it will be important to make some comparison between selected phase 1 districts with areas where the programme will be rolled out at a later stage to assess whether the programme is having any impact. The evaluation will also ensure that implementation lessons are captured and inform the planned programme scale up by the Government of Zambia.

The package of interventions consists of a sub-set of the Lancet interventions identified as the best buys for nutrition together with some nutrition sensitive interventions (promotion of breast-feeding & complementary feeding practices, promotion of good diet and care for pregnant & lactating mothers; micronutrient supplementation & fortification; promotion of hygiene practices and use of preventive healthcare; interventions to increase dietary diversification at household level). Given that the revised 2013 Lancet series highlights 10 interventions as opposed to 13 as in the 2009 series, there are still discussions on the minimum package that Zambia should provide (a national consultation meeting to agree this package is scheduled for September 2013). The plan is to scale up this package to reach 80-90% coverage at least in the 14 phase one districts to begin with. District gap analysis and the development of nutrition district plans are underway in the first phase districts. This will help programme implementation planning. The objective of the evaluation is not to evaluate single interventions but the selected minimum package and the added benefit of ensuring linkages with selected nutrition-sensitive interventions.

There might be potentially different “bundles” but this is still subject to discussion and it is probably best to avoid excessive complexity.

Most of the interventions that need to be woven into the First 1000 MCD Programme already exist in some form, ranging from advocacy and planning for flour fortification to initial trials with micronutrient powders, to well-established national programmes such as Vitamin A supplementation and deworming.

This is initially a 3-year programme (2013 to 2016), with implementation scheduled to start in at least 7 districts during 2014 and to cover 14 districts by 2016. An extension of the project to 2017 might be possible based on performance and given the time needed to start effective implementation. Thereafter it is expected that the Zambian government will scale up successful interventions nationwide. DFID would like the evaluation design to inform and occur in parallel with discussions on the package to be rolled out in first phase districts.

## 2. Purpose, Objectives and Scope of the evaluation

### Purpose and Rationale

Although overall evidence of what nutrition interventions work is strong (The Lancet series 2008 & 2013), evidence on how to deliver an integrated package at scale and in the most cost-effective ways is weak. To see whether the 1000 Days Programme package of interventions works and how it can be scaled up nationally, **a mixed methods evaluation** will be undertaken to assess impact and collect information from the entire casual chain to better understand what works and how. Findings from the evaluation will be used to inform national scale up of the 1000 Days Programme. The evaluation will include:

- 1) A **process evaluation** to test some of the assumptions made in the programme design about what is needed to lead to the desired change and determine whether target populations are being reached, people are receiving the intended services, and staff are adequately trained. In essence, the process evaluation would look at the process of implementing the 1000 MCD programme, looking at policy instruments, service delivery mechanisms, management practices, and the links between these.
- 2) A **selection of qualitative studies** focused on specific issues. These will be closely linked to the evaluation design and questions. They will also act as stand-alone studies and be expected to feed into the process evaluation. Where information gaps exist, they will focus on the nature and experience of poverty and under-nutrition, including access to food, dietary and feeding practices, and behavioural issues. This should be conducted at the very start of the

implementation of the overall evaluation framework to help design context-specific approaches and identify where and for which target groups, linkages with existing social protection programmes are needed.

- 3) A **before-after evaluation** by conducting baselines and endline surveys in a selection of districts to track selected intermediate and impact indicators to assess the change that has happened as a result of the programme. WHO plans to provide about US\$120,000 directly to the NFNC to support baseline and follow up surveys over a period of three years. This funding will therefore complement DFID funds. The baseline surveys should therefore be designed in collaboration with NFNC and take into account the additional WHO funds. WHO support also includes some funding to establish nutrition sentinel sites in all 14 districts. The target group will be 0 to 24 month's children and their mothers/carers. The sentinel sites are expected to collect and monitor the following nutrition data on an annual basis: height-for-age, weight- for-age, MUAC, Vitamin A supplementation and deworming, as well as any nutritional supplementations, to establish trends.

### Target audience

The key users of the evaluation will be policy makers (Ministry of Health, Ministry of Community Development Mother and Child Health, Ministry of Agriculture, National Food and Nutrition Commission), cooperating partners (DFID, Irish Aid, WB, UNICEF), implementing agencies and bodies (Non-governmental Organisations, Community Based Organisations, district health and nutrition teams) and the beneficiaries themselves. It is expected that the programme will generate evidence for dissemination internationally.

### Evaluation questions to be answered by the study

Through a mixed methods approach, and piggy-backing on available nutrition data and the WHO planned support, **the study seeks to answer a number of questions, including:** "To what extent has the adoption of a multi-sectoral approach to nutrition with "bundled" interventions contributed to improved health and nutrition outcomes? To what extent is this approach scalable in the Zambian context?" What is the optimal set of additional services that should be included with the minimal "bundle" of interventions for Zambia?

The evaluation should measure whether improvements in nutrition and health indicators have been made over a period of change and are *likely* to be attributable to the programme. Suggested indicators include:

Higher level outcomes:

- Prevalence of Vitamin A and iron deficiency

- Selected anthropometry indicators
- Food security and dietary diversity: improvement in the average Household Food Insecurity Access Score (HFIAS) and in the Index-Member Dietary Diversity Score (IDDS).

Intermediate outputs:

- % of health workers trained in nutrition and the 1000 days
- % of scheduled outreach visits undertaken
- % of health centres with no iron, ORS and zinc stock-outs
- % of households with soap for hand-washing
- % of new-borns breast-fed within one hour of birth
- % of children fed in line with IYCF guidelines
- % of pregnant women who receive IFA supplements
- % of pregnant & lactating women who have an adequate diet

The evaluation should answer whether outcomes and outputs have been broadly achieved. A number of suggested questions are provided below for the bidders to refine and decide how best to answer them in discussions with stakeholders:

- *Relevance*
  - What is the combined effect of the interventions under the programme?
  - To what extent can his approach be scaled up?
  - To what extent do the different interventions meet the need of different groups (e.g. vulnerable disadvantaged or socially excluded groups)?
- *Effectiveness*
  - Which interventions have worked well in which contexts and why?
  - What has been the value added of the different approaches?
  - Do the assumptions in the programmes Theory of Change hold true?
  - Have women in programme areas who are pregnant or have children under five increased their nutrition knowledge?
- *Efficiency*
  - Does the multi-sectoral approach provide value for money?
  - Are the results (output and outcome) achieved relative to the investment?
- *Sustainability*

- Are the changes at outcome level likely to be sustained?
- What are the positive and negative factors that determine the sustainability of the outcomes?

### Gender issues to be addressed

In Zambia, women and female siblings are the primary carers of children under two. The qualitative component will explore feeding practices and behavioural issues among women and girls with caring responsibilities, as well as perceptions about available nutrition services, use and access to services as a result of the programme's intensified efforts. This component should also explore time spent/available for mothers and carers to feed their children in accordance with Infant and Young Child Feeding guidelines, as well as what sources of energy are used for cooking (access).

The objective of this component will be to understand current practices and identify potential barriers to better infant and young child feeding (building on information already available to avoid duplication). The evaluation will also provide recommendations to address barriers and improve programme implementation where needed.

### **3. Proposed methodology**

We do not want to prescribe detailed methodologies at this stage. The evaluation provider will be expected to develop a detailed methodology for this evaluation in a consultative manner during the two-month inception period. However, the bidders will need to submit a draft methodology to meet these ToRs.

It is envisaged that the evaluation will be undertaken **in a selection of districts** and that the unit of analysis will be the household, to see whether programme implementation is working as planned, identify bottlenecks and address these throughout, as well as whether changes in nutritional status have occurred. As such, it will probably not be feasible to randomise at this level given political and practical constraints.

The methodology will display an excellent understanding of the availability and quality of existing datasets, at national and sub-national level, and use this understanding in developing an appropriate balance of secondary data analysis and primary data collection.

The Evaluation approaches could include:

- A Process Evaluation which will include an assessment as to whether the programme is being implemented as planned and use the data and information from the surveys and qualitative studies (whether to do this

throughout or towards the end of the programme should be discussed with the evaluators).

An impact evaluation in selected programme sites/districts assessing the *Improved nutritional status of children under 5*.

On-going qualitative studies focusing on specific questions and topics

A synthesis study which will draw together all of the findings and provide recommendations for scale up.

Evaluation Methods will include:

Scoping of existing datasets at national and sub-national level – and where possible use of these.

Quantitative surveys

Qualitative surveys

Qualitative studies

Contribution analysis

Value for money assessment

#### **4. Detailed Scope of work**

An evaluation plan should be developed in consultation with stakeholders, DFID lead advisers and other donors, by the most economical means possible. The plan should cover the following:

- Assessment of what data is available and the extent to which this evaluation can piggy back into existing processes (see data sources section below).
- Examine the overarching theory of change and the outcome and impact indicators in the logframe to address how the programme's overall approach might be evaluated.
- Revisit some of the logframe indicators and developing a more detailed theory or theories of change. This will open up additional assumptions and will help inform the evaluation questions.
- Conduct a comprehensive stakeholder exercise with the programme, intended beneficiaries, civil society, government partners and other donors.
- Develop evaluation questions and a methodology for evaluating the programme's overall approach and the combined effect of its interventions. This design should be in accordance with the OECD DAC *Quality Standards for Development Evaluation* (2010) and *Principles for the Evaluation of Development Assistance* (1991).
- Set out the process for and timing of data collection and reports.

- Design dissemination and communication strategy and a strategy for continued inclusive stakeholder involvement.

Throughout the programme, the evaluation provider will need to:

Develop and operate an appropriate management structure to enable an on-the-ground presence, and appropriate consultation with the DFID managers;

Attend occasional meetings with DFID managers and advise on the performance of the programme, based on the baseline report, the endline data collection and final evaluation report. Ensure that these reports and meetings encourage and facilitate within-programme learning and course-correction;

Pursue value for money by using smart commercial management practices, avoiding duplication, using data from other sources and working with others wherever possible;

Any additional relevant tasks as agreed between the Service Provider and DFID managers.

DFID Zambia will be responsible for securing the necessary quality assurance support through the SEQAS desk.

## **5. Timing and deliverables**

The evaluation is integral to the implementation plan so the timing will be determined by the NFNC and key partners but likely to be during the first quarter of 2014. Data collection for the baseline will need to start before the package of selected interventions begins implementation in selected districts. Surveys should be carried out at least at baseline and end-line. The process evaluation will be carried out in year two or three to assess programme implementation at that point, and to determine lessons learned for the programme scale up. It is expected that 7 districts will be rolled out in year 1 and the remaining 7 in year 2 of the programme. Funding is highly likely to continue beyond year 3 by both donors and government subject to progress.

### Deliverables:

1. An evaluation plan or inception report will be presented in a workshop for DFID and other stakeholders explaining the evaluation approach and how it will be implemented.
2. Baseline data collection and reports

3. Annual reports and workplans: The on-going evaluation process must be summarised through annual reports throughout the Implementation phase. These reports must also contain annual work-plans and budgets.
4. End-line survey report
5. A final evaluation report, presenting summative findings answering the evaluation questions posed, and containing an executive summary and recommendations. All findings will be disaggregated where possible to allow analysis of findings for different groups, including different income groups, men, women, girls and boys. Disaggregated datasets should be made available either online or in an annex to the report but to be agreed with DFID
6. An accessible communication tool, to inform policy makers (this may include presentation workshops for government partners, civil society and other donors). Different options of the communication tool may be provided to demonstrate VfM.
7. A workshop guiding those developing the exit strategy or transition to the extended Programme, depending on the timing of the final wave of data collection. (Different options may be provided on delivering workshops to demonstrate VfM).
8. A summary of the Final Evaluation and dissemination plan to ensure the information gathered reaches the intended audiences.

At the end of the Inception phase there will be a Break Point to review Inception Outputs. Progress to the Implementation Phase will be subject to the satisfactory performance of the SP, delivery of Inception outputs and the continuing needs of the Programme.

DFID Standard KPIs (The service provider's performance will be managed through a schedule of Key Performance Indicators (KPIs). The KPIs will be agreed during the inception period and the schedule will form part of the Inception Report. Indicative general KPIs can be found in Annex 7. The final schedule of KPIs agreed in the inception report will be far more specific to this Commission of evaluation through existing framework agreements).

A tentative timescale is provided below:

Task		Timing (months 1-38 with month 1 being start up of programme)
engage older Stakeholders	Finalisation of design scope of Evaluation Programme (including stakeholder analysis and consultation, scoping of existing datasets, finalising evaluation plan, matrix and questions,	Months 1-2



	design baseline, re-visit theory of change and log frames; workplan)	
	Finalise Inception Report	Month 2
	Conduct baseline surveys (quantitative: including designing study, training team, conducting study)	Month 3
	Analyse baseline surveys	Month 4-6
	Conduct qualitative follow up survey (qualitative: including designing study, training team, conducting study)	Month 6-8
	Qualitative studies designed and timetable finalised	Month 9
	Ongoing qualitative studies (5)	Month 9-36
	Endline quantitative and qualitative surveys	Month 34-36
	Process Evaluation	Month 32-36 (TBD)
	Finalisation of Evaluation report (including qualitative studies, process evaluation, surveys)	Month 38
	Disseminating final Synthesis report and findings (workshops, etc)	Month 38

## 6. Consultation

Stakeholders to be consulted in this evaluation will include DFID, other donors, NFNC, the SUN Fund service provider, programme managers and staff, implementing NGOs, field staff and local partners, the Government of Zambia, and community representatives or beneficiary groups. The majority of evaluation questions will be predetermined by the specific features of programme implementation, although some input from stakeholders will be solicited. Stakeholders will also provide input into the study design and information about activity scheduling and logistical coordination. All stakeholders will be involved throughout the communications strategy.

Following completion of the inception phase, the evaluation provider will conduct an evaluation to answer the evaluation questions. The evaluation is expected to cover the entire time period of the programme 2014-2016/17.

## 7. Existing information sources

There is no over-arching system in Zambia that captures routine data related to nutrition from all sources, sectors and stakeholders. Nutrition data currently comes from periodic surveys such as the Demographic Health Survey (every 5 years, the latest being 2007)

and the Food Consumption and Micronutrient Survey (on-going and results expected by September 2013) and from the MOH health information system. Under the First 1000 Most Critical Days Programme, there are plans to develop a more robust and comprehensive M&E system to capture information from all stakeholders across the sectors (but this component is yet to be fully developed with technical support from the World Bank and WHO).

The National Food and Nutrition Strategic Plan includes a number of nutrition indicators to monitor progress.

A number of nutrition-related interventions are being evaluated in Zambia, including:

1. An impact evaluation of the social cash transfer programme, including assessment of the cash transfers on the nutritional status of children of beneficiary households. It might be possible to use some of the existing baseline information for the proposed 1000 Days Programme evaluation given that this is funded by DFID and there are a few overlapping districts. The evaluation is being implemented by AIR.
2. A mixed methods evaluation incorporating a process evaluation and an impact evaluation is being conducted by IFPRI as part of the “Realigning Agriculture and Nutrition programme” in Mumbwa district. There might be important synergies between this and the proposed larger evaluation. Ideally, the methodology should be reviewed to inform the development of the broader evaluation.
3. An IFPRI PhD candidate is planning an in-depth investigation of intersectoral coordination in Mumbwa district (an ongoing process since 2011 under the RAIN project), including an assessment of the scaling up nutrition initiative and other nutrition policy processes at national level.

The 1000 Days Programme includes an operational research component to document innovative interventions – e.g. to diversify household food production and dietary diversity. The details are yet to be decided but it is expected that results would complement those obtained from the mixed methods evaluation. The proposed mixed methods evaluation will contribute to the evidence base of nutrition interventions and provide relevant, local evidence of what works in the Zambian context.

## **8. Proposed Governance arrangements**

Stakeholders in this evaluation will include DFID, Irish Aid and other donors, the National Food and Nutrition Commission, the Pooled Fund management agent (the tender is currently ongoing and a contract is expected to be signed by June 2013) programme

managers and staff, implementing NGOs, field staff and local partners, the Government of Zambia, and community representatives or beneficiary groups.

An **Evaluation Steering Committee** (SC) will be established with representation from a selection of the key stakeholders, namely – the NFNC, key leading Ministry (MCDMCH) and contributing donors (DFID and Irish Aid), as well as UNICEF as the lead technical agency on nutrition. This will be the same Steering Committee which will have overall oversight of the SUN Fund, and will draw on other expertise as appropriate.

Where the evaluation is concerned, the function of the SC is to ensure the credibility and independence of the evaluation. It will combine mostly advisory and some exceptional executive functions and will convene at milestones in the evaluation process, or in the case of poor performance. It will help to maximise the relevance of the evaluation to the stakeholders. These include the appropriateness of the evidence selected, the accuracy of its interpretations, promotion and support for the evaluation, and the usefulness of its recommendations to inform decisions on policy and practice in stakeholder organisations. In the event of poor performance of the evaluation provider, the SC, with the agreement of DFID managers, will decide on appropriate corrective action, or, in the worst case may decide to terminate the evaluation contract. However the SC will not be involved in the routine management of the evaluation.

The majority of evaluation questions will need to be agreed during the inception phase and be closely linked to implementation plans. Stakeholders will also provide input into the study design and information about activity scheduling and logistical coordination. All stakeholders will be involved throughout the communications strategy.

## **9. Reporting and contracting arrangements**

The DFID Zambia Health and Nutrition Adviser will be the focal point for DFID. The NFNC (National Food and Nutrition Commission) and UNZA (University of Zambia) will assign a focal government person (TBC). The contractor will be accountable to DFID as the principal funder of the evaluation and the SUN Fund Steering Committee as the body that will provide oversight of the SUN Fund and the implementation of the 1000 Days Programme in the first phase districts.

Progress to full implementation will be dependent on the successful agreement of the evaluation plan and completion of the inception phase. The evaluation provider will be expected to produce a revised cost estimate for the full implementation phase that will be subject to review and agreement with DFID Zambia.

The following outputs will be used to process agreed payments:

1. Agreed Protocol
2. Baseline report
3. Qualitative studies' approach & tools
4. Qualitative studies reports
5. Process evaluation report
6. Full mixed-methods evaluation report
7. Dissemination workshop

DFID Zambia reserves the right to terminate the evaluation contract after a review of the inception phase if it cannot reach agreement with the evaluation provider on the activities, staffing, budget and timelines for the implementation phase.

## **10. Logistics and procedures**

DFID Zambia will facilitate meetings with key stakeholders and will provide meeting space during the consultation process.

The contractor will be responsible for organising the transport and accommodation required for the team and for arranging appropriate insurance coverage.

DFID Zambia and the NFNC will provide an initial list of documentation at the start of the assignment, to inform the evaluation design. Thereafter, the contractor will be responsible for sourcing additional documentation as needed.

The contractors will be responsible for preparing all necessary documentation to obtain ethics approval. DFID and the NFNC will provide support to clarify requirements and expected timelines at the start of the assignment.

The contractors will need to provide their own transport for any fieldwork required to design and undertake the evaluation work. Field sites and visits will be agreed beforehand with the NFNC and donors.

The contractor will draft and inception work-plan. This will be reviewed upon consultation with stakeholders. DFID Zambia and the NFNC will provide support to facilitate necessary review meetings.

## **11. Budget**

An indicative budget of £600,000 has been allocated for this evaluation. As noted earlier, there are also US\$120,000 from WHO to support part of the baseline surveys.

## **12. Skills and qualifications**

An institution with a strong background in quantitative and qualitative evaluation methods (or demonstrated ability to contract this out) and expertise in nutrition and human development will be contracted via DFID's pre-qualified framework agreement. The evaluation team should include a nutritionist, a social anthropologist and a survey specialist. The evaluators will need to work closely with Zambian counterparts. Knowledge or previous experience of work in Zambia would be an advantage.

The evaluators will need to be contracted early so that any requirements of the design can be catered for in programme implementation and the baseline surveys in selected districts can begin. Time will also need to be allocated for obtaining ethics board clearances.

- A track record in delivering rigorous evaluations, including evaluations of nutrition interventions and an appreciation of the range of methods that may be appropriate to these interventions.
- Proven ability to engage and build relationships with a number of stakeholders, both local, national and international
- Track record in producing evaluation reports that show the analytical capacity to draw implications from evaluation findings, developing evidence-based recommendations for policy and programming approaches
- Proven ability to plan and carry out dissemination of evaluation findings, sharing information widely, but sensitively in Zambia and internationally. Ability to show where the evaluation and its eventual findings fit in to the evidence base on nutrition and development in Zambia.

### **13. Duty of care**

The service provider is responsible for the safety and well-being of their Personnel and Third Parties affected by their activities under the contract to be awarded, including appropriate security arrangements. They will also be responsible for the provision of suitable security arrangements for their domestic and business property.

Applicants must develop their response on the basis of being fully responsible for Duty of Care in line with the details provided above. They must confirm in their response that:

- They fully accept responsibility for Security and Duty of Care.
- They understand the potential risks and have the knowledge and experience to develop an effective risk plan.
- They have the capability to manage their Duty of Care responsibilities throughout the life of the contract.

A summary of the risk assessment for the Zambia Maternal and Child Undernutrition programme conducted in July 2013 DFID is provided below:

**Project/Intervention title:** Zambia Maternal & Child Nutrition

**Location:** National wide

**Date of Assessment:** 16<sup>th</sup> July 2013

Theme	DFID Risk Score	DFID Risk Score
<b>OVERALL RATING<sup>10</sup></b>		
FCO travel advice	1	
Host nation travel advice	1	
Transportation	3	
Security	1	
Civil Unrest	2	
Violence/crime	2	
Terrorism	1	
War	1	
Hurricane	1	
Earthquake	1	
Flood	1	
Medical Services	3	
Nature of Project/Intervention	1	

**Average score= 1.5 so will be considered as low risk**

#### 14. Selection criteria

The following criteria will be applied in evaluating the proposals:

Main Criteria and Weights	Sub Criteria	Sub Weights
	<b>Sub Criteria 1:</b>	20%

<sup>10</sup> The Overall Risk rating is calculated using the MODE function which determines the most frequently occurring value.

<b>Quality of Personnel (including evaluation lead) and team structure 40%</b>	<ul style="list-style-type: none"> <li>- Strength of evaluation skills (experience in managing nutrition evaluations essential); knowledge and expertise of named key staff on managing similar evaluations; availability of staff throughout the duration of the work;</li> <li>- Approach to working with GRZ partners and building capacity and procedure for handling team changes. Familiarity with the Zambian context and ability to partner with Zambian-based institutions desirable.</li> </ul>	
	<b>Sub criteria 2:</b> Ability to deploy team to conduct baseline surveys as soon as possible upon signing of the contract	10%
	<b>Sub Criteria 3:</b> <ul style="list-style-type: none"> <li>- Quality of the team's management structure, evidence of capacity to undertake work and quality assurance</li> <li>- Methodology for Client Service and Accountability (including Approach to accessing and contracting key experts and to being responsive).</li> </ul>	10%
<b>Methodology 20%</b>	<b>Sub Criteria 1</b> <ul style="list-style-type: none"> <li>- Clear understanding of Terms of Reference and purpose of the evaluation as well as timeline constraints</li> <li>- Understanding of key gaps in the evidence-base for nutrition interventions and the global Scaling Up Nutrition movement</li> </ul>	10%
	<b>Sub Criteria 2</b> <ul style="list-style-type: none"> <li>- Proposed study design for conducting the evaluation and answering a range of quantitative and qualitative questions; ability to work with different programme stakeholders; use/number of days input.</li> <li>- Proposed sequence for implementation, sampling and district selection</li> </ul>	10%
<b>Commercial – 40%</b>	<ul style="list-style-type: none"> <li>- Competitiveness of fee rates, project expenses and overall project cost in relation to the market. - Explaining methodology and benchmarking of consultant rates to demonstrate value for money</li> </ul>	20%
	<ul style="list-style-type: none"> <li>- Provide a clear methodology for ensuring costs &amp; expenses are managed in line with costs and 'as bid' and that the requirements will be delivered on time and with agreed budget</li> </ul>	10%

	- Provide a clear and effective Financial Plan Payment linked to clear outputs detailing financial risk/ contingency incorporated into costs.	10%
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<sup>i</sup> The Lancet, 2008

<sup>ii</sup> Living Conditions Measurement Survey (LCMS) 2010; CSO; 2007.

<sup>iii</sup> National Food and Nutrition Commission (NFNC) 2003

<sup>iv</sup> Central Statistics Office (CSO), 2007.

<sup>v</sup> UNICEF, 2008

<sup>vi</sup> The Lancet, 2013



## **Annex F: List of Consultees**

Throughout the evaluation, the AIR team consulted with a number of individuals and organisations of all types (implementers, stakeholders, beneficiaries, and funders) to refine the design of the study, collect information, and share and validate findings. Further dissemination efforts are planned in the coming months. A list of consultees is presented below:

1. American Institutes for Research (AIR)
2. CARE
3. Department for International Development (DFID)
4. District Nutrition Coordinating Committees (DNCCs) in Chipata and Mbala
5. Health Cooperating Partners Group
6. Health personnel including Community Health Volunteers (CHVs), Community Health Workers (CHWs), Growth Monitoring Promoters (GMPs), In-Charges, Nutrition Champions, Breastfeeding Committee members, and Traditional Birth Attendants (TBAs)
7. MCDP beneficiaries in Chipata and Mbala
8. Ministry of Community Development and Social Welfare (MCD)
9. Ministry of Local Government and Housing (MLGH)
10. Ministry of Agriculture, Livestock and Fisheries (MoA)
11. Ministry of Education (MoE)
12. Ministry of General Education (MoGE)
13. Ministry of Health (MoH)
14. Multi-Stakeholder Platform (MSP)
15. National Food and Nutrition Commission (NFNC)
16. Oxford Policy Management (OPM)
17. Palm Associates, Inc.
18. Research Triangle Institute (RTI)
19. Safe Motherhood Action Groups (SMAGs) in Chipata and Mbala
20. Scaling Up Nutrition (SUN) including SUN Lead Farmers and Women's Groups in Chipata and the SUN Fund Steering Committee
21. United Nations Children's Emergency Fund (UNICEF)
22. University of North Carolina (UNC)
23. Ward Nutrition Coordinating Committees (WNCCs) in Chipata and Mbala
24. World Food Programme (WFP)
25. Zambia Early Child Development Action Network (ZECDAN)

# Annex G: Rapid Qualitative Assessment Report



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# **Evaluation of Zambia's First 1,000 Days Nutrition Programme**

## **Rapid Qualitative Assessment Report**

**American Institutes for Research & Palm Associates**

Terry Roopnaraine (Social Anthropologist, independent) &  
Hannah Reeves (Researcher, American Institutes for Research)

November 2014



# **Evaluation of Zambia's First 1,000 Days Nutrition Programme Rapid Qualitative Assessment Report**

**November 2014**

**Terry Roopnaraine (Social Anthropologist, independent) &  
Hannah Reeves (Researcher, American Institutes for Research)**

*Research conducted by American Institutes for Research & Palm  
Associates*



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## Acronyms and Abbreviations

**AIR:** American Institutes for Research

**BF:** breastfeeding

**CF:** complementary feeding

**DFID:** Department for International Development (UK Aid)

**FES:** Focused ethnographic study

**FGD:** Focus group discussion

**HH:** household

**MCDP:** First 1,000 Most Critical Days Programme

**MIYCN:** Mother, infant, and young child nutrition

**NFNC:** National Food and Nutrition Council

**PI:** Priority Interventions of MCDP

**RQA:** Rapid qualitative assessment

**SIDA:** Swedish International Development Cooperation Agency

**SM:** Social mapping

**UNICEF:** United Nations Children’s Fund

## Acknowledgments

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Terry Roopnaraine & Hannah Reeves for AIR

# Executive Summary

## Background

Malnutrition is a serious concern in Zambia, where roughly half of all deaths among children under five are attributed to maternal and child undernutrition. Stunting is widespread in Zambia, with the most recent Demographic and Health Survey (2013) revealing that forty percent of the population under the age of five is stunted, while wasting stands at 6%. Large numbers of Zambian children suffer from nutrition-related disorders such as low birth weight, wasting, being underweight, chronic malnutrition, and various nutrient deficiencies. In an effort to address these issues, the National Food and Nutrition Council (NFNC) and several donors—including the United Kingdom’s Department for International Development (DFID), Irish Aid, and the Swedish International Development Cooperation Agency (SIDA) —designed a bundled, multisector programme called the First 1,000 Most Critical Days Programme (MCDP). The MCDP will run for three years (from late 2014 through 2016) in 14 districts across Zambia, and it includes targeted interventions such as micronutrient supplementation; promotion of best practices in breastfeeding and complementary feeding; promotion of diverse diets for pregnant and lactating women; zinc treatment for diarrhoea; promotion of safe water, hygiene, and sanitation; growth monitoring; deworming; and management of acute malnutrition.

## Study Design

The impact evaluation of the MCDP consists of four components, the first of which is the rapid qualitative assessment (RQA). The RQA is intended to facilitate formative research and is designed to provide tailored, programme-relevant information to MCDP implementers in order to guide refinements to the programme. It was developed around one central research question: *“What is the nature and experience of poverty and undernutrition, including access to food, dietary and feeding practices, and behaviour for households with young children in rural Zambia?”* To answer this question, the RQA employed three primary methods of data collection: focused ethnographic studies (FESs); focus group discussions (FGDs); and social mapping (SM).

## Households, Communities, and WASH Information

In describing the wards, communities, and households visited for this study, we aim to provide a clear picture of the current living conditions of future MCDP beneficiaries. We present information on local leadership structures, infrastructure, access to goods and services, and the role of institutions and programmes within the communities. This information is intended to inform how the MCDP enters beneficiary communities, and how it may interact with or complement existing structures and programmes.

All communities visited for this study are located in remote areas in which farming is the prevalent source of income. Poverty is widespread, and access to food and clean water is often limited. While a number of respondents are aware of the benefits of treating water, only half of them reported doing so on a regular basis. This underscores the need for inputs such as chlorine and bleach as part of the MCDP. In terms of sanitation, not all caregivers reported disposing of faeces properly (in the latrine), which suggests that further education is needed on proper waste

disposal. Understanding local water and sanitation practices is essential in order to identify potential parasites and pathogens that may be common in beneficiary communities and may hinder the effectiveness of the MCDP. It is also worth noting that churches (of various denominations) feature prominently in all of the communities visited for this study. Given this fact, we recommend actively recruiting churches and church leaders to support and promote MCDP health, nutrition, and sanitation interventions.

## **Feeding and Dietary Practices**

Both FES and FGD respondents were asked a variety of questions about their knowledge of appropriate diets for mothers and young children, food security, dietary diversity, and any barriers they face in accessing nutritious foods. Responses to these questions varied considerably, however a number of patterns emerged that merit consideration by MCDP implementers. For example, decisions involving finances (such as the purchase of food) are typically made by men; access to nutritious foods varies greatly by season, with far more food shortages reported in the dry season than the rainy season; and, for the most part, women determine for themselves how long they breastfeed their children. These patterns (and others) are explored at length, again with the ultimate aim of informing refinements to MCDP interventions. The role men play as household decision makers will also need to be considered carefully and may impact the extent to which men's involvement is recommended or mandated in MCDP interventions.

## **Work and Time Allocation**

Mothers and caregivers in rural Zambia are responsible for a wide variety of agricultural work and domestic chores in addition to caring for their children. While women often receive support from other family members, husbands in particular are not always helpful (and in some cases, they seem to do more harm than good). Additionally, certain tasks—such as fetching water, collecting firewood, and preparing food—are traditionally female tasks. In rolling out the MCDP, which will require the active participation of mothers and caregivers, the time required for programme activities such as clinic visits will need to be calculated carefully. Moreover, efforts should be made, when possible, to minimise the programme's impact on women's time. For example, if it is possible to disseminate information or supplies at the village level (as opposed to through the health centre), this should be done.

## **Knowledge and Use of Mother, Infant, and Young Child Nutrition (MIYCN) and Health Services**

Services and information for pregnant women, mothers, and caregivers are primarily available at antenatal clinics and clinics for children under the age of five (hereafter referred to as under-five clinics) at local health centres. In all wards visited for this study, women identified these clinics as their main source of nutrition and health information. It is important to note, however, that many respondents reported difficulty following the advice dispensed at local health centres due to financial and time constraints. For example, purchasing recommended foods or preparing fresh foods can often be cost or time prohibitive. This information underscores the need to provide items such as fortified foods and supplements through the MCDP if their consumption is

a critical component of the theory of change.<sup>1</sup> We also observed varying degrees of understanding about existing nutrition programmes (such as Chipolopolo) in the communities visited for this study, which suggests that the MCDP would benefit from a comprehensive communications strategy to ensure local acceptability and understanding of the programme's purpose.<sup>2</sup> Relatedly, we suggest a thorough analysis of the Chipolopolo programme to include an examination of implementation bottlenecks as well as weaknesses in the programme's information dissemination strategy. Lastly, given the role agriculture plays in determining dietary diversity in rural Zambia, the MCDP could potentially benefit from the inclusion of a nutrition-sensitive agricultural component, or from enhanced linkages with such programmes where they already exist.

We suggest exploring additional methods of disseminating MIYCN information. For example, community health and nutrition peer educators could be recruited and trained to make MIYCN information more readily available to young mothers in their respective communities. Secondly, the information collected for this study suggests that after the clinic, the radio is the most common source of nutrition messaging. Therefore, we suggest exploring the possibility of radio programming related to MCDP information and activities. Finally, schools appear to be an underutilized avenue for MIYCN information sharing. We suggest incorporating nutrition information into the curricula and supporting schools to carry out under-5 card checks for matriculating students.

## **In Conclusion**

Overall, our data reveal a complex context. Achieving the desired programme outcomes will require successful engagement with a wide range of potential challenges—from increasing the knowledge base of caregivers to improving the quantity and quality of available and accessible food and addressing water and sanitation limitations—all while working within sociocultural frameworks and in accordance with women's work patterns, which may militate against intervention uptake.

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<sup>1</sup> We note that the Theory of Change presented in Annex 1 of this report is currently undergoing revision based on feedback from partners and stakeholders; given that one of the objectives of this research has been to provide inputs to the Theory of Change, it is also anticipated that some further revision will be called for based on the results presented here.

<sup>2</sup> The Irish Aid-funded Chipolopolo pilot is implemented by the Ministry of Health with support from UNICEF. The University of British Columbia was contracted to carry out the monitoring and evaluation component. See: <http://www.hftag.org/project/home-fortification-programme-with-mnp-for-young-children-in-zambia-chipolopolo/>.

# 1. Introduction and Background

This report presents findings from the rapid qualitative assessment component of American Institutes for Research’s (AIR) evaluation of Zambia’s First 1,000 Most Critical Days Programme. AIR was contracted by the United Kingdom’s Department for International Development (DFID) to carry out a comprehensive, mixed-methods evaluation of the programme. The rapid qualitative assessment (RQA) is the first of four evaluation components. The remaining three components are as follows: a series of stand-alone qualitative studies designed to explore selected programme- and nutrition-related topics in depth; a process evaluation designed to assess programme operations and service delivery; and a full impact evaluation aimed at measuring the programme’s impact on selected outcome variables. The rapid qualitative assessment is designed to facilitate formative research, with the purpose of gathering data on a series of programme-relevant research questions and making a range of contributions to the evaluation’s knowledge base. In particular, the findings emerging from the RQA should:

- Sharpen our understanding of the theory of change
- Provide inputs to the design of survey instruments
- Collect information about other programmes in the area
- Inform the design of the 1,000 Most Critical Days Programme<sup>3</sup>

The rapid qualitative assessment set out to explore the following fundamental research question: *“What is the nature and experience of poverty and undernutrition, including access to food, dietary and feeding practices, and behaviour for households with young children in rural Zambia?”* This question was broken down into a series of sub-questions, which (following a description of the methodology in Section 2) structure the findings sections of this report as follows:

**Section 3** presents descriptions of the study locations and households, together with the results from a series of questions on water, sanitation, and hygiene (WASH). Information on WASH conditions is important because it helps us to understand a key area of vulnerability to pathogens and parasites, which not only have detrimental effects on overall health but which also undermine the effectiveness of nutrition interventions.

**Section 4** presents findings on food security and dietary diversity topics that lie at the heart of nutrition-focused and nutrition-sensitive interventions. Specifically, this section addresses the following questions:

- What diets are considered appropriate for infants and young children, pregnant women, and mothers?
- What degree of access do families have to food?
- What are the social and cultural drivers of child-feeding practices and behaviours?

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<sup>3</sup> The current (but as noted above, under revision) theory of change for the 1,000 Most Critical Days Programme appears in Annex 1.

- What constraints do families face in obtaining nutritious foods, including economic, environmental, social, cultural, and physical constraints?
- Do people have the means to overcome these barriers?

**Section 5** turns to the important issues of work and time allocation, particularly among women. Nutrition programmes frequently target women for a number of reasons, chief among which is women’s highly normative (and cross-cultural) status as primary caregivers to household children. However, by focusing on women, nutrition programmes can make extra demands on their time, adding to their already heavy work burdens. In this formative research, it is therefore a priority to understand what kind of daily work burden women currently live with.

**Section 6** addresses the question of information sources. What kind of information about nutrition or nutrition services is available to caregivers and pregnant women in our study areas? Where do people get information about nutrition and health issues? Are caregivers and pregnant women able to access these services and put recommendations into practice? These questions speak to fundamental problems in service and information delivery and uptake, particularly in remoter areas. It is important to understand the nature of these challenges when designing programme implementation strategies.

**Section 7** summarises and discusses the findings of this formative research, particularly in the context of programme design and implementation. Some recommendations for policy and future research are also presented here.

## **Background on the Programme**

In Zambia, half of all deaths among children under the age of five are attributed to maternal and child undernutrition. According to the most recent Demographic and Health Survey in Zambia (2013), 40 percent of Zambia’s population under the age of five is stunted. This statistic amounts to one million children. Specific undernutrition figures include chronic malnutrition (45 percent), being underweight (15 percent), wasting (5 percent), and low birth weight (10 percent). Micronutrient deficiencies include vitamin A deficiency (54 percent) and iron deficiency anaemia (53 percent) (NFNC, 2012).

Malnutrition—including iodine deficiency and inadequate vitamin intake—leads to impaired cognitive development because the development of the brain is vulnerable to inadequate nutrition (Bardham et al., 2013). Evidence from Kenya further shows that malnutrition can result in decreases in school enrolment (Miguel and Kremer, 2004) and subsequent losses in labour productivity (Baird et al., 2011). The economic benefits of a healthier population are large: Over a 10-year period, Zambia could increase its economic productivity by \$1.5 billion with just a one percentage point per year decrease in stunting, a one-third reduction in maternal anaemia, and elimination of iodine deficiency (NFNC, 2011). The consequences of malnutrition are particularly severe during children’s first 1,000 days of life (Almond and Currie, 2010).

In response to this situation, the National Food and Nutrition Commission (NFNC)—in coordination with several donors, including DFID, Irish Aid, and SIDA, and in accordance with recommendations put forward in the 2008 Lancet Series—developed a bundled, multisector

programme called The First 1,000 Most Critical Days Programme (MCDP) in order to address Zambia's child undernutrition. Care International, in conjunction with the NFNC, coordinates the implementation and delivery of the programme through several ministries, including the Ministry of Health; the Ministry of Community Development, Mother and Child Health; the Ministry of Education; the Ministry of Agriculture; the National Food and Nutrition Council; and the Ministry of Chiefs and Traditional Leaders. The multisector approach draws on the leadership of the NFNC and the promises made by Zambia when it signed the Scaling Up Nutrition (SUN) initiative. The three-year intervention begins at the end of 2014 and runs to the end of 2016, and will be implemented in 14 districts across Zambia.

The programme targets households with pregnant women or children under 24 months and includes a package of activities that focus on the following areas: iron and folic acid supplementation; micronutrient supplementation; promotion of best practices in breastfeeding and complementary feeding; promotion of diverse diets for pregnant and lactating women; zinc treatment for diarrhoea; promotion of safe water, hygiene, and sanitation; growth monitoring; vitamin A supplementation; deworming; management of acute malnutrition; and promotion of increased availability of diverse, locally available and processed foods, with a focus on women's empowerment and nutrition-sensitive messages in cash transfer and other programmes (National Food and Nutrition Commission of Zambia, 2012).

The individual interventions implemented by the MCDP have all been the subject of careful evaluation work in various settings, all of which has contributed to a strong evidence base for their effectiveness in improving nutrition outcomes. However, the evidence base for bundled interventions is much more limited, and the implementation and coordination challenges are considerable. A robust, mixed-methods evaluation, focusing on both impact and process, is therefore especially important in this context.

## **Ethical Clearance**

Ethical clearance was obtained (prior to commencing data collection) from the review boards of AIR and the University of Zambia.



## 2. Methods

The overall orientation of this evaluation component is qualitative. In qualitative research, questions—and the responses they elicit—tend to be discursive and descriptive, while the analysis privileges explanation and interpretation over quantification. In general, qualitative approaches allow researchers to explore and understand the experiences, opinions, and perspectives of their informants in greater depth than that offered by quantitative approaches. In turn, the use of qualitative approaches entails sacrifices in terms of generalisability and comparability—areas in which quantitative methods excel because of their use of large and probabilistic samples. Samples chosen for qualitative studies are always smaller and often nonrandomised or purposively selected. Anthropologist Russell Bernard (2011) notes, “There is growing evidence that 10–20 knowledgeable people are enough to uncover and understand the core categories in any well-defined cultural domain or study of lived experience” (p. 154).

The rapid qualitative assessment data collection employed three main methods:

- Focused ethnographic studies (FESs): These were carried out with three caregivers in each of the four wards chosen from two districts (pre-intervention), for a total of 12 FESs.
- Focus group discussions (FGDs): Two FGDs (with 8 to 10 purposively selected caregivers in each) were carried out in each of the four study wards (eight FGDs in total).
- Social mapping (SM): Four SMs were conducted in total (one in each of the four wards). These activities were folded into one of the two FGDs planned for each ward.

### 2.1. Data Collection Approaches

#### Focused Ethnographic Studies

The FES approach was developed by Gretel Pelto and colleagues as a tool for the World Health Organization to study acute respiratory illness in children. With some contextual adaptation, the model has subsequently been applied in various other research areas.<sup>4</sup> FESs are based on interviews that are shorter and more tightly defined than the wide-ranging and open approaches typical of more traditional ethnographic research. FES packages often incorporate pile sorting or ranking exercises, as we do here.

The FES approach used in this RQA was based upon a five-module protocol, in which each module served to meet the data requirements of a different key research area. The modules are listed in Figure 1. Note that the “Approach” column refers to the procedural orientation of each module listed in the first column, while the “Theme” column refers to the data that meet the needs of each of the key research areas. All five modules were administered to each selected caregiver or pregnant informant.

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<sup>4</sup> Such as in formative research and process evaluations of infant and young child feeding (IYCF) interventions in Haiti (Menon et al., 2005).

**Figure 1. FES Modules, Themes, and Approaches**

Module #	Theme	Approach
1	Demographic, household, Priority Interventions, and WASH information	Complete structured response and observation sheet
2	Appropriate diets for infants, young children, pregnant women, and mothers	24-hour recall to capture what food was provided, followed by food card grouping activity to capture respondents' concept of an ideal diet. It will be important to include caregivers of children of various age groups—breastfeeding (BF) and complementary feeding (CF)—as well as pregnant women
3	Access to food: Constraints and enablers 1. Degree of access to food 2. Constraints on obtaining nutritious foods (including economic, environmental, social, cultural, physical) 3. Means of overcoming these barriers, if available	Guided discussion around issues of constraints and enablers, making explicit reference to foods identified in both parts of #2
4	Social and cultural drivers of child-feeding practices and behaviours; social and cultural drivers of pregnant women's dietary practices and behaviours	Guided discussion around social and cultural drivers, again building on responses to #2–5
5	Time allocation, infant and young child feeding (IYCF), and maternal, infant, and young child nutrition (MIYCN) service uptake	Guided discussion based around different activities related to child feeding: obtaining foods, obtaining water, preparation, obtaining cooking fuel where necessary, hygiene practices, and feeding

### Focus Group Discussions

Ideally, FGDs provide a context in which participants feel comfortable and empowered to discuss the research topics with their peers and the carefully trained facilitators. It is important to create a social dynamic that encourages participants to reflect upon their opinions and experiences and then express them verbally. From past experience, we expected to benefit from interactions between respondents, with contributions from some participants inspiring others to think about and discuss their own experiences. We also expected that, in some cases, the neutral space of the FGD might help respondents overcome any hesitance they might have in their own homes. In large part, we feel that these expectations were met. FGDs were designed to capture data on the same key research areas of the study that were covered in the FES work.

## **Social Mapping**

Social mapping (Mikkelsen, 2005, pp. 107–109) is a participatory tool designed to involve community members—the subjects of the research—in the research process, not simply as respondents but as active agents and stakeholders. In the context of the RQA, we included a social mapping exercise in one of the two FGDs carried out in each of the four study wards.<sup>5</sup> We used this approach to collect data on local understandings of poverty, wellbeing, vulnerability, access to resources, and other programmes under implementation.

## **2.2. Data Handling**

We carried out data collection by employing two-person teams in each village. Wherever possible, one field researcher was responsible for interviewing or facilitating, while the second researcher had primary responsibility for recording responses. Researchers noted responses (in local languages where necessary, but generally in English) on response sheets provided with each data collection instrument, and they recorded all FES interviews, together with FGDs, on portable digital recorders. Researchers downloaded these recordings to field laptops each day, renamed them according to an anonymised code system held in an encrypted Excel sheet, and then copied them to external media for backup. At the end of each day, the field researchers transcribed the handwritten field recording sheets to Microsoft Word documents, translating the material where necessary. Researchers used audio recordings to supplement and validate the written transcriptions and translations. All transcriptions were also assigned new names (in accordance with the code system) in order to ensure data and informant confidentiality.

## **Coding and Analysis**

Lead researchers developed a descriptive coding scheme linked to an overall analytical framework, with specific reference to themes of interest and research questions. The researchers then loaded the coding scheme and the transcripts into the qualitative data analysis (QDA) software package (NVivo 10). Coding in NVivo is a manual process based upon careful reading of each piece of data (in this case, interview responses and other notes) and subsequent selection of appropriate code(s) to describe these data. Once properly coded, the data can be analysed in different ways prior to producing written outputs.

## **2.3. Sampling: Site and Informant Selection**

For the RQA, we purposively selected—in close consultation with the NFNC—the districts of Chipata (in the Eastern Province) and Mbala (in the Northern Province), bearing in mind the requirements of the overall evaluation plan, including upcoming and future quantitative data collection. We then randomly selected two wards from each of these districts: Nsingo and Nthope in Chipata, and Chinyika and Intala in Mbala. In Chipata, research participants were from the Nyanja-speaking Ngoni tribe and research was carried out in this language. In Mbala, research participants were mainly Mambwe, but because of the sociolinguistic context in which they lived, they also spoke Bemba. Researchers in the Mbala wards carried out their work principally in Bemba, with some Mambwe when necessary. The Chipata district, which is close

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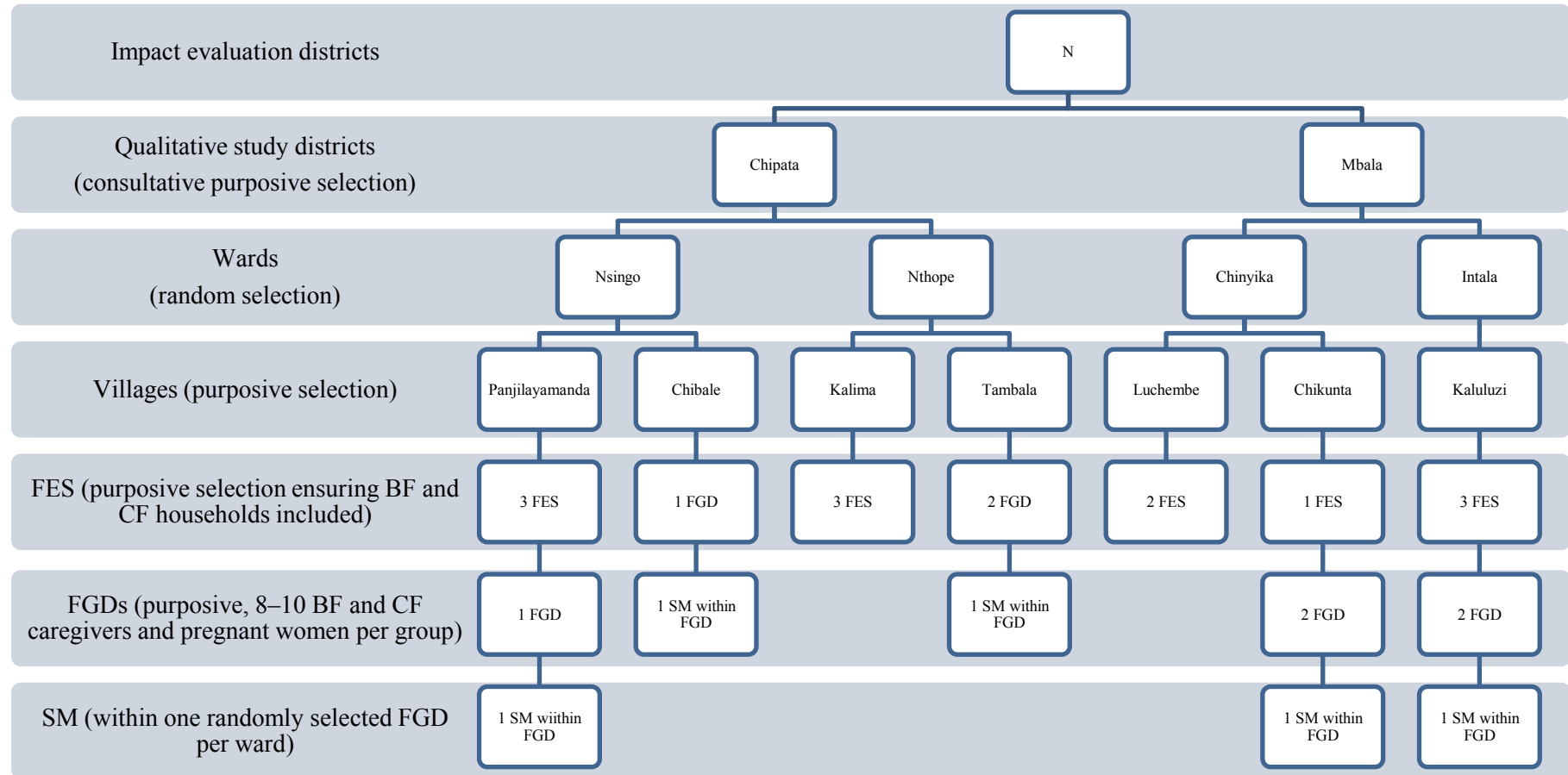
<sup>5</sup> In fact, the SM exercise was carried out once in three of the study wards and twice in the fourth ward.

to the Malawian border, lies along the Great East Road. The administrative district capital is Chipata town proper, which contains a busy market, shops, residential areas, and the local government offices. The Mbala district is Zambia's most northerly district and it lies on the border with Tanzania. The district capital, Mbala town, lies on the Great North Road, approximately 1,030 kilometres from Lusaka. It contains a market, shops, residential areas, and local government offices.

In each of the four wards, we purposively selected a number of villages. Initially, the plan was to select one village per ward and to carry out all the ward's research there. However, this approach proved impossible in the field because the villages were too small to meet sample recruitment guidelines, which called for reasonably balanced representation of caretakers of infants and young children, as well as pregnant women. We therefore took the decision to work in more than one village in most of the wards (only Mbala's Intala ward contained a village large enough to carry out a full recruitment), without changing the planned number of FES interviews and FGDs in each ward. Thus, in each ward, we carried out two FGDs with 8 to 10 purposively selected caregivers of young children, for a total of eight FGDs. This number of FGDs is consistent with expert recommendations: Krueger (1994) suggests that an optimal number of FGDs lies between 4 and 12, while Millward (1995) contends that data saturation (redundancy) sets in after 10 FGDs. We carried out FES interviews with three caregivers of young children in each ward, for a total of 12 FESs. Finally, we carried out a participatory social mapping in one of the two FGDs conducted in each ward. This scheme is illustrated in Figure 2.

