

Role of food aid and assistance in addressing the double burden of malnutrition in Ghana: a qualitative policy analysis

Niisoja M Torto , Kelly D Brownell

To cite: Torto NM, Brownell KD. Role of food aid and assistance in addressing the double burden of malnutrition in Ghana: a qualitative policy analysis. *BMJ Nutrition, Prevention & Health* 2020;0. doi:10.1136/bmjnp-2020-000136

Correspondence to

Niisoja M Torto, Sanford School of Public Policy, Duke University, Durham, North Carolina, USA; niisojator@gmail.com

Received 9 July 2020
Revised 18 August 2020
Accepted 19 August 2020

ABSTRACT

Background and aims In many low-income and middle-income countries, the double burden of malnutrition threatens public health and economic progress, urging a re-evaluation of the roles and responsibilities of nutrition actors, both traditional and non-traditional. This study examines the food aid and assistance activities of the United Nations World Food Programme (WFP)—one non-traditional actor in the double burden conversation—and the potential for these activities to reach beyond their traditional mandate on undernutrition to also address overweight and obesity in Ghana.

Methods Information on WFP activities in Ghana from 2012 up through its planning into 2023 was extracted from 11 WFP planning, operations and evaluation documents. WFP activities were then judged against the WHO's framework on the determinants of the double burden of malnutrition to determine their potential to address the double burden. Semistructured interviews were also conducted with 17 key informants in the global nutrition landscape to identify challenges that may complicate the role of WFP and other actors in addressing the double burden.

Results The analysis demonstrates that WFP activities in Ghana can serve as a platform on which to address the double burden, particularly by targeting the food access, food systems and socioeconomic disadvantage determinants of the double burden. Actors' uncertainty with what role WFP should play in addressing the double burden, insufficient government attention to malnutrition and poor data on overweight and obesity were identified as potential challenges that complicate addressing the double burden.

Conclusion The findings suggest that integrating WFP as a partner in the effort to address the double burden in Ghana might help amplify progress. To better address the double burden, WFP might prioritise retrofitting existing activities rather than implementing new interventions.

INTRODUCTION

Under the backdrop of slow progress to address undernutrition, the global community has simultaneously seen a rapid rise in overweight and obesity in every setting of the world, especially in low-income and middle-income countries (LMICs).^{1,2} This seemingly

paradoxical coexistence of undernutrition with overweight and obesity—called the double burden of malnutrition—presents an urgent challenge to LMICs already facing high unmet health burdens.³

Stimulated by the United Nation's designation of 2016–2025 as the Decade of Action on Nutrition, the WHO recently developed a roadmap for addressing the double burden of malnutrition.⁴ In it, WHO contends that certain interventions, called double-duty actions, have the potential to simultaneously address both undernutrition and overweight and obesity in *synergistic* ways.^{4–6} These actions provide a potentially more cost-effective means to address the double burden than do approaches that address undernutrition and overweight and obesity separately.⁷ However, WHO proposes one platform on which to deliver double-duty actions—humanitarian aid and emergency nutrition programmes—that demands more thorough evaluation.

The World Food Programme (WFP), one of the foremost players in the food aid and assistance landscape, has for decades played a key role in helping LMICs address chronic and emergency food insecurity challenges. Yet, WFP's persisting traditional mandate on hunger, food insecurity and undernutrition and only recent explicit acknowledgement of its aim to address the double burden⁸ begs the question on whether it can realistically serve as a platform on which to implement double-duty actions.