In this report, we do not always disaggregate findings by ward or village. In cases where there were clear differences between response and discussion patterns by location, we indicate these differences. We typically do not disaggregate findings that were similar or identical across the wards.

**Figure 2. Sites, Informants, and Methods**



### **3. Introduction to Households, Communities, and WASH Conditions**

This section presents the findings from the social mapping exercises and includes brief introductions to the communities and households visited during the RQA. Collectively, this information illustrates the living conditions of future MCDP beneficiary communities, shedding light on local understandings of poverty, wellbeing, access to resources, and the role of programmes and institutions within the respective communities. Understanding the circumstances and infrastructure typical of future beneficiary communities is critical to ensuring effective implementation and uptake of MCDP interventions. The findings from the social mapping exercises are presented by ward, followed by detailed descriptions of the villages and individual households located in each ward. Lastly, local water and sanitation conditions are discussed in the context of how the respective systems are accessed and used in the communities visited.

The villages visited for this study were similar in a number of ways, in that all were located in fairly remote areas and all were governed by traditional structures (chiefs, headmen, and so on). In all of the communities visited, farming was the prevalent mode of livelihood, although a number of households had other side businesses (such as beer brewing or selling cooked pieces of chicken in the village), and some members of study households engaged in piece-work as a way of generating a cash income. It is relevant to nutrition programme design to flag the fact that ‘farming’ includes greater and lesser proportions of subsistence agriculture (production for use) and cash-cropping (production for sale, or processing followed by sale). The factors which determine how the relative proportions of use vs. exchange production in agriculture are difficult to determine from the current data, and we recommend that this issue be explored in future rounds of data collection because such findings would be relevant to the design and implementation of the nutrition-sensitive agriculture interventions contemplated by the MCDP.

The twelve households visited for FES interviews in the Chipata and Mbala districts ranged in size from three to nine members, and only one of the homesteads had electricity.

#### **3.1. Nsingo Ward, Chipata**

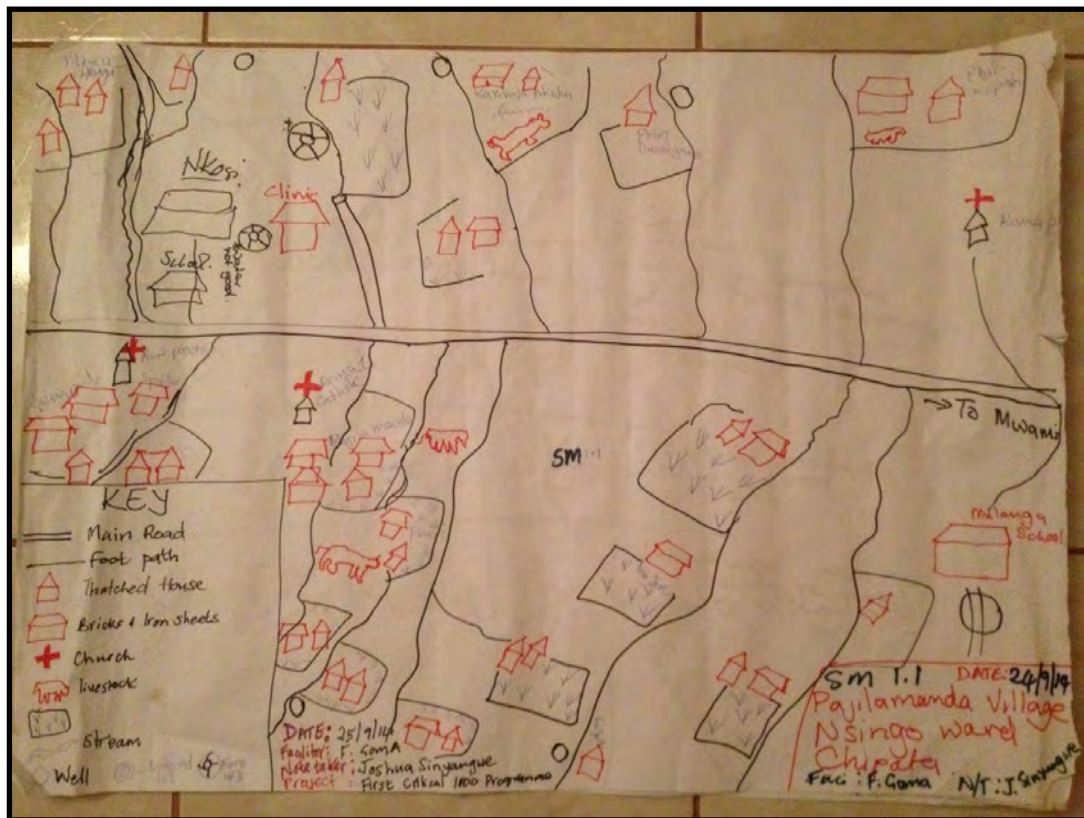
Nsingo ward residents, who are largely agriculturalists, universally underscored the importance of land and water to their livelihoods. Most of them considered their relative wealth to be “somewhere in the middle”—i.e., they considered themselves neither the richest nor the poorest. Of the two villages visited in Nsingo, Panjilayamanda is larger and has access to more resources (for example, schools and health centres) than Chibale.

In Nsingo ward, perceptions of wealth are largely tied to the amount of land and livestock one owns. Additionally, if a person owns a business of any sort, he or she is considered wealthy. Conversely, if a person cultivates only a small plot of land and has few or no livestock, they are typically perceived to be poor. Money is viewed as a sensitive topic, and one of the two social mapping exercises conducted in Nsingo

ward ended this portion of the discussion prematurely as a result of the FGD participants' discomfort: "We cannot continue talking about money because some people here would not like it. Even if we don't mention names, they will still know we are talking about them. Money issues are very sensitive. We have the poor, the poorest, but the matter is very difficult, it's better we don't continue with it" (FGD respondent, Chibale village, Nsingo ward). Participants in the other social mapping exercise conducted in Nsingo ward were more willing to discuss perceptions of wealth and came up with four categories: "very rich," "rich," "the ones who do better," and "those who are really poor [*Bo vutikilatu*]." When asked to assign proportions of the local population to each category, respondents indicated that there were no "very rich" community members and that the majority fell into "the ones who do better" category. This category was described as including those who have iron sheets on their homes, food to eat (mostly maize), and might have a few cattle or goats. Additionally, "the ones who do better" eat three meals per day (morning, midday, and evening) and harvest enough maize to last from one year to the next.

Critical resources identified by Nsingo residents were land and water: "Land is the main resource here, without land you can't go anywhere or do anything" (FDG respondent, Chibale village, Nsingo ward). Chiefs and headmen are typically responsible for land allocation. Water was also identified as an important (but scarce) resource: "Water, we don't have abundant water, streams are dry" (FDG respondent, Chibale village, Nsingo ward). Community-based organisations and nongovernmental organisation (NGO) interventions do not seem very common (although one programme, Profit Plus, used to visit Panjilayamanda village), and the local institutions garnering the most attention and respect seem to be the churches and the local leadership (chiefs and headmen).

**Figure 3. Social Map of Panjilayamanda Village, Drawn by 12 Women**



### **Nsingo Communities and Households**

**Panjilayamanda** village is located in Nsingo ward, Chipata. There are a number of dirt roads within and leading to Panjilayamanda, including some that are suitable for vehicles and one that leads to the local clinic. Bicycles are a far more common mode of transportation than cars, however. Most of the homes in Panjilayamanda are made of mud bricks or mud blocks and have grass thatched roofs. The leadership structure includes a chief (responsible for allocating land), headman (*nduna*), and messenger (*memeza*). There are two churches, two schools, a few small shops, and one clinic with a borehole nearby. Residents of Panjilayamanda obtain water either from the borehole by the clinic or from uncovered wells in the gardens. The water from the borehole is not suitable for drinking, however, and FGD participants described it as red and having rust. The well water, which is used for drinking, also has problems: It has germs and smells bad. Farming is the predominant income-generating activity, and the most common crops according to FGD participants are maize, beans, soya beans, and cotton. Planting typically takes place when the rainy season begins (November). There are no NGOs or other programmes operating in Panjilayamanda at present.

The Tembo<sup>6</sup> household is an eight-member household in Panjilayamanda village, in Nsingo ward, consisting of Harmony, her husband, and their six children. Harmony<sup>7</sup> is 31 years old, her husband is 29 years old, and their

<sup>6</sup> All households have been given fictitious names to preserve their anonymity.

<sup>7</sup> All FES interviewees (female caregivers) have been given fictitious names to preserve their anonymity.



youngest (index) child is nine months old. Their home is made of mud bricks and plaster with a grass thatched roof. Their primary source of income is farming and they have eight acres of farmland located very close to their homestead (less than a five-minute walk away). Harmony and her husband primarily grow maize, cotton, and beans, and they cultivate their land using animal draught power and hand hoes.

The Moyos live in a household that consists of six people, including Loveness, her husband, and their four children. Their home is located in Panjilayamanda village and is made entirely of mud, with the exception of a grass thatched roof. Loveness is 31 years old and her youngest child is one month old. She and her husband have two primary sources of income: farming and brewing beer (Loveness is responsible for the beer business). They own two acres of farmland (which Loveness describes as being “quite far” from their homestead) where they grow maize, soya beans, and sunflowers.

The Bandas are an eight-person household located in Panjilayamanda village. The caregiver, Agness, is 34 years old and lives with her husband and their six children, who range from 1 to 13 years of age. They live in a home with brick walls and a grass roof. Agness brews and sells local beer, and her husband earns his income by selling vegetables from their garden (which at the time of the interview only had potatoes) and selling chairs and tables he builds with wood. The family owns two and a half hectares of land surrounding their home, which Agness’s husband inherited from his father with the chief’s permission. Agness’s husband is the sole owner of the land. The family grows crops including sunflowers, cotton, beans, soybean, cassava, sweet potatoes, pumpkin leaves, groundnuts, and maize, but they maintain that the amount of land they own is insufficient for farming because cultivation is done using a hoe.

**Chibale** village<sup>8</sup> is also located in Nsingo ward, Chipata. It does not have definitive boundaries (with the exception of the Mwami River to the south), but residents say they know which farms fall within the village and which fall beyond it. There is one main road accessing Chibale and numerous pathways leading to homesteads, water points, fields, and churches. Chibale does not have any shops, schools, or clinics of its own (the nearest are located in Panjilayamanda). Local leaders include the village headman and a couple of church leaders. There are no NGOs operating in Chibale at the moment, but there is one community-based organisation called Tikondane Mending, which has just started and is aimed at promoting small businesses among women.

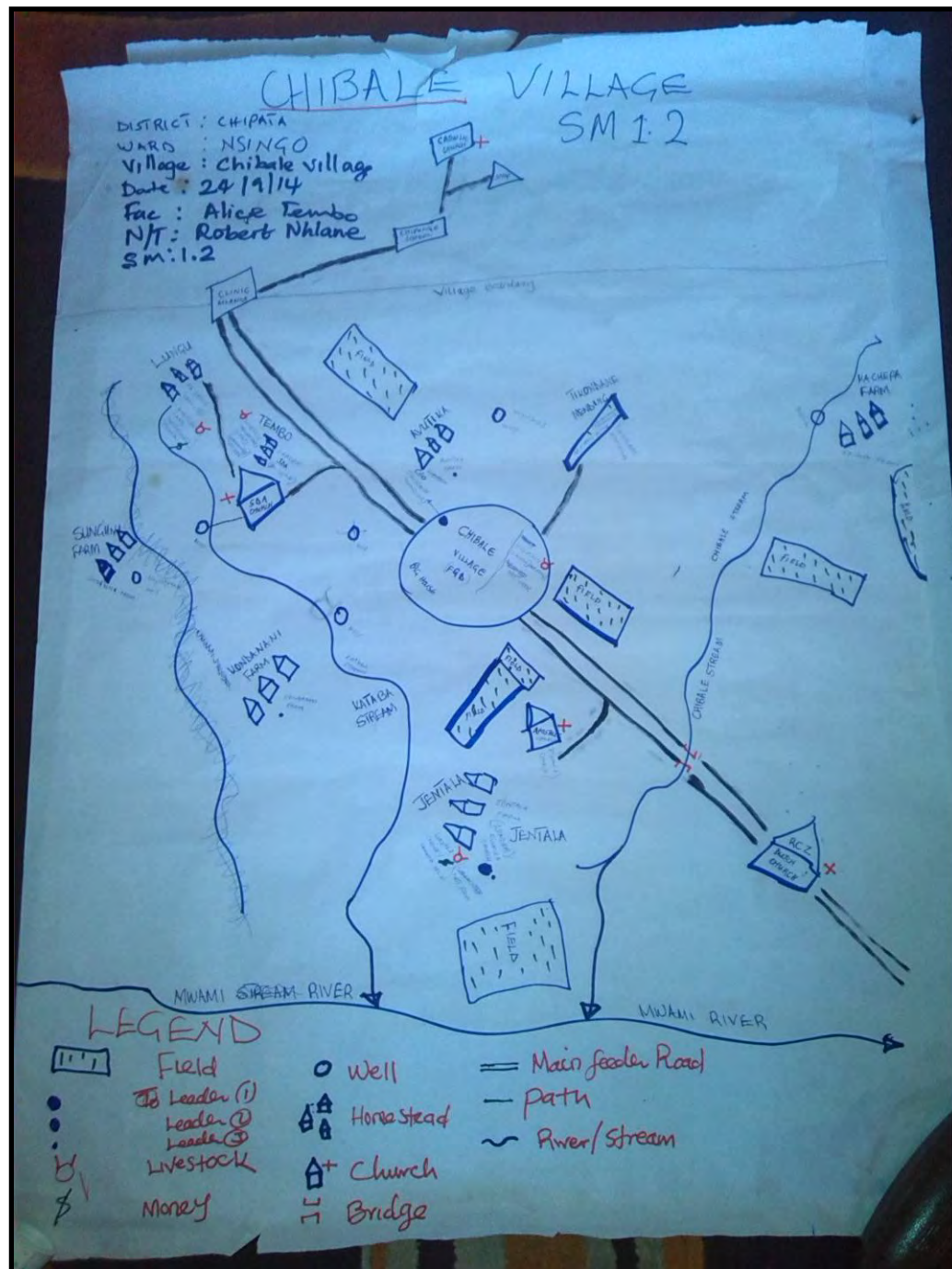
The primary resource in Chibale, according to FGD participants, is land. There are restrictions on how much land each household can have, and fields are mostly located around their respective homesteads. Some residents have livestock (mostly cattle, pigs, and goats) but many do not. There are two streams in Chibale (both tributaries of the Mwami River) and three of the four wells in Chibale were dug in the stream beds. The wells in the stream beds often dry out during the dry season, however, and households that depend on the stream for water are forced to dig additional shallow wells. During the rainy season, water is drawn directly from the streams. The three

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<sup>8</sup> No FES interviews were conducted in Chibale. Only an FGD was conducted here.

stream wells and the one upland well are all unprotected and remain the only sources of drinking and washing water in Chibale.

**Figure 4. Social Map of Chibale Village**



### 3.2. Nthope Ward, Chipata

Wealth in Nthope ward is closely associated not only with livestock ownership, but also with children’s appearance and performance in school. Of the three categories identified (“rich,” “the ones who do better,” and “poor”), the rich were described as those with cattle, an oxcart, and children who “are smart when going to school” and have food and drink during and after school. The middle category (“the ones who do

better”) was described as owning goats, pigs, or chickens; having maize that lasts until next season; eating breakfast, lunch, and dinner; and dressing their children properly and keeping them in school. The “poor” category (which was considered the largest) consists of those who do not eat well; eat only once per day; have no bedding; whose children have no clothes and are not in school; who have no livestock; and who lack fertiliser for a proper harvest. When asked how the “poor” manage to get by, respondents indicated that they cultivate for other people and are paid in maize, or are loaned a bag of maize to be paid back the following season (with interest). As in other wards visited, harvesting is the primary income source for residents of Nthope ward. Water wells and streams are shared resources, but gardens and fields and their outputs belong to specific men.

**Figure 5. Nthope Ward village in Chipata**



### **Nthope Communities and Households**

**Tambala** village<sup>9</sup> is located in Nthope ward, Chipata. There is a large road that passes through Tambala, which is accessible to vehicles and does not become impassable even during the rainy season. Tambala does not have a headman (the previous incumbent recently died and villagers are in the process of selecting a new one) so the *Nduna* is the current leader and under him there is the *Amunawa*. There is also a group of men (*Madoda*) who assist the *Nduna* in making decisions. The headman was responsible for allocating farmland, most of which is located outside the village (sometimes quite far away). Primary crops grown in the fields are maize, cotton, and groundnuts. Men are the landowners in Tambala, and female FGD participants

<sup>9</sup> No FES interviews were conducted in Tambala. Only an FGD was conducted here.

reported that women do not manage the land. There are also gardens in the village (accessible by road) where crops such as guava, sugarcane, banana, rape, mango, tomato, cabbage, maize, onion, and pumpkin leaves are grown. Not all villagers have gardens, however, and as a result some villagers have access to vegetables that others do not.

The closest clinic to Tambala is about an hour’s walk away, but it does offer feeding advice for children under the age of two. Nutrition advice is not offered anywhere else, including at local schools. Water sources for Tambala include streams, uncovered wells, and one borehole. FGD participants seemed to prefer the water from the borehole, describing it as “nice,” while indicating that there is a lot of dirt in the water from the stream. Water from the streams is used for drinking, washing, and other purposes, but water from the borehole is the preferred drinking water.

**Figure 6. Social Map of Tambala Village (Road Section), Drawn by 11 Women**



**Kalima** village is also located in Nthope ward, Chipata, less than three kilometres from Tambala. It looks quite similar to Tambala, with a similar leadership structure including a headman and local church leaders. The constituency MP is from Kalima, according to village residents we spoke with. Kalima relies on a borehole within the village for water, as well as nearby streams. The health and school infrastructure is the same as in Tambala, with the exception that Kalima is slightly nearer to both facilities. Settlement patterns, field conditions, and crops grown are virtually identical to those in neighbouring Tambala.

The Njovus are a seven-member household consisting of Musonda, her husband, and their five children. Their home is located in Kalima village and is made entirely of mud, with the exception of a grass thatched roof. Musonda is 30 years old and her youngest child is five months old. Musonda used to run a small business (buying chickens, cutting them into small pieces, and then frying and selling them in the village) but she recently stopped. Musonda's husband earns an income doing piecework building, thatching houses, and cultivating their farmland. They own three acres of land approximately one hour's walk from their homestead, which they inherited from Musonda's husband's parents when they died. They grow groundnuts, cotton, maize, sunflower, sorghum, and pumpkins in their field and do not have a garden.

The Phiris are a nine-person polygamous household in Kalima village. Matongo, her husband, and her husband's second wife live with their children and stepchildren, as well as Matongo's child from before she got married. Matongo's youngest child is one year old. Their dwelling is made of brick walls, a cement floor, and iron sheet roofing. The primary income source is farming and selling beer. Matongo used to sell meat as a side business but has not done so in the past two months. It takes approximately one hour to get to their farmland, which Matongo's husband inherited from his father. Matongo, her husband, and her husband's second wife work to cultivate maize, groundnuts, and tobacco.

The Zulus are a three-person household in Kalima village, consisting of Navinga, her husband, and their one child, who is one year old. Navinga is 18 years old and her spouse is 22. They lived in a mud home with a grass thatched roof. Navinga has a small business selling cooked and roasted chicken pieces in the village. Navinga's husband primarily does piecework on other peoples' farms and cultivates their own farmland, which is not far from their homestead. They have two acres of land (which they were given recently by Navinga's father-in-law) that is primarily used to grow maize. The last farming season was not very successful—they finished all the maize while it was still in the field and were not able to harvest anything for consumption during the dry season.

### **3.3. Chinyika Ward, Mbala**

In Chikunta (the village in Chinyika ward where the social mapping exercise was conducted), wealth is largely associated with material possessions: “We consider a family to be wealthy when they have money, bicycle, hammer mill and/or motor bike, livestock, land, and businesses” (FGD respondent, Chikunta village, Chinyika ward). The majority of Chikunta residents are “medium class,” according to respondents. A common medium class, income-generating activity is cutting down trees, burning them, and growing millet on the burnt areas. Poor households and individuals include the elderly and the labour constrained, and one respondent commented quite simply: “Farming here is the main activity and main source of livelihood and income. We grow many crops such as beans, maize, millet, and cassava. So if a household cannot do these things then they become poor” (FGD respondent, Chikunta village, Chinyika ward). Similar to Nsingo and Nthope wards, land and water are viewed as the two essential resources in Chinyika: “The most important resource in this village is land.

We also have water for those with gardens, watering animals, and for domestic usage” (FGD respondent, Chikunta village, Chinyika ward).

Chikunta has a fairly typical leadership structure, with a headman supported by a village committee consisting of a chairman, vice chairman, secretary, treasurer, and committee members. In terms of local institutions, Chikunta village has three churches, men’s and women’s sports clubs, a basic school, and a clinic currently under construction. Additionally, two programmes are active: the Food Reserve Agency’s (FRA) maize purchasing programme and the Chipolopolo children’s nutrition programme (both of which are described in the following section on Chikunta village).

### **Chinyika Communities and Households**

**Chikunta** village is located in Chinyika ward, Mbala district, and is bordered by the Ilanga River to the east and Luchembe village to the south. To the west are fields belonging to Chikunta villagers and there is a neighbouring village to the north. There is one main road (passable by vehicles) that passes through the middle of Chikunta and another that passes behind the market heading east. There are also paths and small roads that lead to various homesteads, water points, churches, and fields. The only clinic nearby is Chikunta Clinic and it is currently under construction. FGD participants were not sure when it is scheduled to be finished. Currently, Chikunta residents have to go to the clinic in another village far to the south. Water sources include the Ilanga River and seven wells, five of which are suitable for drinking.

Figure 7. Social Map of Chikunta Village



Chikunta is led by a headman and his village committee. The only community organisations that exist are a women’s netball club and a football club called *Atanda*. FGD participants identified land, water, and livestock as the most important resources in Chikunta. Programmes currently serving Chikunta include the FRA and Chipolopolo. The FRA buys maize from local farmers to encourage production, and Chipolopolo is a micronutrient supplement pilot programme based at the clinic that targets children. Chipolopolo provides demonstrations on how to prepare foods for children, including meat, fish, chicken, groundnuts, and cooking oil. However, most

villagers do not have the ingredients necessary to prepare the meals so most people are not able to put what they have learned to use.

The Sinyangwe are a nine-person household located in Chikunta village, Chinyika ward. Gladys (36) lives with her husband, their six children, and one niece. Gladys's youngest child is a one-year-old girl. Their home has brick and cement walls, a cement floor, and a roof made of iron sheets. Gladys's household has access to solar energy, which they use for lighting, watching television, and listening to the radio. They cultivate maize and beans from their multiple plots of farmland, which belong to Gladys's husband. This is their primary income source and Gladys's husband travels to Lusaka to sell maize and beans, the profits from which go into a joint bank account in Mbala. Gladys's husband also sells fish and linen (*Vitenge*) as a side business, and the couple grows smaller amounts of soybeans, groundnuts, cucumbers, cowpeas, and pumpkins for consumption.

**Luchembe** village is located very close to Chikunta village (less than three kilometres away) and is similar to Chikunta in many ways. Settlement and farming practices, for example, are virtually identical in the two neighbouring villages. The water source for Luchembe village is a nearby stream and a few protected wells within the village, and local health facilities include the clinic under construction in Chikunta village or the fully operational health post, which is roughly five to seven kilometres further down the road.

The Sikombe live in a six-member household that consists of Mwila (22), her husband (32), their three children, and Mwila's brother-in-law. Their youngest child is a two-month-old boy. Their home is in Luchembe village, Chinyika ward, and has brick walls, a mud floor, and a thatched roof. The household's primary income source is farming, which is done by Mwila and her husband. They grow groundnuts, cassava, maize, beans, and millet on their farmland, which is approximately one hour away from the homestead. The household consumes the majority of these crops and only the surplus (mostly beans) is sold. Mwila's husband owns the farmland (four acres, of which they use only one), which was given to him by his father. Mwila also buys and sells millet and uses the profits to buy soap and salt.

The Simwinga live in a five-member household, also in Luchembe village. Precious (32) lives with her husband and their three children in a brick-walled home with mud floors and a thatched roof. Their oldest child is 13 and their youngest is one year old. Precious and her husband rely on farming for income, and Precious indicated that there are no other opportunities for income in the area. They cultivate a couple of small fields that belong to her husband, where they grow maize, beans, cassava, pumpkin, and millet.

### **3.4. Intala Ward, Mbala**

Social mapping participants in Intala ward identified three classes of local residents: "the rich," "the ones who eat well," and "the poor." The "rich" are those who own cattle, shops, a car or motorcycle, or an oxcart. The "ones who eat well" are described as dressing well, having goats or chickens, and eating three meals per day, including foods such as rice, meat, fresh fish, buns, and tea and sugar. Lastly, the "poor" are those who work for others, eat vegetables without cooking oil, eat twice per day, and



only have meat once per year. According to respondents, the “ones who eat well” category is the most common. The leadership structure is fairly typical, with headmen committee and a chief. According to FGD participants, neither community leaders nor church leaders talk about child feeding. Nutritional advice is provided at school and the clinic, however. Respondents indicated that they were often unable to follow the advice given by the school or clinic due to a lack of money.

**Figure 8. Social Map of a Section of Kaluluzi Village**



### **Intala Communities and Households**

**Kaluluzi** village is located in Intala ward, Mbala, not far from the Tanzanian border. The village leadership structure includes a headman, community leaders, and church leaders. Water sources include streams and wells, and several of the wells (including the one by Kaluluzi Basic School) are treated with chemicals. Farmland is located around the outskirts of Kaluluzi, with smaller plots located within the village. The most common crops are groundnuts, maize, and beans. There is a clinic approximately two kilometres from Kaluluzi. Information on child feeding and nutrition is offered at both the clinic and the school, but a number of FGD participants said they were unable to follow the nutrition advice they were given because they do not have the funds to purchase the recommended ingredients.

The Simotuwe are a five-member household in Kaluluzi village, Intala ward. Elizabeth (29) resides with her husband (32) and their three children in a brick-walled house with mud floors and a thatched roof. Their youngest child is one year old. Elizabeth and her husband have two plots of land (two acres each) that they cultivate, although technically only one plot belongs to them

(the other plot belongs to Elizabeth's father). They primarily cultivate and sell beans. Elizabeth and her husband both have side businesses as well: Elizabeth runs a small restaurant where she sells bread and tea, and her husband makes and sells charcoal (with assistance from others, as he is disabled).

The Sinkala are a seven-person household in Kaluluzi village, consisting of Ruth (37), her husband (37), and their five children. The youngest child is a three-month-old girl. Their home has brick walls, a mud floor, and a thatched roof. Ruth grows tomatoes and sells them within the village, and her husband has primary responsibility for farming their two-acre plot, which is about a one-hour walk from their homestead. The plot was given to Ruth's husband by his father, and they use it to grow beans, maize, groundnuts, and millet.

The Simfukwe live in a three-member household located in Kaluluzi village. The caregiver, Grace, lives with her husband and their one-year-old daughter. Grace is 17 years old and her husband is 22. Their home has brick walls plastered with mud, mud floors, and a grass thatched roof. Grace's husband participates in his father's business, which involves transporting cattle from Tanzania to Mbala. Grace buys and sells sugarcane and vegetables, and both she and her husband also farm. Their two-acre field is about a one-hour walk from the homestead and was inherited from Grace's father-in-law when he died. They plant maize and beans (primarily for consumption) and have limited harvests owing to their lack of fertiliser.

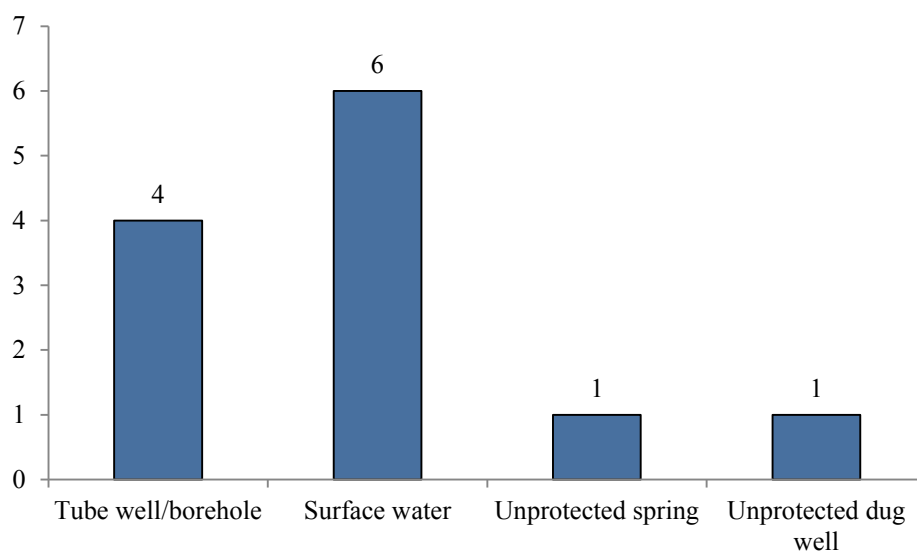
### **3.5. Water and Sanitation Practices**

Access to clean water and proper sanitation practices are directly correlated with improved child health (Fink et al., 2011). In particular, improved sanitation reduces child mortality, lowers the risk of childhood diarrhoea, and lowers the risk of mild or severe stunting. Access to clean water has been found to reduce the risk of childhood diarrhoea and mild or severe stunting (Fink et al., 2011). In an effort to learn more about the water and sanitation practices in the communities visited for this study, FES interviewees were asked specific questions about their water and sanitation practices, the findings from which are discussed (and presented graphically, where appropriate) below.

#### **Water**

The most common source of drinking water among FES interviewees was surface water (from a river, dam, lake, pond, stream, canal, or irrigation channel), followed by a tube well or borehole (see Figure 9). One half (six) of the interviewees indicated that they treat their water while the remaining six said they do not. The two most common treatment methods reported were boiling the water and adding bleach or chlorine.

**Figure 9. Source of Drinking Water**

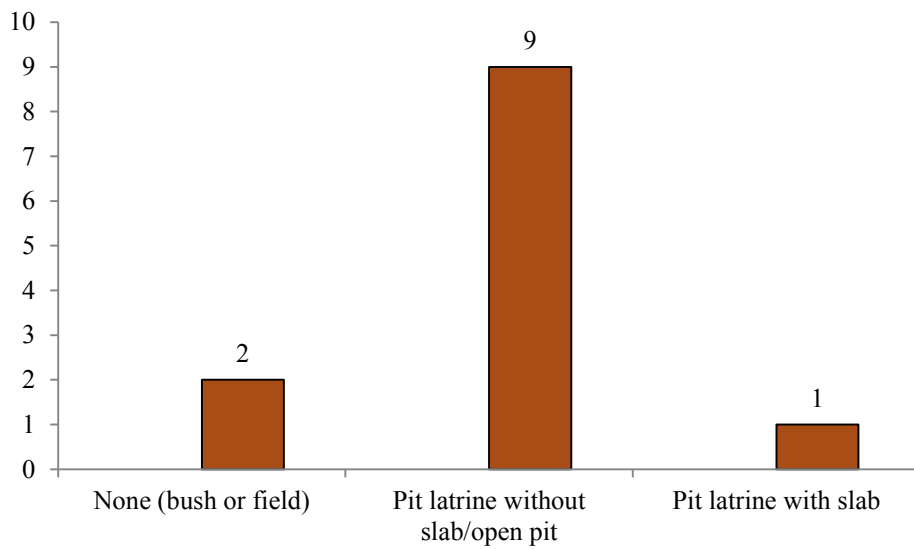


It is important to note, however, that surface water was a significantly less common source of water for respondents in Chipata, with only one respondent indicating that surface water was her household’s primary source of drinking water. This is in contrast to Mbala, where all but one of the FES respondents indicated that surface water was their primary source of drinking water. Fetching water appears to be a predominantly female task, with all FES respondents (female caregivers) indicating that either they themselves fetch water or that they assign a female child to do so. When asked how long it takes to fetch water, responses ranged from 2 minutes to 60 minutes, with an average of approximately 21 minutes.

### **Sanitation**

The most common type of toilet facility was an open pit latrine without a slab (nine households), followed by no toilet (bush or field) (two households), and a pit latrine with a slab (one household). The types of toilets used by FES households are presented in Figure 10.

**Figure 10. Type of Toilet Facility**



Of the 10 households using some type of toilet facility, three reported sharing it with other households or the public, while the other seven indicated that their toilet facility was not shared with anyone outside of their household. When asked how they disposed of their youngest child's most recent stool, half (six) said they rinsed it into a toilet or latrine; one quarter (three) said they rinsed it on to an open area in the nearby bush; and one sixth (two) said they rinsed it into a nearby stream. One respondent said she left it in the open.

## 4. Feeding and Dietary Practices

This section explores feeding and dietary practices in the local communities visited in Chipata and Mbala, specifically in relation to the core research questions driving the RQA:

- What diets are considered appropriate for infants and young children, pregnant women, and mothers?
- What degree of access do families have to food?
- What are the social and cultural drivers of child-feeding practices and behaviours?
- What constraints do families face in obtaining nutritious foods, including economic, environmental, social, cultural, and physical constraints?
- Do people have the means to overcome these barriers?

### 4.1. Appropriate Diets for Young Children and Pregnant Women

Both FGD participants and FES respondents were asked specific questions about what they believed to be appropriate diets for young children and pregnant women. This included an exercise using food cards (index cards with pictures of common local vegetables, meats, and starches), in which respondents were asked to use three food cards to “build” two “most nutritious” meals for a child older than six months, as well as one nutritious meal for a pregnant woman.

**Figure 11. FES Interviewee in Chipata Using Food Cards to Construct Nutritious Meals**



The food cards generated discussions around the reasons for selecting certain foods and shed light on local perceptions of nutritious foods and meals. Key results from this exercise (done in FGDs and FES interviews) and the 24-hour recall exercise (which was carried out with FES respondents; see below), included the following:

- Caregivers had some knowledge about the nutritional value of common foods.
- Caregivers reported receiving advice from clinics that suggested feeding young children between two and five meals per day.
- The most commonly mentioned vegetable for children's meals was rape. The most commonly cited protein source was fish in Mbala and beans in Chipata. Interestingly, rice was a popular choice, perhaps because it is said to make children happy and is seen as a treat.
- Only one vitamin (vitamin A) was mentioned specifically (as occurring in pumpkin).
- Most respondents included a protein source in both children's meals. Much lower numbers included a vegetable in both meals, and varying numbers of FGD and FES respondents included starches in both meals.
- A number of food-related beliefs exist in both study wards, concerning both children's and pregnant women's diets.
- There is a good understanding of the relationship between pregnant women's diets and proper foetal development.
- Knowledge of dietary diversity for pregnant women was similar to the results obtained from caregivers of complementary feeders.
- Caregivers of complementary feeding children reported feeding their children two to three meals in the recall period, usually beginning with porridge, and then moving to nshima and vegetable relish combinations. Smaller numbers of caregivers reported adding eggs, meat, or fish to a meal.<sup>10</sup>
- Breastfeeding was reported to be responsive, though not always exclusive.

## Young Children

Overall, caregivers were fairly knowledgeable about the nutritional value of different types of food. Opinions on the number of meals children should eat per day varied, but all responses were between two and five meals per day (some informants mentioned being given this guidance at the local clinic). A wide range of foods were suggested to be nutritious for young children during FES interviews and FGDs, but the food card exercise did reveal certain patterns. For example, the most commonly mentioned vegetable source for children was rape. The most commonly mentioned protein source for children was fish in Mbala and beans in Chipata. The most common starch included in children's meals was rice, followed closely by nshima. A number of FES and FGD informants in Chipata and Mbala commented that both rice and nshima are important foods for young children because they provide energy. Foods that were thought to contain vitamins included: rape, pumpkin and pumpkin leaves, cabbage, cassava leaves, groundnuts, bambara nuts, milk, beans, meat, fish,

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<sup>10</sup> *Nshima* is the Nyanja word for the mealie meal preparation found all over Zambia.

and bread. Only one vitamin was mentioned specifically, however: “Pumpkins are a source of vitamin A” (FGD respondent, Chibale village, Nsingo ward).

In terms of dietary diversity, the majority of FES interviewees (10 of 12) and focus groups (seven of eight) included a protein in both children’s meals. Significantly fewer (6 of 12 FES interviewees and three of eight focus groups) included a vegetable in both children’s meals. Finally, less than half (5 of 12) FES interviewees included a starch in both children’s meals, while seven of eight focus groups included a starch in both meals. Half of all respondents included two food groups; 45 percent included three food groups; and only five percent included one food group. As such, there seems to be some understanding of the importance of dietary diversity, although it was not raised specifically in any FES interviews or FGDs.

A number of conceptions related to specific foods and their health benefits or detriments to young children were raised during FES interviews and FGDs. For example, it was suggested that fish causes diarrhoea in very young children and milk increases blood levels in the body, and that only rice with relish (as opposed to plain rice) has nutritional value for young children. Multiple respondents (from both Chipata and Mbala) indicated that eating rice, specifically, makes children happy. A mother from Kalima village, for example, commented: “I would give children rice because I want them to be happy. They become very happy when they are eating rice” (caregiver, Kalima village, Nthope ward). This sentiment was echoed by a number of other mothers as well.

### **Pregnant Women**

The majority of respondents demonstrated knowledge of the importance of pregnant women’s diets to the health of their unborn children. Many informants suggested that pregnant women should eat more (both in terms of frequency and volume) than other adults: “The pregnant woman has to eat in between short periods of time so that the baby inside her also eats and benefits from the same food...she used to eat about five times a day and hunger used to drive her to eat a lot” (FES respondent, Panjilayamanda village, Nsingo ward). Others, however, indicated that two to three meals per day were sufficient for pregnant women. The food group exercise also revealed patterns in the perceptions of nutritious foods for pregnant women. In Mbala, meat or chicken was the most commonly mentioned protein for pregnant women. In Chipata, fish and groundnuts were mentioned equally as the most common protein for pregnant women. Rape was the most common vegetable mentioned for pregnant women in both Mbala and Chipata, and nshima was the most common starch mentioned for pregnant women in both districts.

In terms of dietary diversity for pregnant women, 9 of the 12 FES interviewees and all eight focus groups included a protein in the pregnant woman’s meal they constructed during the food card exercise. All respondents included a vegetable in the pregnant woman’s meal, confirming what was commonly mentioned about vegetables being important for pregnant women. Thirteen (6 of 12 individual interviews; seven of eight focus groups) included a starch in the pregnant woman’s meal. Fifty-five percent of all respondents included two food groups; 40 percent included three food groups; and only five percent included one food group.

Similar to perceptions about appropriate foods for young children, a number of women suggested that certain foods were beneficial or detrimental to pregnant women. Pumpkin leaves, for example, were thought to be good for blood production and preventing nausea. Cabbage was considered good for breastfeeding women because it is believed to help breast milk production. A number of women suggested the numerous benefits of fish for pregnant women. To this end, one focus group participant stated: “Fish provides vitamins. The unborn baby grows well when the mother is eating fish. It also contributes to strong bones. It gives appetite to pregnant women” (caregiver, Kaluluzi village, Intala ward). On the other hand, women from Kaluluzi village commented that pork and eggs should be avoided by pregnant women: “Pork must not be eaten by pregnant women because the pig has a lot of diseases and may lead to the child also getting sick of the same diseases. Most of us do follow these instructions. The eggs make one to have a baby without hair” (FGD respondent, Kaluluzi village, Intala ward).

## **4.2. Current Practices: 24-Hour Recall Exercise**

This section explores current practices related to foods eaten and breastfeeding. As part of the FES interviews, women were asked to recall the last 24-hour period and describe their feeding activities (including breastfeeding).

### **Breastfeeding**

All twelve women that we spoke with indicated that they were still breastfeeding, and eight women reported breastfeeding their youngest child upon waking. The average number of times women breastfed during the 24-hour recall period was approximately nine, with a range from 5 to 20. Only one of the four mothers of children aged between zero and six months (the mother who reported breastfeeding 20 times during the recall period) recalled exclusively breastfeeding her child over the 24-hour period. The other women all combined breastfeeding with solid foods.

### **Child Feeding**

Most of the women recalled feeding the youngest child two to three meals over the course of the 24-hour recall period. The most common first meal was porridge prepared with maize meal and some combination of sugar, salt, and pounded groundnuts. Water was the most frequently reported drink accompanying the first meal. For the second meal, nshima and vegetables (cabbage, pumpkin leaves, beans, and/or rape) was reported most frequently. Women mostly recalled preparing the nshima and vegetables with cooking oil, tomatoes, and salt, but a few women also reported adding eggs. Again, water was the most common drink reported to accompany the index child’s second meal of the day. The third meal did not differ very much from the second meal, according to most women, with the exception of two women who added either meat or *kapenta* (fish) to the nshima and vegetables. The third child meal was also served most frequently with water.

## **4.3. Access to Food**

Access to food was examined in three dimensions: where it comes from, the quantities available, and how easy or difficult it is to obtain. These three elements are key determinants of what foods are fed to young children and pregnant women and



are thus a critical area of focus in our study. Important results in this section include the following:

- Many food items are available locally, in gardens, or are available for purchase from nearby shops.
- Items typically bought in shops include bread, rice, and cooking oil, although obviously there are financial constraints on these purchases.
- In both districts, meat is available when local animal owners slaughter, or when sellers pass through the community. Bush meat is also sometimes available.
- Garden produce is subject to seasonal availability (produce is more available in the rainy season and less so in the dry period).

### **Where Food Comes From**

In general, foods that are grown locally are readily available within the village, whereas all others have to be purchased in local towns or district capitals. Crops that are cultivated locally were typically referred to as being available right in the village, including vegetables such as rape, bondwe, pumpkins, and cabbage (which are frequently grown in gardens). Maize is mostly cultivated in local fields and then taken to local mills to be processed into mealie meal.<sup>11</sup> Crops that are grown locally are also often available for purchase at the local shops: “Beans and groundnuts are cultivated, hence was easy to get but bought when they run out” (FES respondent, Panjilayamanda village). Milk is either sourced locally or purchased from shops nearby (factory-packaged milk). One woman from Tambala village indicated that if you do not have money, you might go several months without drinking any milk. Cooking oil and rice also have to be sourced locally or purchased in town, although almost all respondents reporting buying rice, with the exception of one respondent (whose mother cultivated it). Bread, too, comes solely from shops in town. However, bread appears to be less available in Mbala than it is in Chipata—a number of respondents in Chinyika and Intala wards reported having to travel all the way to Mbala town (as opposed to their local shops) to purchase bread. In terms of meat, respondents from both districts reported that chickens, goats, pigs, and cattle were typically available for slaughter and purchase within the village. Aside from purchasing meat directly from another household or at the local shops, mobile meat sellers exist in some villages: “When we eat meat, we have to buy from people who come to sell on bicycles. Mostly they sell pork and goat meat.” Bush meat is also sold in villages by those who hunt.”

### **Availability: Quantities and Ease of Obtaining Food**

Maize and its by-products are typically available in large quantities year round. Greater quantities of vegetables are available during the rainy season than the dry season (and thus vegetable consumption is higher during the rainy season), according to many respondents. Meat and fish are not typically available in large quantities, unless one has a lot of money. Maize and its by-products seem to be widely available in the areas visited for this study. While many respondents maintained that vegetables such as rape, cabbage, and pumpkin were readily available, others indicated that

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<sup>11</sup> Mealie meal is coarse flour made from maize.

vegetables were sometimes difficult to obtain, especially during the dry season or for households without access to a garden. To this end, one FGD respondent stated: “Bondwe is not hard to get during the rainy season because it is a seasonal vegetable. We eat it every day during the rainy season. During the dry season, only those with gardens have bondwe” (caregiver, Chikunta village, Chinyika ward). General sentiments were that food is more readily available during the rainy season. In Chikunta, for example, one respondent said that food is easy to find from June to November but is quite scarce from November to January. Women from Panjilayamanda alluded to the same concept, albeit with a different timeframe for the dry season.

#### **4.4. Constraints and Barriers**

This section explores the environmental, financial, social, and cultural constraints households face when attempting to secure food, as well as households’ ability to overcome these barriers. These issues are important to understand in the context of a nutrition-related programme, such as the MCDP, because they may either facilitate or inhibit the successful uptake of programme interventions that specifically recommend dietary diversification and/or increasing meal frequency, both of which are desired outcomes in the MCDP theory of change. Key findings include the following:

- Respondents identified two main environmental constraints in both districts: water scarcity and poor soil. Insect pests and animals were also mentioned.
- Finances placed serious constraints on access to foods, particularly items that must be purchased at stores, such as meat, fish, and milk. Money is also required to pay for maize milling.
- Social challenges mentioned by women included the inability to own land themselves, and the fact that men’s irresponsible behaviour—especially in relation to alcohol—compromised their access to nutritious foods for their families. Women pointed out that they ended up doing the bulk of the farm work. It was also noted that polygamy could lead to nutrition problems because men tended to favour their youngest wives.
- A range of cultural constraints, focusing on permitted activities during menstruation and food taboos, were mentioned in all study wards.
- Financial coping strategies mentioned included piecework, distress sales of assets, and increase in crop diversity and yield with the aim of selling produce.

#### **Environmental**

The key environmental challenges identified by respondents in both Chipata and Mbala were water scarcity and soil infertility. In particular, respondents in Chipata said that vegetable growth could be compromised by a lack of water, and that there was no irrigation system in place to prevent vegetables from drying up. In Mbala, several respondents mentioned that the soil was not fertile enough for crops to thrive. Several other environmental concerns were raised, such as the need for pesticides to grow certain crops (such as rape) and trouble with animals eating vegetables from the garden, but these were not mentioned with the same frequency as water scarcity and soil infertility.

## **Financial**

Respondents in this study regularly reported that they lacked the funds necessary to purchase food: “When we don’t have money (as is usually the case), consumption of some foods is greatly limited” (FES respondent, Panjilayamanda village). A number of respondents indicated that foods that have to be purchased (such as meat, fish, or milk) are often difficult to obtain due to a lack of funds. In Chipata, for example, one respondent said that it can take up to two months to “find” meat because they do not have enough money to buy meat when the meat sellers come to the village. A woman in Chipata also reported that most households have neither a cow nor enough money to purchase milk. Some households exchange maize for meat, but this can put them at risk of running out of maize. In Mbala, the financial difficulty associated with obtaining fish was mentioned repeatedly: “Money is the hindrance to consumption of some foods like fresh fish. Given the money, we could travel to Mbala or Mpulungu to buy fresh fish” (caregiver, Chikunta village, Chinyika ward). A second financial obstacle that was mentioned frequently (particularly in Chipata) was the need to find money to pay for maize milling.

## **Social**

In both Chipata and Mbala, a number of women indicated that the inability to own their own land and their husbands’ irresponsible behaviour directly compromised their access to nutritious foods for their families. Male alcohol consumption, in particular, was an obstacle mentioned by many women. During an FGD in Tambala village, for example, one woman stated: “Most men in this village, including those with families, are irresponsible and bad hearted. They tend to leave the women to do most of the farm work while they walk about in the villages. They are so selfish, even when they have money and are asked to buy relish for the family they refuse. They don’t even care about their own children. We do most of the farm work but when money comes from the sales of the crops, they grab and keep it to themselves” (caregiver, Tambala village, Nthope ward). A similar statement was made by a woman in an FGD in Kaluluzi village: “Most men in this village only think of drinking alcohol and tend to leave the farm work to their wives and children. It is therefore up to a wife to find ways and means of having a meal on the table. As a result, not enough food (maize) is obtained” (caregiver, Kaluluzi village, Intala ward). Women also pointed out that polygamy adversely affected their children’s nutrition because men typically give preferential treatment to their youngest wives, even if it means using money or harvest from an older wife: “Polygamy does affect child feeding and nutrition. The man is usually biased towards the second (younger) wife. If you try to oppose the actions of your husband, they can even beat you and even threaten to divorce you. When he (husband) sells the produce we cultivated together, he takes all the money to the second wife and will be eating by the younger wife” (caregiver, Kaluluzi village, Intala ward).

## **Cultural**

There are certain cultural constraints related to women’s participation in farming. In Mbala, for example, women who are menstruating are not allowed to plant or even walk through farm fields. Menstruating women are believed to cause low yields if they participate in planting, and they put themselves in danger if they pass through fields while menstruating. In Panjilayamanda, women and children are restricted from

passing through certain areas belonging to the Paramount Chief Mpezeni, which inhibits their ability to fetch water. In both Chipata and Mbala, a number of taboos also exist around certain foods for young children. Pumpkin, specifically, is discouraged for young children. Older women seem to be the biggest perpetrators of the pumpkin taboo, and several of the younger women in Chibale indicated that they follow what they have been taught at the clinic (which includes feeding their babies pumpkin) as opposed to what older women in the village advise. Other food taboos include fish and certain meats, which are discouraged for young children.

### **Overcoming Constraints and Barriers**

A lack of money was the primary constraint mentioned by informants. A number of coping strategies were suggested by respondents to deal with the lack of money, including selling livestock (if they had it), taking up piecework, and working on other farms in the community. Crop diversification was also mentioned as a means of overcoming a lack of funds: “If we can start growing more crops such as beans, cotton, and other crops so as to increase revenues from crop sales” (caregiver, Panjilayamanda village, Nsingo ward). In Kalima village, one woman mentioned that growing vegetables during the dry season was another way to supplement an income shortfall: “Gardening during dry season, where a variety of vegetables can be grown, can help overcome the financial challenge. The water problem can be solved by drawing water from boreholes and using it to water the gardens” (caregiver, Kalima village, Nthope ward). Other women made similar comments, and growing additional or diversified crops was the most commonly referenced solution to financial difficulties.

Several women in FES interviews and FGDs suggested that certain foods are substituted for others when they are unavailable. For example, in Chikunta village, women reported that when they run out of rape or another fresh vegetable, they resort to dried vegetables such as bean leaves, bambara nut leaves, or *nyangu* (a type of mushroom). Similarly, several women reported that pounded groundnuts could be substituted for cooking oil. A few women mentioned the existence of cooperatives in nearby villages, but opinions were mixed on whether they actually benefitted women or not. On the one hand, women from Kaluluzi village reported that women’s cooperatives were difficult to join because they were always full, and one woman reported that the cooperative squandered her money. However, another woman from Kaluluzi commented: “In other villages, women have formed cooperatives and were given goats, cattle, ploughs, and other implements in order to empower them” (caregiver, Kaluluzi village, Intala ward).

### **4.5. Social and Cultural Drivers**

This section explores the social and cultural drivers of feeding practices in the communities visited for our study, including how decisions are made generally, how food and breastfeeding-related decisions are made specifically, and what (if any) rules exist regarding the foods pregnant women should or should not eat. These findings (for example, the decision-making power men hold) will influence the uptake of and responses to the MCDP.

Key findings include the following:

- Men are the principal decision makers in communities and households participating in this study, especially when the decisions are important (such as the sale of livestock). While some consensus decision making was reported, as well as some independent decision making by women, these were minority cases.
- Men exert some control over what is eaten by virtue of controlling what crops are grown. In some cases, women are given money by their husbands in order to buy food. Men are especially involved in food-related decision making when this involves buying meat.
- Clinics influence both breastfeeding and child-feeding decisions. While women make many of the decisions around breastfeeding, men may try to decide when children are weaned because of their desire to have more children.
- Pregnant women tend to make their own decisions about what to eat.
- Local leaders do not generally offer any kind of nutrition or child-feeding advice, although church leaders may indeed do so.