As the consequences associated with the nutrition transition materialise in LMICs,⁹ there is need for research that considers how non-traditional players such as WFP fit in the double burden conversation.¹⁰ By considering WFP's activities in Ghana, one context experiencing the double burden,^{11–14} this study aims to explore the role that food



© Author(s) (or their employer(s)) 2020. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

Table 1 Summary of determinants of the double burden and their key features (adapted from WHO ‘The double burden of malnutrition: policy brief’¹⁵)

Determinant	This determinant relates to	Example interventions to address this determinant
Epigenetics	<ul style="list-style-type: none"> ▶ Changes in the expression of genes ▶ Changes that affect the body’s regulation of energy 	<ul style="list-style-type: none"> ▶ Prevention of intrauterine growth restriction¹⁵
Early-life nutrition	<ul style="list-style-type: none"> ▶ Period from conception to early childhood (often called the first 1000 days) ▶ Pregnant and lactating women; children under 2 (24 months) ▶ Fetal development and infancy 	<ul style="list-style-type: none"> ▶ Promotion of exclusive breastfeeding in the first 6 months⁴
Lifestyle factors	<ul style="list-style-type: none"> ▶ Unhealthy behaviours, both automatic and learnt ▶ Food habits 	<ul style="list-style-type: none"> ▶ Counselling of mothers on contents of an appropriate healthy diet²⁶
Food access, portion sizes and cost	<ul style="list-style-type: none"> ▶ Quality and quantity of available food ▶ Meal portions ▶ Price of nutritious food such as fresh produce 	<ul style="list-style-type: none"> ▶ School food/meal programmes⁴
Socioeconomic disadvantage, inequality and poverty	<ul style="list-style-type: none"> ▶ Poverty ▶ Household’s ability to afford nutrient-rich food 	<ul style="list-style-type: none"> ▶ Establishment of well-managed microfinance institutions²⁷
Urbanisation, urban design and the built environment	<ul style="list-style-type: none"> ▶ Water and sanitation infrastructure ▶ Opportunity for physical activity ▶ Source of food (eg, smallholder and home-grown food vs store bought) 	<ul style="list-style-type: none"> ▶ Urban-agriculture programmes and direct farm-consumer marketing⁴
Food systems	<ul style="list-style-type: none"> ▶ Food/agricultural production ▶ Homogenisation of diets ▶ Food environment (eg, what is on the market) 	<ul style="list-style-type: none"> ▶ Minimising postharvest losses among smallholder farmers²¹

aid and assistance activities might play in this emerging health challenge.

METHODS

A descriptive case study methodology is employed to examine (1) the extent that WFP food aid and assistance might serve as a platform to address the double burden of malnutrition and (2) the challenges that complicate WFP’s ability to better address the double burden.

Policy framework

WHO’s classification of the determinants of the double burden of malnutrition provides the basis in this analysis for defining whether WFP activities in Ghana have the potential to address the double burden. The WHO framework categorises these determinants into seven domains: (1) epigenetics; (2) early-life nutrition; (3) lifestyle factors; (4) food access, portion sizes and cost; (5) urbanisation, urban design and built environment; (6) socioeconomic disadvantage, inequality and poverty and (7) food systems, as seen in [table 1](#).¹⁵

Activities that target these determinants are called double-duty actions. For example, one might consider a nutrition education workshop on local fruits and vegetables that aims to increase healthy food consumption behaviours as addressing the ‘lifestyle factors’ determinant of the double burden. On the contrary, a treatment

programme for diarrheal infections among children over 2 years of age might address undernutrition but fail to address a shared determinant of the double burden.

Approach to policy analysis

To categorise WFP activities in Ghana according to their potential to address the double burden, a combination of each activity’s general description and objectives was considered. An activity was classified as targeting a determinant of the double burden (ie, an activity was classified as a potential double-duty action) if it is related to the key features of at least one determinant in [table 1](#). If available, outcome or output indicators for each WFP activity were also reviewed to gain additional insight.

Information on these activities was extracted from WFP planning, operations and evaluation documents for Ghana. These documents were identified from three databases on WFP’s website as of 21 September 2019: the ‘Publications’, ‘New Releases’ and ‘Operations’ databases. In each of the three databases, a country filter for ‘Ghana’ and a publication time filter for the years 2011 through 2019 were applied to identify relevant documents. In total, 82 documents were identified. They were each reviewed for inclusion or exclusion based on their actual relatedness to Ghana’s context and on their inclusion of specific information on WFP operations and activities in Ghana. Documents for which Ghana was tagged

Table 2 Analysed WFP documents based on inclusion/exclusion criteria

Title	Publication	Search strategy (as of 21 September 19)
Country Programme Ghana 200247 (2012–2016)—(Country Programme Ghana (2012–2018)—Operation document)	September 2011	WFP Operations Page, Filter Country (Ghana)
Assessment of Local Production for School Feeding in Ghana, Kenya, Mali and Rwanda	May 2014	WFP Publication Page, Filter Country (Ghana)
Standard Project Report 2015—(Country Programme Ghana (2012–2018)—Standard Project Report 2015)	2015	WFP Operations Page, Filter Country (Ghana)
Ghana CP 200247 (2012–2016): A mid-term Operation Evaluation	May 2015	WFP Publication Page, Filter Country (Ghana)
Country Programme Ghana (2012–2018)—Standard Project Report 2016	2016	WFP Operations Page, Filter Country (Ghana)
Country Programme Ghana (2012–2018)—Standard Project Report 2017	2017	WFP Operations Page, Filter Country (Ghana)
Ghana Annual Country Report 2018 Country Strategic Plan 2018–2018—(Ghana Transitional ICSP (January–December 2018): ACR 2018)	July 2017	WFP Operations Page, Filter Country (Ghana)
Ghana Transitional Interim Country Strategic Plan (YEAR 2018)—(Ghana Transitional ICSP (January–December 2018)—T-ICSP Document)	July 2017	WFP Operations Page, Filter Country (Ghana)
Ghana Country Strategic Plan (2019–2023)—CSP Document	November 2018	WFP Operations Page, Filter Country (Ghana)
WFP GHANA Country Brief May 2019	May 2019	WFP Ghana Main Page
School Feeding in Ghana—Investment Case—Cost Benefit Analysis Report	September 2019	WFP Publication Page, Filter Country (Ghana)

CSP, Country Strategic Plan; ICSP, Interim Country Strategic Plan; WFP, World Food Programme.

but for which the main subject did not concern Ghana specifically (eg, documents that focused broadly on West Africa or Africa) or for which there was no or minimal specific information on WFP operations in Ghana (eg, documents focusing on the resource situation in Ghana) were excluded from the analysis. The excluded documents, however, provided necessary background information and supporting details. As a result of this inclusion/exclusion exercise, 11 documents were included in this paper's analysis (see [table 2](#)). The insight from these documents was judged against the criteria in the WHO policy framework to determine whether each WFP activity had the potential to address the double burden. The appropriateness of these classifications was then confirmed by three additional researchers.

The period from 2012 up through WFP's planning into 2023 was chosen for the scope of this analysis because it comprises when WFP began country strategic planning in Ghana up through the end of WFP's most recently available projected planning for the country. Country strategic planning was implemented across WFP beneficiary countries to prevent programme fragmentation and better align with the work of other UN agencies.¹⁶ Thus, these plans provide a well-articulated description of WFP programming and also a basis on which to ground this analysis.

Key informant interviews

Additionally, semistructured interviews were conducted by telephone or in-person with key informants in the global nutrition landscape between 9 May 2019 and 18 September 2019. Participants of interest at UN organisations and working in the Ministry of Health in Ghana were first contacted for interview. Using a snowball sampling method, these initial participants then helped identify other informants with relevant expertise. The aim of this methodology was not to obtain a representative sample but rather to generate preliminary hypotheses related to the potential challenges faced by WFP and others in addressing the double burden. Thus, interviewing was stopped after a threshold of theoretical saturation in responses was reached. This threshold of saturation was approximately determined as the additional insight from each additional interview became inconsequential to the main challenges identified. Ultimately, this threshold was reached at the 17th interview, constituting a sample of 17 informants. Over the course of the interviewing timeframe, three recommended participants rejected or did not respond to invitations for interview. The Institutional Review Board (IRB) of Duke University (Durham, NC, USA) determined that this study did not meet the definition of research with human subjects, and therefore, did not require IRB review.