### **Household Decisions**

Overwhelmingly, men are perceived as the decision makers in the communities and households we visited for this study. Big decisions, such as the sale of livestock, are almost always made by men, suggesting that male buy-in will be critical to the success of the MCDP. In some cases, women are involved in the decision making process: “In some homes, decisions are made by consensus between the wife and the husband” (caregiver, Kaluluzi village, Intala ward). A few women suggested that smaller decisions (for example, when to sell a chicken or take maize to the mill for grinding) were sometimes made independently by women, but the majority responded that men were the ultimate decision makers. Typically, relatives living in other homesteads do not weigh in on internal household decisions. As one woman from Luchembe stated: “No, our relatives do not come and make decisions in our home. My mother in-law does not interfere” (caregiver, Luchembe village, Chinyika ward).

One woman from Kaluluzi village commented on the evolution of decision making over time, indicating that at no stage of life are women empowered to make their own decisions: “If you are married, the husband makes most of the decisions in a home. If not married, parents (mother or father) make the decisions. It is funny how men change after marriage. Before marriage, men would be so nice and sweet and as a couple rules and decisions are made together. But after having a first child, men tend to change, they break promises made and start doing things that they said they would not do” (caregiver, Kaluluzi village, Intala ward). Thus, according to this respondent, even if women share in decision making early on in a marriage, this typically does not endure.

### **Decisions on Family Foods**

As the primary decision maker in most homes, men often control the foods that are eaten by the family and the crops that are grown in the garden or field. As one woman from Luchembe village indicated: “[My husband] makes decisions on foods to be

eaten by the whole family. I follow what he has already decided to do, since he is the man of the house” (caregiver, Luchembe village, Chinyika ward). Women are, however, frequently consulted on farming-related matters (such as which seeds to grow) or on how to find specific foods, if not on what foods to purchase or prepare. In other cases, women were given money by their husband and allowed to decide what foods to buy and cook. Several women even referred to food and cooking as their “domain,” such as the FES respondent in Chipata who said: “On what to eat in the home, it is us women who decide. Women make decisions of what to eat in the home, especially if they are vegetables to be eaten. The husband gets involved, and even takes part in the buying, if it is meat that is to be eaten in the home as he may have the money to buy” (caregiver, Tambala village, Nthope ward). Thus, while women seem to be given some latitude with regards to what they cook, the men are still somewhat involved, and they are certainly involved if money is to be spent on something like meat. One respondent also referenced the local clinic: “The clinic also decides as they tell us what to eat and we tell our husbands to buy” (caregiver, Kalima village, Nthope ward).

### **Decisions on Breastfeeding**

Most respondents from both Mbala and Chipata indicated that decisions related to breastfeeding were made by the mothers themselves. Some women, such as this one from Luchembe village, reported that their husbands are also involved in breastfeeding decisions: “I make decisions about breastfeeding my baby. But my husband also decides on the matter, but I am the main decision maker” (caregiver, Luchembe village, Chinyika ward). Women from the FGD held in Tambala also said that men weigh in on when to wean a child from breastfeeding, and that this decision is sometimes influenced by the man’s desire to have more children (because breastfeeding is perceived to impact a woman’s ability to become pregnant again). A number of women referenced clinics and clinic personnel, saying that the decision to breastfeed, the duration of breastfeeding, and the incorporation of solid foods into young children’s diets were influenced heavily by what women are told at the clinic.

### **Decisions on Foods Eaten by Young Children**

Similar to breastfeeding, most women from Mbala and Chipata reported that mothers were primarily responsible for decisions about what their children eat. Women often do get input, however, from their husbands, the local clinic, relatives, or occasionally village elders. For example, women’s mothers or mothers-in-law may offer advice, but the actual decision making power rests with the child’s mother. With regard to the local clinic, a woman from Panjilayamanda said: “I make most decisions on foods given to the baby. But this is in close consultation with the health personnel at the clinic” (caregiver, Panjilayamanda village, Nsingo ward). This type of response was quite common among the female participants in our study. One woman from Kalima village also referenced village elders, reporting: “Decisions regarding foods to give the child come from village elders, especially during early days, after birth. As time goes by, I decide what to feed the child myself” (caregiver, Kalima village, Nthope ward). This was not the norm, however, and most women indicated that local leaders did not partake in or challenge decisions made by women on what to feed their young children.

## **Decisions on Pregnant Women’s Diets**

Women in Chipata and Mbala mostly reported deciding for themselves what to eat when pregnant, although several recalled getting advice from relatives or the local clinic as well. Notably, quite a number of superstitions exist related to specific foods and their alleged impact on pregnant women. For example, eating day-old nshima is believed to make a woman defecate while giving birth; eating eggs is believed to cause a child to be born without hair; and eating a pumpkin grown facing downward is believed to cause a baby to be born breech. Women also perceive certain rules about foods to avoid as prescribed by the local clinic. In Kaluluzi village, for example, an FGD respondent stated: “At the clinic, they teach us that pregnant women and children must not be eating cassava nshima because it makes the belly to get swollen. Pork must not be eaten by pregnant women because the pig has a lot of diseases and may lead to the child also getting sick of the same diseases. Most of us do follow these instructions” (caregiver, Kaluluzi village, Intala ward). Husbands were not referenced often in discussions surrounding pregnant women’s diets, although in one case an FGD participant from Chikunta village indicated that sometimes husbands forbid their pregnant wives from consuming a particular food.

Respondents referenced many different foods that were thought to be healthy for pregnant women to eat, with few patterns as to the types of foods suggested. Many women (particularly in Mbala) referenced getting guidance from local clinics on what foods to eat while pregnant. Some women reported having trouble following the guidance from the clinics, however. In Chikunta village, for example, one woman commented: “At the clinic, they teach about what the pregnant woman should be eating but the situation changes at home” (caregiver, Chikunta village, Chinyika ward). Other women recalled being given advice by their families, such as eating more vegetables, and some women were given no advice at all on foods to eat while pregnant. Only one woman (from Kaluluzi) mentioned getting advice or instruction from local leaders but maintained that this was not the norm: “Decisions on foods to be eaten by pregnant women are sometimes made by the elders. But we normally make these decisions ourselves” (caregiver, Kaluluzi village, Intala ward).

## **Local Leaders**

Understanding what influence (if any) local leadership structures have on health and nutrition practices provides important background information for any nutrition-related programme. Local leadership structures in the areas visited typically consisted of chiefs, headmen, village committees, elders, and church leaders (see Section 3 for village-level leadership details). Local leaders do not typically offer advice on child feeding or nutrition. A chief may encourage hard work and cultivation to produce more food but will not issue directives related to specific foods for specific individuals. Dietary information is provided at the clinic, as opposed to within the village, according to a respondent from Panjilayamanda: “Lessons on child nutrition and health are mostly made at the clinic, not here in the village. Leaders have never done that to anyone” (caregiver, Panjilayamanda village, Nsingo ward). However, local leaders do weigh in on sanitation-related issues. For example, a respondent from Kaluluzi indicated: “The leaders instruct us to dig a rubbish pit and construct the toilet” (caregiver, Kaluluzi village, Intala ward).

Churches, on the other hand, seem to offer more guidance on what foods should be consumed and by whom. For example, an FES respondent from Panjilayamanda indicated that the Seventh Day Adventist church prohibits consumption of rabbits, dove meat, pork, and *Mulamba* (bubble fish) and that these rules are adhered to. Several other women recalled that their churches or church groups had offered guidance on what to eat while pregnant and what to feed their young children. In Chikunta village, an FGD respondent reported: “Religious leaders sometimes teach us about child feeding when we meet in meetings. They tell us to always feed our children with a balanced diet. They also tell us to feed the children before going to church. When they notice that the child is not growing very well, these leaders advise us to feed the child in accordance with the teachings at the clinic” (caregiver, Chikunta village, Chinyika ward).

These are encouraging findings as the MCDP moves toward rollout because they indicate that the programme will not be starting with a blank slate in terms of nutrition knowledge. Perhaps from exposure to previous interventions, women already have a base of knowledge (however imperfect) about good nutrition practices, which can be built upon and strengthened as part of MCDP activities. However, access issues remain serious, because while a fairly diverse range of foodstuffs is available, it is not always accessible (as a result of both seasonal and financial constraints). This raises the issue of nutrition-sensitive agriculture initiatives, which could be a particularly valuable part of the MCDP, or at least a useful linkage. Finally, we note that it will be important to increase male buy-in on nutrition issues. Men should be playing a more positive role in increasing food security and dietary diversity within their households by supporting women in their work and responsibilities, shouldering a greater workload themselves, and reducing antisocial behaviour (such as excessive alcohol consumption).



## 5. Work and Time Allocation

The amount of time and work allocated to key domestic tasks related to child feeding is an important issue for nutrition- and nutrition-sensitive interventions aimed at improving maternal, infant, and young child feeding practices, particularly because the promotion of nutrition behaviour change (which hinges on embracing a range of best practices in child feeding) often makes demands on caregivers of young children. These demands may be new, unfamiliar, and challenging in a context where the burden of domestic work borne by women is already very high.<sup>12</sup> In this section, we address the issue of caregiver time and work allocation across five domains that are critical to maternal, infant, and young child feeding: procuring food, water, and fuel; preparing food; and feeding children. These topics were addressed in both focus group discussions and individual caregiver interviews by asking caregivers to discuss and explain the time they spent on each activity—an approach known as activity-specific recall. Caregivers were also asked a series of questions about workload, with a focus on the different roles they assume and whether they regularly receive help carrying out these tasks.

Success with activity-specific recall depends on field researchers being carefully trained to elicit discussion around the topic in question, and to compare and triangulate among informants and responses. Focus group discussions—in which multiple participants have the opportunity to discuss and respond to questions about how much time they allocate to various activities—are an ideal context for this method. Recall approaches can be contrasted with direct observation methods of time allocation. While the latter approach may produce more robust quantitative results, it requires researchers to spend sufficient time in the research context to a) ensure that multiple observations are taken at different times, and b) achieve a degree of “invisibility,” so that research subjects do not adjust their normal time allocation patterns for strategic or other reasons. Direct observation is also a notoriously intrusive data collection approach that can make informants uncomfortable. For these reasons, we opted for a simpler recall approach in this rapid assessment, combined with discussion of the topics and reasons for time allocations.

Overall, results across the five domains suggest that women bear a very heavy burden of work, from procuring food, water, and fuel to cooking and feeding tasks. Note that we do not imply here that men’s livelihood burdens are necessarily less onerous, particularly as tasks involving heavier work or greater distances tend to be done by men. What we do suggest, however, is that in key areas where women must perform tasks broadly related to household consumption of food and water, the workload is substantial and relentless. This certainly has implications for the rollout of interventions and recommendations that may make additional demands on women’s time and energy, such as attending clinics more frequently, cooking fresh food more often, or increasing the range of available foods in order to enhance dietary diversity.

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<sup>12</sup> Ellen Messer (1989) notes: “The appeal to health and nutrition planners to pay more attention to the value of women’s time in planning their programs and evaluating the reasons for low participation rates is customary in the anthropological literature.” In fact, Zambia is the site of some of the earliest work in nutritional anthropology—Audrey Richards’ pioneering 1939 study of diet, land, and work in Bemba society.

## 5.1. Procuring Food

*I am the one who looks for relish. A lot of time is spent, especially when obtaining relish that is either not produced by the household or that is seasonal. I spend approximately two hours looking for such relish. It is my responsible to obtain relish for my household. I don't get any help when it comes to obtaining relish (caregiver, Nsingo ward, Chipata).*

The communities included in this study are all highly dependent on small-scale agriculture—the principal livelihoods strategy throughout rural Zambia—to meet their food needs. Agricultural work (which is done by men, women, and children) thus constitutes a significant portion of the overall daily work burden, in both the Chipata and Mbala district communities. With some seasonal variation, the agricultural day begins at dawn. Women and men travel to their farms (the distance to which is highly variable) and work until mid-morning. Typically, they then return home, where women prepare a midday meal. After lunch, the women and men return to the fields for a second session, which lasts until late afternoon. During harvest season, families (including children) will spend whole days on their farms, harvesting maize for storage and, in some cases, sale.

Key findings from this line of enquiry relate to maize and its transformation, via processing, into mealie meal (and, to a lesser degree, cassava processing in Mbala), as well as the acquisition of ingredients for the accompanying relish:

- Producing mealie meal involves the cultivation of maize (done by men and women); harvesting (done by families); hulling (done by women); and finally milling. In Chipata, men are responsible for milling because the sacks of hulled maize must be transported to hammer mills, which are far from both the study wards. In contrast, milling is largely women's work in the Mbala wards because the mills are close to the communities. An interesting inference from these data is that women's workload increases in communities where hammer mills are close at hand, while men shoulder more of this burden in communities that are further from the mill.
- Ingredients for relish are either acquired from home gardens or purchased from itinerant vendors or markets.
- In general, gardens are not far away from any of the study communities, and respondents contrasted the relative ease of obtaining garden-grown relish ingredients with the more demanding maize processing regime.
- When finances permit, some vegetable and protein items can be purchased. If they are bought from itinerant vendors passing through the community, women can perform this transaction. However, purchasing from more remote markets is likely to be men's work because it involves travel.
- Some storage of food items occurs in both districts. Vegetables can be dried, and groundnuts and maize can be stockpiled. In Mbala, beans are a cash crop and are sometimes stored at home prior to marketing.

### Maize

Maize is of paramount importance in the dietary repertoire, both in Chipata and in Mbala, although it is supplemented with cassava in the latter district. Once harvested,

it must be hulled, and women reported that hulling a 50-kilogram bag of maize takes approximately one and a half hours. Once hulled, the maize must be transported to the hammer mill, where it is ground into mealie meal. The time burden of this task varied by ward. In both of the Chipata wards (Nsingo and Nthope), respondents reported that the mill was far away. Nsingo's hammer mills are located at Mwami and Feni. Mwami is four hours away on foot or on a bicycle, and transportation by oxcart is slower and can require an overnight stay at the mill. Feni is even further away—a two-day return journey on foot or a day by car. On occasion, families come together to hire a vehicle from the chief's palace; at other times, families with access to oxcarts may agree to carry sacks of maize to the mill for friends. Children are also sometimes sent to accompany the maize to the mill. Nthope's hammer mill (at kwa Undi) is four hours away on foot or an hour away by bicycle. Residents of this ward also reported paying other people (in cash or kind) to transport their maize to the mill by bicycle or oxcart. Informants reported that queues for milling services can be long. In contrast, hammer mills are very accessible in both of the Mbala wards (Chinyika and Intala) and are just a few minutes away from the villages where we carried out research. (Indeed, Intala has three hammer mills and residents can choose which to use.) In these wards, the main factor that affects how long it takes to have a supply of maize milled is the length of the queue at the hammer mill.

It is worth noting an interesting difference in household labour allocation here. In Chipata, all respondents stated that transporting maize to and from the hammer mill was the work of men. In Mbala, however, female caregivers noted that maize was transported to the mill by women, sometimes with help from their husbands and children but sometimes without: “We, the women, are the ones who take the maize to the hammer mill for milling and are helped by our children, if you have some old enough. Our husbands do not help us in taking the maize to the hammer mill, neither do they help in buying of vegetables” (caregiver FGD, Chinyika ward, Mbala).<sup>13</sup>

In Mbala, cassava is also an important staple, though it is not as dominant as maize. The cassava that is cultivated is the “bitter” variety (*Manihot esculenta* spp.), characterised by its higher hydrocyanic acid content, which must be removed by processing. In Mbala, this detoxification is achieved by soaking the peeled cassava in water for five days, thus leeching out the toxin. The cassava is then dried in the sun, typically for a further two days, before being pounded into a meal. Cassava processing (including detoxification) is done by women.

## Relish

Relish is, in effect, food that accompanies staples such as cassava or nshima. It usually refers to vegetable and protein items that complement the staple starch. In situations where relish includes purchased meat or fish, it is more expensive than the starch foods. Whether vegetables or protein, relish is eaten in smaller quantities than nshima or cassava.

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<sup>13</sup> It is probable that this contrast in the sexual division of labour between Chipata and Mbala owes less to cultural differences between the Ngoni and Mambwe peoples, and more to the difference in the accessibility of hammer mills, coupled with a conception of “far” and “near” spaces as male and female domains, respectively. This produces a situation where visits to the hammer mill are men's work if it is far away and women's work if it is nearby.

In the wards where this study was carried out, the ingredients for relish are obtained either by purchasing them at the market or—in the case of cultivation—growing them in gardens. (The time allocation suggested below for gardening activities includes cultivation of “relish ingredients,” such as vegetables). Residents of the Mbala communities also have some access to fish, which can be caught in the nearby lake.

In both study districts, vegetables grown in domestic gardens are obtained relatively quickly and easily (although one needs to factor in time spent on the processes required for cultivation). Caregivers made reference to spending between one and three hours per day obtaining vegetable foods from their gardens, although it should be noted that respondents may not systematically disaggregate harvesting vegetables from the garden from other agricultural activities (such as maize cultivation). Nonetheless, the point was made that obtaining vegetables for relish was less time-consuming than obtaining maize for mealie meal—an observation that presumably references the processing time needed for mealie meal production. In the study households, vegetables were also preserved by drying, and respondents noted that preparing vegetables dried in this way was particularly quick and easy.

Some vegetables (i.e., those not cultivated at home), legumes, meat, and fish are bought at markets outside the study villages or from itinerant vendors who travel from community to community selling food (although it should be noted that, for financial reasons, meat is rarely purchased). If purchasing from vendors, women buy the food and the process is reportedly quick. However, if a trip must be made to the market, this can be more time consuming (responses generally ranged from one to three hours, although it should be noted that respondents from Intala ward in Mbala reported that their market was only a few minutes away by foot).<sup>14</sup> Husbands and sometimes children make trips to the market, as noted by this respondent from Nthope ward in Chipata: “[We] buy beans at a place called ‘Munukwa’ [and] it is one-hour cycle. My husband goes to buy whatever we need, I remain home to do light chores. No one else helps us to obtain food” (caregiver, Nthope ward, Chipata). There was some variation across our study communities in distances to respondents’ gardens: In Mbala, one respondent from Chinyika ward stated that her vegetable garden was very far away, but the majority of informants in both study districts reported having gardens that were not far away.

Mbala is renowned for its bean production and informants from that district noted that, for them, beans were accessible quickly because they are a cash crop and are kept in people’s houses, ready for sale. Groundnuts are also stored at home, as is maize (prior to hulling). In cases where a family does not have a supply of cultivated beans stored at home, things can be much more difficult and one cannot always count on help from others, as this caregiver observed: “Obtaining beans takes a long time. It sometimes takes the whole day when we don’t have it in the house. One has to go and buy from those that have [and] the process of finding someone who has is what takes long. Getting rape from the garden takes on average two hours. We don’t help each other with such activities” (caregiver, Chinyika ward, Mbala). However, other caregivers reported receiving help, such as this woman from the same ward, who

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<sup>14</sup> “We buy relish from the shops and market nearby, just there about two minutes. Only my husband helps me with obtaining relish” (caregiver, Intala, Mbala). “Getting relish at the market takes about 10 minutes” (FGD, Intala, Mbala).

observed that, in general, obtaining relish ingredients was not an onerous task for her: “I do these (cassava processing) activities alone most of the time but I do get help from other people from time to time, especially when pounding. Obtaining relish is quite easy, we grow most of the vegetables and getting them does not take much time, only for vegetables like cabbages do we take a bit of time, say an hour, to buy from the market” (caregiver, Chinyika ward, Mbala).

It is worth noting that no mention was made of hunting or fishing, which reflects the fact that these are male activities and our interviewees and focus group participants were female. As a result, discussion focused on the food acquisition activities in which women participated.

## **5.2. Obtaining Water**

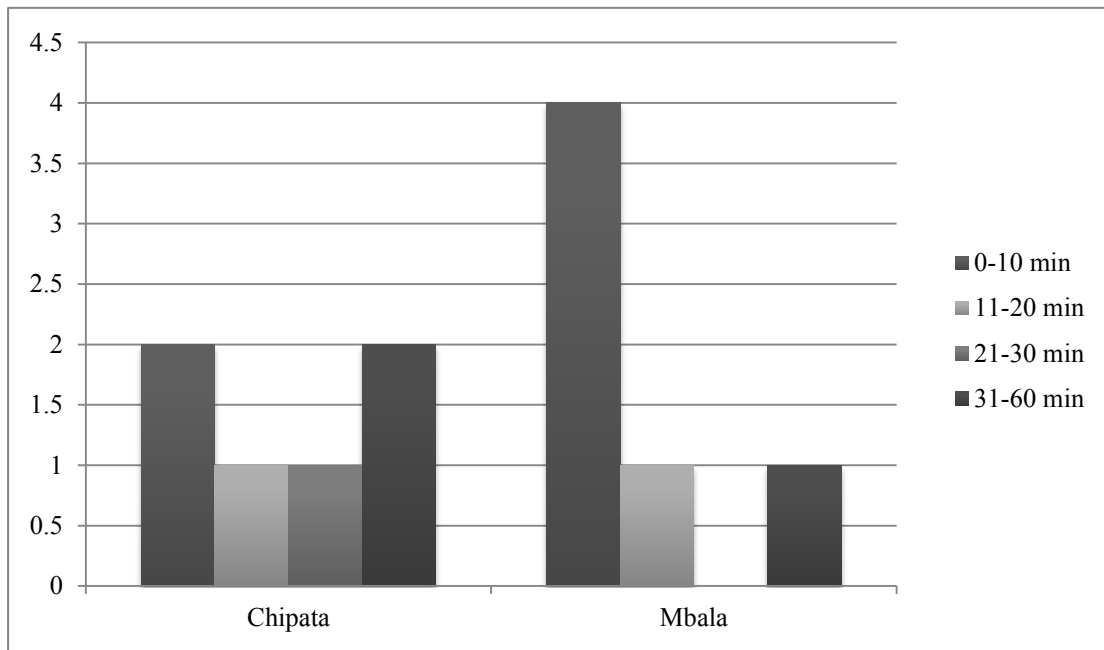
Fetching water appears to be a predominantly female task, with all FES respondents (female caregivers) indicating that either they themselves fetch water or that they assign a female child to do so. When asked how long it takes to fetch water, responses ranged from 2 minutes to 60 minutes, with an average of approximately 21 minutes.<sup>15</sup> Fetching times are illustrated in Figure 14. It is, however, very important to note that fetching water often includes a social dimension. It is not necessarily an act of walking to the source, filling a container, and returning; rather, it may include a period of social interaction at the water source. Focus group discussants in Chinyika ward, Mbala, also highlighted that women preferred to go to a more distant stream in order to combine the activity with clothes washing, and to avoid the more crowded borehole: “Fetching water takes us about three hours together with other things like washing, since we do it from the stream because at the borehole there are a lot of people in most cases” (FGD, Chinyika ward, Mbala).

As with fuel collection (which is discussed below), fetching water is a constant burden for women, both in terms of the time and energy expended, as well as the physical strain.

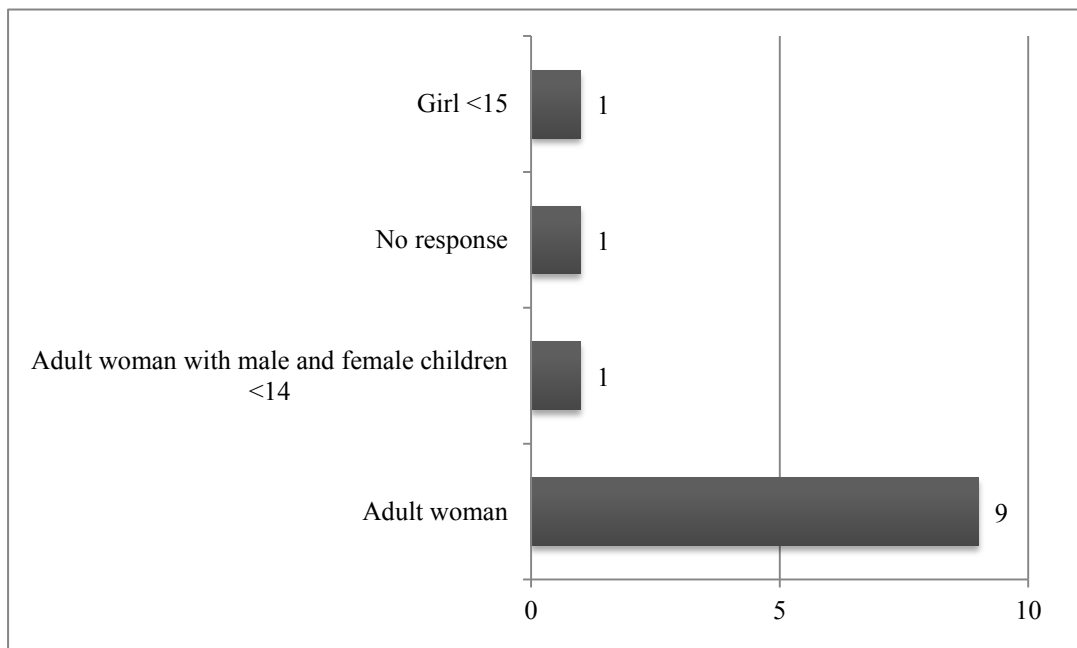
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<sup>15</sup> Time estimates are for the return journey.

**Figure 14: Time Taken to Obtain Water and Return Home**



**Figure 15. Who Fetches Water?**



### 5.3. Collecting Fuel

*The furthest forests can take two hours to collect firewood but usually we go the nearby forests. The frequency of collecting firewood [varies from] between two to three times per week. In this community, firewood collection is a woman's responsibility. And so we do most of the firewood collection. Only under special circumstances, like when a woman is sick, do men help with this activity (FGD, Nsingo ward, Chipata).*

Fuel for cooking is a critical component of the daily household processes associated with feeding families, and obtaining it is an ongoing and recurrent task across all wards of our study sample. Two sources of fuel are used in the wards where research was carried out: wood and charcoal. Kerosene is not used, and no alternative technologies (such as solar power) have arrived in these communities. The burden of obtaining cooking fuel has particular implications for the health and wellbeing of women and children in the context of nutrition and health programming. It is costly—both in terms of time and energy—and potentially dangerous for children, who must either be carried or possibly left unsupervised. Carrying heavy loads of wood on the back also risks strain injuries.

Key findings in this section are as follows:

- In Chipata’s Nsingo ward, no charcoal is used because of an edict imposed by the Paramount Chief. In this ward, firewood must be obtained from dead boughs and wood from farm clearing.
- The other Chipata study ward, Nthope, does not fall under this Chief’s jurisdiction, and residents are therefore free to obtain fuel as they wish. This area is more deforested than Nsingo, and families either buy charcoal from vendors or women collect firewood (although this takes longer because they must go further afield).
- In the Mbala wards, respondents reported journeys of varying lengths to collect firewood. As in Nthope ward, people do have the option of buying charcoal from vendors, but the financial cost must be evaluated against the savings in time.
- In both Chipata and Mbala, firewood collection is, above all, women’s work.

There is a current critical discourse focused on the widespread use of charcoal in Zambia, which is said to lead to environmental degradation on a variety of fronts, including indiscriminate deforestation in the country’s already depleted woodlands and air pollution (see, for example, Kutsch et al., 2011). Perhaps responding to similar critiques, Ngoni Paramount Chief Mpezeni has issued a decree forbidding the felling of trees, particularly for charcoal production, anywhere in his domain. An exception is made for trees felled in the process of clearing land for farming; in such cases, the wood can be used for fuel but cannot be made into charcoal because Paramount Chief Mpezeni has also forbidden the burning of wood for charcoal. Persons found to be in violation of these decrees can be made to cultivate the Paramount Chief’s lands, or may even be expelled from the area. The area covered by these bylaws extends to Nsingo ward in Chipata (but not Nthope). The research suggests that as a result of these policies, Nsingo households exclusively use collected firewood (dead boughs) and wood from farm clearing, unlike households in other wards.<sup>16</sup> Residents of Nsingo said that the firewood is “*nkuni zili pakono*” or “at one’s door step” and noted that “this [the Paramount Chief’s policy] is what makes the area have a lot of trees” (FGD, Nsingo ward, Chipata). The relative density and proximity of tree cover in Nsingo also helps to reduce the time and physical effort burden upon women, who do

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<sup>16</sup> This information was communicated in interviews and focus groups in this ward. It is possible that some households were in violation of the rules and concealing their use of charcoal, but we did not observe this and no-one spoke of it. Certainly, the land around the Nsingo villages was much more densely wooded than any other area in which we conducted research.

most of the firewood collection. As one Nsingo caregiver noted: “Firewood collection does not consume much of time because the village is surrounded by big trees and bushes. On average, I take less than one hour to collect firewood that would normally last for two days. This firewood collection activity is my responsible and I do it myself. No one helps me with its collection” (caregiver, Nsingo ward, Chipata).

This last interview quotation flags another important point: Firewood collection in Nsingo is women’s work, with occasional assistance from children. Men, on the whole, do not perform this task. One Nsingo caregiver observed that her husband was unwilling to help with firewood collection because “he considered collecting firewood light work as the wood was near the homestead” (caregiver, Nsingo ward, Chipata). Similar observations were made in focus group discussions, where women reported that men helped with firewood collection only if the size of the boughs or the amounts of wood were large enough to require an oxcart (FGD, Nsingo ward, Chipata).

The lands of Nthope ward do not fall under the Paramount Chief’s decree, so respondents in this ward reported mixed fuel use. While most people used firewood, some households were using charcoal. Charcoal is purchased from sellers in the village and is therefore less time consuming to obtain (the trade-off being that it must be paid for). Most, though not all, respondents from this ward reported travelling greater distances to find firewood than was the case in Nsingo: “Collecting firewood takes a bit of time, approximately two hours to go the bush and come back. This is so because firewood is somehow scarce in this area. We get help mostly from our children and other people we keep in homes. Some time when you are not feeling well, a friend can help. This activity is mostly done by women and children. Charcoal is mostly bought from those that make but people here rarely use it” (FGD, Nthope ward, Chipata). Other respondents from this ward reported spending the whole morning gathering firewood. As in other study wards, collecting firewood is done primarily by women, with occasional assistance from children and little help from men, except when the load is particularly large.

In both of the Mbala wards where the study was conducted, respondents reported using a combination of firewood and charcoal. As in Nthope ward, Chipata, buying charcoal locally is a timesaver and for this reason is the preferred method for obtaining charcoal, although it costs money (prices cited included 10 kwacha for a 25 kilogram bag of charcoal, or 25 kwacha for a 50 kilogram bag).<sup>17</sup> Just one respondent reported that her husband made his own charcoal so she did not need to buy it. Caregivers reported a wide range of time and distance figures for firewood collection, ranging from very close (in the environs of the house) to a four-hour round trip. This excerpt from a focus group discussion in Intala ward exemplifies some of the key facts about fuel acquisition in Mbala: “Firewood and charcoal are the main sources of fuel for cooking here. Collecting firewood from the forests up in the hills takes about two to three hours. If bought within the village [charcoal], it takes only five minutes. We help each other with collecting firewood, especially when someone is sick. For charcoal, it is only money. When there is money, you can buy from the market within the village, though others prefer buying right at the source in the forests (from charcoal burners). Buying charcoal within the village is just five minutes, whereas

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<sup>17</sup> “Charcoal is not difficult to find, the most important thing is money. Once you have money then nothing is impossible” (FGD, Chinyika ward, Mbala).



buying from the source may take a longer time because you may not find it there and then” (FGD, Intala ward, Mbala).

As in the Chipata wards, women undertake the bulk of firewood collection, with some help from children. Again, as in Chipata, women noted that when felling of trees was needed, men performed this task. Participants in a focus group discussion in Intala ward also reflected that husbands did not help with firewood collection because of the stigma attached to the task: “Sometimes our husbands do help us to fetch firewood. In most cases, husbands do not help for fear of being spotted as being under their wives’ spell. Some husbands are just not helpful” (FGD, Intala ward, Mbala). In Mbala, caregivers also emphasised that although their husbands were not helpful in collecting firewood, they could count on assistance from friends and neighbours.

#### **5.4. Preparing Food**

*We start cooking just when we get back from the fields around 10hrs. Cooking nshima takes us less than one hour. Cooking vegetables takes us a few minutes. When we put beans on the fire at six hours when going to the fields, it goes up to 12 hours for it to be ready to eat [...] Our husbands do not help us in preparing meals, you find he may be sleeping waiting for you to cook. Once you call him to eat, he eats and leaves to go and visit with his friends. (FGD, Chinyika ward, Mbala).*

Preparing food for the family is considered to be women’s work in all the wards in our study sample, although female caregivers did report receiving some help from children and, very occasionally, from their husbands, particularly when unwell or pregnant. While cooking is not in itself a physically demanding activity, it is a time-consuming chore that is carried out several times each day. As with the other chores and tasks undertaken as part of women’s daily workload, cooking responsibilities and priorities reduce the amount of time women have to do other things. In the context of programme design, this means that recommendations that women attend clinic sessions, or spend extra time preparing fresh meals or obtaining a more diverse range of ingredients, must compete with the structure of women’s social biography (in both Ngoni and Mambwe cultures), which dictates that adult women have primary responsibility for food preparation within the home.

Key findings in this section are as follows:

- In general, women perform the bulk of cooking work, although girls and preadolescent boys do provide some assistance, particularly with cleaning.
- A small number of instances of interhousehold cooperation emerged in focus group discussions.
- Cooking is usually done three times per day: in the early morning, at midday, and in the evening.
- The time commitment for cooking approximately doubles in the rainy season because of the difficulty of cooking with damp wood. This problem can be reduced by using charcoal, but this costs money.
- Acquiring vegetables takes longer in the rainy season because the vegetables must be collected from farms. In the dry season, households are more likely to purchase vegetables from local sellers.

While both boys and girls may help their mothers with kitchen activities, girls tend to do so more, and as the children grow older and themselves become gendered persons, this division becomes stronger: “It [helping in the kitchen] also depends on the age of the boy, the older they grow the less you can send them” (FGD, Intala ward, Mbala).<sup>18</sup> Children are most frequently said to help with washing plates and cooking wares. One focus group discussant stated that her mother-in-law lived nearby and sometimes helped her with cooking. While reports of interhousehold cooperation were not common, anecdotal cases emerged over the course of discussions. One focus group discussant from Chinyika ward offered an example of cooperation and solidarity among women from neighbouring households: “Doing these things (preparing food) alone would normally take two hours. If helped by other people, it takes one hour. We share the activities and do the cooking simultaneously on two fireplaces. This is during the dry season. During rainy season, the situation is different. For instance, if the cooking place (kitchen) is leaking, it takes a lot more time, approximately three hours. We help each other. When I find my friend preparing nshima and see that she is overwhelmed, I can easily help out with cutting vegetables” (FGD, Chinyika ward, Mbala). However, this example of interhousehold cooperation was contradicted by another informant from Nsingo ward in Chipata, who reported: “We do not move from one household to the other to render help with preparing food. Usually help comes from within the household or from close relatives” (FGD, Nsingo Ward, Chipata).

Most respondents reported cooking three times a day: once in the early morning, once at midday, and once in the evening. For morning meals, porridge (made of maize) was mentioned frequently (and is prepared for babies). At midday and in the evening, the most commonly reported combination was nshima and different variants of relish. Cooking takes much longer in the rainy season (when it takes approximately six hours per day) than in the dry season (when it takes approximately three hours per day).

Respondents noted that different components of meals took different times to cook, but that most ingredients did not take a long time (the exceptions being nshima and beans). Porridge prepared for breakfast or for babies takes between 45 minutes and one hour, while nshima is cooked in a little less than an hour, as is most vegetable relish, with the exception of cassava leaves. Cassava leaves take longer to prepare because they are pounded before cooking, and is the second ingredient in the dish (groundnuts). Cassava also requires a time commitment of several days because of the detoxification, drying, and pounding processes (although most of the time taken for detoxification is “passive” soaking time, rather than “active” time). Cassava also represents the only real reported difference in dietary repertoire between the Chipata and Mbala wards as it is far more common in the latter district. Respondents across the study wards unanimously reported that beans took a long time to cook, with figures between four and six hours cited (suggesting that the beans are not first soaked in water overnight, although this question was not asked): “When you put beans on fire early in the morning, it becomes ready at about 11 to 12 o’clock. If you take off the fire too early, that is the one that has a funny taste and not nice to eat” (FGD, Nthope ward, Chipata). Dried fish and meat, though rarely eaten, are said to take up to an hour to prepare.

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<sup>18</sup> In one focus group discussion in Nthope ward in Chipata, a participant said that her parents did not allow her to teach her male children to cook, on the grounds that this would be victimising them and not treating them with gender equality (FGD, Nthope ward, Chipata).

One of the most important factors that determines the amount of time expended by women on preparing food is seasonality. In the rainy season, meal preparation takes significantly longer because firewood is damp: “Preparing food takes less time during dry season and more time during rainy season. The reason for this difference in time taken to prepare food is in relation to the state of firewood. In wet season, firewood tends to be moist and wet as compared to dry season” (FGD, Nsingo ward, Chipata). The difference in dry season and rainy season cooking times is significant, with some respondents reporting that instead of spending one hour preparing a meal in the dry season, they may spend twice this amount of time in the rainy season (e.g., taking as long as one hour and twenty minutes to cook nshima). Some women manage to ameliorate the problem of damp firewood by using charcoal: “If one is using charcoal, there are no variations in the amount of time that one spends in preparing meals” (FGD, Intala ward, Mbala), but this costs money and is not an option in Nsingo ward because of the prohibition on charcoal. Cooking in the rainy season is more challenging than in the dry season for other reasons as well. Respondents flagged the problem of leaking roofs in kitchen areas, which can delay cooking because women must wait for the rain to stop before resuming the cooking. Furthermore, the agricultural schedule is busier during the rains: “Wet season is mostly associated with a lot of farming activities that eat up more time than dry season” (FGD, Nsingo ward, Chipata). A final point on the difference between wet and dry meal preparation was made by a caregiver from Intala ward in Mbala: “It takes longer to cook in the rainy season as we have to go [to] the fields to get vegetables, unlike now, when we just buy the vegetables.” The logic behind this statement relates to the seasonal nature of food production in rural Zambia. During the dry season, home garden production is low, and families with the means to do so may buy vegetables in a market. In the rainy season, however, home production is high and vegetables must be harvested from the farming areas.

Another factor that can extend the time expended by mothers on meal preparation is the care of smaller babies, which must be done simultaneously. A caregiver from Nsingo noted that her older children helped her by looking after the baby while she prepared the meal: “Preparing food for my household takes more time because I have to look after the baby as well, I can cook even for one hour. We eat three times a day. It is easier for me to cook in the morning and evening because my school-going children would help me with the baby, but when they are not around I take longer to cook” (caregiver, Nsingo ward, Mbala).

Finally, we note that clay brick, double-burner stoves were only in use in a small number of households. These not only use heat more efficiently, but also allow simultaneous cooking of two dishes. Researchers were surprised to see so few of these in use, particularly as one focus group discussant in Nthope ward of Chipata stated: “We have been taught how to make traditional double-plate stoves.” This suggests that this was a lost and subsequently reclaimed technology or skill.

## **5.5. Feeding Children**

As explained in Chapter 2, a purposive sampling strategy was employed for this study in order to ensure recruitment of a sample of caregivers looking after both infants aged between zero and six months and young children aged between 7 and 24 months. Although this is not a study on breastfeeding or complementary feeding practices, we

also wanted to ensure that the sample included infants who were predominantly breastfed, as well as young children who ate complementary foods. (Note that in this section, we are principally discussing feeding itself. Preparation of food fed to complementary feeding children—either mashed family foods or porridge—is discussed in Section 5.4).

Child feeding (whether breastfeeding or complementary feeding) is an important focal point for MICYN programming in general, and the 1,000 MCDP is no exception. Indeed, one of the listed priority interventions is promoting best practices in breastfeeding and complementary feeding. For breastfeeding, best practices include early initiation of breastfeeding, exclusive breastfeeding for the first six months, and responsive feeding. For complementary feeding, recommendations relate to dietary diversity, feeding quantity and feeding frequency, and safe and appropriate food preparation. The World Health Organization identifies the complementary feeding period (ideally between 6 and 24 months) as a particularly vulnerable phase that may mark the beginning of malnutrition for many infants.<sup>19</sup>

Key findings in this section are as follows:

- Child feeding—as a point on a larger continuum of food preparation and household activities—is women’s work. Only a very small number of caregivers reported receiving help from their husbands.
- Apart from the fixity of gender roles (or perhaps because of it), some female caregivers felt that their husbands should not be entrusted with child feeding.
- Feeding is not spoken of as being particularly difficult or onerous. Caregivers in one FGD suggested that a total of one and a half hours might be spent each day on child feeding, though this figure inevitably varies by season and number of children.
- Breastfeeding is responsive, and children who have moved to complementary feeding regimes continue to receive breast milk on demand.
- Breastfeeding mothers did not report receiving help to mitigate their burden of domestic chores and allow more time for breastfeeding.

With very few exceptions, child feeding is women’s work, whatever the age of the child. A small number of caregivers reported receiving occasional assistance from husbands, and a larger number noted that their older children helped to feed and care for their younger siblings, or that they were helped by other female relatives (such as sisters and grandmothers) or friends. Overall, however, the strong pattern is for women to feed their children themselves. This pattern was observed in all the wards in our study. Focus group discussants in Chipata’s Nsingo ward reported: “Even if they [the men] are at home, they don’t feed the child. They will say ‘That is not my job to feed the baby.’ When they [fathers] notice a child is hungry, they would just get the child and give it to you [the mother] to feed him or her” (FGD, Nsingo, Chipata). While this dominant explanation reflects fixed gender roles in the household, a smaller number of responses reflected other concerns and help to explain why women might not try to change the status quo. In a focus group carried out in Mbala’s Chinyika ward, for example, a discussant argued that if other people (specifically her

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<sup>19</sup> See [http://www.who.int/nutrition/topics/complementary\\_feeding/en/](http://www.who.int/nutrition/topics/complementary_feeding/en/)

husband and mother-in-law) were entrusted with helping to feed the child, they may become preoccupied with feeding themselves, may fail to pay proper attention to feeding the child, and may even end up eating the child's meal themselves.

Generally, child feeding is not spoken of as a difficult or especially time-consuming task, however. Caregivers noted that as long as children were not ill or "difficult feeders," they tended to eat within a few minutes and the task certainly required less than an hour. In a focus group carried out in Nthope ward in Chipata, a discussant suggested: "It takes about 30 minutes to feed a child in the morning and at lunch time. In a given day, the average time spent feeding the child is about one hour 30 minutes" (FGD, Nthope ward, Chipata). Breastfeeding is done on demand (as reported by all mothers of breastfeeding children who spoke on the issue), and even children who are already eating complementary foods are allowed access to breast milk when they demand it. "Suckling is done whenever the child wishes to suck," as one caregiver from Nsingo ward explained. Caregivers of complementary feeding children offered a range of estimates for the amount of time it took to feed their children, and there was notable dissent over whether it was quicker to feed a child nshima or porridge. (One caregiver who made the comparison stated that feeding porridge was faster while another noted that it was quicker to feed her child nshima.)

Breastfeeding mothers did not make any reference to receiving help from other family members in order to reduce their overall workload and help them meet breastfeeding requirements, although some respondents did note that other household members sometimes helped to feed children receiving complementary foods, allowing the mother to have a meal herself. Mothers in our sample who were carrying out exclusive breastfeeding at the time the research was conducted reported that they were unable to estimate the number of times their babies fed because they did so on demand. Echoing other exclusively breastfeeding mothers' responses, one mother from Nsingo ward explained: "I breastfeed the baby on demand so I cannot tell the number of times as it is not routine" (caregiver, Nsingo ward, Chipata). A discussant from the same focus group also reported: "We do not help each other with feeding children. The elders discourage us from doing so. This is to protect our children from many diseases such as HIV/AIDS and Ebola." While it is probable that this advice refers to breastfeeding another woman's baby, the meaning is not completely clear because the surrounding context of the quotation refers to complementary feeding, which suggests that elders may be discouraging complementary feeding of other women's babies, rather than breastfeeding.

A focus group discussant from Mbala's Intala ward summed up many of the issues addressed in this section in the following detailed response:

During rainy season, we normally carry uncooked food. When the child is hungry, we prepare and cook the food right there at the fields and feed the child ... For porridge, it may take 15 minutes for those who are quick and 30 to 35 minutes for the slow ones. As for nshima, the quick ones take seven minutes and 20 minutes for those that are slow. If a friend is busy or sick, she can get help from other people, there is no problem with that. If I visit a friend and find that she is feeding the baby and trying to eat herself, I help her with feeding the baby so that she can eat as well (FGD, Intala ward, Mbala).

It is worth dissecting this response in the light of preceding statements. First, we note that the caregiver is both prepared and responsive, ready to make a fire (itself challenging, given the points made earlier about cooking in the rainy season) and cook the foodstuffs she has brought to feed her child in the fields. Second, while her suggested timings vary considerably, this probably reflects the reality of feeding different children. Moreover, none of the timings exceed 35 minutes. Finally, she makes an important point about solidarity and cooperation, emphasising that caregivers can and do support each other to help ensure proper feeding of both child and caregiver.

The common thread running through all of the findings presented in this section is the very heavy work burden experienced by women. Virtually every aspect of the overall subsistence system contributes to this burden. Under these circumstances, implementing programme activities that ultimately add to this workload will be challenging. Ideally, thought should be directed towards seeking ways to reduce the work burdens borne by female caregivers through innovation, simple technologies, or behaviour change, particularly around gender roles.

## 6. Knowledge and Use of MIYCN and Health Services

Knowledge of available services oriented toward improving the health and nutrition of mothers, infants, and young children is a necessary prerequisite for uptake of these services. In this section, we explore the issue of knowledge and information: What information is available to caregivers of infants and young children, or to pregnant women? Where do caregivers and pregnant women get this information from? We also explore the associated issue of uptake: Do caregivers and pregnant women act on the information if there are available and accessible services on offer? What possible barriers might people face that would prevent or discourage them from service uptake? It is also important to understand what kind of health- and nutrition-related messages caregivers have been (or are being) exposed to, and to identify the greatest knowledge gaps, in order to tailor the development of appropriate messaging content as part of the MCDP design.

We should note here that the timing of this study's data collection was deliberately fixed prior to the rollout of the 1,000 Days Programme in the study wards. This means that the particular package of priority interventions contemplated by the 1,000 Days Programme had not yet been established in the study areas at the time of data collection. However, because the programme's package of interventions includes some strengthening of existing service delivery, exploring the issues around the uptake of these existing services is nonetheless helpful, because the results of this research can be fed into the process of building and strengthening the 1,000 Days package. Issues related specifically to the uptake of the priority interventions once the programme has rolled out will be explored in the service utilisation component of the upcoming process evaluation.

### 6.1. Messages and Sources of Nutrition Information

*We also consult with older people, such as grandmothers, on several situations. We consult [with] them because they are more experienced and know a lot of things that can be helpful to us, our husbands, and children. We also consult with neighbours and friends, only those we can trust.*

*When I want to consult, I would go to the doctor at the clinic. The doctor is capable of telling me what to do. I can also consult my grandmother as she is open to me and can tell me anything I need to know. I don't need any support.*

(FGD, Chinyika ward, Mbala)

Where do caregivers and pregnant women obtain information about health and nutrition—both for themselves, and for the infants and young children in their care? What kind of information is on offer? These questions were explored in both focus group discussions and individual in-depth interviews with caregivers and pregnant women. Key findings presented in this section include the following:

- Clinics are the most important source of MIYCN information, channelled through relevant antenatal and under-five sessions.
- Clinic personnel enjoy good credibility in the study communities.

- Advice and recommendations offered by clinics are well tailored to children’s age or women’s reproductive status.
- Some recommendations on water, hygiene, and sanitation issues are also offered.
- Other important sources of MIYCN information include the radio, neighbourhood health volunteers, older relatives, and other respected people (such as marriage instructors).

Overwhelmingly, the clinic was the most widely reported source of health and nutrition information for caregivers and for pregnant women across sample wards. The distance from study communities to clinics varied (see Section 3), but even in areas with more limited access to clinics, interviewees and focus group discussants identified the clinics as crucial sources of information on health and nutrition for infants, young children, and pregnant women. Within the clinics themselves, respondents cited doctors and nurses as the personnel with whom they tended to interact and from whom they received information. In Chipata’s Nsingo ward, FGD participants noted that they attended both under-five sessions and, when pregnant, antenatal check-ups: “We hear about nutrition and child feeding from the clinic. They teach us during antenatal and under-five clinic visits. They tell us [about] the need to give the baby three meals per day. We are also told to eat a lot of vegetables and groundnuts in relish and porridge. They also tell us to pound dry *kapenta* and mixed with the baby’s porridge” (FGD, Nsingo Ward, Chipata).

Clinic personnel also enjoyed good credibility among the caregivers and pregnant women who spoke about the issue. One respondent noted that in the event that a child in your care was observed to be underweight, the doctor would “sit you down and educate you” (FGD, Nsingo ward, Chipata). Indeed, in Mbala’s Chinyika ward, focus group discussants asserted that they did not receive information from any other source: “We obtain information from the clinic and no other place [general agreement]. They have never taught us anything at school regarding child feeding. From the radio, we have not heard. Community health workers are there in the village but do not teach us anything on child feeding” (FGD, Chinyika ward, Mbala). We should, however, note that other respondents from this ward reported obtaining information from other sources, such as older people and the radio. Interestingly, one pregnant woman interviewed in Nthope ward observed that her clinic did not provide pregnant women with any dietary advice, but rather focused upon avoiding infection by disease.

Nutrition advice provided by clinics depended, as it should, upon the person receiving the advice. For caregivers of infants under six months, exclusive breastfeeding was emphasised: “At the clinic, they teach us not to feed our babies on solid foods or water, not until the baby is six months old. They also teach us to continuously breastfeed the baby in the first month because breast milk contains a lot of nutrients for the baby” (FGD, Intala ward, Mbala). However, as this mother from Chipata’s Nthope ward reported, this advice is not always easy to follow—even with the best intentions—because it is mediated by quotidian realities, power, and social dynamics within the household: “My mother-in-law last month told me to start giving the baby porridge because he was crying a lot and I did that [...] Now the baby eats a lot after eating and he doesn’t cry. I started giving him porridge at four months, I just couldn’t stand him crying. I follow instructions from the clinic but this one I couldn’t wait



until the baby was six months old because I was sure that the crying was due to hunger” (caregiver, Nthope ward, Chipata).<sup>20</sup> For caregivers of young children aged six months and older, clinic personnel reportedly stress meal frequency (feeding four times a day) and dietary diversity, particularly the inclusion of vitamin-rich, protein, or high-energy foods such as meat, pumpkin, beans, pounded *kapenta*, and ground nuts. In one study ward (Intala), focus group discussants also referenced possible synergies between agriculture and nutrition, noting that Agricultural Officers had encouraged and taught them to grow a variety of nutritious crops. Pregnant women attending antenatal consultations are also given nutrition and health advice at clinics: “The clinic advises us to eat vegetables such as cabbage, rape, and pumpkin leaves. They tell us not to use soda when cooking relish such as okra. They said soda is not good for the unborn baby” (caregiver, Chinyika ward, Mbala).

In addition to providing counselling on best feeding practices for pregnant women and caregivers of infants and young children, some clinics also offer advice on water, hygiene, and sanitation topics. In Mbala’s Nthope ward, for example, caregivers reported that they had been advised to construct pit latrines and rubbish pits, and to avoid taking their meals near the toilet facilities.

As indicated above, while the clinic is the preeminent source of information in the wards where this study was carried out, it is not by any means the only source of information. Caregivers and pregnant women also reported receiving information and advice on nutrition and health topics from a range of other sources. After the clinic, the two most salient sources of information referenced in the data were the radio (both the Zambian National Broadcasting channel and the Catholic-run Radio Maria) and other members of the community, particularly older relatives. A smaller number of respondents mentioned neighbourhood volunteers and health committees as information sources. In Chipata’s Nthope ward, focus group discussants noted that at the clinic, the nurse was at times too busy with other duties (such as attending childbirths) to offer much in the way of nutrition training. At such times, the discussants noted, neighbourhood volunteers who operated out of the clinic could fill this gap. The knowledge of such volunteers was said to be more limited, but the focus group discussants reported that they (the volunteers) did at times receive training from the nurse at the clinic. The messaging broadcast via radio is similar to that provided by the clinic, in that it emphasises dietary diversity and balanced meals: “I heard that we are supposed to cook different types of food. This means that children should not eat one type of relish in a day. The programme focused on nutrition aspect, stressing on the need to have a balanced meal all the time. I heard this on Radio Maria” (caregiver, Nsingo ward, Chipata). Radio programmes were also reported to emphasise hygiene and sanitation messaging.