Table 3 List of interview participants in the global nutrition landscape

Key informant	Institution*	Type	Level†
1	Ghana Health Service	Government	District (Upper West Region)
2	Ministry of Health	Government	National
3	Ghana Health Service	Government	National
4	Ministry of Food and Agriculture	Government	Regional (Upper West Region)
5	Ghana Health Service	Government	Regional (Brong Ahafo Region)
6	Ghana Health Service	Government	District (Northern Region)
7	National Development Planning Commission	Government	National
8	Ghana Health Service	Government	National
9	World Food Programme	UN	Global
10	World Food Programme	UN	Global
11	World Food Programme	UN	National (Ghana)
12	World Food Programme	UN	Regional (Latin American and Caribbean)
13	World Food Programme	UN	Regional (West Africa)
14	World Food Programme	UN	National (Ghana)
15	WHO	UN	Global
16	WHO	UN	Global
17	Food and Agricultural Organisation of the UN	UN	Global

*A description of the purview of these institutions is provided in online supplementary appendix 1.

†A map of the regions of Ghana is provided in online supplementary appendix 2.

Information on the 17 key informants is presented in [table 3](#). Their insight comprises international, national, subnational and local perspectives. Descriptions of the functions of the institutions for which they work is provided in online supplementary appendix 1. Their positions included director(s) of nutrition, nutrition coordinator(s), nutrition officer(s), nutrition planning analyst(s), health policy analyst(s) and agricultural development officer(s). They are all herein referred to as ‘officials’ in order to anonymise their identities.

Consenting participants were interviewed for between 30 min and 1 hour using semistructured interview methodology. Informed by a literature review, each interview explored challenges to addressing the double burden. Interview questions were adapted to each participant’s familiarity with the context of Ghana. The interview guide used in this analysis was developed in a process consistent with the framework articulated by Kallio *et al* and similar to that used in studies such as Shawar *et al*.^{17 18} Guiding questions can be found in online supplementary appendix 3. Interviews were transcribed and main insights were extracted manually using inductive thematic analysis that included the close reading of transcripts, the identification of categories present in informants’ insights and the refining of main categories characterising the challenges to addressing the double burden.¹⁹

RESULTS

The analysis demonstrates that WFP food aid and assistance activities have potential to address the double burden of

malnutrition in Ghana—with most activities targeting two or more determinants of the double burden. While there was no explicit mention of the double burden in Ghana in WFP documents until recently, namely in the 2019 to 2023 (CSP), WFP operations have since 2012 targeted, inadvertently or deliberately, several determinants of the double burden.

WFP strategic planning and operations from 2012 to 2017

WFP operations in Ghana between 2012 and 2017 had three main programmatic components: (1) support for primary education and girls’ education; (2) nutrition support for vulnerable groups and (3) resilience to climate shocks and support for livelihoods. [Table 4](#) identifies the shared determinant(s) of the double burden targeted by the activities under these three programmatic components.

[Table 4](#) demonstrates that during this CSP the most targeted determinant of the double burden was food access (five activities), followed by socioeconomic disadvantage (four activities). All activities targeted at least one determinant, most activities targeted two determinants and one activity targeted four determinants.

WFP strategic planning and operations from 2018 to 2023

In the current planning period, 2018–2023, WFP operations in Ghana include four main programmatic components, herein called strategic outcomes: (1) nutrition support for vulnerable groups; (2) enhanced food systems; (3) national capacity strengthening and (4) policy coherence. During this period, WFP planning is



Table 4 WFP activities during CSP 2012–2017 by related determinant of the double burden of malnutrition										
Determinants of double burden of malnutrition										
Component	Activity	Early life nutrition	Lifestyle factors	Food access	Food systems	Socioeconomic disadvantage, inequality	Urbanisation, Built Environment	Epigenetics	Addresses	No Determinant
1.Support of primary education and girls' education	Children receiving school meals			✓		✓				
1.Support of primary education and girls' education	Girls receiving take home rations			✓		✓				
2.Nutrition support for vulnerable groups	Prevention of stunting for children under 2 years of age	✓	✓	✓		✓				
2.Nutrition support for vulnerable groups	Treatment of wasting: Children 6 to 59 months given food under supplementary feeding*	✓		✓						
2.Nutrition support for vulnerable groups	HIV/AIDS and TB beneficiaries of household food and nutrition support			✓						
3.Climate change adaptation and IGA	Resilience to climate shocks and support for livelihoods				✓	✓				
Total		2	1	5	1	4	0	0	0	0