Elders (and, to a lesser degree, peers) both within and outside households were also cited as sources of information about young child feeding (although generally not breastfeeding of infants). The advice received was similar to that provided by the radio and the clinic staff: ensure children’s meals are both diverse and nutrient-dense by adding groundnuts “so that the child can have good nourishment” (Chewa: *nthanzi*. FGD, Nsingo Ward, Chipata). As one caregiver from Chinyika ward in Mbala reported: “Apart from the clinic, we have parents and the father of the children who

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<sup>20</sup> At the time of data collection, the child referred to by this caregiver was five months old and was four months old when porridge was introduced as described.

help us in how to feed the small child. Our parents will talk about feeding the child; they will say ‘please take care feeding this child, this child used to look healthy, now he/she has lost weight.’ My parents and my mother in-law do tell me to be putting things that give energy (like milk) in the porridge.”

As noted above, pregnant women obtain information from similar sources, principally from attendance at antenatal consultations run by clinics, but also from elders, mothers-in-law, and friends. One response from a pregnant interviewee in Nthope ward in Chipata helps us to understand the plural nature of information sources accessed by pregnant women and caregivers: “I can go to the nurse to ask. It’s because I feel she has learnt these things [nutrition, health issues] so she is able to advise me. I can also ask from my friends or old/elderly women. I would ask so that I would have knowledge on the things I do not know” (caregiver, Nthope ward, Chipata). Another respondent from Intala ward in Mbala reported that information and advice could also be obtained from the traditional Bemba marriage instructors (*bana chimbusa*): “I also get information from *bana chimbusa*. She told me not to eat too much rice when pregnant in order to avoid blood from draining” (caregiver, Intala ward, Mbala). Advice received from these various sources was similar to that provided to caregivers of complementary feeding children, with an emphasis on quantity and diversity, as well as suggesting additions such as offal.

Finally, we note that caregivers reported (although much less frequently) receiving advice from the Ministry of Community Development, Mother and Child Health, from the NGO Action Aid, and (in Chipata’s Nthope ward) from a “white woman.” (We were unable to verify this person’s identity. She may be a missionary or a volunteer with the Peace Corps or a similar programme, but she was said to teach at the school and to be “associated with the clinic.”) It is worth noting here that discourse around best practices in nutrition and health is already a part of caregivers’ and pregnant women’s lives as a result of significant exposure to nutrition and health messaging content. The 1,000 MCDP can benefit from the existence of this messaging base and the fact that the ground has already been broken. The concepts that the 1,000 MCDP will be promoting are not completely new, and this should benefit the programme, assuming that other enabling conditions and good delivery channels are in place.

## **6.2. Knowledge of Available MIYCN and Health Services**

*We have a number of health services in the area. These include antenatal and under five years clinic. At antenatal clinic, they teach us how to take care of ourselves during pregnancy; they also tell us the kind of foods to eat in order for baby in the womb to grow properly. Another programme is Chipolopolo, administered by Mbala District Hospital and Action Aid (FGD, Chinyika ward, Mbala).<sup>21</sup>*

What do women in our study communities know about the health and nutrition services locally available to caregivers of infants and young children, or to pregnant women? Responses to these questions are particularly relevant to the MCDP because of the programme’s focus on leveraging, and where necessary strengthening, existing

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<sup>21</sup> This quotation is somewhat misinformed. The Irish Aid-funded Chipolopolo pilot is not implemented by Action Aid, but rather by the Ministry of Health with support from UNICEF.

services. We also note that it is important to understand the perspectives of potential beneficiaries (caregivers and pregnant women) on available services. While a given service may, in theory, be available at a given location, it may not be accessed by its intended beneficiaries, which suggests that there may be a problem associated with delivery or utilisation. Ultimately, we are interested in understanding what respondents regard as the gamut of services which they themselves access. In this section, we present our results by ward because of the emphasis on clinic-based service provision. (As explained in Section 3, each of the study wards possessed a separate clinic infrastructure, and the villages within each ward all accessed the same clinic facilities.)

Key results in this section are as follows:

- All clinics offered under-five and antenatal services, which serve as a mechanism for imparting key health and nutrition information to caregivers and pregnant women.
- Some “extra” services are offered in some clinics. The clinic in Nsingo offers traditional birth attendant services, while Nthope’s clinic benefits from the work of specialised nutrition, water, and sanitation experts.
- In Chinyika ward, an MNP-sachet programme is being piloted.

### **Nsingo Ward, Chipata**

Nsingo informants referenced “scale services” for children under the age of five and the antenatal consultations provided at clinics. As noted above, these provide context for the provision of health and nutrition information to caregivers and pregnant women.

Other available services that caregivers were aware of include vaccination programmes (measles) and childbirth assistance from traditional birth attendants. The clinic also provides advice on preventing and managing conditions such as malaria and diarrhoea. Discussants in one focus group particularly lamented the fact that the Mwami Mission Hospital used to provide food assistance many years ago (groundnuts, *kapenta*, rice, and cooking oil) but no longer does so.

### **Nthope Ward, Chipata**

In Nthope, nutrition advice services are provided primarily through the clinic, where caregivers and pregnant women attend under-five and antenatal consultations. The clinic benefits from the services of the previously mentioned “white nutrition expert” (who teaches women food preparation techniques), as well as from the expertise of a dedicated hygiene and sanitation expert. Nthope respondents also mentioned the work of neighbourhood volunteers who help to convey maternal health messages. In addition to these services, respondents from Nthope cited the work of an HIV/AIDS club and a programme focused on orphans. The latter provides shoes and clothes and has sunk a borehole from which “we have all benefitted, in that we draw water from the borehole” (caregiver, Nthope ward, Chipata).

### **Chinyika Ward, Mbala**

Chinyika ward stands out as the only ward in our study where respondents mentioned services beyond those delivered via clinic sessions targeted at caregivers of children under the age of five and pregnant women, specifically the Chipolopolo programme. In this programme, caregivers of children aged between 6 and 23 months are provided with sachets of standard 15-micronutrient power mix, distributed free of charge through the clinic, and are advised to administer 10 sachets per month to their children with food. Understandings of the intervention varied, however, illustrating the importance of proper and reinforced programme communications. While one respondent asserted that Chipolopolo was usually given to children who are “not looking healthy,” focus group discussants stated that it was not recommended for children who were ill. Parents “do give their children Chipolopolo, although others throw [it] away because they haven’t found any good in it” (caregiver, Chinyika ward, Mbala). Other respondents reported that they had been told that Chipolopolo would aid their children’s brain development.

### **Intala Ward, Mbala**

In Intala ward, respondents referenced only under-five and antenatal sessions provided by the clinic. One caregiver also observed: “There is under-five clinic and I do take the child but they do not teach on feeding the child. They teach just a little on that subject” (caregiver, Intala ward, Mbala). As previously noted, there was no discussion of the Chipolopolo intervention at all: “We receive under-five and antenatal services at the clinic. Apart from these, there are no other health services that are offered” (FGD, Intala ward, Mbala).

## **6.3. MIYCN and Health Services: Uptake and Challenges**

In the preceding sections, we examined the sources of nutrition and health information and knowledge, the messaging content, and other available services from the point of view of caregivers and pregnant women. We now turn to questions of uptake: Do caregivers and pregnant women follow health and nutrition advice they have been given? Do they attend consultations or counselling at clinics? If they do not, what are the reasons for the uptake gap? For obvious reasons, the answers to these questions are directly relevant to the design, rollout, and implementation of MIYCN interventions such as those built into the design of the MCDP. This is especially true of programme components designed to promote behaviour change. In this section, we explore these questions through interviews and focus group discussions with caregivers and pregnant women.

Key findings detailed below include the following:

- The data revealed good self-reported clinic attendance, although some women reported missing sessions because they were “lazy” or lacked energy. One clinic imposes punishments on women who miss clinic sessions and has tried to incentivise institutional childbirth.
- Caregivers also attend clinics in response to acute health problems such as diarrhoea.
- Many respondents reported a range of problems and obstacles to following MIYCN advice and recommendations, including time allocation and work burdens that made it difficult for women to accommodate new or more

complex activities, such as cooking fresh nshima at every meal or boiling drinking water.

- Recommendations on feeding frequency and increasing dietary diversity were also hard to follow for financial reasons.
- Respondents offered varied opinions about support from husbands or partners in implementing recommended practices.
- Chipolopolo has met with ambivalence in Chinyika ward, although to a large extent this is probably the result of communication gaps in helping people to understand the pilot programme.

Across the wards included in the study sample, respondents generally reported good attendance at under-five and antenatal clinics, although some caregivers complained about the distance, commenting that they were too “lazy” to go. It was also suggested that nurses who make community-level visits for growth monitoring of children under the age of five should combine these activities with administering vitamins and vaccines, because adding additional clinic visits for vaccinations wastes time.

Interestingly, the clinic in one ward (Chinyika, in Mbala) had developed a system of punishments for failure to attend under-five clinics, and focus group discussants in this ward noted that the system was an effective mechanism for ensuring attendance: “Even if you checked our under-five cards, you will see that we do take the children. If you don’t take the child to the clinic for under-five, they punish right from the clinic. They can make you sweep the floor at the clinic, mow the grass, or even dig. So we do take our children for under-five just to avoid the punishment” (FGD, Chinyika ward, Mbala). Similarly stern measures have been established at this clinic to incentivise institutional childbirth: Mothers who give birth at home are subsequently charged a punitive 50 kwacha fine when they bring their newborn babies into the clinic. The clinic also requires husbands to attend the first antenatal visit. We should note that in addition to attending under-five and antenatal clinics, caregivers go to clinics to access general health services, particularly to seek treatment for children suffering from diarrhoea, seizures, respiratory problems, measles, or other childhood diseases.

Some respondents reported making a significant effort to comply with the advice dispensed at clinic sessions, commenting that “we made a decision to follow and practise teachings from the clinic,” and that “we all use these services and do not face challenges while accessing them.” However, the majority of respondents across the study wards in both the Chipata and Mbala districts reported a range of problems and obstacles that prevented full compliance and service uptake. We should note at the outset that the principal problem here does not seem to be attendance at clinic sessions (one can say that there is a willingness to engage with service provision), but rather with following the advice offered at these sessions.

An important obstacle to compliance with clinic-dispensed advice is time allocation. As noted in Section 5 of this report, women lead busy lives and must balance a wide and complex range of tasks in order to ensure that their households have water, fuel, and cooked food. For example, in a focus group discussion carried out in Chipata’s Nsingo ward, a number of participants concurred that they (caregivers) did not “follow most of the teachings because they tend to be very busy with other things and they feel that some of these teachings delay them doing other chores.” In the same

focus group, discussants noted that they had been advised by the clinic to always prepare fresh nshima for their young children, rather than feeding leftovers. Again, this was interpreted as an unreasonable request because of the extra time required. (As described in Section 5, cooking nshima can take approximately one hour, but the time taken to acquire firewood and start a cooking fire must also be taken into account, especially in the wet season.) Some respondents also cited their own “laziness”—which should probably be glossed as tiredness, lack of energy, or unwillingness to add to their already substantial work burdens—as an obstacle to putting clinic teachings into practice. In Chipata’s Nthope ward, a mother of five children (the youngest of whom was five months old) explained some of the factors and challenges she faced, such as carrying a child to the clinic when pregnant, and noted that the reaction of the clinic staff to her absenteeism had itself been discouraging: “The first two children I stopped taking them for under-five clinic when they were two years old. I would get pregnant when the child is two years old so I used to feel lazy to go to the under-five clinic, I used to feel lazy to carry the baby. Sometimes the nurses would get upset when I miss sessions, so I decided to stop going there. I intend to continue taking my two under-five years children that I have now to the under-five clinic until they are over age. I will continue with these because nowadays they check the under-five cards whenever a child is starting school” (caregiver, Nthope ward, Chipata).

Likewise, in Mbala’s Intala ward, focus group discussants pointed to “laziness” or “other commitments” to explain why some of them did not attend antenatal or under-five activities organised at the clinic. The same discussants also explained that even though they were informed about the relationship between dirty water and gastrointestinal problems, and had been advised by the clinic staff to boil water or add chlorine, “we usually don’t boil the water because of our laziness or we just don’t listen” (FGD, Intala ward, Mbala). Focus group discussants in Chipata’s Nsingo ward recounted a similar story. Although they had been advised by the clinic to place their babies on mats and ensure that they did not pick up dirt or contaminated items from the floor to put in their mouths (to help alleviate the gum itching associated with teething), some felt that they simply did not have time to constantly monitor their children. One respondent from Chiynika ward in Mbala reported missing a clinic session because of a funeral, flagging the point that clinic attendance might not be prioritised when in competition with important social or cultural obligations.

Few respondents cited lack of understanding as a reason for noncompliance with clinic advice, although it is worth noting that one woman—a mother of a 15-month old daughter in Chipata’s Nthope ward—did not understand that the age of her child placed her squarely in the target beneficiary group: “I do not take part in the clinic activities and I am not a beneficiary of the services. I just hear from people who go to the clinic about these teachings. I do not know their activity schedule but am willing to start receiving so that I can also learn things” (caregiver, Nthope ward, Chipata).

As previously noted, dietary advice provided by clinics to pregnant women and caregivers of young children often focuses on increasing dietary diversity by including protein- and micronutrient-dense foods, as well as increasing the number of meals provided each day. These requests have cost implications, in terms of money, time, and work. Some respondents addressed this issue, highlighting the financial burden as an obstacle to following the dietary advice provided by clinics. A discussant at a focus group in Nthope ward observed that “...if the child must be

eating five times a day as recommended at the clinic, we fail to follow [the advice] because food is hard to find because finance are not easy to come by hence we tend not to buy some food. Feeding of different foods is difficult because we do not have some of them at hand like milk, bananas as you need money to buy them” (FGD, Nthope Ward, Chipata). A pregnant discussant from the same FGD went on to explain that husbands only responded to their dietary needs when the situation became serious: “Pregnant women try to eat foods that increase the blood levels in the body. Husbands just become serious in providing milk or different foods when they have observed that their pregnant wife is sick or has fainted and the clinic says she needs more blood” (FGD, Nthope ward, Chipata).

Not all caregivers reported unsupportive behaviour from husbands, however. Reflecting on advice received at antenatal sessions held at the clinic, a mother from Chinyika ward noted: “My husband used to help me, as he is the one who gave me the pregnancy” (caregiver, Chinyika ward, Mbala). Focus group discussants in Chinyika ward also complained that food preparation and cooking demonstrations held at the clinic made impractical demands in terms of ingredients and offered nothing in the way of tangible benefits: “People only come here to teach us on various foods and how to prepare them but they don’t provide anything tangible ... All they do is make demonstrations on how to prepare foods for children. They normally bring with them food samples such as meat, fish, *kapenta*, chicken, groundnuts, and cooking oil. These food samples are then briefly cooked and pounded afterwards. Once that is done, they would then mix different foods to make a sample ... It is a big challenge for us here to obtain these various ingredients on our own. We just cannot manage to meet or have all the ingredients to prepare the meal, hence most people here do not benefit from this initiative” (FGD, Chinyika ward, Mbala).

As noted previously, the Chipolopolo initiative was only discussed in Chinyika ward. While some caregivers were happy to participate in the programme, administering the MNP sachets as directed, it was noted that supplies were irregular and that the supplements were therefore administered “whenever the providers bring [them] ... we do not receive every month. They give once in while when they come and it is especially when a child is not doing well” (FGD, Chinyika ward, Mbala). Participants in the other focus group discussion held in this ward expressed dissatisfaction with the initiative, complaining that “the Chipolopolo team (nutrition team from health), they just come here to teach and disappear” (FGD, Chinyika Ward, Mbala). Discussants in this focus group also pointed out that children had been tested for HIV and those who tested positive were excluded from the intervention.<sup>22</sup> It was also noted that because one child had died after taking Chipolopolo, “most of the women in the village shy away from Chipolopolo” (FGD, Chinyika ward, Mbala). This point was also made by a Chinyika mother (whose child was too young to participate in the intervention): “Many people in this village have not embraced this programme” (caregiver, Chinyika ward, Mbala).

Finally, it is worth mentioning some of the challenges to uptake that were raised by focus group discussants and interviewees across the sample wards, but which have less salience in the data. These include a report that water boiled over a wood fire, per the advice received from the clinic, smells of smoke and is unpleasant to drink; an

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<sup>22</sup> This exclusion presumably related to the fact that the Chipolopolo intervention in Mbala was part of a trial evaluation.

observation that clinics are not properly equipped to carry out antenatal examinations; and concern that women without spouses (single or widowed) can find clinic visits embarrassing.

#### **6.4. Other Support and Services Needed**

*What we need here is for the government to provide us with food for the children (FGD, Chinyika ward, Mbala).*

*We need help in the form of food such as groundnuts, cooking oil, and clothing for our babies. This help in my opinion can come from people like you [research team] and other organisations [general agreement] (FGD, Nsingo ward, Chipata).*

During focus group discussions and FES interviews, participants were asked questions about other kinds of services or support they felt they needed access to in order to improve the health and nutrition status of their children and of pregnant women in the communities. This line of questioning is always potentially problematic because the information it elicits can take the form of impractical “wish lists.” During data collection for this study, we attempted to mitigate this effect by training our research teams to probe beyond initial responses of this kind. Nonetheless, a substantial number of responses from across the study wards, and from all categories of respondent, focused on a desire for direct food transfers (of cooking oil, mealie meal, beans, groundnuts, rice, and other foods) and supplements, preferably distributed by clinics. To bolster these arguments, respondents made reference to transfers being distributed by other clinics, or by their own clinics in the past: “We need provision of soybean meal and cooking oil to help in porridge preparation. Also to give HEPs, which they used to give at the under-five clinic.<sup>23</sup> The giving of soya beans and cooking oil used to be done in the olden days at the clinic but they don’t give anymore. In Mwami clinic right in Chipata, they do give women with babies. They also give baby clothes and soap so that you have where to start from, but in this village we do not have such supports” (FGD, Nsingo ward, Chipata). Perhaps surprisingly, in the whole study sample of FGD participants and interview respondents, only one caregiver suggested that cash transfers might be a useful instrument for promoting better nutrition in her community.

Suggestions for additional support and services included the following:

- Providing food transfers and supplements, channelled through clinics
- Providing inputs for livelihoods activities, especially seeds and fertiliser
- Strengthening local health and nutrition services by training more local people to do these jobs, so that caregivers and pregnant women do not have to travel to clinics
- Involving men in health and nutrition programming activities

While these requests were certainly prevalent among responses, they were not by any means the only suggestions made by study participants. In the same focus group referenced above (where some participants suggested reinstating food transfers), other participants focused on support for agriculture-based livelihoods activities,

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<sup>23</sup> HEPs were nutritional supplements administered to children under the age of five.



explaining: “It’s better they give us seed so that we can cultivate ourselves” (FGD, Nsingo Ward, Chipata). Interestingly, participants in this group also reflected upon the unsustainability of the food transfer model: “Whoever fails upon being given seed, that is their fault. The clinic cannot manage to give each and everyone groundnuts just for eating (general agreement). This kind of sentiment—a request for strengthening the potential of local livelihoods activities—was commonly expressed in interviews and focus group discussions, with people suggesting that donations of seeds and fertiliser would be most useful. One caregiver from Nthope even stated: “There is no support that I need; as a household, we will just concentrate on cultivating” (caregiver, Nthope ward, Chipata).

As discussed earlier in this section, the clinics are the primary sources of information on nutrition and health topics for caregivers and pregnant women. However, women also rely on informal networks within the community, particularly older relatives and friends. When asked about additional services that would be useful, several respondents spoke about the issue of access to information, suggesting that providing in-community training could be a positive step. As discussants in a FGD in Nsingo ward, Chipata, noted: “There should be people trained from within the community in health matters, especially child nutrition, so that they can be going round the community to teach people on health issues. Because in their [the discussants’] view, the staff at the clinic was overwhelmed with other diseases...” (FGD, Nsingo ward, Chipata). Responses indicated that caregivers and pregnant women were anxious to have better access to information, and that they would be willing to receive this information not only from clinic personnel but also from trained volunteers from among their peer group within their communities. People within this group are in fact already being consulted for information, and respondents in our study sample indicated that they respect the knowledge and experience of others within their communities: “We can also consult with our elders so that they teach us the secrets to their successes on raising children. Sometimes I consult with my friends who seem to be feeding their children in a different but good manner than myself so that I learn from them also. We consult people that have been through the process of children and pregnancies” (FGD, Nthope ward, Chipata). Another important point raised by focus group discussants in Mbala concerns distance and time/work commitments. These discussants noted that they “tend to be very tired due to farm work and this makes it difficult for us to seek information...” As a result, they suggested: “We need the clinic or health people to be closer to where we are. Get some people from the village and train them so that they can come to teach us as well” (FGD, Chinyika ward, Mbala). Finally, although not very salient in the data, it is worth noting that discussants in one Mbala focus group pointed to the potential role of men in nutrition programming. They called for husbands to be included in, or even obliged to attend, nutrition trainings and meetings, arguing that “there is a strong need to incorporate men in such meetings. Each married woman, for example, must come with the husband” (FGD, Chinyika ward, Mbala).

Two potential areas of intervention were notably absent from responses to these questions and are therefore worth mentioning. Perhaps as a result of the ambivalence towards the Chipolopolo project (as discussed previously), none of the caregiver or pregnant women respondents suggested that they would like to benefit from an expanded or rolled-out Chipolopolo programme. This is an area that would certainly benefit from further research. The second topic which was notable for its low profile

in the data set was the issue of micro-enterprise, micro-finance, or small business support. Where livelihoods interventions were requested, these focused exclusively on support for agricultural activities.

Overall, findings from this section speak to programme design in a number of ways. We note that clinics accessed by the members of study communities were doing a good job of offering sessions for children under five and antenatal sessions to caregivers and pregnant women and, through these services, channelling standard information about best practices in MIYCN. This is encouraging information, and it lends support to the idea of using the existing clinic platform for communicating the MIYCN messaging planned for the MCDP. That said, respondents also suggested that they would welcome a strengthening of MIYCN knowledge resources within their communities in order to reduce dependence on clinic attendance, which can be challenging when seen in the context of all the other work burdens borne by women. Respondents suggested training more local people to carry out this work. Ultimately, however, the two greatest obstacles to improving MIYCN practices and implementing dietary recommendations offered through the programme will be financial constraints and the burden of work already borne by women.

## 7. Conclusions and Implications for Policies, Programmes, and Research

In this section, we summarise the key findings presented in the preceding sections and suggest how they may inform programmes, policy, and research. We remind readers that the RQA should:

- Sharpen our understanding of the theory of change
- Provide inputs to the design of survey instruments
- Provide information about other programmes in the area
- Inform the design of the 1,000 Days Programme

Specifically, the RQA set out to address the following central question:

*What is the nature and experience of poverty and undernutrition, including access to food, dietary and feeding practices, and behaviour for households with young children in rural Zambia?*

This question was broken down into a series of sub-questions, which guided the structure of this report. The key results are summarised below.

### **WASH Conditions in Study Communities**

Key evidence-based recommendations:

- Prioritize access to water: in locations where water access is remote, consider supporting local borehole initiatives
- Prioritize hygiene and safe drinking water promotion, and explore appropriate technology purification solutions

Most households and communities visited for this study collect water either from a surface source (such as the local stream) or from a borehole within their village. Water was often referred to as a scarce resource (particularly during the dry season), and water is often consumed untreated. Pit latrines are the most prevalent toilet facility, with most household wastes (including those from children under two) being disposed of in latrines. Water- and sanitation-related interventions under the MCDP will need to take into account these local conditions and perhaps prioritise ensuring access to clean water.

### **Feeding and Dietary Practices, Including Access to Food**

Key evidence-based recommendations:

- Ensure access to IFA supplementation for pregnant women (and see discussion below on Chipolopolo MNP pilot and communications strategy)
- Ensure robust delivery of nutrition-sensitive agriculture components of the MCDP; in particular, this component must take seasonality into account, and

programme design should consider the possibility of different approaches in the wet and dry seasons

- Explore the possibility of exploiting synergies with livelihoods or social protection programming with the aim of reducing economic constraints on the purchase of nutritious foodstuffs
- Strengthen nutrition education for women and men, and ensure that clinics, identified as a key information resource, are providing appropriate information on breastfeeding (early initiation of breastfeeding, six months of exclusive breastfeeding, on-demand feeding), complementary feeding, and pregnant and lactating women's diets. It is key that men should be included in this training, and encouraged to support breastfeeding women by helping to reduce their workload and ensuring that they have better access to food. It will also be important to address and attempt to change food taboos which may have the effect of reducing dietary diversity

A central pillar of the MCDP relates to improving nutrition outcomes through better diets for infants, young children, and pregnant women. The key intervention areas for these target groups are implementing best practices in breastfeeding for children aged between zero and six months, and improving meal frequency and dietary diversity among children aged between 7 and 24 months, as well as pregnant women. Achieving these goals is challenging and requires a number of conditions to be met. Specifically, caregivers and pregnant women must have access to greater knowledge, better access to recommended foods, and more power to make decisions within their households. They must also have time and energy to devote to any recommended activities that might add to their workloads (discussed in more detail below).

While it is clear from the responses that some guidance on appropriate diets for children, pregnant women, and young mothers is available at local clinics, following through on this nutritional guidance presents a challenge for many women who do not have access to the recommended foods. It will be important for the MCDP to minimise implementation barriers for beneficiaries by ensuring access to vital inputs—such as the planned provision of fortified staples and nutritional supplements—while also strengthening and ensuring robust implementation of the planned nutrition-sensitive interventions in the productive sector. Additionally, while caregivers and pregnant women do possess a basic level of nutrition knowledge, there are some misunderstandings about the nutritional value of certain foods, with many mothers emphasising the nutritional benefits of starches and fewer demonstrating an understanding of the importance of proteins. Recognising this and educating women on the nutritional value of each food group will be an important contribution of the MCDP.

The women interviewed for our study reported that the primary constraint to accessing nutritious food was a lack of money. Secondary concerns included environmental issues such as a lack of water and soil infertility, both of which compromise crop yield. Women reported some coping strategies for these obstacles, such as diversifying their crops or taking up piecework, but the issue of water scarcity during the dry season appears largely insurmountable. Access to food changes significantly between the rainy season (when food, and especially vegetables, are more plentiful) and the dry season (when food is much more scarce). Additionally,

items that typically have to be purchased or bartered for (such as milk, rice, and meat) are completely inaccessible for families with financial challenges, which most respondents reported facing regularly. A successful nutrition intervention will need to take these seasonal access and financial issues into consideration. It will be important to explore possible linkages with nutrition-sensitive agriculture programmes, other livelihood or income-generation initiatives, and possibly the social protection sector: findings about the challenges of diversifying diets and improving available quantities of food speak especially to the topic of agriculture-based livelihoods. Currently, the MCDP intervention package includes a nutrition-sensitive agriculture component, but we would take this opportunity to emphasize the need to ensure that this component is strongly and effectively implemented, because it is so fundamental to the achievement of overall MCDP objectives.

Importantly, a number of women identified their husbands (and the polygamous patriarchal society in which they live) as one of the problems they face when attempting to secure nutritious foods for their families. Women frequently expressed frustration with their husbands' financial decisions, which they believed negatively impacted the resources available to themselves and their children. Men take responsibility for the majority of household-level financial decisions, including what is purchased for the home in the way of foods and cooking supplies. Some women reported requesting that their husbands purchase certain items, or making suggestions as to which crops to grow, but ultimately most food-related decisions were determined by men (because these decisions are also financial decisions). As such, men constitute a significant potential support for or hindrance to MCDP implementation at the household level. It would behoove the MCDP to examine the sociocultural context of each community when refining and rolling out each intervention, recognising the often limited autonomy mothers have when making decisions about money and food, and recruiting men's buy-in to support positive behaviour change and render uptake of services by women more feasible.

Finally, we should note that cultural constraints on young child feeding exist in the form of taboos around the consumption of various food items. Taboos were found in both the Ngoni communities of the Eastern Province and the Mambwe villages in the north. These should be taken into consideration when culturally appropriate nutrition behaviour change materials and syllabi are developed.

### **Work and Time Allocation**

Key evidence-based recommendations:

- Where possible, establish local channels for the distribution of supplements and nutritional products
- Leverage low-impact and appropriate technologies which could reduce the work (and environmental) burdens associated with firewood collection and cooking. Suggestions emerging from the research include promotion of two-burner clay stoves; other possibilities include solar cookers. With training inputs, procurement could support local artisans (thus promoting local markets) and also involve men (increasing their role in the programme)

Mothers and caregivers live with a very heavy burden of agricultural work and domestic chores, which they must balance with childcare activities. While some assistance is sometimes available from children within the household or from other women, men are not always supportive and there are several tasks that are usually done by women. These include fetching water and collecting firewood (unless felling and transporting large trees is involved); processing staples such as maize and cassava (although men do help with maize milling in areas where the hammer mill is far away); and preparing food. In the rainy season, food preparation becomes even more time consuming because fires must be started with wet wood, and at times women must wait for the rain to stop because kitchen areas may have leaky roofs.

It would be useful in future research to build on the activity-specific recall approach and include direct observation data collection with the aim of capturing more quantitative data on women's time allocation. Even without this, however, we can state with some confidence that any increased demands on women's time resulting from activities associated with the MCDP (such as increased requirements for clinic visits) will need to be carefully assessed. As part of the theory of change, ways of mitigating potential increases to women's time burdens should be considered. As an example, establishing channels for distributing supplements and nutritional products locally, rather than through more distant health centres, could be explored in more remote areas. Leveraging simple, low-impact technologies could also have positive impacts on reducing the time women currently need to allocate to domestic tasks. One example of such an innovation is the two-burner clay stove, which conserves fuel and allows two pots to be cooked simultaneously, thus saving time.

### **Knowledge and Use of MIYCN and Health Services**

Key evidence-based recommendations:

- Consider developing a cadre of community health and nutrition peer educators, to make access to reliable MIYCN information more readily available
- Carefully analyse the results of the Chipolopolo pilot, taking account of possible bottlenecks and weaknesses in the communications strategy used in the programme
- Explore the possibility of intensifying the use of radio as a communications medium for MCDP messaging; our data suggests that after the clinic, the radio is the most important source of nutrition messages
- Given the prominence of groundnuts as a high-energy protein source, and the fact that groundnuts are often stored at home, it is important to consider the problem of aflatoxins (also an issue with maize) and their probable association with stunting and morbidity. Ismail et al. (2014) recommend a holistic approach to this problem involving the mobilization of the agricultural, legislative, and public health sectors
- Schools appear to be an under-utilized channel for promoting MIYCN messaging—the MCDP should consider incorporating such messaging in

national curricula. Furthermore, schools should be supported in carrying out under-5 card checks of matriculating students

- Churches, of numerous denominations, are ubiquitous in Zambian communities, and attendance appears to be an important feature of peoples lives. Church leaders, moreover, enjoy excellent authority and credibility. We recommend that they be recruited more actively as partners in MCDP health and nutrition promotion activities

The principal services available to pregnant women and caregivers of infants and young children currently revolve around the provision of care and information at the antenatal and under-five clinics held at health centres.<sup>24</sup> These were identified in all the study wards as key sources of information about nutrition and health topics. (Other important sources included elder community members within and outside households, as well as radio broadcasts.) While caregivers and pregnant women do attend these sessions regularly (and in some locations are punished for failing to do so), a number of respondents spoke about trying to develop more local information channels by training local people. This would ideally have the effect of greatly improving access to important nutrition and health information.

Access to nutrition and health information is only the first dimension of uptake, however. As matters currently stand in the wards where this study was carried out, caregivers and pregnant women are often unable to follow nutrition advice because of the time and economic burdens they face. Cooking special meals (such as fresh nshima) requires more time and investment in fuel, for example, while procuring the extra ingredients suggested for a more diverse diet brings with it serious financial challenges. This indicates to us that the planned provision of fortified staples and specialised nutritional products is a particularly key element of the theory of change if the desired outcomes are to be achieved, as detailed above and throughout this report. We should also observe here that although this study did not focus on the Chipolopolo intervention, we did capture data that revealed a degree of ambivalence towards the supplement (which was thought to have been related to the death of a child in one community). Before launching any nutritional supplements as part of the MCDP, we would advise programme designers to explore the cultural acceptability of such supplements, and to establish excellent communication channels to explain their purpose.

### **Final Note**

This research set out to explore foundational MIYCN issues in sociocultural, economic, and environmental contexts similar to those in which the MCDP will be implemented. Zambia is culturally diverse, and there will of course be some degree of local variation, but we are confident that the findings presented here are relevant to a broad range of poor rural Zambian contexts. Overall, the findings reveal a complex context, and achieving the desired programme outcomes will require careful and successful engagement with a wide range of potential challenges—from increasing

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<sup>24</sup> This question was originally designed to explore knowledge and use of priority interventions but was modified slightly to reflect that while some health and MIYCN services were available in the study wards, these were not part of the MCDP at the time of the research because the priority interventions had not yet been rolled out.

the knowledge base of caregivers to improving the quantity and quality of available and accessible food and addressing water and sanitation limitations—all while working within sociocultural frameworks and in accordance with women’s work norms, which may militate against the intervention uptake. The MCDP is designed as a cluster of tried and tested interventions, and while this structure may be advantageous (in that it has the potential to confront a wide range of nutrition-related problems), it could also present operational challenges related to multisectoral complexities. We would like to note at this point that taking these complexities in both context and intervention modality into account, three years may be a short programme cycle, and it could be important to consider extending it in order to increase the likelihood of achieving the desired objectives. Finally, we would encourage the MCDP designers, managers and implementers to consider innovative delivery strategies which could be incorporated within the existing programme framework, not to change the overall list of Priority Interventions, but with the aim of drawing on lessons learned in other places where different delivery strategies have been tried. Examples which would be worth considering include Homestead Food Production initiatives designed to increase food security and dietary diversity, community feeding initiatives along the lines of those provided by India’s Anganwadi Centres, and the use of community nutrition counsellors modelled on Bangladesh’s Shasthya Sebikas or India’s ASHAs.<sup>25</sup>

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<sup>25</sup> See: <http://www.hki.org/our-work/improving-nutrition/helping-families-grow-better-food#.VI72tlroIFl> (Homestead Food Production), <http://wcd.nic.in/icds.htm> (feeding centres) and [http://research.brac.net/publications\\_details.php?scat=30&tid=487&v=0](http://research.brac.net/publications_details.php?scat=30&tid=487&v=0) (Shasthya Sebikas)

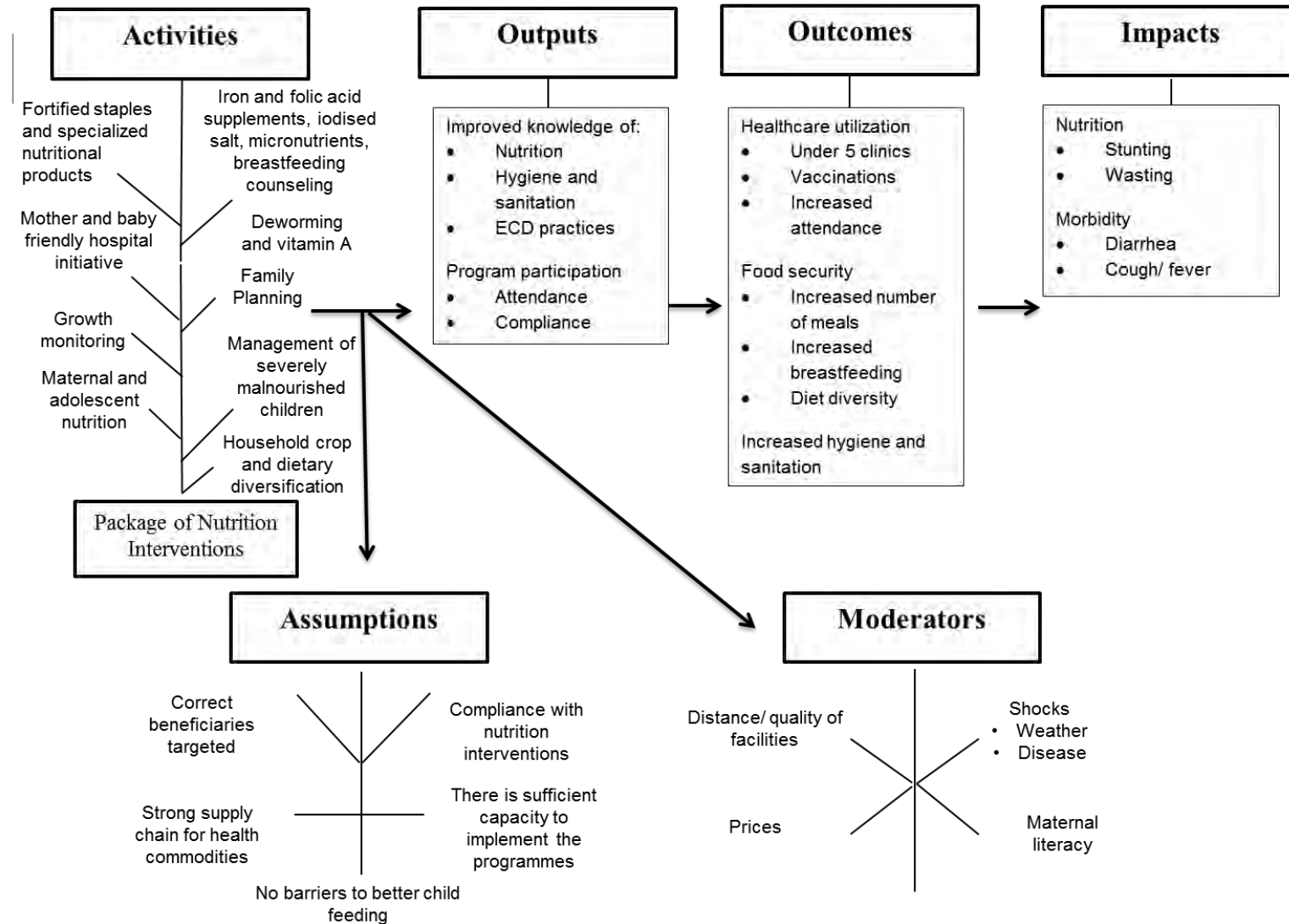


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# Annex 1. Theory of Change





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# Annex H: First Process Evaluation Report



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# **Zambia's 1000 Most Critical Days Programme: Results From the 2016 Process Evaluation (First Component)**

David Seidenfeld, Gelson Tembo, Arianna Zanolini,  
Hannah Ring, Claire Nowlin, Terry Roopnaraine,  
Mazuba Mafwenko

*American Institutes for Research and Palm Associates*

OCTOBER 20, 2015





# **Zambia's 1000 Most Critical Days Programme: Results From The 2016 Process Evaluation (First Component)**

**October 20, 2016**

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## Abbreviations and Acronyms

C-IYCF	Community-Infant and Young Child Feeding
CHV	Community Health Volunteer
CHW	Community Health Worker
CLTS	Community Led Total Sanitation
DACO	District Agriculture Coordination Office
DfID	Department for International Development
DNCC	District Nutrition Coordinating Committee
EHT	Environmental Health Technician
FGD	Focus Group Discussion
GMP	Growth Monitoring Promoter
IEC	Information Education and Communication
IFA	Iron and Folic Acid
IMAM	Integrated Management of Acute Malnutrition
IYCF	Infant and Young Child Feeding
KII	Key Informant Interview
M&E	Monitoring and Evaluation
MCDMCH	Ministry of Community Development, Mother and Child Health
MCDP	Most Critical Days Programme
MIS	Management Information Systems
MLG	Ministry of Local Government
MOA	Ministry of Agriculture
MOE	Ministry of Education
MOH	Ministry of Health

MSVTEE	Ministry of Education, Science, Vocational Training, and Early Education
MUAC	Mid-Upper Arm Circumference
NFNC	National Food and Nutrition Council
NGO	Non-Governmental Organisation
ODF	Open Defecation Free
SHN	School Health and Nutrition
SLTS	School-Led Total Sanitation
SMAG	Safe Motherhood Action Group
SUN	Scaling Up Nutrition
SWCD	Social Welfare and Community Development
TBA	Traditional Birth Attendant
WASH	Water, Sanitation, and Hygiene
WHO	World Health Organisation
WNCC	Ward Nutrition Coordinating Committee

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# Executive Summary

This report presents the findings for the first stage of the 1000 Most Critical Days Programme process evaluation. The National Food and Nutrition Commission (NFNC), in coordination with several donors, including the Department for International Development (DFID), developed a bundled, multisector programme called The First 1000 Most Critical Days (MCDP) in order to address Zambia's child undernutrition. CARE, in conjunction with the NFNC, coordinates the implementation and delivery of the programme through several ministries. American Institutes for Research (AIR) was contracted by DFID Zambia in 2014 to conduct an evaluation of the MCDP, to occur from June 2014 to July 2018. The evaluation includes three components: a rapid qualitative assessment, a process evaluation, and an impact evaluation. This report presents the findings from the first process evaluation study, with a focus on implementation experiences, including communication and coordination, monitoring and reporting, financial flows, and successes and challenges in implementing each of the MCDP priority intervention areas.

## Coordination and Communication

In both Chipata and Mbala, we found that higher level actors (District, WNCC) had a good conceptual understanding of the implications of the multisectoral paradigm and coordinated approaches to implementation. This understanding diminished, however, further down the programme chain. Furthermore, although some coordination in activity planning and implementation (chiefly in the area of sensitisation) was under way (particularly in Mbala), coordination was limited by the overall slowness of activity roll-out. In terms of planning and communication, we found challenges particularly along the vertical axis, in particular between the WNCCs and their respective DNCCs: In both districts, WNCC members felt they did not have particularly good communication with their DNCCs and that their role had been limited to simply carrying out the orders of the DNCC. We heard calls for greater ownership and autonomy. Finally, moving up a level, we note that line ministry focal points on the DNCC in Chipata reported poor communications with CARE, in which repeated requests for funding carry-over went unanswered.

## Monitoring

Respondents we spoke to at the central, district, and ward levels indicated that monitoring processes are not being consistently or systematically carried out. Although a new, harmonised monitoring and evaluation plan was recently created, it is not yet operational. Because a unified monitoring tool for the MCDP is lacking, programme implementers improvise to extract relevant data from their respective line ministries to monitor activities. Using existing ministry registries creates an additional burden for those responsible with the task of reporting. Although the programme targets and would therefore report only on children of ages 0–2, ministry registries focus on children 0–5 years old, meaning MCDP staff must spend time extracting only the children of ages 0–2 from the registries. Furthermore, confusion over which activities are SUN-funded and which would occur without the MCDP continues to be a challenge for reporting.

## Flow of Finances

Financial processes and the flow of funds pose perhaps the most significant obstacle to MCDP implementation. There appears to be a fundamental mistrust of accountability over finances

between the central, district, and ward levels, causing significant challenges in communication and coordination of financial reporting and approval procedures. Delays in funding disbursements pose substantial problems to implementation of several intervention activities which are time-sensitive, reducing their effectiveness. In addition, when districts need to ‘carry over’ funding from one quarter to another, the procedures necessary to request this approval cause further delays on interventions.

### Delivery of Priority Interventions

Findings highlighted many successes and ongoing challenges experienced by implementers delivering the programme’s priority interventions. In Chipata, IFA, vitamin A, and deworming activities occur regularly, and respondents noted that they have sufficient tablets to distribute. Most respondents felt that SUN funds had not significantly added to existing IFA, Vitamin A, and deworming activities, though some explained that the MCDP has been successful in routinising the activities. MCDP activities in breastfeeding also have systematised a focus on appropriate breastfeeding practices. In Chipata, a separate breastfeeding mothers’ group has been established, and sensitisation occurs frequently with pregnant women to encourage and educate them on feeding. Respondents in Mbala reported a shift in dialogue about child feeding as a result of the MCDP. Some respondents we spoke with in Chipata described a training they had received on IYCF, explaining how valuable it was, but others within the same ward revealed they had not yet had an opportunity to attend this training, highlighting perhaps inconsistent targeting efforts for trainings. Resource challenges also were mentioned by ward-level MCDP implementers, who expressed a need for additional resources, particularly for cooking demonstrations and community training activities.

Respondents provided mixed opinions on the ways in which the MCDP has added to growth-monitoring activities. Though plans exist to train growth promoters and growth monitoring volunteers, trainings have not occurred in either district as a result of funding constraints. In addition, in Chipata, insufficient growth monitoring and IMAM inputs have been provided, causing problems with conducting adequate sensitisation to malnutrition and inhibiting growth-monitoring activities. At the same time, in Chipata, implementers emphasised that because of the MCDP, they sensitise a great deal more on stunting, and pregnant and breastfeeding women consequently understand the link between malnutrition and stunting.

A number of SUN activities in dietary diversity have been completed in Chipata and Mbala. Respondents mentioned several sensitisation activities which have been integrated into regular ministry functions, as well as cooking demonstrations in Mbala, both of which target farmers and women’s groups. Respondents in Chipata reported more challenges in carrying out activities because of a lack of funding, and the trainings which have been provided were reported as too superficial. In contrast, in Mbala, the district office has conducted training and multiple cooking demonstrations, and by conducting fewer and targeted trainings they managed to distribute agricultural inputs systematically.

We also found significant variations between the districts in WASH activities, likely because Mbala is already a pilot district for a Ministry of Education and UNICEF-funded community-led total sanitation intervention. In Chipata, this intervention area largely focused on chlorination of wells and orientation of pump menders, and in Mbala activities served to reinforce previous activities done under the UNICEF CLTS project. WASH activities require substantial

coordination between multiple ministries and other NGOs conducting relevant activities. Although it is too early to assess the success of ministerial coordination, respondents indicated that the MCDP has not been in contact with other NGOs to ensure that efforts are appropriately targeted and not duplicated.

Although community sensitisation to MCDP priority intervention areas is ongoing, the rollout of formalised nutrition messaging is still limited. The IEC materials which respondents did mention had been developed centrally and were in English, and consequently not as effective as they could have been because the target recipients of these materials do not read English. Respondents expressed a clear need for tailored messaging appropriate to the localised traditions and customs which perpetuate poor IYCF practices.

### **Summary of recommendations for action**

Following the structure of the report we divide the recommendations into Structure and Organization, Planning, Monitoring, Financial flow and reporting, and Technical.

#### **Structure and organization**

Level: WNCC

- 1) WNCC should receive tools supporting planning and helping specify the delivery mechanisms.
- 2) Make sure regular meetings with DNCC and WNCC happen. DNCC should share entire work plan to WNCC, so WNCC can understand big picture, PIP, and understand which types of activities are planned in each quarter.
- 3) WNCC should receive clear guidelines on what kinds of activities they should lead and how; also, need to further specify its role, structure, meetings content.
- 4) Make sure that all implementers report on all activities done and all activities planned (even the ones that they think are "just routine") and that target areas and beneficiaries are discussed in order to avoid a sense of false accountability when it comes to inputs distribution.
- 5) Consider standardising WNCC structures and composition, as well as the possibility of assigning the leadership role to a member of the health cadre.

Level: District and CARE

- 1) Consider placing responsibility for carry-over approval decisions in the hands of the DNCC, or at the provincial level, rather than the national level, with the aim of streamlining this process and improving the flow of finances.
- 2) Establishing an accountability system so that if CARE does not respond, Province coordinator can escalate issue.

#### **Planning**

Level: NFNC and Districts

- 1) NFNC should share baseline surveillance report with the districts.
- 2) As program expands, need to think whether ward-level, community-led surveillance is possible to decide which wards to prioritize in the roll-out.

## **Monitoring**

Level: DNCC

- 1) Provide on-the-ground mentoring on planning, budgeting, monitoring.
- 2) Clarify procedures for carrying out sensitization, and promote greater standardization generally.
- 3) Create common guidelines and operating procedures.

Level: District and Community

- 1) New M&E system to be rolled out ASAP and train all stakeholders.
- 2) AIR to include a specific emphasis on documenting and evaluating the new M&E system during the next phase of process evaluation.

Level: Community

- 1) Adopt a unified and community-based system of data collection with community workers and implementers as data collectors and using mobile-based platforms to create dashboards and real-time information to both implementers and policymakers. As such, we consider it important to integrate as much as possible of the SUN M&E platform into DHIA2 or similar.

## **Financial flow and reporting**

Level: District

- 1) Formalise regular training opportunities in financial management for anyone responsible for these processes and institute practical exercises for these individuals to build their skills in an interactive manner. This will ensure that those responsible for funding requests, which are critical to programme delivery, may develop the skills necessary to keep the programme moving.
- 2) Develop a system that is less complex than extracting information from separate line ministries – it is time consuming and error-prone.
- 3) Submit only consolidated reports from the DNCC.
- 4) Consider making an administration budget line more accessible to the DNCCs.
- 5) Consider restructuring to create greater separation between the technical assistance and the financial dimensions of the programme, and also assess the possibility of offering more direct funding channels to DNCCs.

## **Technical and Behavior Change**

- 1) In the event of funding constraints, consider a more complete roll-out in a smaller number of wards (as done in Mbala), rather than an incomplete roll-out in many wards
- 2) Minimise incomplete interventions, such as training pump minders without subsequently providing borehole spares. Consider bundling interventions more explicitly and consider realistic timelines and complementarity when reviewing and updating quarterly plans.
- 3) Define audience for Information Material; make the ones targeted at community more pictorial and translate them.
- 4) Standardise practices and provide equipment.

- 5) Need to clarify in planning how the cooking demonstration will be done (facility? Community? All mothers or only malnourished?) and make them more systematic.
- 6) Encourage and support innovative ways to channel behavior change.
- 7) WNCC should receive clear guidelines on what kinds of activities they should lead and how; also, need to further specify its role, structure, meetings content.
- 8) WNCC should receive tools supporting planning and helping specify the delivery mechanisms.
- 9) Make sure that all implementers report on all activities done and all activities planned (even the ones that they think are "just routine") and that target areas and beneficiaries are discussed in order to avoid a sense of false accountability when it comes to inputs distribution.

## Introduction and Background

American Institutes for Research (AIR) and Palm Associates Limited (PAL) were awarded a Department for International Development (DFID) contract to provide services to design and conduct a mixed-methods evaluation of The First 1000 Most Critical Days Programme (MCDP) to help design the implementation of the programme, to determine how the programme should be scaled up, and to assess the effects of the bundled nutrition interventions on health and nutrition outcomes. AIR and PAL's mission to conduct and apply the best behavioural and social science research and evaluation toward improving people's lives, with a special emphasis on the disadvantaged, closely aligns with this project and with DFID's goals.

Worldwide between 1990 and 2011, the incidence of stunting has been reduced by only 2.1 percent per year on average (UNICEF, WHO, & World Bank, 2012) despite significant progress in the delivery of individual interventions (Gillespie et al., 2013). Delivering individual interventions is thus not adequate to reach the Millennium Development Goal of halving the number of people who suffer from hunger. MCDP aims to deliver a package of nutrition interventions, which can bring important synergies, but there is only limited evidence on how to cost-effectively deliver and scale a package of nutrition interventions. For example, delivery strategies are crucial but there is not yet enough evidence to show whether financial incentives or community-based interventions work better to improve nutritional outcomes (Bhutta et al., 2013). This evaluation will make an important contribution to the limited body of evidence on bundled nutrition interventions.

Undernutrition is one of the most serious global health problems. Stunting, wasting, and micronutrient deficiencies contribute to nearly 3.1 million child deaths annually (Bhutta et al., 2013). In Zambia, half the deaths of children under the age of 5 are attributed to maternal and child undernutrition. According to the most recent Demographic and Health Survey in Zambia (2014), 40 percent of the under-5 population is stunted. This statistic amounts to 1 million children. Malnutrition, including iodine deficiency and inadequate vitamin intake, leads to decreases in cognition because the development of the brain is vulnerable to inadequate nutrition (Bardham, Macours, & Maluccio, 2013). Evidence from Kenya further shows that malnutrition can result in decreases in school enrolment (Miguel & Kremer, 2004) and subsequent losses in labour productivity (Baird, Hicks, Kremer, & Miguel, 2011). The economic benefits of a healthier population are large: during a 10-year period, Zambia could increase economic

productivity by \$1.5 billion with just a 1 percentage point per year decrease in stunting, a reduction of maternal anaemia by one third, and elimination of iodine deficiency (NFNC, 2011). The consequences of malnutrition are particularly severe during children's first 1000 days of life (Almond & Currie, 2010).