*This activity was phased out in 2016.

framed by two different strategic plans: the 2018 interim country strategic plan (ICSP) and the 2019 to 2023 CSP. The activities of the ICSP and CSP closely resemble one another, justifying why their analysis has herein been grouped together.

table 5 demonstrates that under the current CSP, WFP activities largely target the food access (six activities) and food systems (five activities) determinants of the double burden, marking a shift in targeting relative to the previous period. Notably, the number of activities targeting food systems increased from one to five.

Challenges to addressing the double burden

WFP's role

As WFP's role and priorities have broadened—notably with an explicit priority for the double burden organisation-wide in 2017²⁰ and in-country in Ghana in 2018²¹—the question of whether actors in the nutrition landscape have also embraced this changing mandate remains critically relevant. While the above analysis demonstrates where WFP food aid and assistance potentially fits in the double burden of malnutrition question, interview participants provided their perspectives on where it *should* fit.

Most participants agreed that WFP should have *some* rather than no role to play concerning overweight and obesity, but some argued that WFP's role is and should be more passive (ie, a 'do no harm' approach to the obesity problem). Several officials both from Ghana and international organisations argued that food aid only has a small role to play in addressing overweight and obesity because other UN actors are better suited to address the structural drivers of overweight and obesity.

Insufficient government priority, attention and resources

Several participants spoke on what they see as insufficient priority towards addressing malnutrition in Ghana, the problems this poses for nutrition actors, and the constraints it places on UN agencies such as WFP as they attempt to integrate their work into existing government priorities.

Many participants discussed why malnutrition is not a prominent political issue. One official noted that the government of Ghana is incentivised to prioritise brick and mortar projects, such as building roads, that are more visible to citizenry than preventing malnutrition. Several others noted that malnutrition is more of a silent killer whose impact is overshadowed by diseases such as malaria and diarrhoea that present with acute sickness and require immediate medical attention.

Some informants connected the lack of government priority on malnutrition to insufficient or misguided knowledge about malnutrition at all levels of society. One official in Ghana discussed the challenge in explaining malnutrition and its urgency to families and policymakers who may, for example, believe stunted children are short because their parents are short.

Meanwhile, other participants in Ghana and in international organisations attributed slow progress in nutrition

to insufficient human and financial resources rather than to a lack of knowledge. One official in Ghana discussed challenges with resource allocation:

There is a bit of a dilemma because for years we've been struggling with undernutrition, especially in stunting, and we still have a quite high (burden), even though figures are coming down. It's a bit of a balancing act. We don't want to take away attention from stunting and other malnutrition issues. But at the same time, we do need to pay attention to the growing problem of overweight and obesity. (see online supplementary appendix 4 for additional quotations)

Participants did generally recognise that, while still insufficient, nutrition is receiving more visibility in Ghana's governmental agenda than in the past.

The compounding effect of poor data

Several participants described an absence of strong data on overweight and obesity in Ghana, with one nutrition officer discussing how limited data on overweight and obesity in her own district makes it difficult to meet her community's needs. Another official in Ghana argued that data on malnutrition indicators help health workers to appropriately target interventions and that the greater attention to undernutrition in Ghana relative to overweight and obesity may have resulted from data that is more readily available on undernutrition than on overweight and obesity: 'Of course we are aware that overnutrition is also prevalent. If you look at the top 10 causes of disease, you'll see stroke, diabetes and other things also coming up. So, we know it is a problem, but we don't have consistent data to speak to it'. Existing estimates in the literature corroborate this absence of strong data, with one systematic review and meta-analysis concluding that studies were too limited in six and seven of Ghana's 10 regions to estimate the prevalence of overweight and obesity, respectively.¹²

The experiences of other regions of the world provide support to the importance of data. One official gave the example of how a joint WFP-government stunting prevention programme in El Salvador called Nutrimos El Salvador was enhanced to prevent overweight and obesity because data illustrated a high burden of overweight and obesity in the population. The reorientation included strengthening the dietary diversity and social behavioural change communication components of the programme.