## **The First 1000 Most Critical Days Programme**

The National Food and Nutrition Commission (NFNC), in coordination with donors, including DFID, developed a bundled, multisectoral programme called The First 1000 Most Critical Days Programme (First 1000 MCDP, or simply MCDP in this report), in order to address Zambia's child undernutrition, with CARE International as the implementing agency. The programme involves several ministries, including the Ministry of Health (MoH), the Ministry of Agriculture (MOA), the Ministry of Community Development, Mother and Child Health (MCDMCH), the Ministry of Education, Science, Vocational Training, and Early Education (MSVTEE), and the Ministry of Local Government and Housing (MLGH). The multisectoral approach draws on NFNC's leadership and the promises made by Zambia in signing the Scaling Up Nutrition (SUN) initiative. The three-year intervention was scheduled to begin in 2012 and will run through 2015.

The programme targets households with children under 24 months of age and includes a package of activities and supports that will focus on maternal and adolescent nutrition; deworming and vitamin A supplementation; family planning; growth monitoring; iron and folic acid supplementation; iodised salt, micronutrients, and breastfeeding; fortified staples and specialised nutritional products; a mother- and baby-friendly hospital initiative; and management of severely malnourished children (National Food and Nutrition Commission of Zambia, 2011). The First 1000 MCDP will be implemented in 14 districts: Mumbwa in Central Province; Chipata and Lundazi in Eastern Province; Mansa and Samfya in Luapula Province; Chinsali in Muchinga Province; Kaputa, Kasama, and Mbala in Northern Province; Zambezi in North-Western Province; and Mongu, Kalabo, and Shang'ombo in Western Province.

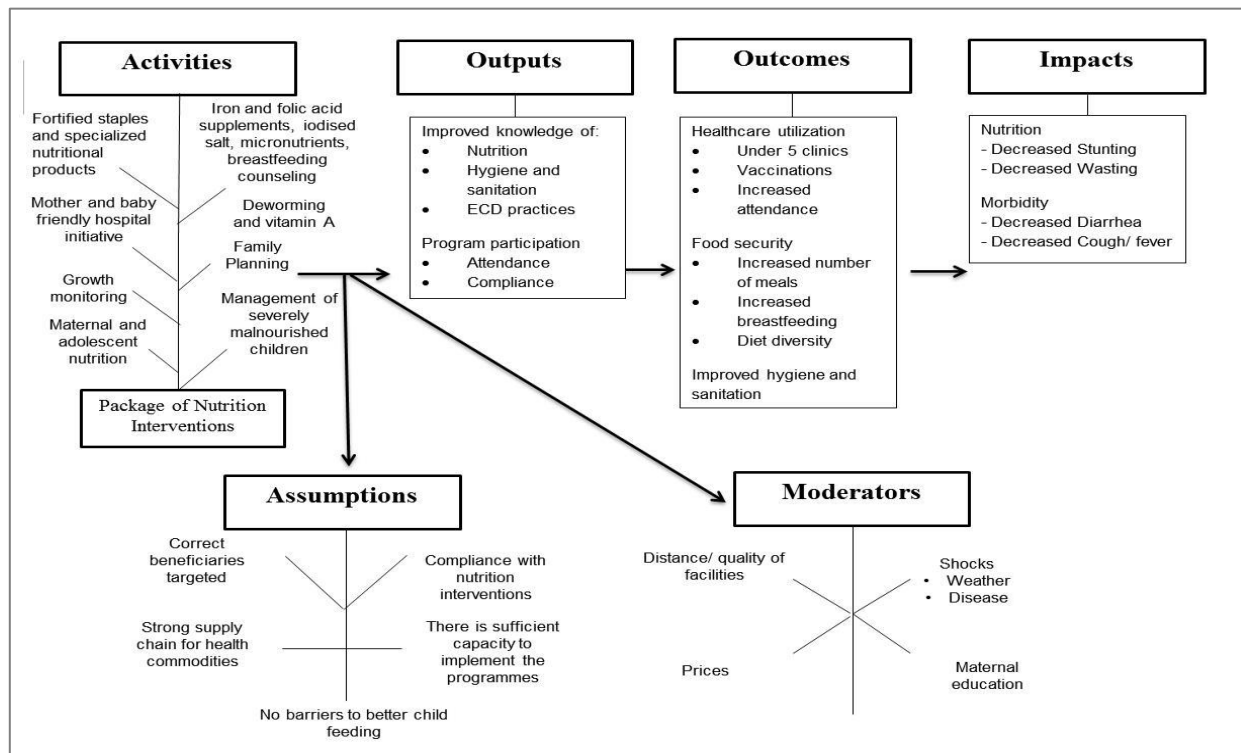
## **Theory of change**

AIR and PAL believe that policy-relevant research should be built on a theory of change which maps out the causal chain between activities, outputs, outcomes, and impacts, as well as the assumptions underlying the theory of change. We developed a theory of change to motivate our study design.

CARE and the relevant government ministries are implementing a package of nutrition activities to poor households with pregnant women or newborn children living in rural areas. The ultimate goal of the intervention is to improve nutrition and reduce morbidity amongst children during their first 1000 days of life. The theory of change depicted in the figure which follows maps out the causal path between the activities and the ultimate goals of the programme listed as impacts. We hypothesise that, for the programme to realise its goals, it will need to be implemented with fidelity, will need to increase parental knowledge of nutrition and services available, and will need to change actual feeding practices. We will measure indicators and collect data at each step of the causal chain to provide a formative and summative evaluation which explores what works and what needs improvement, and which can be used to continuously adjust the programme design and implementation. Sociological and health theories of nutrition suggest that the impact

of nutritional interventions may be weaker or stronger depending on local conditions in the community or household. We will look at factors which may moderate the impact of the program, such as access to services and facilities, mother’s education, and local economic conditions.

**Figure 1. Theory of change**



## Process evaluation

Process evaluations focus on *implementation* and *uptake* and help us to understand the fidelity of a given programme’s implementation in order to learn whether the delivery of the programme has deviated from the original plan and how deviations might affect costs and impacts. Process evaluations also help in understanding how to reproduce the programme in other contexts and provides evidence, knowledge, and lessons about implementation and design. For these reasons, a process evaluation is very much ‘action research’. The overall process evaluation will include quantitative and qualitative methods, as well as direct observations and collection of programmatic data. It is divided into two components: the first of these, upon which the current report is based, is focused principally on supply-side issues and employed qualitative approaches to gather information on programme roll-out and implementation. Key topics for this component were documentation of implementation activities status, including not only what and where, but also how, the activities are implemented. We highlight challenges and bottlenecks but also positive findings which can inform future implementation. We also flag possible inefficiencies in running the programme. The second part of the process evaluation, to be carried out later in 2016, will address implementation in addition but, in keeping with the programme’s maturity at that point, will bring in quantitative methods to assess programmatic data and other supply-side programme delivery issues. In the second component, we will carry out interviews with

beneficiaries in order to gain a better understanding of programme uptake, or demand-side questions.

## Methods

### Data collection

The overall data collection approach in this component of the process evaluation is qualitative. Qualitative work makes a central contribution to process evaluation because it allows us to explore the reasons that a given link in the theory of change is not working optimally. In process evaluation, it is never sufficient to simply identify elements which are underperforming; in order to improve programme design, we need to understand why elements or linkages work or do not work. We need, in other words, to open the black box. Qualitative approaches, characterised by in-depth interviewing techniques and open-ended questioning, seek to reveal the reasons and logic which underlie a programme's implementation and uptake performance.

We employed *key informant interviews* (KIIs) and *focus group discussions* in this component of the process evaluation. We interviewed key informants (particularly those involved in service provision) principally to elicit opinions about programme implementation. In these interviews we used a semistructured interview guide, focusing closely on topics pertinent to each category of key informant and allowing scope for probing and exploration of themes emerging from different responses. Focus group discussions, also based on tailored guides, were carried out with health and nutrition staff and implementing actors throughout the programme chain from district to ward, health facility, and community. In addition, focus group discussions were carried out with agricultural and women's groups (in order to collect some early uptake data). Focus group discussions, when well implemented with an appropriate group of participants, can be especially useful for collecting a substantial amount of data in a relatively short time.

### Research sites and informants

As described in the Inception Report, data for the process evaluation was collected only in the intervention wards of Chipata and Mbala districts which were chosen for this evaluation component. In consultation with stakeholders, it was decided to collect data in the same Chipata wards where the Rapid Qualitative Assessment was carried out in 2014, Nsingo and Nthope. Within these wards, the research team visited four health facilities, one school, and four agricultural camps. In order to optimise the use of time and resources, the research team, in consultation with DFID, decided not to replicate the entire Chipata data collection in Mbala, but instead to carry out a more targeted and concise data collection exercise in that district, principally for the purposes of triangulation and comparison. It is therefore important to bear the following in mind when reading the report: The bulk of the interview and focus group discussion data referred to are from Chipata. We draw Mbala findings in when they constituted relevant learning points of either congruence or contrast. Data was collected in Lusaka and Chipata in March and April 2016 and in Mbala in May 2016. Data collection methods and samples are summarised in Table 1.



**Table 1: Research sites, methods, and informants**

Site	FGD	KII
Lusaka		CARE staff, NFNC staff
Chipata District	DNCC MOA, DNCC SWCD, WNCC	DCNN co-ordinator, DNCC MLG, DNCC MOH
Chipata, Nsingo Ward	1 FGD with nutrition champions	12 health and nutrition personnel interviews with CHV, GMP, SMAG, in-charge, nutrition champions, TBA. One KII with school staff
Chipata, Nthope Ward	6 health and nutrition personnel FGDs with CHV, CHW, GMP, SMAG, nutrition champions, Breastfeeding Committee members. 2 beneficiary FGDs with Lead Farmers and Women's Group	9 KIIs with health and nutrition staff including: WNCC members, in-charge, CHV, EHT, SMAG, GMP, CHW
Chipata, Luangeni Camp	SUN Lead Farmers (1) SUN Women's Group (1)	
Chipata, Mwasha Camp	SUN Lead Farmers (1) SUN Women's Group (1)	
Chipata, Kanyanja Camp	Observation of agricultural training	
Chipata, Mzoole Camp	Lead Farmers (1) Women's Group (1)	
Mbala	DNCC, WNCC	5 KIIs with DNCC line ministry focal points
Mbala	Observation of fish ponds and vegetable farms	

## Data handling

We carried out data collection by employing two-person teams in each activity. Wherever possible, one field researcher was responsible for interviewing or facilitating and the second researcher had primary responsibility for recording responses. Researchers noted responses (in local languages where necessary, but generally in English) in notebooks, and they recorded all interviews, together with FGDs, on portable digital recorders. Researchers downloaded these recordings to field laptops each day, renamed them according to an anonymised code system held in an encrypted Excel sheet, and then copied them to external media for backup. The field researchers transcribed the recordings and handwritten field recording sheets to Microsoft Word documents, translating the material where necessary. All transcriptions also were assigned new names (in accordance with the code system) in order to ensure data and informant confidentiality.

## Coding and analysis

Lead researchers developed a descriptive coding scheme linked to an overall analytical framework, with specific reference to themes of interest and research questions. The researchers then loaded the coding scheme and the transcripts into the qualitative data analysis (QDA)

software package (NVivo Pro). Coding in NVivo is a manual process based upon careful reading of each piece of data (in this case, interview responses and other notes) and subsequent selection of appropriate code(s) to describe these data. Once properly coded, the data can be analysed in different ways prior to producing written outputs.

### ***Ethical clearance***

Ethical clearance was obtained from the review boards of AIR and the University of Zambia (UNZA).

## **Research Findings**

### **Structure and Organisation**

In this section we address the related issues of coordination, planning and harmonisation, communications, and support systems. One of the most innovative features—at least in the Zambian context—of the MCDP is its multisectoral nature, involving line ministries working together to provide truly cross-platform implementation of priority interventions. It is important, when reading this section, that we bear in mind the fact that whilst ‘multisectoral’ and ‘cross-sectoral’ refer to a horizontal model of coordination amongst implementing ministries, vertical coordination and communication also are of critical importance to the MCDP. In other words, we also must consider coordination and communication down the programme chain, from Lusaka to District level and further to ward, health facility, agricultural camp, and community level.

### **Coordination and planning**

#### ***Understandings of coordination and the cross-sectoral model***

*‘Personally I think the advantage I see with the multisectoral approach, I really believe, is the fact that when everyone focuses all their efforts on this community there will be an impact. That is for sure because we know that if that community is challenged in terms of water and sanitation and hygiene, and then you pump in all the agriculture and you pump in all the other aspects, you will still have a problem because diarrheal diseases will be a challenge for that community. So the impact is the only thing that we do know that is a very big advantage of this multisectoral approach.’ (interview with NFNC nutritionist and food scientist)*

*‘This is new for us, it is the first time we have signed a huge program focused on different sectors working together. That earlier on was one of the challenges. Different sectors didn’t understand because they were so used to working in silos and you know each institution has its own culture which focuses on how they bind themselves together and how they move. So with the coming of the SUN program which has the multisectoral approach it means actually that a sector now has two sides. They have to abide by their own mandate but that mandate is also supposed to be married to the nutrition aspect which the SUN is propagating.’ (interview with chair of Chipata DNCC)*

The coordinated, multisectoral model of delivering priority interventions is well understood at district level in Chipata: line ministry focal points on the DNCC were very conscious of the

model and of the fact that it represents a new model of working, in contrast to the previous ‘silo’ approach, in which interventions were not cross-sectoral but were instead delivered by individual ministries: *‘We have been working with the district in a silo but the only difference is that now we are working as a multisectoral team, we are incorporating everything so that we target the same beneficiaries in all of the sectors unlike in the past where usually we concentrated only on our own thing’* (FGD with MOA, Chipata). As this quotation indicates, ‘coordination’ is understood not only as a collaborative mechanism for delivery and planning of multisectoral interventions but also as a targeting paradigm: before the arrival of the MCDP, a given person or household might have been eligible for some (governmental or nongovernmental) interventions and not others, the programme has, in theory at least, brought some degree of consistency to the selection process. Now, ideally, the relevant priority interventions should ‘converge’ on a common population of beneficiaries identified by a consistent metric.

There also is a strong recognition amongst line ministry members of the Chipata DNCC that the principal difference between the MCDP delivery system and previous ones is not related to the types of intervention per se, but rather to the multisectoral and coordinated delivery model promoted by the programme. In other words, there is a solid awareness that the interventions themselves are largely not new but that they are now supposed to be delivered in a manner which reflects intensification and institutional strengthening as well as collaboration between relevant line ministries.

Although awareness and understanding of the multisectoral model and the need for coordination are high amongst DNCC members, these informants also emphasised that in practice, coordination was more challenging than in theory. In one FGD with MOH personnel in Chipata, it was observed that *‘Most of the activities that we have done are training and sensitisation’*. This point also is related to the problem of funding flows, which is discussed later in this report. Nonetheless, it is important to mention it here too: in the context of erratic funding disbursements, in which different ministries have received funding disbursements at different times, coordinating activities multisectorally can be especially challenging when partners may not have access to the same resources at the same time. This point was made in an FGD carried out with personnel from Social Welfare and Community Development: *‘Of course explaining to the departments [that] it is now multisectoral and we need to work together, it has not been very easy, because some of the departments have been so resistant. Because when they are funded as a department (they may want to maintain their budget lines), because even if we are working together each key line ministry is receiving funds on their own. Like health on its own and agriculture on its own. So now when it comes to implementing activities together, it hasn’t been easy because when they get their funds some will just and start implementing without even informing the DNCC’*.

A further challenge to achieving successful coordination across sectors is the problem of overlapping mandates and territories: *‘So that overlap of mandate is at times the one that brings conflict in roles because one would feel this is my role and not for the other department and that has not been or like has been mentioned. Because if you say you want to reach the communities or you want to provide alternative livelihood then the other department is also doing that’* (FGD with SWCD, Chipata DNCC). In this FGD, the example of growth monitoring was mentioned to emphasise this issue: although the Department of Social Welfare and Community Development felt that they had a role to play in promoting growth monitoring in communities, their staff felt

that they had been pushed to the margins by the Ministry of Health, whose personnel felt that this area should come exclusively under Health. It is important to note a contrast here, with an opinion expressed by NFNC staff in Lusaka, who cast the issue of overlapping mandates in a more positive light, arguing that they could be viewed as creating greater redundancy in implementation, leading to greater impact amongst the common target population.

At the ward level, in Chipata, there also is a strong awareness and understanding of the coordination paradigm: the WNCC (Ward Nutrition Coordinating Committee) is mandated to lead the coordination process in implementation of priority interventions, and its members are in general conscious of the approach. That said, understanding of the model begins to tail off as we move to health facility level or community-level coordination. Some farmers' groups, for example, simply were not aware of the WNCC, in spite of the fact that these groups represent key targets for the supposedly coordinated activities of the MOA and Social Welfare/Community Development. We should note that at the health facility level, there was greater understanding of the approach amongst higher level technical staff, such as EHTs. The EHT from Nthope Ward in Chipata made the point that although some coordination took place before the arrival of the MCDP, this was largely related to logistics, whereas now, with the advent of the programme, both targeting and messaging are coordinated.

It is worth noting here that although overall, at least down to the level of the WNCC, understanding of the multisectoral approach is generally good, the precise details and implications of the approach do not always align with their interpretation at higher levels. In an interview with the food scientist and a nutritionist at the NFNC in Lusaka, the point was made that the concept of coordination is not always correctly understood at district (and presumably ward) level. This is illustrated in the following quote, which, although lengthy, we reproduce in full because it is particularly informative, offering a more nuanced interpretation of the mandate:

*'Yes, even though sometimes you do get the impression that there is some bit of misunderstanding when you say "going in together as a team". There is this misunderstanding that every time you have to carry everyone along and we are trying to emphasise that that is not what we mean. What we mean is (that) it is possible that you go into the same community, you "speak one language". Agriculture could have gone there, they would have spoken so much and tackled maybe a bit of health here and there (using) whatever information they have been given. But when health goes, they should also speak the same language to the same community so that they know that it is not only a matter of people going as a team, it is also a matter of how you handle issues when you are there as an entity. That the multisectoral approach does not mean every time the whole DNCC, because we are getting concerned, there was this approach which was coming up "oh yes, you are saying we should be going multi-sectoral approach, so we should all be going". We said no, that is not the idea, sometimes you might only be the two of you, sometimes the three of you, sometimes even a single sector. But the idea is how you give that information to show that you are working as a team and you are not working alone' (interview with NFNC nutritionist and food scientist).*

Mbala shares some of the same difficulties in achieving coordination because of the unharmonised funding disbursements to line ministries, but the coordination model has been pushed farther along the programme chain than was found to be the case in Chipata. In part, this

result may be simply because implementation generally is more advanced in Mbala than in Chipata, allowing the different line ministries to engage more actively in coordinated implementation of priority interventions. That said, we also should note that, as was found in Chipata, coordination was most successful in sensitisation activities. Coordination was said to be particularly active during Child Health Week, during which both the MOA and the MOH were involved. Mbala also was the site of an innovative collaboration in which the MOA was brought into the implementation of WASH activities (which are normally coordinated by the Ministry of Local Government and the Ministry of Education). The MOA was involved in ensuring that the water points established as part of the WASH programme also were located in the vicinity of productive gardens.

## **Planning**

An important dimension of coordination is the planning of activities. As just discussed in relation to overall understanding of the coordination model, coordinated activity planning is generally seen as welcome and feasible at the district level, although we should note that CARE staff interviewed on the subject were more guarded in their assessment of coordinated planning carried out at the district level, noting that at times district plans were overambitious, unrealistic, or insufficiently engaged with community uptake. CARE in fact has launched a review activity in order to make district-created plans ‘more realistic’. Again, as discussed, coordinated planning is put most intensively into practice at the district level, declining in intensity as we move down the programme chain to ward level. CARE staff members were keen to emphasise this point, noting that planning tends to be too focused at the district level and often fails to engage communities in the process.

These sentiments were echoed by FGD participants from the Chipata WNCC, who felt that there was a strong vertical disconnection between planners and implementers. They felt that they had to a greater or lesser degree been relegated to a lower status of simple implementers, mandated only to carry out the plans made by the DNCC: one participant in this FGD noted, *‘activities are planned by DNCC, then we (WNCC) just help implementing. We get the plan late from DNCC, when the term is ending. There’s only 5 days remaining and we have to jam together the activities and we do them badly. Other times we have a proposal of what we want to do, but unless it is part of the specific work plan from the DNCC, that activity will not get funded. This discourages planning. We do not have idea of the activities in the work plan until too late, and also we do not have an overall work plan from DNCC so we don’t know what activities specifically the DNCC has planned for SUN for the entire period’*. The WNCC personnel felt that they should have a much greater role in planning activities related to the priority interventions; such involvement, moreover, would help to ensure that activities planned were relevant to the communities where they were being implemented. These feelings were mirrored in Mbala, where the WNCC members also felt that they needed more autonomy and ownership of planning activities.

## **Communications and support systems**

Closely related to the questions of coordination and planning is the issue of communication. In this case, we are focusing particularly on vertical communications because horizontal communications, for example amongst the line ministries working in the DNCC, or amongst

various delivery actors and institutions at ward, health centre, or community level, were found to be less problematic. DNCCs, for example, meet regularly, and the chair of the DNCC is responsible for ensuring coordination between the line ministries comprising the body.

Vertical communications present challenges in the MCDP. This appears to be true up and down the programme chain. CARE personnel, interviewed on this topic, observed that they needed to strengthen communications with NFNC; meanwhile, in a focus group discussion with DNCC Ministry of Agriculture personnel, it was emphasised that communications with CARE, particularly related to carry-over of funding from one quarter to the next, were very problematic:

*Response...we wrote a request to CARE to carry over the funds, sometimes to vary (carry over) the funds so we so the activities that are required to do but there was no response from CARE they would just keep quiet so we didn't know what was happening, we had to just wait we made some follow ups but it was just quiet.*

*Interviewer: How many of these requests did you make?*

*Response: Hmm. It must be more than two or three because I remember the first request that we submitted to CARE was after we received the funds in September, we requested to carry over the funds to the fourth quarter because the third had already ended. There was no response so after we realised that we were getting to the rainy season so thought to vary the funds we wrote a letter to CARE to vary the funds so that instead of using the training we could procure seeds but there was no response then recently we wrote another request after the fourth quarter ended so that we could carry over the funds to the first quarter but again no response.*

In Chipata, the WNCC members expressed views essentially parallel to their position on planning already discussed. That is to say, there is a sense of being cut off and not having a truly open communication channel with the DNCC. Although review meetings are held quarterly, the WNCC focus group participants felt that although they had communicated challenges and concerns to the DNCC, the DNCC had not been as responsive as it should have been. Moving even further down the programme chain, we note that although health facility staff are generally in contact with the WNCC members who help to coordinate their activities, extension service recipients at the agriculture camp level reported minimal contact with programme entities other than agricultural extension workers. While the 1000 MCDP is particularly targeted to pregnant women and households with children under 2, it is possible that not all beneficiaries of extension services at agricultural camps meet this criteria: this may partially explain their limited contact with other programme components.

In Mbala, as in Chipata, there also is a perceived disconnection in vertical communications between the WNCC and the DNCC. WNCC members reported that they felt out of touch with implementation activities at the ward level and expressed concern at not really having access to a full picture of implementation even at their own ward level. Members of the Mbala WNCC expressed their frustration at being excluded from the MCDP. They explained that because of a lack of communication with the DNCC, they are not aware or informed of MCDP activities taking place in their ward, with the exception of overseeing the use of MCDP bicycles. Because the WNCC is a product of the MCDP, the fact that it is not being integrated into programme processes presents problems, in that it indicates that the programme is not being coordinated or managed according to plan. The WNCC is responsible for reporting on MCDP activities;

consequently, bypassing the WNCC in programme implementation and communication has an impact on the quality of reporting which takes place in this district.

## Monitoring, Planning, and Reporting

At the time of the process evaluation, monitoring of the MCDP had yet to become institutionalised and carried out consistently, though the research team is aware that activities are underway to address this issue. Though it took a year to complete, NFNC now has an M&E plan which was finalised in both evaluation districts and which was on track for being operational starting from quarter 3 of 2016. In addition, an M&E technical group exists, which comprises focal points from ministries at the national level and also includes the WHO and NFNC. The M&E technical group revised the MCDP log frame and aligned it with a *First 1000 Days M&E Plan*. One respondent at CARE explained that this common log frame was shared with the teams that travelled to the MCDP districts to review monitoring plans. The final plan was completed after integrating comments from the districts and after testing it. This new M&E plan should inform and assist future monitoring efforts by providing standardised indicators to collect data on programme implementation. Before the M&E plan is fully operational, however, full training and testing will be necessary at the community level, where most implementers seemed to be unaware of the upcoming M&E plan. At the time of data collection, MCDP implementers at the community, WNCC, and DNCC levels described a range of challenges they face when fulfilling monitoring responsibilities. In this section, we discuss M&E training, current monitoring activities, M&E reporting processes, and overarching challenges to programme monitoring.

### Training

At the time of the field interviews, respondents in Chipata had not yet received training on how to effectively monitor MCDP activities. One member of the Chipata DNCC explained ‘*we have not been trained per se but we have been doing it from the knowledge that we have*’. Respondents clearly expressed the need for training on monitoring and how to collect relevant data, and also requested a set of monitoring tools which can be used to do so. Whilst the research team was in the field, the MCDP began a training for the Chipata DNCC on monitoring and evaluation. We hope that MCDP activities will prove useful and alleviate many of the concerns expressed by respondents about their capacity to fulfil these essential responsibilities. In Mbala, a workshop on monitoring and evaluation had recently taken place for the DNCC; although new indicators had been discussed during this visit, however, the Mbala DNCC did not yet have a copy of the final set of indicators and explained that the indicators were being updated after receiving feedback from all districts.

### Monitoring activities

Because, at the time of evaluation, no single M&E system existed for the programme, implementers were tapping into existing data collection systems from their own line ministries to extract information. These information systems used for routine activities often were informal and not properly recorded in one synthesised document. Not all districts had a proper information officer dedicated to M&E. The District Health Office information officer sometimes took the lead in providing data necessary to complete reports or to take decisions about targeting.

The checking and quality assurance systems were based on individual visits from district officers who were conducting random visits and interviews from beneficiaries. No unified checkbox or data collection tool was provided. When we approached the district offices for collecting monitoring data, we found only isolated and often improvised attempts to collect information. Reports of activities were done in a descriptive way through activity reports stored in folders with each district (Mbala) and only material goods (bicycles, agricultural inputs) were well tracked with signature sheets (in Mbala and Chipata). Other activities, such as trainings, were recorded only for attendance records and for retirement purposes. There was no unifying tool for recording data on activities of any kind except for the report template.

The respondents also highlighted a need for support in this area and acknowledged the monitoring system to be inadequate for the needs of 1000 MCDP. Some examples are the challenges described later in this report, such as the inability of the current Ministry of Health reporting system to capture information on children under 2 specifically (as opposed to the under-5 children traditionally tracked by the MOH) or the lack of specific definition of roles and responsibilities in collecting the data. One respondent from CARE explained that consequently *‘the extent to which that data [are] actually representing the actual situation is questionable’*. Another explained that, in terms of monitoring, *‘currently we are running up and down’*, emphasising the need which many expressed for a standardised tool to collect data.

In Chipata, respondents discussed monitoring in terms of tallying and ensuring that numbers of recipients of a particular service are recorded in the corresponding registers. One respondent at the Chipata DNCC explained that their monitoring procedures consist of verification, *‘that’s why we go to verify to see that what is actually in the report is what is happening in the ground’*. A member of the Mbala DNCC explained that often things are based in the community, but they will go to communities to complete spot checks and monitor specific tasks such as ensuring that MCDP-provided bicycles are being put to good use. Members of a WNCC in Chipata, for example, understood their monitoring responsibilities, but one indicated that they face challenges in fulfilling them consistently: *‘transport is our problem. We seem to be the mother body but now to monitor the activities of these [nutrition] champions, we cannot manage’*.

The one exception are MLG activities for Mbala, which are attached to the DHIS2 mobile system. The MLG used information from DHIS2 to plan activities and decide which villages needed to be prioritised in boreholes mending and to monitor progress in CLTS. The district is using DHIS2 as part of the UNICEF CLTS pilot, but the information was easily synthesised for reporting purposes as well. According to the district representatives in Mbala, the DHIS2 was easy to use and accessible at the district level. However, at least some of the data collection in the field from volunteers was happening on paper, which is not ideal for the future.

The hope is that the new M&E system has solved this situation of uncertainty and lack of documentation and knowledge with a systematic, feasible, and sustainable M&E system. The short-term recommendation is to include a specific emphasis on documenting and evaluating the new M&E system during the process evaluation to be conducted in October 2016. The longer term recommendation is to adopt a unified and community-based system of data collection with community workers and implementers as data collectors and using mobile platforms to create dashboards and real-time information to both implementers and policymakers. Therefore, we



consider it important to integrate as much as possible of the SUN M&E platform into DHIS2 or a similar tool.

## **Planning and operating procedures**

Our visit also highlighted the need for support in compiling operating procedures for each of the activities in the work plan. The activities in the work plan are laid out in an orderly and logically consistent way, but this order and correspondence was not fleshed out into its details and composed into a process of conducting these activities. There is no written trace of the how, where, and when components of planning these activities. The respondents mentioned that these details are communicated directly to the DNCC coordinator and during the DNCC meetings and that they are then transcribed into the implementation plans. The implementation plans, however, do not have the necessary level of detail to understand the delivery of the intervention. The rationale for choosing certain villages or certain wards is not specified nor who has been consulted, how people have been recruited, who is the target, where the intervention is taking place, and how long it will run. An example of this problem are cooking demonstrations. In Chipata, both the Ministry of Agriculture and Ministry of Health have planned cooking demonstrations. It was unclear, however, how the two cooking demonstrations were planned so not to overlap each other, and details of how were they planned (village, location, recruitment, target, modality) were not specified. This lack of clarity characterised many activities, perhaps partly because these activities had not yet been carried out. Nevertheless, standard procedures are needed even before implementation for ensuring proper budgeting. We are not recommending that every ward carries on an activity in the same exact way necessarily, but we are recommending common guidelines and the need for operating procedures. We recommend support in defining delivery mode and all implementation procedures and in developing written procedures for each activity.

A different issue related to planning is the need for DNCC to have all available data on nutrition at the ward level. According to district personnel, NFNC had spearheaded an initial baseline before SUN started which assessed stunting at the ward level for all wards in Chipata and in Mbala. We could not verify this information at the national level, but the district personnel lamented not having received the results of the NFNC survey. In absence of these data, decisions on how to prioritise wards in Mbala, for example, were based on some 2014 data on percentage of underweight children as a proxy for stunting. The source of these data could not be clearly established.

## **Activity reporting**

The format for quarterly reporting on activities has changed since the beginning of implementation and is set to change again after the new M&E plan is in place. The challenges in reporting are closely connected to the challenges in monitoring because there is nothing to report if activities are not monitored. District officers were confused by the changes in reporting and also confused on some requirements in reporting from the first format, for example, on the ones related to gender-specific activities. The current reports are too imprecise and too descriptive and lead district officers to report activities ‘being completed’ without providing further details.

Overall, respondents consistently noted that monitoring reports for community-level activities are completed at the community level and then submitted to the WNCC, who compile them before submitting them to the DNCC. In Nthope, one respondent described the information they provide to produce reports:

*Reports are on a monthly basis. We send it to the DNCC. We are collecting numbers like how many women have been given folic acid this month, how many women have been given deworming tablets, how many women have been given ferric acid, and vitamin A for the women, and even on the side of the baby it's just the how many babies weighed.*

Respondents also observed that reporting is based on indicators set by the various ministries involved in the MCDP. One member of a Chipata WNCC described that they extract information from the relevant ministry's registers in each community. The MOH data, however, may not be capturing information for all the activities it is responsible for monitoring. One respondent in the SWCD indicated that although the MCDMCH is grouped with the MOH, monitoring issues are handled primarily by the MOH because they have a planner and M&E officer on their staff. This has resulted in a bias in monitoring primarily health activities at the expense of harmonising monitoring across the areas.

## Challenges

Numerous challenges were reported by respondents when they were asked about monitoring processes. CARE identified two principal impediments to monitoring MCDP progress: the lack of an M&E system and a challenge in capacity amongst those who fulfil monitoring and reporting duties at the community level. One respondent from CARE explained an '*absence of a proper data collection system or methodology... the way the districts are reporting currently does not give you much information*'. There currently exists no single register which includes all the beneficiaries to be shared amongst the ministries involved in the programme. The lack of a single register creates problems because overestimating the impact of activities by double-counting beneficiaries may result. The lack of a single register also prevents proper coordination and targeting between the ministries. One member of a DNCC explained that '*MOH had their own register and MOA has their own register. But now we are coming up with a register from all of the beneficiaries so that we can all target the same beneficiaries*'. Until a new system is developed and implemented, monitoring continues to occur through each line ministry, each of which has different reporting lines and structures and does not follow a set SUN template.

One of the biggest monitoring and reporting challenges faced by MCDP implementers is that the programme targets only children of ages 0 to 2, but regular MOH nutrition and health activities focus on children of ages 0 to 5. As previously mentioned, there is no registry which separates MCDP intervention activities from routine processes at the clinic level. Thus clinic staff bear an additional workload of going name by name on a register to extract only the children 0 to 2 years old to report MCDP-specific figures. Though a small number of respondents mentioned instances in which they attempted to record recipients in the SUN target age for specific activities, these efforts were not coordinated or systematic, with one respondent in Mbala stating that they had to improvise in order to monitor according to SUN standards without separate tools. One respondent at the WNCC described this:

*‘It’s been a real challenge to capture the specific children. Those improvisations where you make an initiative, for example, during child health week, where you make a separate sheet to capture the specific age. It is a challenge as capturing is concerned. The one we have as a standard and are using with MOH is not targeted specifically for 1000 Days it’s just under 5’.*

One focus group participant also raised the possibility that data quality may be unreliable, mentioning the probability that staff scrolling through the standard MOH register to extract 0–2-year-old’s may miss children. In Mbala, staff at the MOH indicated that they had recently integrated new tools into their reporting system which will assist them in providing MCDP-specific data.

Perhaps the largest challenge to monitoring, which is echoed throughout this report, is that it remains unclear, particularly to community members on the ground who are responsible for collecting information, which activities are SUN-funded and which are standard ministry activities. One respondent from CARE explained that, although implementers do report rich numbers showing, for example, the number of women receiving a given input,

*‘when we did a data quality assessment we realised that some of those numbers are beyond the wards which are funded by SUN, so they represent an entire district and not necessarily the wards. So they are over reporting’.*

Additional concerns about the reliability of attributing data to the MCDP were mentioned, and also mentioned was that some data may be reflecting the incorrect age range targeted for the intervention. Several respondents indicated that it is difficult to separate what specifically has changed in the past year in their service delivery and what changes can be identified and tied to the MCDP.

## Financial Management and Flow

Adherence to MCDP financial processes is a significant obstacle to effective programme delivery. The line ministries and DNCC complete funding requests and reporting separately. This compounds coordination and communication challenges amongst MCDP stakeholders. The procedures required to process and follow up on funding requests are unclear and time-intensive for community-level implementers. From the perspective of those at the central level, funding gaps are the consequence of poor financial reporting and management from those in the district ministries and DNCC. In this section, we discuss training, the flow of finances, and key challenges to effective financial management of the programme.

### Training

MCDP stakeholders at the central level explained that both the DNCCs and WNCCs have received financial management training; no one, however, provided descriptions of when these trainings occurred, how long they lasted, and what topics were covered. Central-level programme stakeholders emphasised that the capacity of officials at the DNCC and various line ministries continues to be low in financial management: *‘the absorption capacity at district level is low.... it is the issue of human resource at the district level’*. One respondent at CARE

explained that they have been attempting to provide guidance to the districts on proper reporting procedures, cognizant of the need for regular training opportunities for district-level stakeholders on financial management processes. Currently this ‘training’ seems tailored to the needs of those responsible for financial management in the ministry and DNCC offices but occurs informally.

## Flow of finance

*‘The delayed funding also has been cited, if you read the report, the annual review that we did with DFID, am sure that came out as a major factor from the districts to say “we have not been able to implement some of the activities because we haven’t received the funding on time.” But we are also saying, “well, we haven’t funded you because you haven’t submitted the documents on time, you haven’t submitted the reports on time”, even when the documents are submitted, they are not correctly done so there is a lot of back and forth. So it is really the issue of capacity’ (CARE office, April 2016).*

MCDO implementers explained that funding and planning programme activities are interlinked. Funding is provided quarterly to districts contingent on the district submission of a financial report. A respondent from CARE explained that *‘Mbala was funded earlier than Chipata and then there was no funding’*.

The flow of programme funding is understood slightly differently amongst respondents. District-level ministries and the DNCC submit a quarterly request for funding to the national level which is tied to corresponding activities from the programme work plan. After this, the NFNC will provide feedback on this request, ensuring that none of the requested activities has already taken place, that activities are appropriately timed, and that targeting is correct. This feedback is given to CARE, who then decide what to approve and fund. Funding is disbursed to the four line ministries, as well as the DNCC contingent, upon the submission of up-to-date financial reports; notably, it is not allocated to the WNCCs. One respondent at the central level explained that funding is not distributed at the ward level because *‘there are capacity and accountability issues. It is too high risk’*. When funding is disbursed to ministries, one respondent from the Chipata DNCC explained that they are not notified, which makes coordinating activities and programme implementation amongst the various actors challenging.

The issue of ‘carrying over’ funding for activities which have not yet been completed within a quarter is a significant obstacle to programme implementation. Respondents explained that funding requests can be made only once the money for the first quarter has been spent and accounted for. The DNCC and line ministry focal points may request that funding be carried over, but delays in response time on approvals for carrying over funding further impede interventions. In Mbala, one respondent from the DNCC explained that they asked to carry over funding, but three weeks later had not received a response. The inability to move forwards with funding for interventions unrelated to those activities which have already been funded but not yet implemented disrupts the ability of MCDP implementers to adhere to their work plan and stay on schedule. Even at the national level, the programme’s financial processes remain a source of confusion. One member of the NFNC expressed the need for these to be *‘cleared nicely so that things are just straightforward (and) people are able to request for money, utilise it, report, and then request for the next amount of money they need’*.

Mbala has suffered from erratic funding disbursements as well. These have had a range of effects on the impact chains of interventions. As in Chipata, time-sensitive activities such as season-dependent agriculture plans and calendrical ones such as Breastfeeding Week have been compromised because of funding delays. Delays also have diminished the effectiveness of trainings because of the gap between learning and action. As in Chipata, intersectoral coordination is more difficult in the face of funding inconsistencies across line ministries. Finally, late disbursements can lead to hasty implementation and can set off a chain reaction involving further delays due to carry-over requests.

## Financial reporting

Financial reports are provided quarterly and attached to the activity reports. They are submitted separately by the four line ministries and the DNCC, as each of these entities receives funding separately. In Mbala, however, the DNCC decided to merge the reports from all the line ministries into one consolidated document, which they now submit to CARE. One member of the Mbala DNCC explained that they recently made this decision so that ‘*CARE couldn’t claim that they had not received one from one particular ministry*’. Financial reporting procedures are described as very time-consuming. One member of the NFNC noted that often the time spent on submitting funding requests and financial reports is actually more than the time spent implementing programme activities, recommending the following:

*‘What we would like to see maybe is biannual requests, sending every six months. Because at the moment even reporting on activities seems to be a huge problem, because you have started this activity (and) it is not yet done and you have to report. ... I think maybe the project is huge and the time limit is being affected by these procedures we have to follow’.*

## Challenges

Coordination and communication issues are raised by both WNCCs as key reasons behind programme delays and inefficiencies. WNCC members reported that they are not consulted for input into MCDP activity planning in their wards, nor do they have the opportunity to manage programme funding for such activities. Because the WNCC does not operate according to its own work plan, respondents explained that they wait for directions from the DNCC once it is funded, though the planned activities may not be relevant to the population. One member of the WNCC in Chipata observed this:

*‘We will just be directed in one direction of a plan that has already been done and funded. Meaning that even when IEC sensitisation is not important in your area at that time you still need to do that sensitisation because it was planned by someone in the DNCC’.*

The lack of understanding of the needs within a district’s population indicates the need for better communication between the DNCC and WNCC in developing work plans and efficiently allocating funding. A WNCC in Chipata explained that they received a financial orientation, but that after submitting a ward action plan so as to receive direct funding, they have yet to receive an update or approval to follow through with plans. Similarly, in Mbala, one respondent explained that the WNCC has expressed a desire to have discretion over activities, and that a

new work plan being developed will be shared with them. It is clear that mistrust of responsibility and accountability over intervention funding exists at all levels of the programme; this affects programme coordination and communication processes, as well as transparency amongst MCDP stakeholders.

The timeliness of funding disbursements for MCDP activities is essential to the programme's efficacy, yet continues to be perhaps the most pressing challenge in need of addressing. Implementers in both Chipata and Mbala explained that many funding requests are time-sensitive. Therefore, when they are not processed on schedule, implementation is significantly affected and in some cases the feasibility of carrying out the requested interventions is compromised. One member of the Chipata DNCC discussed this challenge:

*'So you find that when you plan for an activity, it is difficult to implement because of lack of funding which comes a bit late.... when such funding demise happens...it doesn't come on time as expected because there are certain activities that are time bound, for example, the commemoration of world breastfeeding week. As Ministry of Health we do that in August, so if I apply for money and it doesn't come within that period then that activity will just pass'.*

Funding flow delays have not only broken the chain of impact in missing periodical activities such as child health week and breastfeeding day, but also by missing deadlines for seasonal activities, such as the need for timely delivery of seeds prior to the rainy season. Delayed funding also causes gaps in programming, which decreases the effectiveness of prior activities. One member of the Mbala DNCC said that *'you have trained them, then you take 100 years to give them the inputs; they can even forget some of the messages and they get demoralised'*. When interventions occur sporadically because of inconsistent funding, it is difficult for MCDP processes to be institutionalised and thus achieve impact. Instead, implementers at the community level may focus on their non-SUN-funded work. One respondent at the DNCC in Chipata noted that the MCDMCH has received funding only once during the second quarter of 2015, illustrating this problem.

## Technical

In this section, we discuss the implementation of priority interventions against the backdrop of the issues raised earlier in the report. It is important to make two observations at the outset. The first is that it was not always possible over the course of research to systematically distinguish between preexisting activities and those which have been supported by the MCDP programme. The nature of the programme is principally to support, extend, and strengthen existing interventions: as discussed earlier, the MCDP introduces a new mode of delivery and builds on existing interventions rather than creating entirely new ones. Informants at all levels were found to be somewhat unclear on what was 'SUN-supported' and what was not. This was especially true farther down the programme chain and also is probably related to the irregularities in funding disbursements. The second observation which should be made is that the reporting offered here does not benefit from programmatic data, which was not systematically collected for two reasons: first, because in the absence of consistent and functional monitoring tools, such data is patchy at best and unreliable at worst. Second, because roll-out is still immature as a result of

the irregular funding flow, many of the standard metrics offered by programmatic data were simply unavailable at the time of research.

## **Cluster 1: IFA, vitamin A, deworming**

### **Activities**

In Chipata, respondents from the DNCC, the WNCC, and ward-level implementers agreed that both IFA tablets and vitamin A tablets are distributed regularly. In addition, pregnant women are sensitised to the importance of IFA: according to a community health worker from Nsingo ward, *‘We offer counselling on the importance of IFA to the pregnant women including those that say that they have enough blood’*. The in-charge from Nthope ward made a similar point, adding that SMAGs are responsible for sensitising women about IFA during community meetings. Many respondents indicated that distribution of iron, folic acid, and vitamin A happens at the antenatal clinic, GMP stations within the wards, or through the SHN initiative. Many respondents mentioned Child Health Week, which happens twice per year around the months of June and December, in conjunction with deworming. Deworming and vitamin A were frequently mentioned together, for example by a school official from Nsingo ward, who stated, *‘children are dewormed every second term of the year, clinic staff come to the school and distribute deworming tablets and vitamin A tablets’*.

### **Training**

Most of the trainings mentioned in relation to iron, folic acid, vitamin A, and deworming took place during Child Health Week. One SMAG from Nsingo ward noted that these trainings during Child Health Week provide helpful guidance on the age at which children should receive each sort of tablet: *‘They tell us the age of children who are eligible to receive a particular type of vitamin A and deworming tablets. Children aged 6 to 11 months get blue vitamin A tablets, those aged one year to 5 years get red vitamin A and deworming tablets’*. Responses were somewhat mixed on whether respondents had received training materials to facilitate activities related to iron, folic acid, vitamin A, and deworming. According to one SMAG from Nsingo ward, *‘I have not received any brochure or kit to help me conduct my activities. I use each child’s under-5 card to know what medicine to give the child’*. A few respondents mentioned instructional leaflets and posters associated with Child Health Week, also noting that these materials would be more useful if they were in Nyanja rather than in English.

### **Challenges**

Although one respondent mentioned that district offices occasionally run out of tablets, for the most part it does not appear that inputs are lacking for IFA, vitamin A, and deworming activities in Chipata. The one input-related issue mentioned by the WNCC in Chipata is that it is not always clear where supplies—including IFA tablets—are coming from (whether the MOH or SUN). Instead, SMAGs and community health workers mentioned very specific challenges, such as women’s resistance to taking IFA tablets because the tablets make them nauseated or give them headaches, or just simply the tablets smell bad. A SMAG from Nsingo ward noted that some pregnant women resist taking IFA tablets because they think they have already taken enough.

The nutrition champion from Nsingo ward indicated that some mothers do not understand when children should receive vitamin A:

*'Since it has to be administered every six months, you find that some mothers don't understand if there is child is not due for vitamin A and want to receive. Or if the child's age is not yet due to be receiving vitamin A, we explain this to them that they have to wait a couple more months in order for their child to receive the supplement and that in the meantime they get their vitamin A from their breast milk but some don't seem to understand this, but others do'.*

Last, one school official mentioned that it is sometimes difficult to distribute multiple tablets at the same time to children at school, particularly when some of them (such as the medication for bilharzia) cause drowsiness.

### **Positive changes due to MCDP**

Most respondents from Chipata, including members of the WNCC, felt that SUN had brought minimal or no changes to activities related to IFA, vitamin A, and deworming activities. According to a WNCC member, *'There has been no change in either administration nor in the delivery since when SUN started'*. That said, at the ward level, some respondents maintained that SUN has routinised vitamin A and deworming activities. According to the in-charge in Nsingo ward,

*'The approach was changed when SUN in. They told us to capture the moment they have turned six months and 12 months. When they are six months, we give vitamin A. When 12 months, we give deworming. Those who are due they receive at the age that they are supposed to be given'.*

Several other positive changes were mentioned at the ward level, although it is unclear whether these changes occurred as a direct result of SUN. In Nthope ward, one health worker remarked that as a result of sensitisation, community members are now bringing their children in for deworming and women are visiting the under-5 clinics more regularly. A SMAG from Nsingo ward perceived a reduction in cases of anaemia: *'From the time we started administering IFA tablets to children and pregnant women here at the clinic, we have not recorded any cases of anaemia'*. With regard to deworming, the in-charge from Nsingo ward suggested that deworming activities are no longer limited to Child Health Week: *'a long time it was a biannual thing deworming children but now we deworm when they are due. At 12 months we deworm. There is nothing like we have to wait until the minister declares this is child week that when you deworm'*.

## **Cluster 2: Breastfeeding and complementary feeding**

### **Activities**

In Chipata, the WNCC mentioned a mothers' group focused exclusively on sensitisation and training about appropriate breastfeeding practices, separately from the SMAG. The exclusive focus on breastfeeding is 'working well' according to the WNCC member interviewed, and mothers participating in the group received a training from Katcele. In Nsingo ward, the in-charge mentioned drama performances to educate pregnant women on the importance of breastfeeding and the importance of antenatal visits. The SMAG nutrition champion in Nsingo mentioned weekly meetings with pregnant women *'on feeding and the importance of taking care*



*of themselves, the baby and their health*'. She also mentioned monthly breastfeeding meetings during growth monitoring activities, during which they use drama, songs, sketches, and poetry to educate participants about breastfeeding. Also in Nsingo ward, the in-charge mentioned plans for a garden and cooking demonstrations to promote healthy complementary feeding practices, but these activities have not yet begun.

In Mbala, the DNCC reported that cooking demonstrations had been presented in several wards as part of Child Health Week. The activity began with drama sensitisation followed by a cooking demonstration one month later, during which participants were divided into two groups and tasked with making a certain recipe and then teaching the other group how they did it the following day. The Mbala DNCC also indicated that counselling on breastfeeding had been done and that four IYCF facilitators were in the midst of training community volunteers on breastfeeding and complementary feeding.

## **Training**

The training received by MCDP implementers in Chipata varied, with some saying they had not yet received any formal IYCF-related trainings and others indicating they had received detailed training on breastfeeding. Exposure to training appears to vary even within a single ward. In Nsingo ward, whilst one SMAG said, *'I have not been trained in IYCF/C-IYCF. I counsel people based on the knowledge that I receive from the in charge and from reading books and pamphlets that the in charge gave me'*, the in charge recounted a detailed training on breastfeeding: *'before the training, I knew a certain way in which the mother should hold the breast when breastfeeding but after the training I discovered that what I knew was wrong. I learnt the correct method in which the mother should hold the breast so that milk comes out in the right way'*. Last, the Chipata WNCC expressed a desire for more training materials, saying, *'We received a number of leaflets but the way we can only orient them rather than properly train'*.

## **Challenges**

The primary challenges associated with breastfeeding and complementary feeding activities in Chipata relate to inputs and supplies. The perceptions of resource needs also seem to differ slightly at the district and ward levels, with some DNCC and WNCC staff reporting to the research team that sufficient resources had been provided for an activity and ward-level implementers expressing a need for additional resources for that same activity. For example, in both Nsingo and Nthope wards, respondents mentioned the lack of food supplies for cooking demonstrations to be a key obstacle in implementing that activity. At the district level, however, the WNCC commented, *'We learnt that we could just ask the mothers to bring locally available foods'*. Ward-level respondents indicated that asking participants to supply the food for cooking demonstrations is actually not a viable solution. Also, on the subject of cooking demonstrations, the in-charge from Nsingo ward added that they need utensils for the demonstrations which they have yet to receive. Another example of differing perceptions of resource needs at the district and ward levels is bicycles. Although the WNCC in Chipata commented that all SMAGs had been given bicycles to follow up on group breastfeeding and complementary feeding trainings house by house, breastfeeding committee members from Nthope ward indicated that they lacked bicycles to be able to follow up on group breastfeeding and complementary feeding trainings.

Respondents in both Nthope and Nsingo ward reported needing training materials for IYCF activities, with one health committee member saying *‘I have not received any materials to conduct IYCF and C-IYCF activities.’* One SMAG from Nthope ward agreed, maintaining that IYCF trainings should include pictures: *‘they should be using pictures when teaching. These are pictures of different foods for children and cooking methods’*. One non-resource-related challenge reported by a SMAG in Nthope ward was that men often do not accompany their wives to antenatal visits, thus limiting men’s exposure to MCDP training on breastfeeding and complementary feeding.

### **Positive Changes Due to MCDP**

In Chipata, one growth promoter indicated that SUN has enabled her to travel to women’s homes to teach them about breastfeeding, whereas before they were able to teach only women who came to the under-5 clinics. An in-charge from Nthope ward said the MCDP has brought formal trainings related to maternal and child nutrition which were previously lacking: *‘there is a difference because before we never used to have these trainings, like the training the one which I was speaking of, the nutrition for mothers and babies, we never used to have that. So we were doing it, but now we are doing something that is even documented’*. Respondents from both Nsingo and Nthope wards commented that mothers pay close attention during trainings and frequently ask questions. A community health worker from Nsingo said, *‘The mothers pay attention and ask questions and freely share their experiences. Some of them go a step further to bring suggestions and others bring their children to me to see the appearance of the baby and we freely discuss on how they should feed the baby to improve the condition’*. Similarly, in Nthope ward, a community health worker reported that although communities were previously resistant to the concept of exclusive breastfeeding for children under six months of age, *‘people are now more receptive to it. They listen to us when we carry this message’*.

In Mbala, respondents reported a shift in dialogue about child feeding as a result of the MCDP. According to the WNCC, *‘IYCF was there, but the issue of first 1000 days wasn’t there. It changed the way we talk to mothers (not only about the brain but also about nutrition). Also, before we were not taking MUAC tape’*. The Mbala WNCC remarked on the importance of cooking demonstrations, which were rarely done before the arrival of the MCDP in Mbala: *‘Cooking demos are the best because mothers don’t know how to cook. Before SUN it was rarely done (only mothers of malnourished children which we bring to the centre). Mothers will say ‘No, we didn’t know that!’’*

## **Cluster 3: Growth monitoring and IMAM**

### **Activities**

Respondents in Chipata and Mbala mentioned two main activities related to growth monitoring and IMAM, sensitisation and growth monitoring sessions. In Mbala, the DNCC reported that sensitisation on growth monitoring is ‘continuous’ and takes place prior to each growth monitoring event, usually led by a volunteer or a community health worker. According to the WNCC in Chipata, growth monitoring takes place monthly at stations operated by the under-5 clinics:

*‘To do [growth monitoring], what happens is every baby born, the mother is given a station where the under-5 clinics are held, so they are given a date on which to bring the child to be given vaccines and so on. So they are always given a schedule for when the children are monitored on their growth and given the vaccines. So every child is being monitored every month in all the zones’.*

In Nsingo ward, a community health worker mentioned that as many as 80 or more women attend each growth monitoring session in large villages, with closer to 40 women attending each session in smaller villages. Growth monitoring sessions typically involve songs, dance, and poetry, as well as counselling on breastfeeding and complementary feeding.

## **Training**

In Nthope ward, Chipata, respondents mentioned plans to train 30 growth promoters per year but indicated that they had not yet begun the trainings. In Mbala, the DNCC mentioned plans to train 180 volunteers on growth monitoring in a comprehensive five-day training which includes not just measuring height and weight but also *‘how to communicate...interpret the weight, counsel the woman, make the follow-up visit, talk about certain diseases’*. According to the DNCC, however, funds are not sufficient to train 180 volunteers: *‘The 180 number was our objective, we wanted to achieve it but then when it came to implement we realised that the money that we had was not adequate to cover all of them’*.

In terms of the training health workers and volunteers themselves receive in growth monitoring and IMAM, a SMAG from Nsingo indicated they have not received any formal training, and mistakes are made as a result:

*‘I have not received training on growth monitoring. I just receive instructions from the clinic staff on what to do during growth monitoring. I feel this way of learning is not sufficient. We do not get to know in depth what we are supposed to do. As a result, we make mistakes when recording on the card and tally sheets. We each record the weights on the card differently. Thus I deem it very important that we should have a more serious training’.*

## **Challenges**

The primary challenges related to growth monitoring and IMAM in Chipata are related to supplies (height boards, scales, and MUAC tape). Some respondents reported having insufficient numbers of height boards, scales, or MUAC tape and others reported having none at all. A DNCC member from Chipata noted, *‘we only received two scales for almost eight zones, so we are still sharing the scales and like the measuring board it’s only one for adults that we received, so they are not enough as of yet’*. The Chipata DNCC added, *‘most of the scales don’t last, you find that after some time it stops working’* and mentioned that transportation is another inhibiting factor for growth-monitoring activities.

In addition to the problems with growth-monitoring equipment, one health worker from Nthope ward mentioned they do not have anything for mothers of malnourished children:

*‘even if we find a baby who is malnourished we don’t have anything to help the mother other than the zinc, that is all. If they need to go to the hospital we just refer to the hospital. But thereafter there is nothing it’s just the counselling on the feeding of the baby, we don’t have anything to give them’.*

Two other challenges related to height boards were mentioned in Chipata and Mbala. In Mbala, the DNCC noted that heights are not routinely taken: *‘we only measure height when the kids get identified as low weight for age.... We don’t do measure height during regular child growth monitoring’.* In Chipata, the in-charge noted apprehension about measuring children because there is a misconception that they are being measured for their coffins: *‘Though the height board is a bit challenging because people here know that when you are measuring babies in this way, it is like you are planning to make a coffin for them’.* Finally, a community health worker in Nthope ward mentioned that visual aids would be helpful to educate communities about malnutrition: *‘The other challenge is that we lack posters to show people when we are teaching in the communities. It would be nice for instance if people are able to see pictures showing that a child who is malnourished’.*

### **Positive changes due to MCDP**

Respondents attributed to the arrival of the MCDP a number of positive changes related to growth monitoring and nutrition, commenting specifically on the greater emphasis on stunting and better understanding of malnutrition and the importance of growth monitoring. To this end the WNCC in Chipata commented, *‘We’ve been emphasising stunting to make women understand stunting. This has come out very strongly during the SUN program. The women I think have gotten it very clear. The emphasis has been so much after the SUN program’.* A SMAG from Nsingo ward noted better understanding of the cause of stunting, *‘In past years, I did not know that food deficiency can lead to stunting. I thought stunting was only as a result of genotype’.* In addition to better understanding, some respondents believe the incidence of malnutrition has decreased with the MCDP: a SMAG from Nsingo ward stated, *‘Since the SUN started, the number of children with malnutrition has reduced because of their teaching’.* The in-charge from Nsingo ward remarked that SUN has increased focus on children under 2 as opposed to the traditional focus on children under 5: *‘So one thing that I have seen as part of change is that traditionally the health facility focused on the under-5 group but now with the 1000 days the focus is on the under-2 group’.* Other respondents agreed, adding that more women are visiting the under-5 clinic with their children now for growth monitoring.

### **Cluster 4: Availability of nutritious foods; dietary diversity for pregnant and lactating women**

Because the objective of the Ministry of Agriculture (MOA) is to ensure food security at the household level, this priority intervention sits firmly within their primary mandate. The MCDP activities support the routine activities by strengthening the effectiveness of their mandate: *‘it empowers us to act’*, said a district-level staff member in Mbala. The ministry already focuses on production and processing with the goal of availing foods to various communities, and in the production of fortified crops, especially orange maize, orange-fleshed sweet potatoes, beans; fruits such as pawpaw and oranges, and some local vegetables, all of which are said to be highly nutritious, and most important, locally available.

## **Dietary diversity sensitisation for pregnant and lactating women**

A number of SUN activities pertaining to this priority intervention have been completed in Chipata and Mbala districts, from the district level and cascading to the lower levels, but some planned activities remain to be carried out and completed at the various implementation levels.

Amongst the activities completed are various sensitisations of groups such as the lead farmers and the women's groups on the importance of dietary diversity. Sensitisation activities are easily integrated into the routine activities of the MOA because of their role in determining dietary diversity in rural Zambia. For example, district staff in Chipata incorporate nutrition-sensitive messages of the MCDP into one of their main programs, the Farmer Input Support Programme (FISP), saying, *'as we sensitise the farmers under the FISP, on the 1000 MCDP, we look into diets for children, pregnant women, lactating mothers, as well as complementary feeding and sensitisation'*.

The women's groups targeted for these sensitisations generally have a good knowledge of what dietary diversity means and the benefits which can be derived by pregnant women and lactating mothers consuming diverse diets. Groups such as the Luangeni and Mshawa women's group and other key informants too had a good understanding of the importance of this priority intervention, as most were able to state the three food groups which are required in order for a child to grow healthily: body-building foods, energy-giving foods, and protective foods. In each of these food groups, several examples of food were given. Amongst the benefits which respondents believe to accrue to pregnant women consuming diverse diets are the following:

*'When they follow diverse diets, pregnant women stay healthy and strong during delivery. The baby is born with a very good weight and this is a sign that the mother was eating well'.*

*'Diverse diets are important in the health of my community. Diverse diets enable both mothers and children and other members of the community to grow well. When people have diverse diets, they rarely fall sick'.*

*'The importance of diverse diets for a pregnant woman is that blood is not an issue for her, she always has adequate blood and she carries a strong baby in her womb. Even during delivery she remains energetic, she doesn't become weak easily'.*

*'When a woman is expecting or pregnant, she should eat three meals in a day plus a snack. The other thing is that she needs to rest after eating. A woman is also supposed to eat three groups of food'.*

*'The foods that make a balanced diet include energy-giving foods, body-building foods, and protective foods. For body-building foods we can talk of milk, eggs. For example, we can talk of eggs, groundnut, various vegetables, and various fruits. So it means any mother who feeds on these will deliver a healthier baby'.*

It is unclear whether this knowledge has been generated during the roll-out of the MCDP, but several of the women cited antenatal clinics as their main source of nutrition and health information.

Another way that sensitisation activities have been done by collaborating district offices from the various implementing ministries in Mbala and Chipata is through cooking demonstrations. At cooking demonstrations, various food dishes are prepared, combining foods from all three food groups to illustrate to local communities how diets can best be diversified. Components on preservation and processing of foods are included so as to preserve the nutritional value of the food when it is out of season. It has been noted that most of the foods used in these demonstrations are grown locally by members of the communities themselves and hence are generally readily available in season. Various groups of women, as well as lead farmers, have been amongst the main targets of the cooking demonstrations in both districts. The cooking of bio-fortified food crops also is reported in order that the farmers learn methods of retaining the nutrients in those types of food. At the time of data collection, many planned cooking demonstrations in Chipata district had not been done, as it was reported that funding for this activity had not yet been received by the district agriculture office, and so the demonstrations completed by that time were done as part of training during the lead farmers' trainings in certain extension camps, as well in the trainings of the women's groups. The district office at SWCD reported similarly that they had not been able to carry out any activities on dietary diversity as a standalone department after the restructuring in some government departments, for they too had not yet received any SUN funds at the time of our data collection. In Mbala, however, the district office has conducted good training and several cooking demonstrations where people have brought their own locally available food, discussing how to preserve it and how to cook it. The cooking demonstrations were attended by personnel from the districts and members of WNCC.

It remains unclear how effectively these demonstrations have been implemented in Chipata, where they have been scarce and loosely coordinated. It was noted that only one representative from the MOE was present during a cooking demonstration organised by the MOH, whilst no one from the MOA attended, as they were having a workshop at the time.

Drama groups also have been employed at sensitisation events to reinforce messages on the importance of dietary diversity across the target populations, however, this may not be sustainable in the long run should the challenge of a lack of support or motivation for these groups remain.

### ***Availability of foods; distribution of food inputs***

In a bid to improve household food availability, the Chipata district office included in their training programme a component of seed multiplication, a process by which seedlings are provided to lead farmers to plant, grow, harvest, and then share with members of the broader community. They also have done demonstrations of this process so that others too can see how to grow and multiply them and do so in a way which minimises the loss of nutrients at the time of harvest and after. This was done because the seedlings were said to be inadequate for distribution to all the targeted households. The district office also noted that because productivity is very low, another technique they are teaching farmers to practice is agricultural conservation so that they can improve on their productivity: *'We are incorporating this even into the First 1000 MCDP so that whatever they have they will at least produce more'*.

Trainings on diverse diets in Chipata, however, were sometimes too superficial and not technical enough. One lead farmer at Mnutwa RHC in Nthope ward lamented the lack of depth of the

training received in which the knowledge on all these processes was being imparted saying, *‘to be honest we had the training on crop production but it was just an orientation, we didn’t learn in detail. We never learnt any planting methods for these crops, there was nothing like that. It was just orientation so that we can have something to teach the community’*. Another farmer in Nsingo ward said, *‘we were trained but no programme was given. Right now we are waiting to have a programme for fish ponds. The way it is, is that there is no programme that was set for us to follow, they were just teaching’*. Yet another added that *‘it is difficult to find a starting point. Because those people just came and taught us, but for us to start, that is what is difficult’*. One lead farmer of the Mshawa group lamented that *‘most of the things that we were taught require money. For instance cement, money to buy fish and construct a fish pond. All these things require money. Even if you sat together where are you going to get the money to do these things. In short, we were taught in theory but we did not do practicals.’*

Although Chipata conducted several trainings, the funds were depleted before they could deliver and distribute agricultural inputs to their target groups. In Mbala, however, the district office concentrated on relatively fewer trainings but seemed to be focused more on a community model of agriculture with in-depth trainings during which community members were taught how to construct fish ponds and chicken houses. Afterwards, agricultural inputs have been distributed in a systematic way in which members of the community self-select into interest groups which are defined by the type of input individuals would like to receive. For instance, they have the livestock and vegetable interest groups in which individuals with similar interest in a particular input (for example, goats, pigs, or bio-fortified crops) can regroup and prepare to be eligible for receiving the respective agricultural inputs. For the livestock interest groups, for example, the district staff conducted a selection process as guided by predetermined criteria. According to them, a critical criterion for prospective recipients was having the required structures erected to shelter the livestock, and having attended the trainings, before they could be awarded the inputs.

## **Cluster 5: WASH**

WASH presents considerable differences in intensity between Chipata and Mbala because Mbala is one of the pilot districts for the MOE and UNICEF CLTS intervention, and much of the WASH focus in Mbala is supporting and strengthening the scale-up of the CLTS intervention (support incentives for more CLTS champions and for supporting ODF celebrations), and WASH supports the MOE in training for SLTS. Thanks to the CLTS efforts, many chiefdoms in Mbala have already been declared open-defecation-free and sensitisation efforts are intense. This is not the case in Chipata, where efforts are still at the beginning (*‘it is quite challenging to maintain hygiene with children who have never seen a toilet before’*, according to a Chipata district head teacher). In addition, because Mbala is supported by the DHIS2 mobile community reporting system, the support for M&E and level of information is dramatically different in the two districts.

CLTS activities’ target is broader than the traditional SUN target of pregnant and lactating, just because of the significant externalities. *‘One neighbour open defecating will affect the entire village, including those pregnant and lactating women’*, said the MLG representative in Mbala. Despite this breadth and the WASH involvement in all spheres of The First 1000 Days, implementers felt it was easy to include WASH messages into their activities.

Both in Mbala and in Chipata, there is a general understanding of the importance of WASH and its role in the first 1000 days in both civil servants and community workers (*‘one cannot talk about good nutrition without talking about water and sanitation. ... if one eats a balanced diet but the water points and environment are dirty, the person will not be healthy’*, said our key informant at a school in Chipata district) and the message about washing hands often is integrated into First 1000 Days sensitisation meetings (*‘We can look at nutrition just on its own, but nutrition is also important in relation with the other diseases, for example, diarrhoea. When we talk about nutrition aspects, we integrate with other things’*, said an EHT in Chipata district) and discussed by a Chipata CHV: *‘We teach people to construct toilets and not use open defecation. We encourage them to wash hands after using the toilet, wash all the foods they are about to eat in clean water, and to boil their drinking water’*.

In Chipata at the time of the visit, activities on WASH were focused on granular chlorination of wells and reorientation of previously trained pump menders. Chlorination of wells is done mostly by the EHT and pump menders, and granular chlorine is kept at the clinic, but at the time of the interview, granular chlorine was almost finished and testing kits and spare parts had not been received at all, which limited the effectiveness of the training and of the intervention. At the household level, liquid chlorine also had not been distributed, and sensitisation at the household level from community workers was therefore encouraging the boiling of water. Community workers and nutrition volunteers all reported teaching about the importance of toilets, clean surroundings, and boiling water, as well as the importance of having a rubbish pit. At the school level, triggering of schools was not yet done as part of SUN activities in Chipata, although some isolated wards have been exposed, thanks to the activities of independent NGOs, and some wards had engaged drama groups to sensitise students and the community on WASH issues and had reported having active student SHN committees. District and ward staff highlighted anecdotes of children sensitised at school bringing about behaviour change in the household: *‘I witnessed a child at a home yesterday about four-years-old boy advising the mother “make sure you wash your hands before you touch this”’* (EHT, Chipata district)

In Mbala, many activities in the plan are ‘topping up’ what has been done by the UNICEF CLTS project, helping to fund ODF celebrations and supporting CLTS champions’ incentives. UNICEF SLTS-triggering tools were reported to be implemented and the SUN fund was providing human resources for training in the SLTS component. The DHIS2 system was providing almost real-time data on the CLTS situation and allowing MLG to plan effectively and position resources where most needed. In an innovative example of coordination, the Mbala MLG activities in water quality and boreholes rehabbing were planned with the agriculture-based activities to guarantee that water points are up and working in the areas where production gardens happen. MLG Mbala also systematically mapped the boreholes and their support before deciding which boreholes to prioritise for repair. WASH involves a substantial coordination between MLG, MOH, and MOE, but in Chipata it was too early to assess the success of this coordination: at this point it was limited to logistical coordination between EHT and pump menders.

Challenges in coordination concern the coordination with smaller NGOs: *‘There are other NGOs doing the same things as the SUN program but they are not consulting other groups. They are maybe drilling boreholes where the number of households is very small. They will go drill without consultation about where that borehole should be drilled. We are still having those gaps’* (WNCC focus group, Chipata); these can be mitigated by a stronger WNCC.



Shallow wells remain a problem in the Chipata and Mbala districts. There was a general feeling that more was needed than just chlorination of shallow wells, potentially construction of better wells or new boreholes (*'MLG says it is not mandated to drill new boreholes, just to rehab, but we have areas that are critically hit by the situation of water points. The water people are drinking is not safe because they are shallow wells where they just use ropes to get water. So some areas are hit by lack of sources to get safe water.... Even the shallow wells, although they are being treated, the way people draw and handle the water...it needs more'*); *'The MLG said it is not mandated to drill new boreholes, but just to rehabilitate. But some areas are hit by poor water sanitation'*). In Mbala, the latest Mpika plan includes construction of a borehole to address this challenge.

## **Cluster 6: Nutrition messaging**

Nutrition messaging is the component of the 1000 MCDP which aims to generate and impart nutrition knowledge and health information to local communities. As one nutrition champion in Nsingo affirmed, 'knowledge is power', and this priority intervention is essential in that it lays the foundation for community uptake of the health and nutrition services offered by the programme.

Nutrition messaging is overseen and guided by a communication and advocacy strategy, and the implementation plan is drawn up at the national level and provided to the implementing districts. Various entities manage the development of a nutrition messaging package that depends on the specialisation of the entity in relation to the messages being developed. For instance, messages to do with Maternal and Infant and Young Child Feeding, Complementary Feeding and Growth Monitoring Promotion fall under the auspices of the NFNC in conjunction with the MOH, whilst IMAM falls solely under MOH, and those on WASH under the MLG. Equally, the development of messages carrying nutrition-sensitive agricultural activities and processes is overseen by the MOA. Hence, the communication activities executed by district officers in their communities all essentially emanate from the national level. This collaborating unit also is responsible for producing the various specialised IEC materials to be used in trainings conducted under the MCDP.

Although a substantial amount of training, orientation meetings, and community sensitisations has been carried out in the Chipata and Mbala districts, the roll-out of nutrition-sensitive messaging has been mixed in its effectiveness at imparting knowledge and nutrition-related information, and by extension, on producing behaviour change. Many of the trainings conducted and some meetings attended were reported to have not employed any IEC material carrying nutrition-sensitive messages. Attendants cited the use of plain flipcharts which were handwritten by the facilitator as the sessions progressed (the writing was in certain instances illegible). We can attest to the underemployment of IEC material, as was observed in one of the livestock trainings for lead farmers and women's groups which we attended in Kanyanja Camp in Chipata district. Although one poster on the intervention areas of the MCDP hung on the wall of the training venue, the district officer facilitating the training did not make any reference to it during the proceedings. Nor was any IEC material distributed at the training. The only materials given to participants were a notebook and pen to jot down notes during the training. This situation is not unique to the training at Kanyanja camp, a SMAG representative at Mnutwa rural health centre in Nthope noted: *'I have not received any materials to use when teaching others. The*

*sanitation people only gave me a pen and a notebook to use when writing reports so that we write reports and submit to them at the sub centre in Chipalamba*'. In other cases, the IEC training materials arrived after the trainings had already taken place.

In addition, the central development of most of the nutrition messaging in Lusaka has meant that IEC tools carrying nutrition-sensitive messages have been standardised across all regions implementing the SUN programme without having to adopt relevant media of communication to respective regions. Producing standardised material at a national level to be used at district and ward levels risks hampering the full comprehension of key nutrition messages, as well as the effects of the message on the part of the local people if the messages are not tailored to their local context. For instance, as several respondents reported and also as the research team observed, the IEC materials developed are in the English language and have not been translated into the local languages of the regions where the SUN programme is being implemented. It was also observed that materials produced were text-heavy and should feature more illustration-based messaging approaches.

Finally, the messaging content must be targeted to certain traditions and customs that perpetuate poor feeding practices in respective regions. For example, in Nthope, we were informed that there was a general belief amongst the women of that community that the 'first milk' (colostrum) must not be fed to a baby and so they would discard it into the ground, and yet this is the breast milk which is most essential to a baby's health. Thus, even as nutrition messaging is produced centrally, it is imperative that these messages are unpacked to ensure that the districts understand them fully so that it contributes positively to how they disseminate that information to their communities.

A district officer at SWCD in Chipata noted that there are currently plans to establish an advocacy and communication committee to look into appropriate communication media and that most of the media organisations are in line to become members of this committee. It is hoped that this committee will ensure that key messages on nutrition trickle down to grassroots levels by way of an appropriate medium of communication and that IEC materials will be designed to be more user-friendly and will carry trigger messages which are responsible for driving positive change amongst traditions, practices, and attitudes responsible for widespread malnutrition and stunting in respective communities.

## **Discussion and Recommendations for Policy and Programming**

The overarching narrative of this report is that while the MCDP has had some success in promoting a new multisectoral intervention delivery paradigm and has supported the strengthening, intensity, and extent of some interventions, the programme has not attained its full potential in Chipata and Mbala. There are a number of highly interrelated reasons for this, and we hope that the findings presented in this report go some way towards illuminating them. In this final section, we summarise the key findings and offer a set of practical recommendations which we believe would help to mitigate some if not all of the challenges identified. We focus these recommendations mainly on the nonintervention areas of this report (coordination, communication, planning, monitoring, reporting, and flow of finances). This is because we

believe that many of the challenges currently facing the roll-out of priority interventions are directly related to these broad and cross-cutting issues. Resolving challenges in these transversal areas, we hope, would help to resolve challenges to the implementation of the interventions themselves. We will explore how these recommendations have been used to develop the programme in the rapid process evaluation, which will take place in January 2017.

## **Cross-cutting issues**

In both Chipata and Mbala, we found that higher (district, WNCC) levels of actors had a good conceptual understanding of the implications of the multisectoral paradigm and coordinated approaches to implementation. This understanding diminished, however, further down the programme chain. Furthermore, although some coordination in activity planning and implementation (chiefly in the area of sensitisation) was under way (particularly in Mbala), it was limited by the overall slowness of activity roll-out. In terms of planning and communication, we found challenges particularly along the vertical axis, in particular between the WNCCs and their respective DNCCs: In both districts, WNCC members felt that they did not have particularly good communication with their DNCCs, and that their role had been limited to simply carrying out the orders of the DNCC. We heard calls for greater ownership and autonomy. Finally, moving up a level, we note that line ministry focal points on the DNCC in Chipata reported poor communications with CARE, and repeated requests for funding carry-over went unanswered.

## **Related recommendations**

- Clarify roles and responsibilities for all actors at all levels of the programme.
- Create an information-sharing mechanism so that the various ministries and coordinating bodies can effectively coordinate with one another, communication lines are open, and the programme is transparent.
- Vertical communication, in particular between district (DNCC) and ward (WNCC) levels, is currently perceived as problematic. Consider ways of improving communication: provide funding for more regular meetings and DNCC field trips, ensure that WNCCs receive more regular and complete briefings from the DNCCs.
- Seek ways to foster greater WNCC ownership of the programme activities. WNCCs desire greater autonomy; although this may not be practical, involving WNCCs more actively in activity planning would help to engender empowerment through participation.
- Consider standardising WNCC structures and composition, as well as the possibility of assigning the leadership role to a member of the health cadre.

Respondents we spoke to at the central, district, and ward levels indicated that monitoring processes are not being consistently or systematically carried out. Although a new harmonised monitoring and evaluation plan was recently created, it is not yet operational. Because a unified monitoring tool for the MCDP is lacking, programme implementers extract relevant data from their respective line ministries in an improvisational manner to monitor activities. Using existing ministry registries creates an additional burden for those responsible with the task of reporting. Although the programme targets and would therefore report only on children ages 0–2, ministry

registries focus on children ages 0–5, meaning MCDP staff must spend time extracting the 0–2-year-old children from the registries. Furthermore, confusion over which activities are SUN-funded and which would occur without the MCDP continues to be a challenge for reporting. The lack of clarity in which activities can be attributed to the programme raises reliability problems in what is reported.

### **Related recommendations**

- Formalise regular training opportunities in financial management for anyone responsible for these processes and institute practical exercises for these individuals to build their skills interactively. This will ensure that those responsible for funding requests, which are critical to programme delivery, may develop the skills necessary to keep the programme moving.
- Train on proper monitoring procedures—for data collection, tools, and reporting.
- Submit only consolidated reports from the DNCC, reducing the confusion and inconsistencies inherent in individual line ministry reporting.
- Develop a system which is less complex than extracting information from separate line ministries—it is time-consuming and error-prone.
- Provide on-the-ground mentoring on planning, budgeting, monitoring.
- Include a specific emphasis on documenting and evaluating the new M&E system during the process evaluation to be conducted in October 2016. The longer term recommendation is to adopt a unified and community-based system of data collection with community workers and implementers as data collectors and using mobile platforms to create dashboards and real-time information to both implementers and policymakers. Therefore, we consider it important to integrate as much as possible of the SUN M&E platform into DHIA2 or something similar.

Financial processes and the flow of funds pose perhaps the most significant obstacle to MCDP implementation. There appears to be a fundamental mistrust of accountability over finances between the central, district, and ward levels, causing significant challenges in communication and coordination of financial reporting and approval procedures. Delays in funding disbursements pose substantial problems to implementation of several intervention activities which are time-sensitive, reducing their effectiveness. In addition, when districts need to carry over funding from one quarter to another, the procedures necessary to request this approval cause further delays of interventions. Inconsistent funding also causes programming gaps, leading many to forget earlier activities they may have been a part of, ultimately preventing MCDP processes from being institutionalised by implementers.

### **Related recommendations**

- Consider placing responsibility for carry-over approval decisions in the hands of the DNCC, or at the provincial level, rather than the national level, with the aim of streamlining the process and improving the flow of finances.
- Consider making an administration budget line more accessible to the DNCCs.

- Consider restructuring to create greater separation between the technical assistance and the financial dimensions of the programme, and also assess the possibility of offering more direct funding channels to DNCCs.

## Priority intervention implementation

Findings highlighted multiple successes and continued challenges experienced by implementers delivering the programme’s priority interventions. In Chipata, IFA, vitamin A, and deworming activities occur regularly and respondents noted that they have sufficient tablets to distribute. Most respondents felt that SUN funds had not significantly added to existing IFA, vitamin A, and deworming activities, though some explained that it has been successful in routinising the activities. MCDP activities in breastfeeding also have systematised a focus on appropriate breastfeeding practices. In Chipata, a separate breastfeeding mothers’ group has been established, and sensitisation occurs frequently with pregnant women to encourage and educate women on feeding. Respondents in Mbala reported a shift in dialogue about child feeding as a result of the MCDP. Some respondents we spoke with in Chipata described a training they had received on IYCF, explaining how valuable it was, but others within the same ward revealed they had not yet had an opportunity to attend this training, highlighting perhaps inconsistent targeting efforts for trainings. Resource challenges also were mentioned by ward-level MCDP implementers, who expressed a need for additional resources, particularly for cooking demonstrations and community training activities.

Respondents provided mixed opinions on the ways in which the MCDP has added to growth monitoring activities. Though plans exist to train growth promoters and growth-monitoring volunteers, trainings have not occurred in either district because of funding constraints. In addition, in Chipata, insufficient growth monitoring and IMAM inputs have been provided, causing problems with conducting adequate sensitisation on malnutrition and inhibiting growth-monitoring activities. At the same time, in Chipata implementers emphasised that because of the MCDP, they sensitise a great deal more on stunting, and pregnant and breastfeeding women consequently understand the link between malnutrition and stunting.

A number of SUN activities in dietary diversity have been completed in Chipata and Mbala. Respondents mentioned numerous sensitisation activities which have been integrated into regular ministry functions, as well as cooking demonstrations in Mbala, both of which target farmers and women’s groups. Respondents in Chipata reported more challenges in carrying out activities that result from a lack of funding, and the trainings which have been provided were reported as too superficial. In contrast, in Mbala the district office has conducted training and multiple cooking demonstrations, and by conducting fewer and targeted trainings they managed to distribute agricultural inputs systematically.

We also found significant variations between the districts in WASH activities, likely because Mbala already is a pilot district for an MOE- and UNICEF-funded community-led total sanitation intervention. In Chipata, much of the focus in this intervention area surrounded chlorination of wells and orientation of pump menders, and in Mbala activities served to reinforce previous activities done under the UNICEF CLTS project. WASH activities require substantial coordination between multiple ministries and other NGOs conducting relevant activities. Although it is too early to assess the success of ministerial coordination, respondents

indicated that the MCDP has not been in contact with other NGOs to ensure that efforts are appropriately targeted and not duplicated.

Community sensitisation in MCDP priority intervention areas is ongoing, and the roll-out of formalised nutrition messaging still is limited. The IEC materials which respondents did mention had been developed centrally and were in English, and subsequently not as effective as they could be because the target recipients of these materials do not read English. Respondents expressed a clear need for tailored messaging appropriate to the localised traditions and customs which perpetuate poor IYCF practices.

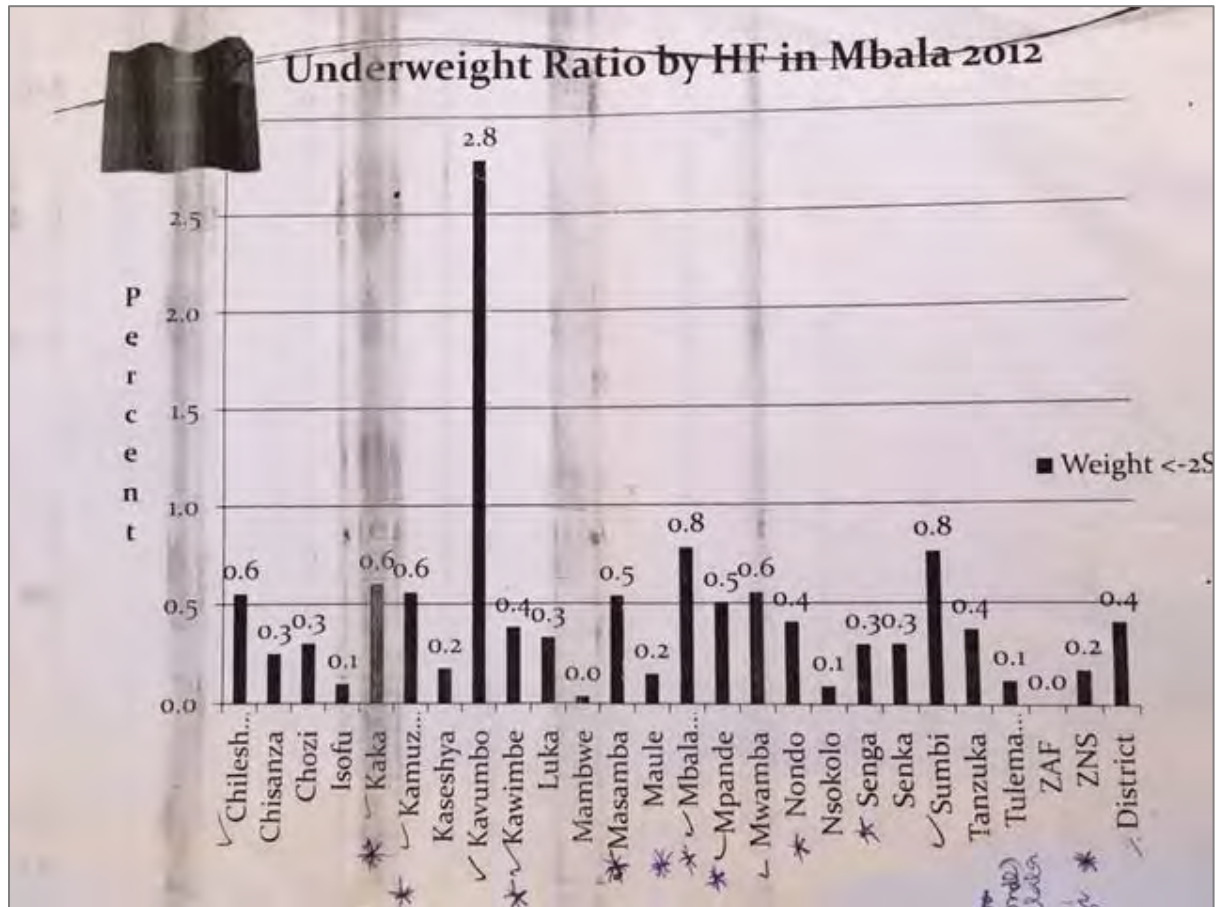
### **Recommendations related to interventions as rolled out at the time of research**

- Minimise incomplete interventions, such as training pump minders without subsequently providing borehole spares.
- In the event of funding constraints, consider a more complete roll-out in a smaller number of wards (as in Mbala), rather than an incomplete roll-out in many wards.
- Clearly define the transition from training to action, and make every effort to minimise the gap between these two
- Clarify procedures for carrying out sensitisation and promote greater standardisation generally. We are not recommending that every ward carries out a given activity in the same exact way, but we are recommending common guidelines and the need for operating procedures. We recommend support in defining delivery mode and all implementation procedures and in developing written procedures for each activity.

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## Annex 1: Illustrative Images



In Mbala, selection of wards for most need of intervention was based on this graph, provided to all line ministries by the district health officer. The graph has an unknown source (even according to DHO), does not have confidence intervals, and is based only on wasting rather than on stunting. All districts have lamented that the baseline survey conducted by NFNC ahead of First 1000 Days implementation was not shared with the districts.



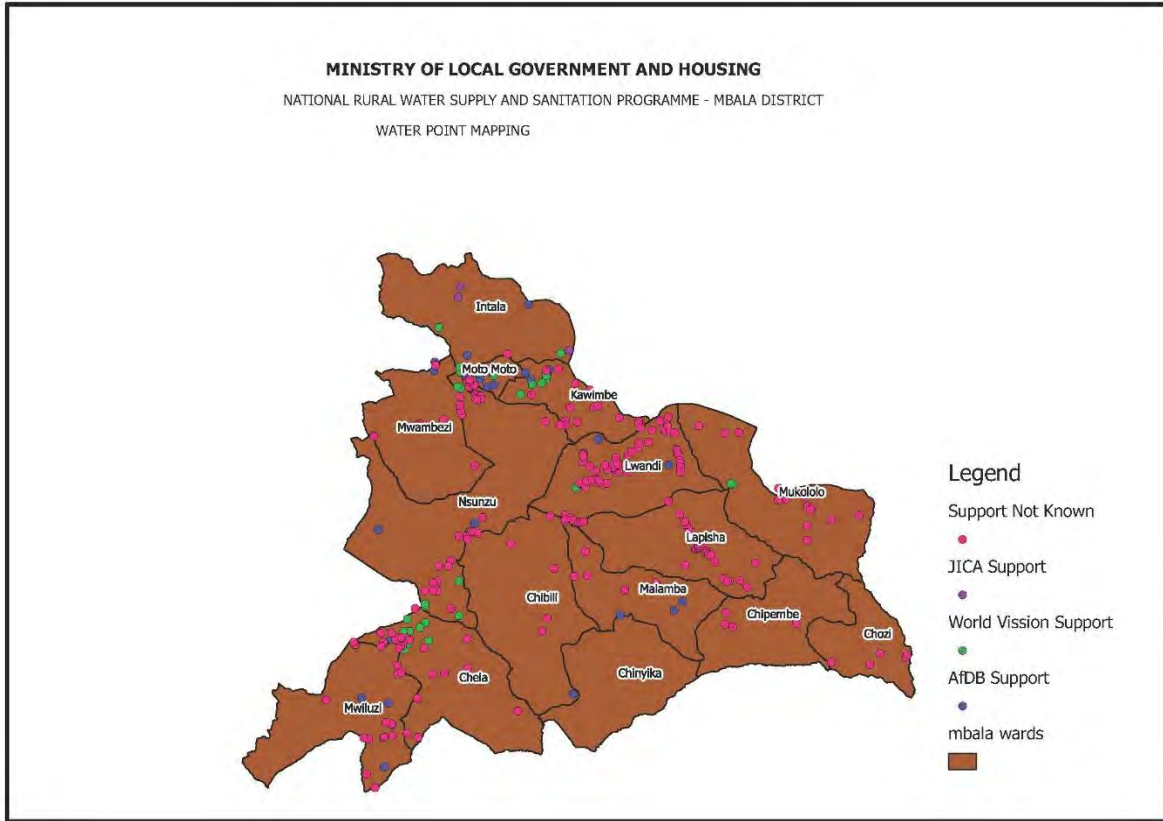
IPEMBE WNCC  
ACTION PLAN FOR THE FIRST QUARTER 2

ACTIVITY	WHERE	WHEN	WHO	AMOUNT
1 BICYCLES DISTRIBUTION	Tanguka School	28-01-16	DNC	
2 ORIENTATION OF VOLUNTEERS (BICYCLE BENEFICIARIES).	Tanguka School	05-02-16	WNCC	K 900.
3 VITAMIN 'A' CROPS AND SUPPLEMENTATION SENSITIZATION	John Chiko Mang'ombe	26-02-16	WNCC CAC, HEALTH	K 500.
SENSITIZATION ON SANITATION, SAFE WATER & HYGIENE	Leo Nsindano & Isangzi Village	11-03-16	WNCC MOH	K 475
SENSITIZATION ON SAFE WATER AND HYGIENE	Mataunga Zone	25-03-16	WNCC MOH	K 600
WNCC QUARTERLY REVIEW AND PLANNING MEETING.	Tanguka School	01-04-16	WNCC	K 1700
SUBMISSION OF QUARTERLY REPORT.	DNCC	06-04-16	WNCC	
NB: The Ward Activities Fund request implement-				K 475.
The Ward Activities Fund request implement- is attached to the minutes.				

WARD-level implementation plan in Mbala. Wards will need more formal tools consistent across wards, and activities will need to go under objectives, as in the DNCC plan. The location will need to be justified as well as the delivery mode for sensitisation. Also, the double presence of 'MOH' and 'WNCC' in the chart seems to suggest some inefficiencies: 'sometimes what happens is we may apply for the funds which are not in the district plan, as a result they will say we don't have this activity funded in the plan', added the WNCC.



Head teacher and WNCC member in Mbala by the community gardens. In this ward, interest groups created vegetable gardens after being given training in vegetable gardening and seedlings from DACO ‘*We used to underrate the value of vegetables*’, she said.



MLG Mbala proceeded in a systematic way to understand which boreholes needed support by mapping all boreholes first, assessing their location and functionality and then prioritising. This was made possible thanks to the UNICEF CLTS project, which provided the infrastructure for good data visualisation tools. The systematic approach of this example should be extended to all wards and activities.

KATEETE U.C.I N.H.C 24/03/16

WEIGHT MONTHS	0-11 MONTHS FEMALE	12-59 MONTHS MALE	12-59 MONTHS FEMALE	ATT CHILD HEALTH FROM OUT CAT AREA	0-23 MONTHS MALE	0-23 MONTHS FEMALE	24-59 MONTHS MALE	24-59 MONTHS FEMALE	FIVE (5) YEARS	BT-225-325	0-23 MONTHS	BT-225-325	24-59 MONTHS	BL-325	0-23 MONTHS	BL-325	24-59 MONTHS
#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
6	9	18	35	18	11	16	32	77							1		

Tally for a typical Community Growth Monitoring event in Chipata district. In this case, data on taking weight of children under 2 years old were recorded on this tally sheet and used for reporting purposes. This is not always the norm.



First 1000 Days material on the notice board of a clinic in Chipata district. The EHT declared that the material was very useful but regretted that it was all in English. He requested that the material be translated into local languages for community workers and mothers to learn.

**CHIPATA DISTRICT NUTRITION COORDINATING COMMITTEE (DNCC)**  
**DISTRICT IMPLEMENTATION PLAN FOR THE 1<sup>ST</sup> 1000 MCDP – 4<sup>TH</sup> QUARTER 2015**

S/A	ACTIVITY	WHEN	WHERE	RESPONSIBLE SECTOR	TARGET
1	Activity 1.1.1.3: Compile and submit 1st 1000 MCDP quarterly progress reports	29 <sup>th</sup> December 2015	DNCC Office	DNCC	CARE, Donors, NFNC and all stakeholders
1	Activity 1.1.1.2: Hold DNCC quarterly review meetings for 1st 1000 MCDP activities	23 <sup>rd</sup> December 2015	ECL, Eastlands and Crystal Springs	DNCC	20 DNCC Members
1	Activity 1.1.1.6: Support 11 WNCC to hold quarterly review meetings.	15-18 December 2015	11 Wards	DNCC	110 WNCC Members
2	Activity 2.1.1.1: Hold workshop for SHN Coordinators on key nutrition messages of the Minimum Package in zonal schools	19-21 October 2015	DRC	MGE	11 SHN Coordinators
2	Activity 2.1.1.14: Integrate 1 <sup>st</sup> 1000 MCDP into school curriculum through training	26-29 October 2015	DRC	MGE	9 ZICS
2	Activity 2.6.1.2: Train the 416 lead farmers and 416 NG Leaders in production of bio-fortified crops, legumes, tubers, cereals and storage, preservation and utilisation	9-13 Nov 2015	In wards	MAL	44 Ward champions and 4 District champions
3	Activity 3.1.1.1: Train 20 DNCC Members in management and advocacy.	To be communicated	ECL, Katete and Madzimoyo	DNCC	20 DNCC members
2	Activity 2.4.1.1: Train 50 Health Centre staff in IYCF (ToT)	To be communicated	-	MoH	50 Health centre Staff
4	Activity 4.1.1.2: Develop and broadcast 24 (48) radio programmes on 1 <sup>st</sup> 1000 MCDP	On-going	Radio stations	DNCC	12 radio programmes on Radio Breeze/Maria
4	Activity 4.1.1.3: Production/disseminating 8 TV clips	On-going	CTV/NAIS	DNCC	16 TV programmes
4	Activity 4.2.1.3 Support nutrition champions do their advocacy activities of the 1 <sup>st</sup> 1000MCDP	November 2015	In Wards	DNCC	44 Ward Champs and 6 District champs

1 | Page

*'This is what we received; it is the DNCC implementation plan; at the ward level we have to produce something like that as well, trying to fit in what has already been planned. The DNCC gives us this, but too late.... Like for this year 2016 January to March, we still don't have' [April 2016].*

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Zambia

# Annex I: Rapid Follow Up Process Evaluation Report



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# **Zambia's First 1000 Most Critical Days Programme: Results From the 2017 Rapid Follow-Up Process Evaluation**

**Gelson Tembo, Mazuba Mafwenko, Claire Nowlin,  
Hannah Ring, Terry Roopnaraine, and Arianna Zanolini**

*American Institutes for Research  
Palm Associates Limited*

JUNE 2017



# **Zambia's First 1000 Most Critical Days Programme: Results From the 2017 Rapid Follow-Up Process Evaluation**

**June 2017**

**Gelson Tembo, Mazuba Mafwenko, Claire Nowlin, Hannah Ring,  
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## Abbreviations and Acronyms

AIR	American Institutes for Research
ANC	Antenatal Care
C-IYCF	Community-Infant and Young Child Feeding
CHV	Community Health Volunteer
CLTS	Community Led Total Sanitation
DFID	Department for International Development
DNCC	District Nutrition Coordinating Committee
FGD	Focus Group Discussion
GMP	Growth Monitoring Promoter
IEC	Information Education and Communication
IFA	Iron and Folic Acid
IMAM	Integrated Management of Acute Malnutrition
IYCF	Infant and Young Child Feeding
KII	Key Informant Interview
M&E	Monitoring and Evaluation
MCDP	Most Critical Days Programme
MCDSW	Ministry of Community Development/Social Welfare
MLG	Ministry of Local Government
MOA	Ministry of Agriculture
MOE	Ministry of Education
MoFL	Ministry of Fisheries and Livestock
MOH	Ministry of Health
MUAC	Mid-Upper Arm Circumference
NFNC	National Food and Nutrition Council
NGO	Non-Governmental Organisation
ODF	Open Defecation Free
PI	Priority Intervention
SLTS	School-Led Total Sanitation
SMAG	Safe Motherhood Action Group
SUN	Scaling Up Nutrition
WASH	Water, Sanitation, and Hygiene
WNCC	Ward Nutrition Coordinating Committee

## Acknowledgments

This report is based on research facilitated by the support and collaboration of many individuals and institutions. We thank the many individuals from the Government of Zambia and from the National Food and Nutrition Commission (NFNC); line ministry staff in the District Nutrition Coordinating Committees in both Chipata and Mbala; and ward- and community-level health, nutrition, and education staff for their openness and time. Thanks in particular to the DNCC coordinators Mr. Tembo and Ms. Nakambala for their help and support. In Chipata, Paul Chipopa of CARE provided valuable information and documentation, and Rob Hughes, Dolika Nkhoma, and Ethel Yandila at the UK's Department for International Development have supported the overall evaluation throughout. We are grateful for their confidence.

## Executive Summary

This report presents the findings from the rapid follow-up process evaluation of the First 1000 Most Critical Days Programme. The National Food and Nutrition Commission (NFNC), in coordination with several donors including the Department for International Development (DFID), developed a bundled, multi-sector programme, called The First 1000 Most Critical Days Programme (MCDP) in order to address Zambia's child undernutrition. CARE, in conjunction with the NFNC, coordinates the implementation and delivery of the programme through several ministries. American Institutes for Research (AIR) and Palm Associates Limited (PAL) were contracted by DFID Zambia in 2014 to conduct an evaluation of the MCDP. The evaluation includes three components: a rapid qualitative assessment, a process evaluation, and an impact evaluation. This report presents the findings from the 2017 follow-up process evaluation, with a focus on implementation experiences, including coordination and communication, planning and reporting, funding flows, and successes and challenges in implementing each of the MCDP priority intervention (PI) areas.

### Coordination and Communication

In this round of data collection, we heard mixed feedback regarding MCDP programme communication and coordination over the past year. Coordination has generally improved at ward- and community-level implementation, which is a positive development over last year's findings. Consciousness and uptake of the multi-sectoral model remains good at higher levels of the implementation chain, although some red flags were raised. Respondents noted that the ability of all the ministries to “converge” and reach a single household with all of the PIs is a lingering challenge. Communication with NFNC was reported in both Chipata and Mbala as problematic, with focal points in Chipata explaining that a lack of communication caused challenges in coordinating and planning MCDP trainings that require master trainers from the NFNC. In contrast to findings from last year's data collection, respondents in both districts noted improvements in their communication and overall relationship with CARE. For the most part, communication processes are functioning better at the district level than at the ward and health facility level.

### Planning and Reporting

In terms of planning, respondents raised core challenges regarding the involvement of national-level line ministries in planning and implementation processes. At the district level, however, DNCC members in Chipata and Mbala emphasized that planning processes have improved in the past year, as respondents discussed in particular the annual planning workshops. Despite improvements in this area at the district level, frustration continued to be expressed by WNCC members regarding their relatively limited involvement in decision making and planning, although as we note, this is in line with the overall top-down planning structure of the MCDP. In regard to monitoring and reporting processes, many improvements have been made since the 2016 data collection, which identified this as a serious challenge to the programme. Trainings on monitoring took place in both districts within the past year, but rolling out a new monitoring and evaluation (M&E) system for the MCDP was delayed due to funding, requiring an additional training. Further capacity development is still needed in all ministries but the Ministry of Health (MOH), which already has a functioning and strong monitoring system in place and consequently more capacity in this area. Several issues were identified as problematic in

conducting effective and efficient monitoring, including transportation of data to a central point in the ward, how the different line ministries divide up geographic spaces and create their own “boundaries” to report against, and duplication of information reported on by multiple ministries.

## **Funding Flows**

Since the last round of data collection, respondents noted improvements in funding flows. In both Chipata and Mbala districts, focal points described attending financial management trainings within the past year, with topics specifically covering requests, reconciliation, and financial reporting. These trainings were described positively, and respondents found them helpful in addressing issues that were identified in last year’s evaluation around reporting. Despite this, considerable challenges continued to be noted that echoed last year’s challenges surrounding financial management and flow. One such challenge cited by respondents involved delays in receiving funds, which impacts coordination across ministries, who may receive funds at different times; this subsequently has an effect on the implementation of PIs. Additionally, the issue of carryover funding continues to cause challenges as it did last year for districts, as respondents explained that the request process for carryover funding requires multiple approvals and ends up causing delays, which also impact implementation schedules. There also appear to be challenges surrounding communication and transparency about available funding and decision making over how resources are used. Issues about this in particular were noted both by district focal points in Mbala as occurring between the CARE and the district level, and by WNCC members in Chipata as occurring between the district and ward levels.

## **Delivery of Priority Interventions**

Although we did not explore implementation of the priority interventions in as much depth during this round of data collection as previously, insights from district and ward focal points as well as groups of community volunteers revealed successes and challenges experienced this past year. The findings in these areas are skewed slightly more from Chipata, as community focus groups were not possible in Mbala at the time of data collection. In terms of iron and folic acid (IFA), vitamin A, and deworming, respondents in Chipata believed that the Scaling Up Nutrition network (SUN) stood out from other programs in this regard, as outreach activities under this PI emphasized the importance of taking the tablets; this sensitization coupled with the availability of tablets has had an impact on women’s uptake of the IFA tablets. However, responses were mixed regarding whether the stock of all three inputs were sufficient at health facilities at any given time under this PI, and one district focal point noted that it had been almost a year since they received inputs under the SUN, leaving them to rely on MOH distributions. MCDP activities regarding breastfeeding include promotion during routine activities conducted at community health facilities. Respondents in Chipata stated that they believed their sensitization had resulted in an impact on women’s knowledge about breastfeeding—at the same time, however, they acknowledged that there continued to be a gap between the knowledge and behaviour change by women in the communities. Additionally, within the past year it seemed that the breastfeeding support groups that were discussed in last year’s data collection had broken down and were no longer actively conducting sensitization activities.

Overall, activities and challenges in growth monitoring and IMAM appear to be largely unchanged since last year’s data collection. Although respondents noted that they had received some growth monitoring equipment in the past year, length boards—which are essential for

measuring children under 2 years of age—were not included in the distributions. Additionally, a lack of under-5 cards and mid-upper arm circumference (MUAC) tape have caused challenges for growth monitors, who have had to improvise their record keeping as well as malnutrition referral system. As emphasized last year, respondents continued to express a need for trainings in each of these areas for community volunteers.

Clear progress appears to have been made in the past year regarding activities related to availability of nutritious foods and dietary diversity. Respondents in Chipata and Mbala described several practicals and demonstrations and also discussed the agricultural inputs that were procured and distributed to communities in the past year, noting that targeting of recipients and the “pass on” approach was so far proving to be effective. Multiple cooking demonstrations took place within the past year in Chipata, and additional cooking utensils were procured for wards to conduct these. Community-level collaboration across ministries was noted as a challenge in this activity, and transport continues to cause problems for community volunteers, who have a hard time accessing the one facility that stores demo equipment within their ward.

Variations continued to be noted between Chipata and Mbala with regard to WASH activities. In Chipata, respondents described several trainings held under this PI for village water, sanitation, and hygiene (V-WASH) committees, district staff, and WNCC members, and multiple people discussed the community sensitization activities. Despite this, the lack of access to a safe water supply in many communities in both study districts continues to be a fundamental obstacle in facilitating behaviour change.