DISCUSSION

This analysis demonstrates that despite WFP being a non-traditional player in the double burden of malnutrition, its food aid and assistance activities may serve as a platform on which to address the double burden in Ghana—namely by targeting the food access, socioeconomic disadvantage and food systems determinants of the double burden. Even before the double burden was an explicit WFP

Table 5 WFP activities of CSP 2018–2023 by related determinant of the double burden of malnutrition

Component	Activity	Determinants of double burden of malnutrition							Addresses no determinant
		Early life nutrition	Lifestyle factors	Food access	Food systems	Socioeconomic disadvantage, inequality	Urbanisation, built environment	Epigenetics	
1.Nutrition support for vulnerable groups	Provision of take-home rations, nutrition education to girls*	✓	✓	✓	✓	✓			
1.Nutrition support for vulnerable groups	Commodity cash vouchers for pregnant women, children for stunting prevention, and PLHIV†‡	✓ x 2†		✓ x 3†					
1.Nutrition support for vulnerable groups	Capacity strengthening for nutrition counselling	✓							
2.Enhanced food systems	Technical support to community blended flour processors				✓				
2.Enhanced food systems	Financial and technical support to industrial processors				✓				
2.Enhanced food systems	Capacity building and equipment for smallholder farmers				✓	✓			
3.National capacity strengthening	Technical support to National School Feeding Programme		✓	✓	✓				
4.Support for policy coherence	Support for policy coherence		✓	✓	✓	✓			
Total		2	2	6	5	3	0	0	0

*This programme was phased out in 2018.

†The subactivities of this activity were considered as three distinct activities in CSP 2012–2017. For comparison to the previous period, a proportionate multiplication effect is adopted where necessary.

‡Commodity cash vouchers to people living with HIV (PLHIV) (a subactivity) was phased out in 2018.
WFP, World Food Programme.

priority in Ghana, WFP activities targeted several determinants. This observation suggests that food aid and assistance activities might inherently possess some potential to address the double burden. With this potential, WFP, to increase its impact on the double burden, might not need to implement new (or 'de novo') actions but rather might prioritise enhancing the capacity of existing activities to address the double burden. Retrofitting existing activities rather than implementing new activities provides a practical and likely less costly means by which WFP might better address the double burden. Retrofitting an activity might include, for instance, strengthening a programme's social behavioural change communication strategy to promote healthy food behaviours to prevent overweight and obesity, as was done in the aforementioned Nutrimos El Salvador programme. However, key informants' uncertainty with how they conceive what WFP's role should be might provide a challenge to WFP as it seeks to establish itself as a worthy counterpart in the fight to address the double burden, even if it has the capacity to contribute.

WFP's success in effectively addressing the double burden remains contingent on activities being delivered as intended. One challenge associated with the double burden is that activities that address undernutrition can sometimes inadvertently promote overweight and obesity by, for example, endorsing the high consumption of energy-dense but not necessarily nutritious foods.²² In Ghana's context, the WFP school meals programme was one activity of concern in this regard. WFP nutrition appraisals frequently questioned the consistency of the nutritious quality of the meals provided under this programme. These types of issues demand attention because inaction threatens delaying or even countering progress to combat the double burden.

Moreover, the insight gleaned from key actors in the nutrition landscape about the challenges to addressing the double burden (and particularly overweight and obesity) provides an interesting case for further investigation. The analysis from these interviews demonstrates that addressing the double burden effectively relies on intricate relationships between government institutions, UN agencies and other players that depends on these institutions aligning their priorities, being knowledgeable about the problem and having the resources and will to do something about it. The many moving parts of what it takes to address the double burden illustrate the difficulty of addressing the health issue effectively, especially from a governance perspective.