In Chipata, respondents described progress that had been made regarding formalizing nutrition-sensitive messaging since last year’s data collection. Within the past year, a formal public awareness campaign took place around nutrition, ongoing radio programs were mentioned, and respondents in both districts described integrating nutrition messaging into multiple types of SUN activities. Despite this improvement, a core challenge continues to be faced by implementers that was noted last year: IEC materials continue to be distributed in English, which is not read or spoken by many targeted beneficiaries of the SUN programme.

## **Summary of Recommendations**

### ***Strengthen M&E Approach***

- The M&E plan for the MCDP requires further strengthening and greater emphasis on beneficiaries and outputs rather than just inputs. The research teams recognize the value of existing data sources but there is a need to better understand the number and percentage of beneficiaries and the need to be able to use the M&E system to be able to plan more efficiently—functions that the current M&E is not yet in a position to accomplish.

### ***Coordinate Funding and Create Clear Policy for Carryover Funds***

- Funding across sectors needs to be better coordinated if these sectors are to be able to coordinate their activities. As recommended in the 2016 report, a clearer and more streamlined policy for carryover funds would go a long way toward improving overall implementation.



## ***Ensure Availability of Key Inputs for Pls***

- **Cluster 1: IFA, Vitamin A, Deworming:** Staff in Nsingo ward request more supplies of IFA. Furthermore, facilities now limit the amount of tablets they provide to women during a visit, requiring them to make more frequent visits to the facility to replenish when needed.
- **Cluster 2: Breastfeeding and Complementary Feeding:** Breastfeeding support groups are no longer active, although plans exist to reform these groups so that they are active in time to commemorate breastfeeding week in August 2017. In Nsingo ward, one volunteer felt that women were not attending sufficiently early ANC visits, and that this was resulting in non-optimal breastfeeding practices.
- **Cluster 3: Growth Monitoring, IMAM, Zinc Provision:** In growth monitoring, respondents identified a need for training on how to tally and complete under-5 information during GMP sessions, while respondents in Chipata at the district and ward level also described challenges regarding the availability of under-5 cards themselves. Although we were told that in Chipata under-5 cards were procured during the past quarter, the availability of these cards continued to be a challenge. Nsingo ward volunteers also noted that they had not received scales, MUAC tape, or any other equipment to support their GMP work—nor were supplies of Plumpy’Nut<sup>®</sup> for IMAM available in Nthope ward. A key challenge noted regarding zinc provision is that there is no indicator in the monitoring tools community volunteers are currently using to capture or record instances of diarrhoea.
- **Cluster 4: Availability of Nutritious Foods, Dietary Diversity for Pregnant and Lactating Women:** Coordination for cooking demonstrations remains a problem at the community level; furthermore, although the foods used in cooking demonstrations were considered to be accessible, the amount of time spent on cooking was felt by one Nthope informant to be unreasonable. Rainy weather was also cited as a challenge to cooking demonstrations. In Chipata, the availability of, and access to, cooking utensils continues to be a problem.
- **Cluster 5: WASH:** Access to clean water and drilling and upkeep of boreholes, are problems in both Chipata and Mbala. In Mbala, it was noted that the main need was now on the supply side of clean water, that there was no longer enough funding to conduct training for CLTS champions, and that training and sensitization needed to continue in order to properly embed WASH behaviour change.
- **Cluster 6: Nutrition-Sensitive Messaging:** Monitoring exposure to nutrition-sensitive messaging is difficult, particularly because nutrition-sensitive messaging is listed as a “cross-cutting” indicator, which all ministries report against, potentially resulting in double-counting attendance. In 2016, we flagged the problem of IEC materials being distributed in English. Unfortunately, this remains a problem in both districts.

## Introduction and Background

American Institutes for Research (AIR) and Palm Associates Limited (PAL) were awarded a Department for International Development (DFID) contract to provide services to design and conduct a mixed-methods evaluation of the First 1000 Most Critical Days Programme (MCDP), to help design the implementation of the programme, to determine how the programme should be scaled up, and to assess the effects of the bundled nutrition interventions on health and nutrition outcomes. AIR and PAL’s evaluation of the MCDP includes three components: a rapid qualitative assessment (RQA), a process evaluation, and an impact evaluation. Baseline data collection for the impact evaluation occurred in 2014 along with the RQA, and endline data collection for the impact evaluation is anticipated to take place in August 2017.

This report presents findings from the “rapid follow-up” to last year’s process evaluation, focusing on MCDP implementation experiences, including communication and coordination, monitoring and reporting, financial flows, and successes and challenges in implementing each of the MCDP priority interventions (PIs). Preliminary data collection for the process evaluation took place in early 2016; 1 year later (in the first quarter of 2017) we conducted a rapid follow-up to document progress made over the previous year and identify outstanding implementation challenges. Both rounds of data collection for the process evaluation were conducted in the two evaluation study districts, Chipata and Mbala.

## The First 1000 Most Critical Days Program

The First 1000 Most Critical Days Program (or simply MCDP in this report) began in 2014 and is funded by the Scaling Up Nutrition network (SUN) in Zambia. Its goal is to reduce stunting in Zambia by 50% by focusing on children under 2 years of age and pregnant and lactating mothers—the most critical period for stunting—bundling, strengthening, and bringing to scale a strategic subset of routine interventions proven to reduce stunting. The program is led by the Zambia Food and Nutrition Commission (NFNC) and it involves the Ministry of Health (MOH), Ministry of Education (MOE), Ministry of Agriculture, Livestock and Fisheries (MOA), the Ministry of Community Development and Social Welfare (MCD), and the Ministry of Local Government and Housing (MLGH). CARE International is the main technical assistance and fund management partner.

The programme targets households with children under 24 months of age and includes a package of activities and supports that will focus on maternal and adolescent nutrition; deworming, and vitamin A supplementation; family planning; growth monitoring; iron and folic acid supplementation; iodised salt, micronutrients, and breastfeeding; fortified staples and specialised nutritional products; a mother- and baby-friendly hospital initiative; and management of severely malnourished children (National Food and Nutrition Commission of Zambia, 2011). The First 1000 MCDP is being implemented in 14 districts in Zambia: Mumbwa in Central Province; Chipata and Lundazi in Eastern Province; Mansa and Samfya in Luapula Province; Chinsali in Muchinga Province; Kaputa, Kasama, and Mbala in Northern Province; Zambezi in North-Western Province; and Mongu, Kalabo, and Shang’ombo in Western Province.

At the district level, MCDP priority interventions are coordinated by the District Nutritional Coordinating Committee (DNCC), a multi-sectoral body composed by the district-level focal points of the line ministries mentioned above, implementing non-governmental organisations (NGOs), the District Administration Office, and the District Nutritional Coordinator, who is a figure appointed directly by NFNC for coordinating all MCDP activities. Specific activities under the interventions differ slightly by district and are established through an Implementation Work Plan. Each activity is led by one line ministry that is in charge of managing funds for that activity. However, monthly technical and financial reporting is consolidated and sent by the DNCC coordinator. As the fund manager, CARE reviews and approves quarterly disbursements. Other technical aspects such as capacity building for district staff or monitoring and evaluation (M&E) are led by the NFNC with technical assistance from CARE.

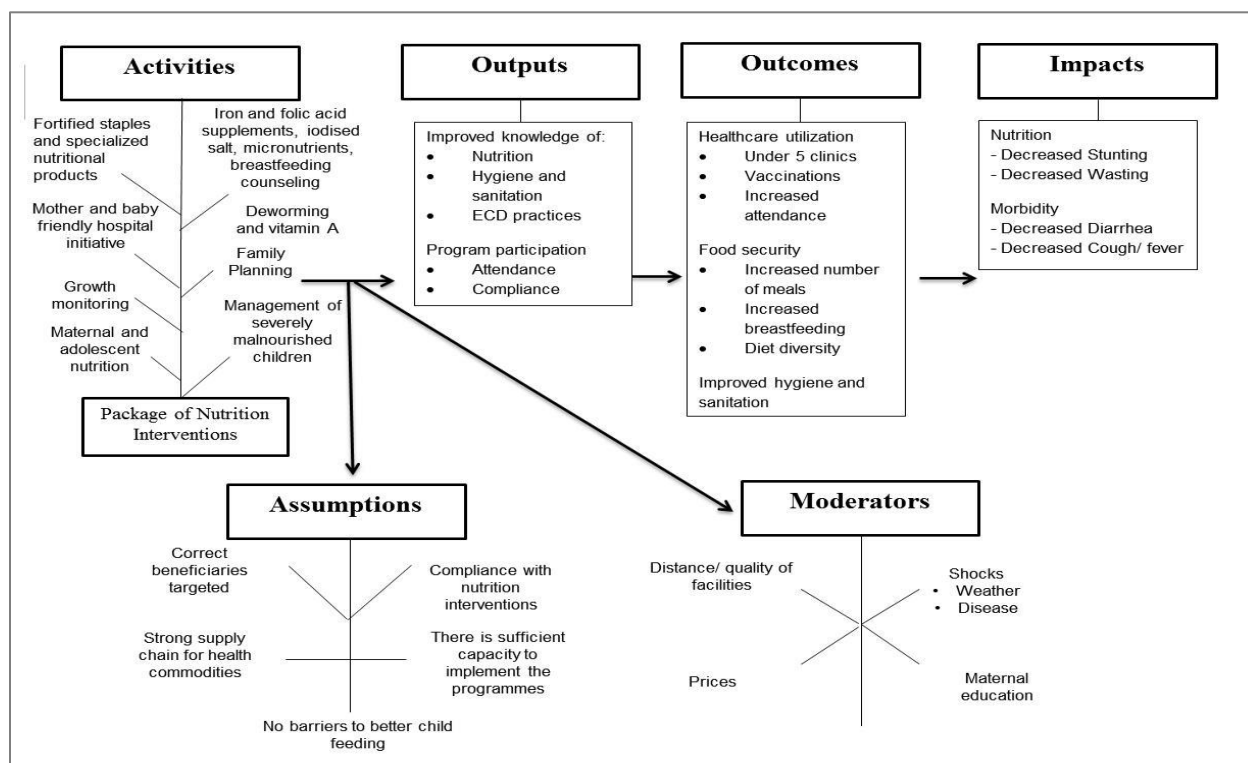
The structure of the MCDP is replicated at the ward level (an administrative subdivision of the district), where the Ward Nutritional Coordinating Committee is composed of a coordinator, traditional leaders, and representatives of line ministries at the ward level (for example, a teacher from the MOE or a camp officer from the MOA). By nature of its design, the MCDP requires a great deal of coordination and collaboration across ministries within the same district, but also across implementers, managers, funders, and technical assistance entities at both the district and national levels.

## **Theory of Change**

AIR believes that policy-relevant research should be built on a theory of change which maps out the causal chain between activities, outputs, outcomes, and impacts, as well as the assumptions underlying the theory of change. We developed a theory of change to motivate our study design.

CARE and the relevant government ministries are implementing a package of nutrition activities to poor households with pregnant women or newborn children living in rural areas. The ultimate goal of the intervention is to improve nutrition and reduce morbidity amongst children during their first 1000 days of life. The theory of change depicted in Figure 1 maps out the causal path between the activities and the ultimate goals of the programme listed as impacts. We hypothesise that, for the programme to realise its goals, it will need to be implemented with fidelity, will need to increase parental knowledge of nutrition and services available, and will need to change actual feeding practices. We are measuring indicators and collecting data at each step of the causal chain to provide a formative and summative evaluation which explores what works and what needs improvement, and which can be used to continuously adjust the programme design and implementation. Sociological and health theories of nutrition suggest that the impact of nutritional interventions may be weaker or stronger depending on local conditions in the community or household. We will look at factors which may moderate the impact of the program, such as access to services and facilities, mother's education, and local economic conditions.

**Figure 1. Theory of Change**



## Process Evaluation

Process evaluations focus on *implementation* and *uptake* and help us to understand the fidelity of a given programme’s implementation in order to learn whether the delivery of the programme has deviated from the original plan and how deviations might affect costs and impacts. Process evaluations also help in understanding how to reproduce the programme in other contexts and provide evidence, knowledge, and lessons about implementation and design. For these reasons, a process evaluation is very much “action research.” The overall process evaluation includes qualitative methods, as well as direct observations and collection of programmatic data. It is divided into two components: the first of these, upon which the current report is based, is focused principally on supply-side issues and employed qualitative approaches to gather information on programme roll-out and implementation. Key topics for this component were documentation of implementation activities status, including not only what and where, but also how the activities are implemented. We highlight challenges and bottlenecks but also positive findings to inform future implementation.

## Methods

### Design

This component of the process evaluation is purely qualitative. Our units of observation are the implementers at the district, ward, and community levels in Mbala and Chipata, and our focus is on implementation mechanisms, changes, challenges, and successes. In process evaluation, it is

insufficient to simply identify which program elements are underperforming; in order to improve programme design and implementation, we need to understand why elements or linkages work or do not work. We need to, in other words, open the “black box.” Qualitative approaches, characterised by in-depth interviewing techniques and open-ended questioning, seek to reveal the reasons and logic which underlie a programme’s implementation and uptake, and are therefore the most appropriate method for this setting.

We employed key informant interviews (KIIs) and focus group discussions (FGDs). We interviewed key informants (particularly involved in service provision) principally to elicit opinions about programme implementation. In these interviews we used a semi-structured interview guide, focusing closely on topics pertinent to each category of key informant, and allowing scope for probing and exploration of themes emerging from different responses. Focus group discussions, also based on tailored guides, were carried out with health and nutrition staff and implementing actors throughout the programme chain from district, to ward, to health facility and community level. Focus group discussions, when well implemented with an appropriate group of participants, can be especially useful for collecting a substantial amount of data in a relatively short space of time.

## Sites, Institutions, and Actors

Following the evaluation plan, this process evaluation component focuses only on the Chipata and Mbala districts and selected intervention wards purposively chosen for this evaluation component. We conducted KIIs or FGDs with all of the line ministries involved in the implementation and with the DNCC coordinator. Also, and in consultation with stakeholders, it was decided to collect data in the same Chipata wards where the RQA was carried out in 2014 and the first round of PE data collection in 2016: Nsingo and Nthope. Within these wards, the research team visited two health facilities and an agricultural camp. In Mbala heavy rains prevented the same depth of field visits, but we visited a community of beneficiaries and a school in Intala and Kawimbe wards, without formal focus group discussions or KIIs involved. To get a broader sense of implementation at the community level we also conducted focus group discussions with ward nutritional coordinators from at least six implementation wards per district. Data were collected in Chipata and Mbala in late February and March 2017. Data collection methods and samples are summarised in the following table.

**Table 1. Research Sites, Methods, and Informants**

Site	FGD	KII
Lusaka (interview conducted in Chipata with Lusaka-based personnel)		CARE staff
Chipata District	DNCC, M&E Committee, WNCC	MLGH, MOH, MCD, MOA/MFL, MOE Focal Points, DNCC Coordinator
Chipata, Nsingo Ward	1 FGD with GMP Promotor, SUN Champion, SMAG/GMP Promotor, Nutrition Champion	Health facility in charge

Site	FGD	KII
Chipata, Nthope Ward	1 FGD with Community Volunteers from MOA, MOH, Health Centre, MCD, MLGH	Health Facility and WNCC Chair
Mbala District	1 FGD with MOA staff, 1 FGD with M&E Committee, 1 FGD with DNCC, 1 FGD with WNCC	MSW + MCD, MOH, MLGH, MOE Focal Points, DNCC Coordinator

## Data Handling

We carried out data collection by employing two-person teams in each activity. In Chipata, one field researcher was responsible for interviewing or facilitating, while the second researcher had primary responsibility for recording responses. Researchers noted responses (in local languages where necessary, but generally in English) in notebooks, and they recorded all interviews, together with FGDs, on portable digital recorders. Researchers downloaded these recordings to field laptops each day, renamed them according to an anonymised code system held in an encrypted Excel sheet, and then copied them to external media for backup. The field researchers transcribed the recordings and handwritten field recording sheets to Microsoft Word documents, translating the material where necessary. All transcriptions were also assigned new names (in accordance with the code system) in order to ensure data and informant confidentiality.

## Coding and Analysis

Lead researchers developed a descriptive coding scheme linked to an overall analytical framework, with specific reference to themes of interest and research questions. The researchers then loaded the coding scheme and the transcripts into the qualitative data analysis software package (NVivo Pro). Coding in NVivo is a manual process based upon careful reading of each piece of data (in this case, interview responses and other notes) and subsequent selection of appropriate code(s) to describe these data. Once properly coded, the data can be analysed in different ways prior to producing written outputs.

## Ethical Clearance

Ethical clearance was obtained from the review boards of AIR and the University of Zambia.

## Research Findings

### Structure and Organization

#### *Working Cross-Sectorally*

In this section, we address the central issue of cross-sectoral working, focusing on four key subthemes: coordination, planning, communication, and M&E. We note the following main findings in these areas from the 2016 data collection:

- Higher level actors (district, WNCC) had a good understanding of the multi-sectoral model and of the coordinated approach. This level of understanding diminished further down the chain.

- Although some coordinated planning was underway (especially in Mbala), the overall slowness of the roll-out had a limiting effect; the planning that was taking place was also insufficiently detailed.
- Communication was challenging along the vertical axis, especially between WNCCs and their associated DNCCs. We also heard calls from WNCCs for greater decision-making power and autonomy.
- M&E was not properly institutionalized and was inconsistent: no single M&E plan existed for the programme, and implementers were borrowing existing data collection systems from their own line ministries in order to extract information. At the time of the 2016 data collection, the new M&E plan was being launched and training was taking place.

Key learnings on these themes from this year’s data collection include the finding that while multi-sectoral working and cross-ministry coordination are recognized as taking place at a practical implementation level, there were some concerns about the quality of the coordination expressed by the district staff (mostly about national-level involvement) and by CARE, though further down the implementation chain, informants were more optimistic about it. Although there are assertions that planning continues to be very top-heavy in Chipata, improvements in the quality, detail, and participation in the process were visible in both districts—particularly in Mbala. Communication has improved since the 2016 research but continues to be inconsistent and problematic, particularly at lower levels of the implementation chain. An M&E system has been set up since the last data collection round, but it is still largely a work in progress and continues to be a problematic area, facing many constraints and challenges, including consistency, coherence, capacity, distance, boundaries, and funding, among others.

## Coordination

*The part of coordination is another success. We’ve achieved something, because I think when we were starting we couldn’t understand the issue of multi-sector and working together. I think now we are really coordinating well. You see MOA involving other sectors when implementing activities; you find MOH and MOE implementing together. That has really helped us because we are able to understand what other sectors are doing. Even during monitoring we are going in the field together.*

One of the hallmarks of the MCDP is its multi-sectoral nature: the programme represents an active effort to move away from “siloes” approaches to service delivery and promotes collaboration among the five line ministries (Health, Education, Agriculture, Local Government, and Community Development) which are charged with implementing the programme. This approach acknowledges the fact that improving maternal and young child nutrition outcomes in the Zambian context calls for responses across multiple sectors, while recognising that properly coordinated cross-sectoral approaches have the potential for efficiency gains and improved value for money, by avoiding redundancy and duplication of efforts while leveraging synergies across line ministries.

In the 2016 process evaluation carried out by AIR, we noted that “higher (district, WNCC) levels of actors had a good conceptual understanding of the implications of the multi-sectoral paradigm and coordinated approaches to implementation. This understanding, however,

*diminished further down the programme chain”* (Seidenfeld et al., 2016). In this data collection round, we continued to explore the issue of coordination and cross-sectoral work with informants working at different levels in the implementation structure.

Our 2017 data collection reveals some changes, and at the same time, some continuities in the patterns identified last year. Overall, our interpretation of this year’s findings on coordinated working is positive and shows that the concept is evolving in the right direction. Importantly, we found that coordination and cross-sectoral working now seemed to be more operative and functional further down the programme implementation chain that they were in 2016.

It is worth remembering that at the time of data collection in 2016, PI implementation was severely limited by erratic funding flows (which was in turn related to challenges faced in reporting compliance). Coordination, although understood at the higher levels as an operational goal, was not taking place very intensively at the community implementation level because implementation was still limited and constrained by the financial situation. This year, however, coordination has shifted from being a somewhat abstract concept to a more tangible and visible challenge as PI implementation has become more intensive in both study districts. The practicalities of coordination and communication are experienced at the ward and community level, where implementers are engaged, to varying degrees, in multi-sectoral approaches to service delivery. An example of this is provided by the following statement, recorded during a focus group discussion held in Nsingo Ward in Chipata:

*“We see that communication has improved. [Several others agree.] Because even when a program becomes very urgent, you find that we are able to easily communicate to the in-charge; with the coming of phones, this is now relatively easy—to communicate our progress to the in-charge. Even when we happen to have a sticky programme or a clash of programmes, the in-charge is able to be reached at short notice, and in most cases either postpones one of the programs to be able to attend the other, and even if he may sometimes come late for a program.”*

In Mbala, a respondent in the WNCC focus group discussion noted, *“I think, from my experience recently with the coming of SUN, we are coordinating issues very well with other departments.”* Also in Mbala, an FGD held with district agriculture staff produced the following example of coordinated cross-sectoral working at the community level:

*“For MOH they do IYCF only, specifically for babies, but not processing for elders or for pregnant and lactating mothers. It is a good thing that we are coexisting with [the Ministries of] Community Development and Education because these demonstrations include health-related issues, and especially when it comes to elders, HIV, lactating, you need to understand what kind of different food is given to different types of people—so they need expertise.”*

Moving up the programme chain, to the District and National level, we observe that in general, there continues to be good awareness and support of coordination and multi-sectoral working. In Chipata, for example, the Ministry of Health Focal Point on the DNCC observed, *“On that part the coordination we are doing well right now, the time I came at the district we were not committing but for now most of the things we are doing we are making sure we coordinate. The*



*programs we have under MOH we don't just conduct trainings on our own but we make sure we include our other line sectors. Coordination is there because we are talking about duplication of work, we want to do one thing at one time and so we involve different people. The coordination is there with the line ministries. It has really changed [in the past year].*” Overall, we found similar opinions among DNCC Focal Points in Mbala, as exemplified by this response from a focus group discussion held with the DNCC: *“Last year they were there but maybe there were not....what can I say ...especially the focal points for M&E they were not yet trained by then, so sometimes we would only have the focal person with a few people. But right now because we know all those activities that we have are tied to indicators so like least now with the coordination as a ministry we are very effective in coordination.”*

Although our overall assessment of changes in coordination patterns since 2016 is positive—at all levels on the implementation chain—it would be remiss not to observe that there were also some red flags raised, in both Chipata and Mbala, as well as at national level. Considering the latter, some concerns about coordination were raised in interviews carried out with CARE staff, who observed:

*“Some ministries, like Health, has also been very active, and Agriculture sometimes. But MLG, MOE, MCD—their participation has been very poor. When you call them for meetings they will not come. If you planned for activities for e.g., training of districts, you will have a master trainer's training then cluster the districts and roll-out. They won't participate in the roll-out even if they participated at the national level...Also I think the biggest culprit has been weak support from line ministries. That has affected the way even the same activities are done in different districts. Of course we appreciate diversity but there is supposed to be a common understanding of the way things are done.”*

In Chipata, the Ministry of Community Development reported difficulties in coordinating with the Ministry of Agriculture; interestingly, these difficulties were said to derive not from funding irregularities or from a lack of understanding of the concept, but from territorialism: *“You find certain activities you planned with you colleagues, for example we clash with MOA at grassroots level. So you find certain activities maybe MOA would like to have it, when you talk of women's clubs because they also have extension staff and reach out to women.”* Meanwhile, in Mbala, the Ministry of Education was cited as problematic by the DNCC coordinator: *“The problem is the Ministry of Education...I know nothing. Their headquarters people are nowhere to be seen.”* Other district focal points also flagged constraints on effective coordination, such as irregularities in funding disbursements. Again, we reiterate that the overall evolution we have been able to observe in this year's data collection is toward a more generalised understanding of coordination at all programme levels and an intensification in coordinated working on the ground.

## **Planning and Decision Making**

If coordination is broadly concerned with horizontal relationships between sectors/line ministries, then planning shifts the emphasis to the vertical axis: here the focus is more upon decision making moving up and down the national-district-ward-community chain than across different sectors. This is because, in spite of conscious efforts to adhere to the multi-sectoral model, traditional decision making is not in fact multi-sectoral, but vertical in nature.

Challenges to planning were identified in the 2016 data collection, especially related to a lack of details and procedures in planning and a clear layout of how activities would be delivered. We wrote:

*“The activities in the work plan are laid out in an orderly and logically consistent way, but this order and correspondence was not fleshed out into its details and composed into a process of conducting these activities. There is no written trace of the how, where, and when components of planning these activities.”*

The National Food and Nutrition Commission and CARE thought that the overall improved planning process and workshop and the implementation manuals would significantly help this situation, while leaving the more intense capacity building for a possible second phase of MCDP.

In line with this prediction, the planning workshop and the planning process at the district level have significantly improved. A focus group participant in Chipata noted that *“we have seen a lot of improvement when you look at planning.”* An Mbala key informant interviewee similarly noticed a sharp improvement in the way that the annual planning workshops are organized, and it is notable that the increased involvement of districts in planning of their own activities has significantly increased accountability:

*“[In the past years] the implementers were confused on how should we carry out. But now everyone is involved....Now we understand fully these plans, even the focal point people completely understand—these are the same people implementing, so if you fail you only have yourself to blame, because you are the one who has been costing and planning it.”*

This is re-emphasized in the way that the planning has taken place, as reported in an Mbala KII:

*“Even before we went to [the annual planning meeting in] Kafue we had already done a draft where we did what we had to do and all, and we knew what to put in, so at least we were given one week. They also recommended to get input from WNCC as you do the activities, so we did that and then we went to Kafue. Instead, last time we went there we were all just blank.”*

One exception noticed by the Mbala DNCC coordinator is a gender integration and leadership activity that no one in the district had understood but that was imposed without further details:

*“We had this activity put in by CARE that has been pending and we keep on postponing; it talks about gender and leadership streaming, something, I don’t know, it was just put in by CARE and up to now we have got no clue.”*

We should also cite one case in which a planning error wasn’t caught in time and caused significant problems later on: in Mbala, Social Welfare had planned to disburse soft loans to beneficiaries, which are not allowed. Yet, this was initially approved:

*“Some activities were approved and later cancelled, and this was a huge problem. For example, we were supposed to disburse the soft loans. It was approved, 340 beneficiaries were identified and trained, and then the activity was cancelled. We*

*proposed to reprogram and [give] goats instead of soft loans, but the point is that we had already identified and prepared the soft loans' beneficiaries and then after that we had to cancel. People were really disappointed."*

According to the Mbala DNCC, CARE supported the activity during annual planning and even funded the identification of beneficiaries, only to later cancel the activity.<sup>1</sup> In addition to activities being cancelled, the Mbala DNCC also voiced frustration over critical gaps in communication with CARE. In one case, the Mbala DNCC said the DNCC received less money than what had been budgeted and what was included in their work plan, but they were not given an explanation for why this was the case. They followed up with CARE for clarification, but never received a response.

Neither the Mbala nor the Chipata districts reported having received an "Implementation Manual." (This was still being printed when we conducted the field visits). Districts had a better idea of how to implement activities, but this was partially due to the fact that many activities had already started and to the presence of a basic M&E system. Observation of implementation plans still revealed only a superficial description of the activity and no written trace of how or where this activity will be conducted. The choice of ward, or villages within each ward, is never justified and rarely reported, leaving lingering concerns about coverage and equity.

Another issue highlighted during the first process evaluation was the involvement of the ward-level stakeholders. At that time, there was widespread frustration among ward-level stakeholders about not being informed nor involved in planning. This process evaluation has recorded significant improvement in the involvement of WNCC. As the Mbala coordinator noticed, at the time of the initial evaluation, the role of WNCC was just being delineated, hence the confusion. As we saw above, the DNCC was invited to consult the WNCC before planning, and the Chipata WNCC confirms this, emphasizing that the WNCC "*would also be consulted on what activities they think would work out.*" The Mbala WNCC confirmed that the WNCC is now meeting regularly, understands the bigger picture of the work plan, and at the same time, is creating a ward-level action plan:

*"We have made the action plan together—[the Ministries of] Education, Agriculture, Health—everyone even local government, is there. So when you come in my office there at the doors centre you find it. If you go to Agriculture you go and find it. So we know that when we start working on things concerning agriculture, even me—I will go there and participate."*

In Chipata, however, there was still some frustration. WNCC participants in a focus group discussion emphasized (as they had last year) what they felt was a top-down planning structure:

*"There was a meeting we had where the DNCC showed us the action plan [for us to] buy into. Although our expectations earlier on were that maybe our own drawn-up*

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<sup>1</sup> Monetary disbursements are not permitted with SUN funds, so the research team does not question CARE's decision to cancel the loan activity. We simply wish to flag the issue of miscommunication between CARE and the Mbala DNCC.

*activities were the ones to appear there. But then the way the system is... that those activities in the DNCC are the ones we have to buy into.”*

Other participants in this FGD emphasized (again, as they did in 2016) that the WNCC was in a relatively disempowered position with respect to decision making and planning, which tended to be controlled from the district level.

The challenge here is structural rather than operational: the overall planning structure of the MCDP was essentially designed to be top-down, insofar as it is not a programme driven by perceived needs on the demand/beneficiary side, but rather by a standardized set of responses to the problems of chronic malnutrition. Thus, although there may exist some space for contextual variation in implementation plans, it seems unlikely that major planning and decision making power will be devolved to the WNCC level.

## **Communication**

Findings from the 2016 round of process evaluation data collection revealed a range of challenges and obstacles to effective and regular communication up and down the implementation chain. We are pleased to note some improvements in this area emerging from the 2017 data collection. These improvements are not consistent: there are still links in the programme chain where communication is weak. Communication with NFNC is reported to be challenging in Chipata (although CARE staff report “smooth” communication with NFNC) especially when related with planning trainings. The MOH focal point from Chipata observed that poor communication with NFNC was affecting their ability to plan and carry out training: the NFNC requires the use of “master trainers” who are based in Lusaka. Arranging for these master trainers to travel to Chipata can be very difficult, and because their presence is a requirement to conduct the training, it becomes very difficult to plan and carry it out. Other line ministries also experienced challenges in communications with NFNC: as a Chipata MLGH focal point explained, *“I will start with NFNC, we are still having a bit of a problem. We rarely communicate with them and they rarely communicate with us.”* This focal point went on to contrast communications with NFNC with those between MLGH and CARE, noting that there had been a “very great” improvement since last year:

*“For example, when we request, if there’s anything wrong, we are quickly given feedback to say, there has been an error in your request so correct as soon as possible; the sooner you correct it, the earlier you will have your funding. Compared to the year before last, you know we would just sit and no one is giving you any feedback. So there has been an improvement. They are able to give us feedback. When the reports are okay, they would even tell you, send the reports this week and be assured that next week you will have your funds, and for sure you will. So with CARE, not much of a problem, not a problem at all actually.”*

This opinion was echoed by respondents in a focus group discussion held with the DNCC in Chipata, who report a *“tremendous improvement in terms of communication. Previously you would send an email or even a report and you would follow up after 2 weeks. Now you send instantly [and] they will reply to you that they’ve seen it and are working on it.”*

Although the communication with CARE had greatly improved in Chipata, it was still very poor in Mbala. As one of the members said, this difference could be due to the two districts having two different grant managers. One DNCC member said:

*“What they [CARE] should be doing is that when they realize that there is a problem, they should quickly get back to us, not maybe like sometimes after 2 weeks when we are the ones following up to say ‘oh what about those fund requests that we sent?’ That’s when they will respond to say ‘oh actually, you have issues with finance, they didn’t balance up, and so on so forth’ they wouldn’t get back to you as immediately when you send those kinds of requests. They will keep quiet until when you get back to them later that’s when they say ‘oh let me look at it’ but actually it has issues here and there so actually the feedback is not so great.”*

In Mbala there were also concerns that the practice of consolidated reporting (sending all reports through the DNCC coordinator in a single batch rather than individual district line ministries sending directly to CARE) had further limited the direct communication between district line ministries and CARE and introduced uncertainty about the status of the requests. In particular, they emphasized the issue that if one ministry is late, the result can be a delay in the entire process—respondents also reported that one such request had been delayed by almost a month due to MOH being late in sending the report. The practice was generally bringing uncertainty because DNCC focal points were not directly copied when the report was sent, so they didn’t know its status.

On the whole, communication seems to be functioning better higher up the implementation chain: problems generally begin to manifest themselves at the ward and health facility level, where infrastructural issues (such as telecommunications and distance) become more problematic. In Chipata’s Nthope ward, the WNCC chair noted that communication with the DNCC is problematic, as is contact with MOA and MOE, because of poor communication infrastructure—nonetheless, at a local level (presumably less dependent on functioning telecommunications infrastructure), communication with local implementing personnel is reported to be good. In Mbala, WNCC respondents report holding *“monthly meetings with our colleagues where we discuss the successes and the drawbacks, where are resolving disputes and we are being supported by the WNCC to hold quarterly meetings for all the quarters.”*

## **M&E and Reporting**

Monitoring and reporting were identified in the 2016 data collection as areas presenting real challenges and in serious need of attention. Monitoring was especially problematic, given that there existed no coherent universal programme monitoring plan: monitoring data were in effect collected according to the M&E protocols of each constituent line ministry. These protocols varied and did not always respond to MCDP monitoring needs; one example of this concerned the disaggregation of health and nutrition data by age. The standard reporting range for children at MOH is 0–5 years, while the MCDP requires data on the 0–2 year range. Reporting was also a difficult area, especially because subpar reporting submitted to CARE would cause bottlenecks in funding disbursements; in turn, this resulted in many implementation delays and missed activities. At the time of the 2016 data collection, CARE was in fact rolling out a new universal M&E system across the programme and providing training to line ministry staff at the district

level. Our questions in this year's data collection therefore focused particularly on the effectiveness and uptake of this new M&E system.

The new M&E system is based on line ministries' MARFs (multi-sectoral nutrition activity reports), where each line ministry has a form to report its indicators, and then the indicators are merged in a consolidated key indicator list included in the report. The data sources to complete the MARF forms vary according to the line ministry—for example, Health would use the health management information system; for Education, it would be school monthly return forms completed by school; Social Welfare would have its own data on beneficiaries. There are then a series of cross-cutting indicators (policy and coordination, institutional strengthening, and communication and advocacy) that are captured at the DNCC and WNCC level.

The stakeholders appreciated the usage of existing forms. The cross-cutting indicators were perhaps the most problematic because they depend on ward-level stakeholders collecting data in a relatively unstructured way from what we could understand. The other indicators are based on existing forms, which is both a strength—because it builds on existing systems—and a weakness, because the current system is heavily skewed toward inputs and activities at the district level rather than capturing the beneficiaries' experience.

We were surprised that the forms did not include information on equity (which wards) or intensity (denominators, for example) of the intervention, but the district-level stakeholders involved in M&E did not see it as a notable shortcoming and seemed grateful to have some M&E system in place. During observations, we also flagged the quality of the communication and advocacy indicators in Mbala, where the numbers reported in sensitization in the various domains were almost all attributed to a single meeting where trainees received a 2-minute recap of all the multi-sectoral aspects of MCDP before starting. The repetition was flagged from the M&E group as well:

*“Then also the repetition. We have the same target group. Like for example the Complementary Feeding and Breast feeding, you realize that the people that we give messages on breastfeeding are the same people we target in complementary feeding because they have children, and their children will grow so that they have a complementary feed to breast milk. So that's why you tend to see the figures duplicated from those that we targeted in BF and those that we targeted in CF, you will tend to see similar figures because they are the same people.”*

An initial interview with a CARE M&E staff member was not encouraging. According to this informant, M&E continues to be a weak area across the programme, and roll-out has been slower than desired. CARE hired a consultant to identify suitable indicators and design a homogeneous and coherent M&E system in 2016. When this work was completed, two people from each sector were selected for training in the new system (some of these were on DNCCs, while others were not). However, once training was completed, roll-out of the new M&E system was delayed by funding constraints (M&E had not been budgeted for). A review carried out in October 2016 revealed weaknesses in the M&E system roll-out, and a retraining exercise was organized for November and December 2016. M&E capacity, however, according to CARE, is generally weak in line ministries (apart from MOH, which has traditionally had a stronger native M&E system):

*“Another weakness is that line ministries have not been fully involved in M&E so to speak. Of course they report, but some ministries—it’s not well structured... sometimes not well organized into a system like other sectors—like MOH is well documented, what you are supposed to do, and [the] indicators are already defined in an automated system. But for other sectors, it’s not like that. So you have a combination of people who are at different levels... To bring the ones who are not at that level to one where everyone will be [at] the same [level] has been a bit of a challenge... So the reporting lines are a bit weak, so it’s been a challenge to try to bring them to speed so they quickly grasp the M&E system and be able to implement.”*

These thoughts were largely echoed by the Chipata DNCC coordinator, who noted that the retraining was well received, but identified a range of ongoing M&E challenges across the various line ministries, generally related to the issues identified by CARE—capacity and coherence.

One awaited improvement is passing from the current paper-based version to an electronic one, which would help to track results over time.

Other issues identified by line ministry focal points include the size of wards, which can make data transportation very difficult, duplication of information, and the issue of boundaries, specifically, how the different line ministries divide up geographic areas and report on them. Inconsistency in this can present serious problems for effective M&E. A focus group discussion carried out with M&E committee staff in Chipata was particularly revealing for its description of the still very different approaches to M&E employed by each line ministry. At the ward level, doubts also remained: WNCC members noted that monitoring and data collection were not being done in the field, or the data were not being physically brought to the WNCC. In Mbala, the DNCC coordinator also felt that there were capacity problems to be addressed: *“M&E needs to be strengthened at all levels, from community, zone, to districts. There is a lot of strengthening that still needs to be done. Also capacity building of the officers, as we change guidelines, etcetera.”* This sentiment was shared by all parties; the DNCC coordinator said, *“People were complaining that ‘you are changing it too much,’ but they told us that this is still work in progress and it is likely to continue changing. It has already changed three or four times.”*

## **Financial Management and Flow of Resources**

At the district level, funding flows appear to have significantly improved in Chipata but not in Mbala where the problems of funding flows and carryover permissions are persisting and unchanged from last year. At the ward level, instead, WNCC members in Chipata complained that they are not privy to budgets and not always aware when funds arrive.

### ***Financial Management Training***

Both Chipata and Mbala district staff were happy with the latest financial management trainings. Respondents told the research team that over the past year, financial management trainings were delivered to accountants, focal points, ministry heads of department, and other targeted MCDP staff. The MCD and MSW focal points from Mbala said the financial management training covered funding requests, reconciliation, audit issues, bank statements, and how to use important financial templates. According to one Chipata DNCC member, these trainings contributed to the flow of funds:

*“We had a training in financial management and how to manage our funds, how we should request; we were given skills on how to do that—that was last year as well. It has contributed to the flow of funds. Because of the skills we got from that training, it has really helped to improve us on the part of the financial reports.”*

Mbala MSW and MCD focal points agreed that the financial management training was helpful, adding that they now better understand the process through which their financial reports are reviewed. To this end, the Mbala MSW and MCD focal points commented,

*“We used to think of these NGOs as so skilled because they knew all of the procedures and now we also know... We did not know much about planning and we are grateful that we have learned to be more structured through these financial and planning meetings. We really feel empowered.”*

### **Flow of Resources From CARE to District Line Ministries**

In Chipata the funding flow from CARE to district line ministries has dramatically improved: the MLGH focal point from Chipata even went so far as to say that funding delays are *“a thing of the past now.”*

CARE reported that the main problem with funding is the report arriving on time: *“For certain districts they’ve actually kind of testified that if you report on time and [the] report is okay, then you receive the funding within a week. That has happened for most of the districts.”* The Chipata DNCC corroborated this statement, saying the only delay the DNCC experienced in receiving funds over the past year was when CARE had Internet issues that prevented them from transferring funds via online banking. According to a key informant from CARE, getting the appropriate finance personnel in place and trained has been critical in improving funding flows.

However, in Mbala the situation was dramatically different and the issue of delays receiving funding had not improved much at all; the Mbala MLGH focal point commented,

*“Things are pretty much the same because, I think for last year, like we alluded [to] yesterday, we’ve only been funded for two quarters, and the second funding we received was meant for the second quarter funding so we requested for funds in....we received the third quarter funding in the fourth quarter, so we are still two quarters behind in terms of funding.”*

Other informants from Mbala agreed, with the DNCC reporting that *“the whole of last year the DNCC only received funding once,”* affecting coordination effectiveness. For the Mbala participants, the issue was particularly frustrating due to poor communication from CARE mentioned in the communication section. They recognize that there are still improvements needed in their reporting but feel that late feedback from CARE is leading to unnecessary delays.

In addition to poor communication, respondents from both districts identified the issue of “carryover funds” (funds received in one quarter and intended for that quarter’s activities but requested to be used in the following quarter) as a significant challenge. The issue of carryover funds was also identified as a key impediment during last year’s process evaluation. An Mbala DNCC member described how the issue of carryover funds leads to delays:



*“The problem that is there [is that] that funding does not come like the way the calendar year quarters are. Sometimes cases where [there is supposed to be] funding at the beginning of the quarter, you receive it mid-way or toward the end of the quarter, so you find that you start now writing carryover requests. So in that quarter that you have carried over, you will not request new funds, so that’s how the delay comes about.”*

Implementers must obtain permission from CARE to use carryover funds in the subsequent quarter, but sometimes the permissions take quite some time to secure. DNCC focal points reported receiving funds at the very end of the quarter (the last week of December, in one case, when the quarter ends on December 31st) and still required to obtain permission if they want to use the funds for the same activities agreed in the next quarter as carryover funds. The Mbala MOH focal point agreed that there is often a delay in receiving permission to use carryover funds: *“When you request the carryover funds, it has to take time...you wait for a response and maybe continue so all those put you in a panic.”* According to the MOH focal point, sometimes when funds are delayed, *“they would already put a clause to say ‘you can use this money in the next quarter,’ ”* but other times no such clause is included and they have to make the formal request to use funds in the following quarter. There have even been times, according to the MOH focal point, that they were told to send funds back: *“[We] put it in writing of course that we want to use [the funds] like this, but in the process we were just told, ‘Ah no, you just send it back.’ ”*

A final issue with financial flow continues to be the problem of funding arriving at different times. The Mbala DNCC explained that the DNCC accountants compile all requests from all sectors and submit them at the same time, but the funding arrives at different times (or not at all). This affects effectiveness of implementation, as an Mbala DNCC focal point explained:

*“Another thing that is capable of happening if we continue receiving monies at different stages is that the beneficiaries get fatigued as well; this group comes today, another comes tomorrow...this is done at the expense of their own personal activities. So if you do it in a more coordinated way, we at least also give them time to do their own activities.”*

Fellow Mbala DNCC members agreed, adding that receiving money at different times makes it difficult to conduct complementary activities within the desired time period.

## **Flow of Resources Within District Line Ministries**

The one issue to flag for the flow of resources within district line ministries is the issue of basket funding whereby the Ministry of Community Development/Social Welfare receives money through the Ministry of Health. Although this was due the Ministry of Community Development, Mother and Child Health disappearing and now being only Ministry of Community Development and Social Welfare, its legacy is still creating problems

*“Because of the issue of basket funding, whoever has picks out, the last planning meeting we have to jostle with the other sectors, who have already done a lot of things...money for CD wasn’t used for our sector; because its basket funding, they take it for their sector.”*

The MCD focal point alluded to competition for funds between sectors and expressed frustration about this, indicating that the process of securing funds by sector did not seem entirely fair. In

Chipata, a WNCC member reported that the Ministry of Community Development also has not been funded directly for quite some time.

### **Flow of Resources From District to Ward**

In Chipata the WNCC reported frustration and confusion over funding for WNCC. One Chipata WNCC member commented, *“I think the flow of funds has not been clear. Most of the time we don’t know whether funds are available or not. So accessing funds is a bit of a challenge.”* This issue seems to at least partially result from the control the district holds over activity plans. According to the Chipata WNCC,

*“The activities directly funded are at district level, so when you have activities that require funds you have to compare them to the district action plan. If the district action plan has no funding for any activity then that activity you would [have to] carry [out] without any resources.”*

A fellow Chipata WNCC member echoed this sentiment:

*“Decision making might sometimes become a bit of a challenge because it’s attached to the resources allocated to certain activities. As we said, some of the activities on the WNCC plan—they are not there on the district plan. So for you to say we made a decision to make this activity—you will find you are constrained with resources to implement. So in some cases we are constrained to make decisions.”*

A third Chipata WNCC member argued that funds should be given directly to the WNCC since *“we are the implementers,”* but perhaps a bigger problem is that the Chipata WNCC members said they do not know what is in the budget or how much money the district actually receives:

*“I think the problem here is we don’t know how much money is going to support this action plan, so if certain activities appear and others don’t, we think it’s financial constraints. So for us to be able to demand for all the activities to appear, it may not work out because we don’t know how much money is there. So maybe the limiting factor is [that] we don’t know what the budget looks like.”*

WNCC in Chipata also seem to have problems submitting reports and data. A key informant from CARE also pointed out that while WNCC is required to report on multi-sectoral activities, they can only do so if each sector reports its progress to WNCC. This creates an added reporting burden because all sectors are also required to report on activities to their respective line ministries. The Chipata WNCC reported that it is difficult for them to collect reports from the various sectors, which they are required to consolidate and submit to secure funding:

*“People aren’t willing to submit reports; agriculture people don’t even submit reports. Even the people in education they don’t submit. And the people in health don’t even submit, so it has been very difficult for me to compile the reports the whole past year. Usually we are supposed to have monthly reports, then at the end of the quarter we have to aggregate them. I send messages to them, writing letters or using the phone for messages to call them for meetings and to submit the reports. We are still trying to send them messages to get the reports.”*

## Priority Interventions

In this section we discuss the implementation status of priority interventions within Chipata and Mbala. In both districts, coordination processes appear to have improved within the past year at the district level, resulting in collaboration between ministries on activities that fall under several of the PIs. At the ward level in Chipata, interventions are reaching beneficiaries. Continued challenges include a lack of monitoring tools or equipment needed by community health volunteers (CHVs) to carry out activities, as well as a need for contextualized demonstrations or sensitization materials.

### Cluster 1: IFA, Vitamin A, Deworming

#### ***Activities, Achievements, and Inputs***

Respondents in Chipata described positive changes specifically in terms of uptake of iron and folic acid (IFA) tablets. Although the MOH focal point suggested that other programmes have distributed IFA tablets, the key change with the SUN has been that *“with the coming of SUN they are emphasizing the importance,”* as opposed to other programmes that did not conduct sensitizations alongside distribution. In Nthope ward, CHVs stated that they had not received IFA tablets in the past year from SUN. In Nsingo ward, however, community health volunteers explained that in the past year they had received IFA tablets as well as deworming tablets and Vitamin A, and that these were routinely distributed during antenatal care (ANC) visits and growth monitoring promotion (GMP) sessions. The in-charge at the Nsingo health facility visited mentioned that they currently had IFA tablets in stock, adding,

*“The challenge that is there is that IFA uptake is essentially difficult to assess as you are not physically there to see the women take it; however I have had some instances where I forgot to give out the IFA to some pregnant women and the women came back to remind me that they had not received the IFA.”*

One respondent in the Nthope ward focus group described a similar experience that highlights instances of behaviour change, stating, *“You can see this in the way they would come back to demand IFA or remind you about anything they think you have forgotten...in many cases there’s keen interest to want to understand more of the right or correct knowledge.”* Additionally, the district focal point for the MOH in Chipata also echoed the belief that women are now using the IFA tablets regularly as a result of outreach sessions.

Respondents provided less detail regarding any vitamin A and dewormers received by health facilities in each district. One member of a WNCC in Mbala mentioned that vitamin A and deworming used to be typically administered during the child health week, which takes place twice a year. A community health volunteer in Nsingo ward reiterated this, but added that they have begun routinely administering these every month. In Nthope ward, staff at the health facility noted that they have had enough vitamin A in the past year in their stocks.

#### ***Challenges***

Volunteers in Nsingo ward mentioned that they are currently in need of IFA tablets *“so that there is no breakdown in supplementation.”* Additionally, a DNCC focal point in Chipata

indicated that the last time IFA tablets were distributed under SUN was in May of 2016, and that the tablets facilities currently receive now arrive directly from the MOH; with this change facilities now limit the amount of tablets they provide to women during a visit, requiring them to make more frequent visits to the facility to replenish when needed.

## **Cluster 2: Breastfeeding and Complementary Feeding**

### ***Activities, Achievements, and Inputs***

In Mbala, one focal point at the district office explained that breastfeeding promotion continues to occur during routine activities such as ANC services or GMP sessions, and also that *“of course, the door-to-door, they do it in terms of follow-ups to caregivers, or those children that are faltering.”* In Nthope ward in Chipata, CHVs explained that the cooking demonstrations have been helpful in promoting complementary feeding. In Nsingo ward, volunteers explained that infant and young child feeding (IYCF) activities are promoted through “outreach programs” and also via monthly activities which span a range of topics that take place at the health facility. CHVs in Nsingo ward emphasized that they believed ongoing sensitizations have had an impact on beneficiaries’ knowledge of breastfeeding practices, noting that pregnant and lactating mothers can now *“really explain the stuff that they have learned as if they too were in the training.”* One community health volunteer explained,

*“As an eye witness, I found a woman who held her breast in a scissors style when feeding her child and her friends who were nearby said to her that the way she was holding the breast was forbidden, and they showed her how to correctly hold the breast. So this gave an idea that the women follow our teachings and actually practice them in their homes.”*

One member of the Nsingo health facility staff noted that the recommended positions used during breastfeeding continue to be challenging for some women in the community, who see the effort needed to use the proper position as *“wasting field or chores time.”* CHVs in Nthope ward described similar beliefs encountered in the community, mentioning that *“because this is a rural place, people are preoccupied with their work and spend very little time actually breast feeding their babies.”* A respondent at the health facility in Nthope ward reiterated the reluctance to change this behaviour in the community.

### ***Challenges***

In Chipata one focal point raised a challenge related to this PI, noting that the breastfeeding support groups that used to exist in communities are no longer active. According to a DNCC focal point, plans exist to reform these groups so that they are active in time to commemorate breastfeeding week in August 2017. Additionally, in Nsingo ward, one volunteer explained that challenges regarding poor breastfeeding practices continue to stem from the fact that women do not always come early for ANC visits. Finally, while we heard about the IYCF training, which held a session on breastfeeding and attachment, this took place prior to the 2016 process evaluation data collection. One respondent in Chipata noted that a training is currently being funded by SIDA to train health workers in IYCF.

## Cluster 3: Growth Monitoring, IMAM, Zinc Provision

### **Growth Monitoring**

#### **Activities, Achievements, and Inputs**

In Chipata, one focal point explained that in the past year, the district procured numerous height boards, MUAC tapes, and standing and salter scales, which have been distributed to health facilities. However, no length boards were procured, which are needed to measure children under 2 years old instead of the height boards. A respondent from the district MOH explained that,

*“The time when we were in Lusaka doing the budgeting we brought this up; some of us budgeted for length boards and scales, and they told us, no, those things, don’t put them in the budge—they are expensive so we will do those as NFNC.”*

Despite this, one respondent in Nthope ward confirmed the distribution of this equipment, explaining that they had recently received cards, height boards, and two salter scales. In Nsingo ward community, volunteers noted that in the under-5 sessions, they now see babies on the positive growth curve. They also spoke about monthly community outreach meetings that are ongoing in each of the six zones they cover. According to the MOH focal point in Chipata, no trainings regarding GMP have taken place in the past year, though one was planned for the upcoming quarter at the time of data collection for community volunteers on tallying and filling out the under-5 cards. One WNCC chair in Chipata reiterated the need for this training as well. One CHV in Nthope ward described challenges faced in tallying: *“The tally sheet for SUN is problematic. Why I say so is because the spaces are too small for me to record. ... Even my other friends, they are not here with us now but they also complained about the same problem.”*

#### **Challenges**

In addition to a need for training on how to tally and complete under-5 information during GMP sessions, respondents in Chipata at the district and ward level described challenges regarding the availability of under-5 cards themselves. Although we were told that in Chipata under-5 cards were procured during the past quarter, the availability of these cards continued to be a challenge, as one respondent explained *“we haven’t yet distributed; there won’t be enough.”* This challenge was reiterated in Nsingo ward, where volunteers explained,

*“Improvement in nutrition knowledge is there, but the challenge to our work is under-5 cards. We are out of supply of under-5 cards. The limitation is for children between 0 to 2 years; we cannot document the growth of this child as we are using exercise books.”*

The MOH focal point, CHVs in Nsingo ward, and CHVs in Nthope ward all explained that because of the lack of under-5 cards, exercise books were being used instead, which makes it difficult to trace malnourished children. In terms of other equipment, Nsingo ward volunteers also noted that they had not received scales, MUAC tape, or any other equipment to support their GMP work.

## **IMAM**

### **Trainings**

In Chipata, one DNCC focal point described an outpatient therapeutic programme (OTP) training that occurred under the SUN in November 2016. Following this training, community health volunteers (CHVs) were trained in C-MAM. A focal point described that this training took place in the past quarter:

*“We trained about 50 community health worker volunteers. We decided [to target] volunteers who were under SUN facilities and we just targeted two zones...That training we had trainers; we used health workers—those who were trained during the OTP training.”*

In Mbala, one focal point also discussed an IMAM training that took place in the summer of 2016 in which 25 people were trained.

### **Challenges**

Volunteers in Nsingo ward indicated that in the absence of IMAM-specific equipment and tools, they were using coping strategies in order to identify and refer cases of malnutrition. In a focus group discussion, one CHV mentioned,

*“We completely do not have (MUAC tape). So we just rely on physical observation of the child and use the scales to measure current weight. Then we go to do follow-ups of whether the child is improving or not.”*

In Nthope ward one respondent at the health facility echoed this ad hoc approach to IMAM, explaining that they conduct referrals to the hospitals, but have nothing to give babies that are underweight or malnourished—expressing confusion over why they had not received Plumpy’Nut® at the facility. This, in addition to the lack of IMAM training received by individuals from their facility, was noted as a key challenge under this PI.

### **Zinc Provision**

#### **Inputs**

In both Mbala and Chipata, focal points explained that zinc stocks were adequate. In Nthope ward, CHVs were not aware of the source of the zinc tablets they had received. The district focal point for the MOH in Chipata explained that the zinc they received from the SUN supplemented their stock from the MOH:

*“We received zinc from the kits that come from MOH, and again under SUN we procured zinc, even this quarter we procured zinc. The one coming from MOH is not enough. So we always make sure in a quarter to procure zinc from SUN. It’s sufficient.”*

Despite this, in Nsingo ward, both community volunteers and one health facility staff member noted that they needed more zinc for their facility stocks.

## **Achievements and Challenges**

In both wards of Chipata, respondents described notable improvements in terms of a reduced number of diarrhoea cases at the health facilities, with volunteers indicating that mothers are aware of the benefits of zinc. One Nsingo ward volunteer explained,

*“They say ‘my children get cured once they drink those tablets’ [others laugh]. So if she tells you that her child has diarrhoea and you don’t give her zinc, but just Flagyl<sup>®</sup>, ah...she will walk away unhappy.”*

A health facility respondent in Nthope explained that zinc usage has reduced the number and severity of diarrhoea cases across the ward, but also attributed this to the uptake of the rota vaccine in their communities, which has been administered since 2014. One key challenge noted regarding zinc provision is that there is no indicator in the monitoring tools community volunteers are currently using to capture or record instances of diarrhoea.

## **Cluster 4: Availability of Nutritious Foods, Dietary Diversity for Pregnant and Lactating Women**

### ***Availability of Nutritious Foods: Activities and Inputs***

In Chipata, MOA focal points discussed the trainings they provided on the management and production of poultry and goats, which occurred at the time of last year’s data collection in April 2016. Following this set of trainings, the focal points explained that the MOA and MLG have been conducting practicals and on-site demonstrations in communities because,

*“The trainings were more of theory, and now after that, we went to do the practical part to bring beneficiaries to a central place then demonstrate. We feel that looking at our target group and the literacy levels, if you do it practically they don’t easily forget, [unlike] where you are talking about it theoretically it’s very easy to forget.”*

One CHV in Nthope ward emphasized the utility of such practical trainings, noting one they had received in November 2016: *“It wasn’t just a training of talk, talk and talk. For example, the agricultural officer gave us some crops to use after the training.”* In Chipata, the MOA and MoFL sensitized and trained 52 women’s groups across 11 wards prior to distributing goats, chickens, and seedlings. One focal point described how women’s groups were targeted to receive these inputs, explaining that they were selected because *“these groups actually go to teach others, they are like the lead farmers,”* adding that the groups had also been involved specifically in agriculture activities, and that they *“also had to meet SUN criteria: 2 years and below, pregnant women, lactating women.”* Thus far, respondents in both districts described utilizing the “pass on” or “pass back” approach with the inputs in order to reach the most people; additional women are given plant or animal inputs as the animals reproduce and the vines grow enough to be divided. In Mbala, respondents in an MOA focus group noted that they had reached four wards across the district with the first-generation inputs and that they were currently working on distributing the second generation.

## ***Dietary Diversity: Activities and Inputs***

Respondents in Mbala and Chipata described multiple activities since the 2016 data collection to promote dietary diversity, specifically noting an increased number of cooking demonstrations. Notably, in Chipata this activity was cited by members of the DNCC universally as a prime example of coordination across line ministries. One focal point explained that while the MOA leads this activity, when members of the community attend, they are sensitized on additional PI messages, and other ministries are present:

*“Some cooking demos done at health facilities, we went with people from ministry of health and ministry of community development and ministry of education... During the same demos people talked about sanitation, hygiene; those from ministry of health talked about breastfeeding, different immunizations.”*

The latest cooking demo referenced in Chipata occurred in October of 2016 prior to the procurement of additional cooking utensils. One CHV in Nthope Ward stated that there had been five cooking demonstrations in the past year within their ward. Mixed views were provided regarding where the food used in cooking demonstrations came from—while multiple respondents in Nthope ward mentioned that the MOA provided the food, another CHV in Nthope indicated that community members also brought some of their own food, *“because the point of this joint effort in providing the foods was to teach the communities about combining the right food that they themselves cultivate.”* In Mbala a member of an MOA focus group also explained that community members provided some of the food. One member of a WNCC in Mbala described conducting these demonstrations during the under-5 clinics at the health facility, and also mentioned a “food fair” which was held in January 2017 for community members from across the ward to attend and see women preparing different foods.

## ***Achievements***

In Nthope ward, one CHV noted that *“actually we worked very well together during the cooking demonstrations,”* explaining that this activity was successful because it had a high turnout. During the Chipata DNCC focus group discussion, one respondent expressed the belief that sensitization and activities focused on promoting dietary diversity have had an impact on beneficiaries, stating,

*“After doing the trainings you can tell that people are appreciating diverse diet promotion and that those should have a variety of food groups. We could tell that when we were distributing organize sweet potatoes people were rushing and even asking if it was vitamin A-rich.”*

Additionally, although a lack of male involvement in the PIs was noted as an overarching challenge for the 1000 Days programme, respondents highlighted that they have noticed men starting to attend cooking demonstrations. In Mbala, a district focal point as well as a member of the WNCC focus group both mentioned that men attended the demonstrations. A member of the DNCC in Chipata also noted that *“even a small number of men are coming to participate,”* although this is still challenging. One focal point from the MCDSW mentioned this—and that they are trying to encourage this, explaining that *“we hope we can do more of that in terms of mainstreaming activities.”*



## **Challenges**

In terms of agricultural inputs provided to communities, CHVs in Nthope stated that the inputs were insufficient given the size of the wards they currently work in, and also noted that *“sometimes they come at a wrong time when the season is not all that conducive for planting.”* Additionally, although cooking demonstrations have been coordinated effectively at the district level, challenges were mentioned about the level of collaboration at the ground level in communities, which was described as *“average...we are improving.”* One staff member at an Nthope health facility also indicated that while the food used during the demos is certainly attainable by women, the amount of time spent cooking the foods used during the demonstrations was unreasonable for many women in the community, who typically try to minimize the amount of time spent cooking for their families. Respondents also noted experiencing challenges conducting cooking demonstrations in recent months due to the rainy season.

Finally, district focal points in Chipata discussed a challenge related to the storage of cooking utensils for the demonstrations, which is a sensitive issue. Focal points in Chipata explained that prior to December 2016, beneficiaries were told to bring their own utensils, as the ministry had not yet procured them. However, once the utensils were procured, focal points noted they were not enough, and because of this the utensils ended up being stored in one health facility. Due to the vastness of the ward, this causes challenges for camp officers, who may be interested in conducting demonstrations themselves but who stay up to 20 kilometres from the facility and do not have transportation to easily access the utensils.

## **Cluster 5: WASH**

### ***Activities, Achievements, and Inputs***

The MLG focal points in both Chipata and Mbala described a range of activities completed under this PI, from borehole repairs, to open defecation free (ODF) celebrations, to trainings for community led total sanitation (CLTS) on trigger processes, in addition to the sensitization that takes place regularly in communities and good coordination with the Ministry of Education and Ministry of Health. As highlighted in the previous report, one major difference in the WASH PI for Mbala and Chipata is that Mbala is a UNICEF CLTS pilot district, and hence has a preexisting strong WASH presence. In Mbala, activities had started to shift toward hardware (drilling and maintenance of boreholes) because a lot of the behaviour change had already been triggered:

*“Since the program started, we have done a lot of software, and we have scored a lot of success, if we can call it that, in terms of people changing their behaviour and just knowing what they need to do in terms of sanitation, but then there are communities that are really vulnerable in terms of water supply, so the idea to do boreholes in strategic communities became very key in the plan, because I’m sure it was all over the news that we had issues of typhoid in Zambia, so in some of those communities, we find that people literally have no access to safe drinking water.”*

In Nthope ward, a health facility staff member noted that there has been a positive change since last year because there is now an environmental technician active in the Chinunda area who had just come last month: *“They started going in the village, seeing if they’ve got toilets, water, borehole well maintained, they are just doing that.”* In Chipata, sensitizations occur through

village WASH committees, or the V-WASH committee. One focal point described several trainings focused on this PI that had taken place in the past year. These included a CLTS training for members of V-WASH committees from 10 communities, a training for district staff on trigger processes to deliver to communities, a training for the SAGs on clean water storage, and a training for WNCC members on sanitation and good hygiene practices. A focal point in Mbala explained the difference between the SAGs and the V-WASH groups:

*“The V-WASHES are the water point committees; they are for the boreholes. So within the village, you can have a SAG committee and also the V-WASH committee, so the V-WASH committee will be solely responsible for the borehole, to take care of the needs of the borehole.”*

One Chipata district focal point also said that in the past year they held an ODF celebration for one chiefdom of about 200 households, and that they are hoping to have two more chiefdoms celebrating by the end of the year. In Mbala one focal point noted that they are hoping to have an additional ODF celebration by June 2017. We visited a school in Mbala with WASH committees, active handwashing, and gender-separated latrines that had been recently constructed. We also heard of WASH-focused activities that are underway in schools in Chipata. One focal point said,

*“The school health and nutrition clubs at schools, these clubs are not just teachers and pupils, even people in the community [are members]. They will be looking at issues of sanitation within the schools together with what is known as the school WASH committee, which is comprised of pupils, teachers and parents. So these two committees are the ones responsible for making sure there is good sanitation at the school.”*

Despite this statement, it was unclear how strong the link was between the school activities and SUN funding, as another Chipata focal point mentioned that regarding school-led total sanitation (SLTS), “we have not really done much.”

## **Challenges**

Despite progress under this PI, respondents did not shy away from describing fundamental problems regarding the supply of water in communities as well as the continued need for behaviour change. In Mbala, one district focal point, when discussing sensitization and behaviour change, raised the point that “there’s only so much you can do if the people don’t have no water.” In Nsingo ward, one health facility respondent explained that there are still substantial challenges in the community in terms of access to clean and safe water sources.

*“The community are using wells, as they don’t have boreholes. The repairs that go on happen on functional boreholes—for example, the mere changing of pumps. I recommend to drill boreholes and do extensive chlorination. Because the challenge is, those who don’t have wells, so how do they access water? People have opted to go to the rivers.”*

Similar challenges were corroborated by a focal point in Chipata who discussed issues encountered during upkeep of existing boreholes, particularly when spare parts are needed to mend them.

In Mbala, one challenge noted was that funding is no longer enough to conduct trainings for CLTS champions—instead, as a solution, “super-champions” play a supervisory role for champions at the subdistrict level, who will be in charge of reporting at the ward level. Finally, a member of the Mbala DNCC suggested that to encourage behaviour change regarding WASH, *“Sensitization needs to continue. We also need to involve the local leaders and the traditional leaders as well as the religious leaders. Everyone goes to church.”*

## **Cluster 6: Nutrition-Sensitive Messaging**

### **Activities, Achievements, and Inputs**

In Chipata, respondents at the district and ward levels spoke about the increased awareness regarding nutrition that has taken place across communities, in part due to the presence of IEC materials and a public awareness campaign. One individual at the district office explained,

*“Awareness of nutrition issues as well as the program, levels of knowledge have kind of increased because sectors have been on the ground implementing activities, we have ongoing programs on the radio... Then September last year we had an awareness campaign for one week which was aimed at reinforcing knowledge levels to the public, so that was done for one week. We had a number of activities that were put in place—radio programs, even organized night shows, we even go in the village and did that in the night.”*

Focal points from the MOE and MCD, as well as volunteers in wards, described various sensitization activities during which SUN nutrition messages are delivered to students, mothers, or community members in general. Respondents described integrating nutrition messages into routine activities such as ANC or GMP sessions, as well as dietary diversity trainings. MOE focal points in Mbala and Chipata also described IEC materials that are reviewed with teachers and present at schools. One respondent in Nsingo ward explained that *“the myths and misconceptions were playing a big role, but now the sensitization is helping to discard these.”* During data collection in Nsingo and Nthope wards, community volunteers and health facility staff highlighted their use of SUN materials by either pointing to IEC materials hanging on the walls or pulling out materials they use regularly when conducting sensitizations in communities.

### **Challenges**

One challenge specific to nutrition messaging is that it is difficult to monitor the number of people being reached through sensitizations without running the risk of duplicative tallying across line ministries. The in-charge in Nsingo ward mentioned that there are no registers focused exclusively on IEC—nutrition-sensitive messaging is listed as a cross-cutting indicator that all ministries report against. As several focal points described that typically the first 10–15 minutes of any SUN activity is spent conducting sensitization, the same beneficiaries may subsequently be counted if they attend activities conducted by more than one line ministry during the span of a quarter.

Challenges were also noted regarding the IEC materials that are distributed to volunteers for use in the communities. One CHV in Nthope Ward explained that the IEC materials *“are old and are no longer in a good state. We actually may not be able to use them for much longer. They are*

*also not enough for distribution and they are in English. Very few people here can read English.*” A challenge that was noted last year continued to appear during this round of data collection, which is the issue of IEC materials being distributed in English. In both districts respondents at the district offices and in Chipata’s wards noted this as a significant challenge, as the beneficiaries of the PIs often do not speak English; furthermore, one individual in Mbala explained, *“There are certain terms that you can’t translate into local language. For example, the term ‘biofortified,’ how can I break it down to the community? These things are a bit complicated.”* One recommendation that was provided in response to language challenges is that the SUN program focus its resources on creating and procuring visual materials, specifically posters, as alternatives to printing smaller brochures which may be thrown away or forgotten.

## **Discussion, Conclusion, and Recommendations**

We are pleased to report considerable improvements in several key MCDP areas, where challenges and implementation bottlenecks identified in the 2016 data collection round have been addressed. NFNC, CARE, DNCCs, line ministries, and programme implementation personnel down to the community level deserve credit for engaging meaningfully with recommendations offered in the 2016 report (and from other stakeholders). That said, this year’s research revealed ongoing challenge areas in the overall implementation. In this section, we will recap key findings, identify ongoing challenge areas, and offer targeted recommendations to respond to these.

### **Structure and Organization**

In the Structure and Organization section, we examined the issues of coordination (particularly lateral), planning, communications, and monitoring. On the question of coordination, we noted that there are more activities being implemented than there were in 2016, and that coordination has generally improved at ward- and community-level implementation, which is a positive development over last year’s findings. Consciousness and uptake of the multi-sectoral model remains good at higher levels of the implementation chain, although some red flags were raised.

A related factor, funding disbursement, continues to be a problem, particularly in Mbala (as discussed further in Financial Management and Flow of Resources). Planning and decision making is an area where significant challenges were identified in 2016; the latest planning workshop was a significant improvement according to Mbala staff, facilitating greater ownership and accountability. The Mbala WNCCs also reported much improved connection with the district; unfortunately, we are unable to report improvements in satisfaction for the Chipata WNCCs: planning and decision making continue to be done in a top-down manner and it seems likely that this is an artefact of the programme’s overall structure. In general, communication (particularly up and down the programme implementation chain) has improved, although it remains inconsistent and problematic in some areas—particularly moving away from the district level and into wards and communities.

Monitoring and evaluation was identified as a very central problem in 2016 (especially insofar as M&E, via reporting, is related to the disbursement of funds). In fact, M&E was identified as a problematic area before we undertook data collection in 2016, and CARE responded by developing a new, standardized, bespoke M&E system and providing training to implementation

staff. Challenges remain, however, and the programme continues to face constraints and challenges to effective M&E. These challenges are largely related to capacity of staff involved in M&E, consistency (even in the new framework, it is hard to achieve this across very different sectoral areas), distance and geographical boundaries, and funding. M&E is still far from being at an acceptable level that is useful for planning and understanding. The community- and district-level stakeholders showed good understanding of the M&E plan and thought it was giving useful information. However, the plan gives no detail on the intensity or equity of the interventions and very little detail on progress. The plan is also still much skewed toward inputs rather than capturing the beneficiaries' experience.

- ***SUN 1.0 Recommendations (from present—December 2017):***
  - NFNC should communicate in advance about trainings and availability of master trainers, perhaps by sharing a calendar of availability through a Google document.
  - DNCC in Chipata should meet more often with WNCC, communicate roles, and involve WNCC in community-based activities.
- ***SUN 2.0 Recommendations:***
  - The key recommendation here concerns M&E. The M&E plan will likely need further strengthening and more emphasis on beneficiaries and outputs rather than just inputs. We appreciate the use of existing data sources but this needs to be weighed against the need to understand the number and percentage of beneficiaries and the need to be able to use the M&E system to be able to plan more efficiently—functions that the current M&E system is not yet in a position to accomplish. The data collection capacity of community staff will also have to be further strengthened and structured.
  - We recommend drafting a short list of exposure variables to key interventions and engaging community workers in collecting data from a sample of individuals. This data should be collected at the community level and reported to the WNCC.
  - We recommend more transparency by including geographical distribution in the M&E plan. Distribution across wards is not currently included and this causes equity concerns.
  - We recommend making the M&E system electronic so that district line ministries can track their performance over time.
  - We recommend asking district-level staff what information they need to make more effective decisions and build the M&E system from there.

## **Financial Management and Flow of Resources**

In Financial Management and Flow of Resources, we turned to one of the most problematic areas in the 2016 process evaluation: in that research, we found that the flow of finances and resources had become so erratic that it was having serious consequences on programme roll-out and implementation. We were therefore particularly interested in exploring whether any meaningful changes have taken place in this area in the intervening months.

In both Chipata and Mbala, there have been important improvements in the overall flow of funding. That said, funding delays continue to be more of a problem than they should be and

remain problematic in Mbala. Furthermore, in Mbala, this situation is exacerbated by communication problems with CARE. In Chipata, most of the concerns about funding flow originated at the ward level—this being another example of the WNCC feeling somewhat cut off from the main channels of information and decision making (WNCC members report that they do not have access to budget information and do not always know when funds will arrive). In both Chipata and Mbala, concerns were expressed about the restrictions of the quarterly disbursement model and the long-standing question of carryover funding (which requires an application and an often lengthy wait). Finally, to echo a point made above, inconsistent rates of funding access across ministries hinder efforts to coordinate work.

Financial management training has been delivered to programme staff in both Chipata and Mbala. This has been well received and judged to be useful by respondents, who also noted that funding flows have improved as a result of their increased capabilities in this area (financial reporting is one of the key weak points that produces funding flow delays). In spite of receiving this training, however, some informants still report difficulties in complying with financial reporting requirements and guidelines. In a similar vein, informants from both districts noted that they found the issue of managing funds across multiple sectors to be a challenge. This becomes a problem particularly when (as noted above) different sectors receive funding for a given, supposedly coordinated, activity at different times.

As described above, communication and decisions about funds continue to be problematic, especially at the WNCC level, where members feel cut off from key budget-related decision making.

- ***SUN 1.0 recommendations (from present—December 2017):***
  - Strengthen the role of CARE’s grant manager for Mbala. Mbala line ministries should be given the direct number of a supervisor and be encouraged to call her if they have not received a response within 10 days.
  - The DNCC coordinators should include all district line ministries’ focal points in cc whenever submitting a report to CARE.
- ***SUN 2.0 recommendations:***
  - Financial management and flow of resources needs to become more efficient and transparent. Funding across sectors needs to be better coordinated if these sectors are to be able to coordinate their activities. As recommended in the 2016 report, a clearer and more streamlined policy for carryover funds would go a long way to improving overall implementation.
  - We stand behind the recommendations given in the HEART (Health and Education Advice & Resource Team) “*Design for Zambia’s Scaling Up Nutrition (SUN) Fund 2.0,*” written in September 2016, on which one of our team members participated. The recommendations have not changed since then.

## Implementation of Priority Interventions

As in 2016, part of our research involved assessing the implementation status of the priority interventions. Overall, both implementation and coordination have intensified since last year, although coordination should be strengthened at the community and ward level. However, it is important to note that key challenges remain, often related to the flow of funds. This situation results in an emphasis on sensitization, rather than on the more concrete but resource-intensive aspects of implementation. It also relates to problems of convergence: the ideal of all relevant PIs “converging” on each beneficiary household is not happening because of implementation inconsistencies. Other issues identified in this round included problems of reporting: for example, the WNCC chair in Nthope ward (Chipata) is based at a very remote health facility, and therefore receives very few reports on SUN PI implementation.

Because virtually all of the challenges facing PI implementation have their origin in other programme areas described earlier in this report, we will not repeat earlier findings and recommendations, but instead summarize key challenges by PI cluster, and subsequently provide recommendations focused on the delivery method of the interventions:

- **Cluster 1: IFA, Vitamin A, Deworming:** Staff in Nsingo ward request more supplies of IFA. Furthermore, facilities now limit the amount of tablets they provide to women during a visit, requiring them to make more frequent visits to the facility to replenish when needed.
- **Cluster 2: Breastfeeding and Complementary Feeding:** Breastfeeding support groups are no longer active. In Nsingo ward, one volunteer felt that women were not attending sufficiently early ANC visits, and that this was resulting in non-optimal breastfeeding practices.
- **Cluster 3: Growth Monitoring, IMAM, Zinc Provision:** In growth monitoring, respondents identified a need for training on how to tally and complete under-5 information during GMP sessions, while respondents in Chipata at the district and ward level also described challenges regarding the availability of under-5 cards themselves. Although we were told that in Chipata under-5 cards were procured during the past quarter, the availability of these cards continued to be a challenge. Nsingo ward volunteers also noted that they had not received scales, MUAC tape, or any other equipment to support their GMP work—nor were supplies of Plumpy’Nut<sup>®</sup> for IMAM available in Nthope ward. A key challenge noted regarding zinc provision is that there is no indicator in the monitoring tools community volunteers are currently using to capture or record instances of diarrhoea.
- **Cluster 4: Availability of Nutritious Foods, Dietary Diversity for Pregnant and Lactating Women:** Coordination for cooking demonstrations remains a problem at the community level; furthermore, although the foods used in cooking demonstrations were considered to be accessible, the amount of time spent on cooking was felt by one Nthope informant to be unreasonable. Rainy weather was also cited as a challenge to cooking demonstrations. In Chipata, the availability of, and access to, cooking utensils continues to be a problem.

- **Cluster 5: WASH:** Access to clean water and drilling and upkeep of boreholes are problems in both Chipata and Mbala. In Mbala, it was noted that the main need was now on the supply side of clean water, that there was no longer enough funding to conduct training for CLTS champions, and that training and sensitization needed to continue in order to properly embed WASH behaviour change. Availability of clean water is a critical complement to CLTS.
- **Cluster 6: Nutrition-Sensitive Messaging:** Monitoring exposure to nutrition-sensitive messaging is difficult, particularly because nutrition-sensitive messaging is listed as a “cross-cutting” indicator, which all ministries report against, potentially resulting in double-counting attendance. In 2016, we flagged the problem of IEC materials being distributed in English. Unfortunately, this remains a problem in both districts.
- ***Sun 2.0 recommendation:***
  - We recommend paying more attention to the step between exposure to interventions and behaviour change as this step is not formally or explicitly addressed and there are no indicators measuring behaviour change.
  - How to facilitate this: redesign the programme in a way that makes behaviour change the core aim of the intervention.
    - » Behaviour change should be sought via a variety of delivery methods including inter-personal communication, media coverage, social norm shift by including men, headmen, and chiefs.
    - » Consider utilizing elements of behavioural psychology/economics in order to shift perceptions: non-monetary reputational incentives for example, or reminding devices to act as reminders for positive behaviour.
    - » Include behaviour change experts in the technical assistance team.
    - » Support local and successful initiatives at the ward level (drama groups, breastfeeding groups) with some minimal funds.
    - » Encourage use of pictorial material and discourage use of leaflets. Pictorial books could be given to community workers to encourage and guide visits, and posters should be encouraged because beneficiaries are likely to hang them in visible places in the houses.
    - » Agricultural interventions (especially the delivery of agricultural inputs) seem to be most effective at involving the entire community, as opposed to health interventions that are reaching only women. To maximize effectiveness we recommend building specific behaviour change strategies in the agricultural interventions.



## References

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**Annex A: Summary of Recommendations From  
Process Evaluation of Zambia’s First 1000 Most  
Critical Days Programme and Follow-Up Status**

## **Introduction**

During the first process evaluation in April 2016, AIR formulated a list of recommendations that was discussed with CARE and NFNC. Below we present the recommendations that were considered and, in the last column, the updates from the follow-up evaluation in April 2017. The recommendations are divided by theme: structure and communication, planning, M&E, financial processes, and delivery of priority interventions.

# 1. Recommendations Related to Structure and Communication

Finding From April 2016 Evaluation	Recommendation	Status During April 2017 Follow-Up
<p><b>Level: WNCC</b> Vertical communication between District (DNCC) and Ward (WNCC) levels is perceived as problematic. WNCC desires greater autonomy and feels that its role has been limited to simply carrying out the orders of the DNCC; WNCC did not have good knowledge of activities planned by DNCC by quarter; WNCC felt weak and left out.</p>	<p>Make sure regular meetings with DNCC and WNCC happen. DNCC should share entire work plan to WNCC so WNCC can understand big picture, PIP, and understand which types of activities are planned in each quarter.</p>	<p>Improvements were reported in Mbala, less so in Chipata. WNCC were meeting regularly in Mbala. WNCC had seen the work plan in both districts.</p>
	<p>WNCC should receive clear guidelines on what kinds of activities they should lead and how; also, need to further specify its role, structure, meeting content.</p>	<p>WNCC in Chipata still reported confusion as WNCCs felt that they had responsibilities that couldn't be fulfilled because activities weren't funded to them directly.</p>
	<p>WNCC should receive tools supporting planning and helping specify the delivery mechanisms.</p>	<p>There were improvements in the understanding and role of WNCC. However, no supporting tools were reported at the time of the second process evaluation.</p>
	<p>Make sure that all implementers report on all completed activities and all planned activities (even the ones that they think are "just routine") and that target areas and beneficiaries are discussed in order to avoid a sense of false accountability when it comes to inputs distribution.</p>	<p>The M&amp;E plan, introduced in the past year and still seen as work in progress, has helped recording activities. However, the M&amp;E plan does not stratify by ward so it is still largely unknown where activities are concentrated and where. Also, despite some of the cross-cutting indicators collected by the WNCC, the M&amp;E plan still appears biased toward activities led by district staff and focused on inputs rather than beneficiaries' experience.</p>
<p><b>Level: District and CARE</b> Communication between districts and CARE needs to be improved, especially when it comes to sensitive requests such as carryover funds requests.</p>	<p>Consider placing responsibility for carryover approval decisions in the hands of the DNCC or at the provincial level rather than the national level, with the aim of streamlining this process and improving the flow of finances.</p>	<p>This recommendation was not adopted by CARE/NFNC. Their recommendation is to have the carryover requests filed as an annex in the financial report so that the report is approved with the carryover request.</p> <p>However, in practice, the procedure above can only help in rare cases. In most cases, district-level line ministries have to wait months between sending the report and receiving funds.</p> <p>Blocks due to inability to use funds received in the previous quarter are still a major bottleneck preventing effective implementation. The system needs to be improved.</p>

**Finding From April 2016  
Evaluation**

**Recommendation**

**Status During April 2017 Follow-Up**

Establishing an accountability system so that if problem persists, DNCC can talk to Province coordinator who can escalate to independent entity.

The situation has improved, especially in Chipata, but there is still no accountability system. Mbala still reported having written multiple times for attention and received no response.

**Level: National Level  
(NEW)**

Although national-level Ministries were generally reported to be supportive and engaged, the Ministry of Education was reported in several occasions as being disengaged and not actively supportive.

## 2. Recommendations Related to Planning

Finding From April 2016 Evaluation	Recommendation	Status During April 2017 Follow-Up
<p><b>Level: NFNC and Districts</b> Districts noted that they never received the baseline surveillance report and believe that the report includes ward-level surveillance necessary to plan prioritization of wards.</p>	<p>NFNC should share baseline surveillance report with the districts.</p> <hr/> <p>As program expands, need to think whether ward-level, community-led surveillance is possible to decide which wards to prioritize in the roll-out.</p>	<p>All district line Ministries did not yet have the baseline report. Nonetheless, NFNC reported having sent it to DNCC coordinators.</p> <hr/> <p>This is a long-term recommendation and was not expected to have changed. This need is related to making M&amp;E more functional to program management and more focused on beneficiaries.</p>
<p><b>Level: DNCC</b> High-level understanding and planning through causal chain achieved, but DNCC would benefit from more detailed planning that includes the where, how, when, who, and why and how does each activity maximize complementarities with other activities. This is also necessary for proper budgeting.</p>	<p>Provide on-the-ground mentoring on planning, budgeting, monitoring.</p>	<p>Although the implementation manual, currently in print, will have many of these details, at the time of the follow-up 1 year later, the manual was not yet printed. In addition, the need for support expressed above is likely to need more continuous and hands-on technical assistance type of support to district-level implementers. One successful example of hands-on assistance in planning by CARE and NFNC was the latest planning workshop, where implementers felt that they had the chance to plan, refine, and improve activities. Nonetheless, the current work plans—rooted in the M&amp;E system—appear to have paradoxically less details than the ones in the previous versions.</p>
<p><b>Level: DNCC and WNCC</b> Common implementation guidelines and standard operating procedures, especially around delivery mechanism missing; unclear if common and approved curriculum and delivery are followed.</p>	<p>Clarify procedures for carrying out sensitization, and promote greater standardization generally. Create common guidelines and operating procedures.</p>	<p>Implementation manual is ready but was not yet printed. Sensitizations remain a weak point of delivery. For example, in the latest Mbala report, a 2-minute reminder of topics around breastfeeding, diverse diets, and complementary feeding before another meeting started constituted the main activity being reported for “reaching” out with messages. This is limiting and there is need for a better behaviour change strategy.</p>

### 3. Recommendations Related to Monitoring

Finding From April 2016 Evaluation	Recommendation	Status During April 2017 Follow-Up
<p><b>Level: District and Community</b>            At the time of the process evaluation, monitoring of the MCDP had yet to become institutionalised and carried out consistently, although the research team is aware that activities are underway to address this issue. MCDP implementers at the community, WNCC, and DNCC levels described a range of challenges they face when fulfilling monitoring responsibilities. The need for a structured M&amp;E was clear.</p>	<p>New M&amp;E system to be rolled out ASAP and train all stakeholders.</p>	<p>The M&amp;E system has been rolled out but it is still fairly new and “work in progress.” It still appears more of a pilot than a solid plan. Also, despite significant progress, the M&amp;E plan appears still biased toward activities led by district staff and focused on inputs rather than beneficiaries’ experience. Cross-sectoral activities are having the most challenges, perhaps due to lack of clear definition of minimum standards for categorizing activities. More innovative and effective ways of collecting data from community and especially a better way of connecting M&amp;E data with program management decisions by district staff might need to be developed as part of Phase II.</p>
<p><b>Level: Community</b>            The current system does not allow for an understanding of data on beneficiaries.</p>	<p>Adopt a unified and community-based system of data collection with community workers and implementers as data collectors. As such, we consider it important to integrate as much as possible of the SUN M&amp;E platform into DHIA2 or similar.</p>	

## 4. Recommendations Related to Financial Processes

Finding From April 2016 Evaluation	Recommendation	Status During April 2017 Follow-Up
<p><b>Level: National</b> More professional, unified, and efficient financial flow structure and delivery needed.</p>	<p>Consider restructuring to create separation between the technical assistance and the financial dimensions of the programme; explore the possibility of having DNCC being the holder of funds for all sectors or a system where all sectors at district level harmonize their funding stream.</p>	<p>These were not evaluated because it is a longer term recommendation for a Phase II redesign.</p>
<p><b>Level: District</b> Need for further support in financial management</p>	<p>Formalize regular training opportunities in financial management for anyone responsible for these processes and institute practical exercises for these individuals to build their skills in an interactive manner. This will ensure that those responsible for funding requests, which are critical to programme delivery, may develop the skills necessary to keep the programme moving.</p>	
<p><b>Level: District</b> Confusion and inconsistencies inherent in individual line ministry reporting</p>	<p>Develop a system that is less complex than extracting information from separate line ministries—it is time consuming and error-prone.</p>	
<p><b>Level: District</b> Confusion and inconsistencies inherent in individual line ministry reporting</p>	<p>Submit only consolidated reports from the DNCC.</p>	<p>DNCC is now sending only one consolidated report. However, this seems to have caused problems because one delaying line ministry would slow down everyone else. Line ministries lamented that they lost control over timeline and status of the report. This difficulty seemed to be related to lack of a system of communication and accountability more than to the consolidated report itself.</p>



## 5. Recommendations Related to Implementation of Priority Interventions

Finding From April 2016 Evaluation	Recommendation	Status During April 2017 Follow-Up
<p><b>Level: Community</b> Interventions had not yet reached the beneficiaries in a systematic way, leaving the implementation unbalanced toward the higher levels.</p>	<p>In the event of funding constraints, consider a more complete roll-out in a smaller number of wards (as done in Mbala), rather than an incomplete roll-out in many wards.</p>	<p>Interventions had started to reach beneficiaries but the intensity and exposure are still largely unknown.</p>
<p><b>Level: Community</b> Time-lag between training and complementary activity is too long, demotivating people and diminishing effectiveness of training.</p>	<p>Minimize incomplete interventions, such as training pump menders without subsequently providing borehole spares. Consider bundling interventions more explicitly and consider realistic timelines and complementarity when reviewing and updating quarterly plans.</p>	<p>Planning has improved. Respondents in Chipata reported that the “only talk” trainings for agriculture have now transitioned into practicals. In Mbala, the borehole spares will no longer be provided under SUN and will instead be the responsibility of the community.</p>
<p><b>Level: Community</b> Practice of measuring height in children as part of growth monitoring was done by some facilities, but generally lack of height/length measurement is a problem for a study based on stunting.</p>	<p>Standardize practices and provide equipment.</p>	<p>No improvement reported.</p>
<p><b>Level: Community and District</b> Cooking demonstrations are seen as one of the most effective channels for behaviour change, yet the delivery seems poorly organized and not prioritized.</p>	<p>Need to clarify in planning: how will the cooking demonstration be done (Facility? Community? All mothers or only malnourished?) and make them more systematic.</p>	<p>Improved clarity from line ministries is reported, but the cooking demonstrations are not yet systematized and built clearly into the chain of activities aimed at behaviour change.</p>
<p><b>Level: Community</b> Lack of guidance and support in delivering innovative behaviour change interventions</p>	<p>Encourage and support innovative ways to channel behaviour change.</p>	<p>No improvements reported.</p>

# Annex B: Question Guide

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## DNCC Coordinator Interview

- General update on how things have changed since October.
- Review the district quarterly report for October–December. Probe about monitoring data.

## DNCC Group Interview

### Coordination of Line Ministries Involved in 1000 MCD

- Discuss coordination. Is the multi-sectoral approach working and how has it changed since the last time we were here?
- What examples can you give of “joined-up” multi-sectoral working practices in the delivery of the PIs?
- Have you faced challenges to multi-sectoral working? If so, have you overcome them, and how?
- Can you tell us about any particular successes of multi-sectoral working that have happened since I was last here?

### Relationships Up and Down the Chain, Channels of Communication

- Can you tell us about communication with the following bodies? Particularly focusing on *regularity*, *content*, and *responsiveness*. Please also comment on how communication has changed since we last spoke. Please provide concrete examples.
  - CARE
  - NFNC
  - WNCCs
  - DC

### Financial Management and Flow of Finances

- When we last spoke and reported on this, there were hold-ups in funds disbursements, and activities were delayed. This was said to be related to accounting and financial management. Can you tell us about this situation now? Is it better, worse, or unchanged?

### Planning

- What has been your experience with the new work plan?
- How differently, if at all, do you approach making the work plan now with respect to when the program first started? Give specific examples.

### Successes and Challenges

- Please share with us what you consider to be the greatest *successes* and the greatest *challenges* of the 1000 MCDP to date.

## Checking on Recommendations

Check the attached Recommendations table submitted by AIR and check with relevant level if the things that were committed actually happened.

## M&E Committee Focus Group Discussion

- Please describe when the new M&E system came along and how has changed how you were doing before.
- How well is the new system working?
- Is it easy or difficult to use? What are the main challenges with the M&E
- How if at all the M&E system has changed the way you do or think about activities?
- Are there ways in which it could be improved?
- How is it harmonized across the line ministries, if at all?
- “Follow the data” exercise.
  - *Start from each line ministry: how are the data into the MARF collected? How do they make it into the MARF? Once you have clarified how each line ministry collects data and puts them into the MARFS, try to understand how these data are then compiled into the report. Also, verify a few of the Oct-December indicators from the report: do the numbers match?*

## DNCC Focal Points (KIs per Focal Point)

Here we have followed the new structure of the Quarterly Report monitoring sheet. Rather than repeat questions for each Focal Point, we have created a single question list organized by PI—appropriate questions can be selected depending on the interviewee. The focus of these interviews should be on the PIs and the status of their roll-out—assuming the global issues around coordination, communication. M&E are separate and can be covered separately with the M&E officer.

**Although challenging, it is important that we seek to understand, globally, what changes the MCDP has brought. Specifically, this means that we should, for each PI, ask:**

- Whether the PI was being implemented before the MCDP arrived
- If it was being implemented prior to the arrival of the MCDP, has anything changed about its implementation since the programme arrived?
- Whether any irregularities in access to funding or inputs necessary for implementation are new, or whether they existed before the programme arrived

## **Coordination and Communication**

*Please tell me about any remaining issues about coordination that were not discussed in the group in terms of coordination and communication with NFNC, CARE, DC, DNCC coordinator. What about the relationship with your Headquarters?*

## **Coverage and Targeting of Beneficiaries**

*Current coverage, Equity of coverage across interventions, across wards, zones, villages and household.*

*Please try to understand:*

- How many wards has each line Ministry been active in?
- Pick an example of a few wards. In which zones have they been operating?
- Have they saturated those zones or mostly worked with interest groups or with selected subsets of the population? If they answer that they worked with <2 and lactating mothers, ask whether it is all of the <2 and lactating mothers of the zone.

## *M&E*

*Discuss remaining issues with coordination and M&E with M&E offices separately- ask to see tools, understand who collects the data, with what frequency, get an idea of additional burden, who is in charge of the numbers, if the numbers are used for planning and are used in a feedback loop. Also, get an idea of double counting issues still remaining, quality of data, whether we think different wards are capturing the same indicators. Get an idea of timeline and milestones for the M&E trainings that each level received (district, health facility/ward, and community).*

## **Implementers and Beneficiaries**

*For each of the below, make sure to ask who in the community is the main implementer, how s/he got the training to do that, what is the main delivery channel to reach the beneficiaries.*

### ***IFA (MOH only)***

1. How is the situation with IFA? Do you have constant supply and has the supply changed since last year?
2. What are the remaining challenges for distribution and also usage of IFA?

### ***Breastfeeding (MOH only)***

3. Has MOH trained health workers on breastfeeding counselling to mothers?
  - a. *If not:* Why not?
  - b. *If so:* Please describe these trainings. When did the trainings occur? How long did the trainings last? What topics did you cover? What went well in the trainings?
4. In what ways is MOH involved with the breastfeeding counselling that is delivered at health facilities? What kind of monitoring is conducted to ensure they are taking place?

- a. How often is this counselling conducted?
  - b. How many women do you believe you have reached through this counselling?
  - c. Where is breastfeeding counselling carried out?
5. Please describe the breastfeeding counselling that is delivered at health facilities. What topics are covered (probe for EIB, EBF)
  6. Have you established the baby friendly health facility initiative (BFHI) at health facilities? *If so*: Please tell me about this. At which ones? *If not*: Why not?

### **CF Training (MOH)**

7. Have you trained health workers on IYCF/C-IYCF? How many do you have and how many are there on average per health facility?
  - a. *If so*: Please describe these trainings. When did the trainings take place? How long did the trainings last? What topics did you cover? What went well in the trainings?
8. Have you distributed any materials helpful to conducting IYCF and C-IYCF activities to the community? *If yes*: Please tell me more about them.
9. What kind of IYCF messaging has been carried out and how? Door-to door vs under-5?
10. Are the IYCF volunteers the same as the GP volunteers?
11. Is there anything that could help you better manage/implement IYCF activities?

### **Dietary Diversity for Pregnant and Lactating Mothers (Agriculture, Community Development and perhaps Health)**

NB Please also see relevant questions in the *Availability of Diverse Locally Produced and Processed Foods section*

12. How is dietary diversity promoted? What role do you play in promoting dietary diversity?
13. What is your involvement in sensitization efforts around dietary diversity? Please describe these sensitization meetings that take place throughout communities as a part of the MCDP.
  - a. What are communities being sensitized on regarding dietary diversity?
  - b. What messages are reaching people about dietary diversity, and how?

### **Zinc Provision During Diarrhoea**

14. Was zinc provided to children 6–23 months suffering from diarrhoea? Please describe any challenges and solutions.

### **WASH (Local government only)**

15. Is your district a UNICEF-CLTS project district?

16. Please describe your involvement in WASH-related trainings. Have you conducted trainings for the following topics? If so, please also tell us when the training took place.
  - a. Handwashing
  - b. Borehole pump mending
  - c. Chlorination
  - d. Water sample collection
  - e. CLTS
  - f. SLTS
  - g. Trigger process
17. *If not*: Who conducted these trainings? How were you involved in this? *If so*: Ask if they could describe the trainings. When did they occur? How long did they last? Where did they take place? What topics were covered?
18. How many boreholes have been rehabilitated in this district?
19. Who has been trained on WASH efforts in your district? Were the following groups trained:
  - a. Community champions
  - b. Church leaders
  - c. Traditional leaders
  - d. Councillors
  - e. Were they involved in training school officials? *If so*: Which officials?
20. What went well in the training? What went less well? What could have improved the training?
21. Have the district staff received any trainings on the trigger process or other WASH-related activities? Please ask them to describe the trainings. Who conducted them, when did they occur, how long did they last, what topics were covered? Did district staff find them helpful? What went well/less well?
22. What role did district staff play in procuring and distributing the following:
  - a. Liquid chlorine (*Chipata*)
  - b. Granular chlorine (*Chipata*)
  - c. Tool kits (*Mbala*)
  - d. Seed Stock (*Mbala*)
  - e. Del Aqua Kits (*Mbala*)
23. Please describe any problems or obstacles faced in procurement of these inputs.
24. Please describe how you distributed the inputs? Who received them, and how did they reach the community level? What went well in the distribution process? What could be improved?



25. Were the inputs needed by communities? If so, in what ways are they used by communities? Have you conducted any follow-up to understand how the inputs are currently being used and by whom?
26. Please describe CLTS sensitization efforts in villages across your district. What is your role in this process?
27. If relevant: How many villages have been triggered in CLTS? Describe their communication with CLTS volunteers. Do they track triggering efforts? How so? Or why not?
28. Any recommendations on how the process could be improved?
29. Are the sensitization messages shared with community members in ways other than in meetings (e.g. radio, posters/signs)? *If so*: Does your office assist with developing and distributing these materials? Please describe.
30. Please describe school led total sanitation efforts in your district. What is your role in this process?
31. Who is leading SLTS? What does it involve? In what ways is the process different than CLTS?
32. Do district staff ever collaborate with SLTS leaders? *If not*: Why not? *If so*: In what ways do they collaborate?
33. Is there ever any overlap between SLTS and CLTS efforts in villages? *If so*: How do you think this can be reduced?
34. Understanding of WASH clubs, and their contributions to SLTS.
35. Please describe your role in monitoring MCDP WASH activities. Who else is involved in monitoring efforts?
36. Have you been involved in monitoring and certifying villages? What does this process involve?
37. Involvement with ODF activities and celebrations? *If so*: Please describe this process. Do you work with community champions? How many chiefdoms have held ODF celebrations? What activities occurred in them? Who is involved in this?
38. Do you provide supportive supervision to triggered schools? *If so*: What did this supervision involve? Who conducted it? How often? Do you believe the supervision was effective? What went well? How could it be improved?
39. Have you been involved in verifying and certifying triggered schools? Please describe this process. How many schools have you verified and certified?
40. Please describe any problems or obstacles encountered in conducting monitoring of WASH initiatives. Do you believe that sufficient monitoring is taking place? *If not*: Do you have recommendations on how monitoring can be improved?

### **Growth Monitoring (MOH only)**

41. Has MOH identified and trained volunteers in CBGMP in this last year? *If yes*: Please describe:

- a. How did you identify volunteers?
  - b. When did the training occur? How long did it last? What topics did it cover?
  - c. What went well in the training? How could it be improved?
42. Has MOH procured height boards, or any new scales or MUAC tapes? *If not*: Why not? *If so*: Please describe the procurement process.
- a. Has the equipment been distributed to volunteers? Please tell me about how you distributed this.
  - b. What equipment did you receive? Were the equipment sufficient for the number of people conducting growth monitoring? *If so*: How so? *If not*: What was missing?
43. Please tell me about the difficulties associated with conducting growth monitoring activities.

### ***Deworming and Vitamin A (MOH only)***

44. Describe challenges with Vitamin A and deworming

### ***Management of Acute Malnutrition (MOH only)***

45. Has MOH conducted any trainings and/or orientation on IMAM for health workers and when? *If not*: Why not? *If so*: Please tell me about these:
46. Has MOH conducted any trainings and/or orientation on C-IMAM at the community level and when? *If not*: Why not? *If so*: Please tell me about these:
47. Were the following items procured and distributed:
- a. Soya beans for HEPS?
48. *If so*: Please describe the procurement process
49. Does the cMAM process happen during under-5 or door by door, or is it mostly following up or children previously identified as malnourished?

### ***Availability of Diverse Locally Produced and Processed Foods (Agriculture, Livestock, and Fisheries only)***

NB As for the WASH section, this is an exhaustive list of questions derived from the early descriptions of PI delivery activities. It may not be necessary to ask all of them, but many will be relevant and you will need to assess which ones.

50. Are camp and block extension officers trained in SUN? If so, please describe topics and tell us when training took place. IF not, why not
51. Were lead farmers and nutrition group leaders trained in SUN? If so, please describe topics and tell us when training took place.
52. Were women's groups trained? If so, please describe topics and tell us when training took place.
53. Please describe any problems or obstacles encountered in any of the trainings.

- a. If any were not done, explain why.
  - b. What went well, and what went less well?
54. For agricultural, livestock and fisheries inputs, please describe how was the population targeted, when were the inputs given, what generation these inputs are (if applicable) and how is the process going and how saturated the villages are. Make sure you ask about procurement of time-sensitive inputs. Were communities sensitized in:
  55. Were cooking demonstrations carried out? Please describe these.
  56. Did any problems or obstacles affect the cooking demonstrations? *If so*: Please tell me about these. What went well in the cooking demonstrations? How could they be improved?

### ***Nutrition Sensitive Messaging in Other Programmes (Community Development and Social Welfare only)***

57. Have nutrition-sensitive messages reached other SP programmes?
58. What messages have been put out?
59. What mechanisms have been used for the messaging?
60. Please describe the process of coordinating with other programmes and implementers to get the messaging included in other programmes
61. What has gone well? What has gone less well?

### **WNCC Group Interview**

- How have things changed in the past year in terms of meeting within the WNCC, the WNCC and DNCC. Has the DNCC shared with you the work plan and kept you posted?
- Please describe your mission and role as WNCC.
- Please describe how you target beneficiaries for each intervention and how you assure transparency.
- How is attendance in the meetings?
- Did you bring the action plan? Can we talk about the work plan: how do you integrate your work plan with the work plan of the districts?
- Please discuss coordination. Is multi-sectoral approach working?
- What examples can you give of 'joined-up' multi-sectoral working practices in the delivery of the PIs?
- Have you faced challenges to multi-sectoral working? If so, have you overcome them, and how?
- Can they you us about any particular successes of multi-sectoral working?

## Relationships Up and Down the Chain, Channels of Communication

- Can you tell us about communication with the following bodies? Particularly focusing on *regularity*, *content*, and *responsiveness*.
  - DNCC
  - Community-based bodies: health facilities, nutrition champions, CHAs, CDAs, SMAGs, women’s groups, farmers’ groups, Zonal Nutritional Committees

## M&E Harmonization

- What changes have been instituted in M&E? How well is the new system working?
- Is it easy to use? How well does it work?
- Are there ways in which it could be improved?
- Is it now harmonized across the line ministries?

## Financial Management and Flow of Finances

- When we last spoke and reported on this, there were hold-ups in funds disbursements, and activities were delayed. This was said to be related to accounting and financial management. Can you tell us about this situation now? Is it better, worse, or unchanged?

## Decision Making

Please tell me about how the WNCC takes decisions:

- For each SUN intervention, discuss whether they have taken any decision themselves or in collaboration with DNCC and how it went. Stress the data that they used to get to that decision, their level of independence, how they selected the wards and how they selected the people. Also, how each member negotiates the relationship with its own line ministry vs WNCC reporting.
- When we last spoke to you, some of you felt that the WNCC members were not involved enough in making decisions about the MCDP, especially around planning. Can you tell us about this situation now? Is it better, worse, or unchanged?

## New Activities This Quarter

- Please describe any new activities the WNCC has engaged in during the final quarter of 2016.

## Successes and Challenges

- Please share with us what you consider to be the greatest *successes* and the greatest *challenges* of the 1000 MCDP to date.
- Do people know about the SUN? What is the main thing that they think if they think about the SUN project?

*Intervention-Specific: for these, please ask questions on each PI as laid out above for the Focal Points. The questions should be reduced and simplified for the WNCC.*

## **Ward Level**

*For health-facility or community-level implementers, focus on their experience with delivering the PIs, simplified version of the question list provided for the Focal Points above. In particular:*

- What role the informant has played in delivering the intervention
- Whether s/he has received
  - Training (if so, when?)
  - Materials/inputs/equipment needed for delivery
  - Any other support
- What s/he feels the effect of the intervention has been
- What has been her/his experience of the intervention? Good, bad...?
- Whether there have been supply-side challenges to delivery
- What should be changed, if anything

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