Limitations, delimitations and assumptions

This analysis is limited by several factors including: (1) the breadth of the WHO framework, (2) potential bias introduced through snowball sampling of key informants, (3) the absence of analysis on the actual health impact of WFP activities and (4) the omission of analysis related to micronutrient deficiencies.

The classification of WFP activities depended on the use of the WHO framework on the determinants of

the double burden. However, the framework's broad categories made it unlikely to classify an activity as not addressing any determinant of the double burden. The value of using this framework rests rather in the insight it provides on what domains related to the double burden are most targeted by WFP activities. Future analyses might consider the development or use of other frameworks to categorise activities.

Moreover, under the snowball sampling methodology, participants identified other participants. Thus, participants may have been linked through social networks, leading to potential sampling bias. Participants, for example, could have identified colleagues of theirs who share similar rather than opposing views. This analysis of insight from key actors was thus meant to generate (rather than test) hypotheses for future validation in Ghana or in another country's context.

While the above analysis demonstrates that WFP activities target many determinants of the double burden, it does not explore how effective these activities are in sustaining health impact. Given WFP's only recent explicit priority on the double burden in Ghana, evaluation data quantifying the impact of WFP activities on the double burden is not publicly available. The unknown nature of the long-term impact of WFP activities on the double burden suggests that future analysis (eg, cost-benefit analysis) should attempt to quantify the impact of activities that target different determinants. Such future analyses are critical because the effect of some WFP activities on Ghana's long-term nutrition trajectory may be minimal, particularly if they fail to address the root causes or systems-level challenges associated with the double burden. These future analyses should inform WFP programming in Ghana and similar contexts. One opportunity to conduct such analysis is by coupling a WFP 'cost of the double burden' study,²³ which has been done in WFP's Latin American and Caribbean region, with impact analysis.

Finally, this analysis fails to comment on efforts to address micronutrient deficiencies in Ghana. The double burden of malnutrition in many settings such as Ghana is marked by a coexisting burden of micronutrient deficiencies. While addressing micronutrient deficiencies is often combined with objectives to address undernutrition and thus also falls more under food aid's traditional mandate, further analysis on micronutrient deficiencies might provide a fuller picture on the role of food aid and assistance in addressing the double burden.

CONCLUSION

Rapidly changing nutritional burdens around the world force us to reconsider what it will take to combat malnutrition. The double burden phenomenon, in particular, presents paradoxes for food, health and nutrition policymakers. These challenges demand that institutions designed to address and prevent malnutrition reevaluate their approaches—from the USA, where the beneficiaries

of a federal food assistance programme designed to address food insecurity face disproportionately higher rates of overweight and obesity²⁴ to emergency settings, where some refugee populations face previously inconceivable high rates of overweight and obesity.²⁵ These examples illustrate that the consideration of the role of food aid and assistance in addressing the double burden is not just important in Ghana but also in many settings around the world.

This analysis shows that organisations such as WFP, who might be seen as non-traditional actors in the overweight and obesity debate, may actually possess the potential to address these complex issues through their existing programming. As the nutrition landscape becomes more complex, nutrition players must similarly adapt their approaches: forming new partnerships with non-traditional actors and strengthening old ones. The current nutrition landscape also demands exploring and addressing the challenges—related to data, agenda setting and sensitisation, among others—that may hinder progress to address malnutrition within each context. Under the backdrop of a compounding burden of overweight and obesity and a persisting burden of undernutrition, addressing shared determinants of these malnutrition issues presents a practical, synergistic means by which to amplify progress.

Acknowledgements We would like to acknowledge the contributions by Jørgen Torgerstuen Johnsen and Professor Sumantra Ray from the NNEdPro Global Centre for Nutrition and Health. Comments and guidance provided by the NNEdPro Global Centre played a key role in shaping the manuscript specifically for publication in BMJ Nutrition, Prevention and Health. We also thank Dr Christina Gibson-Davis and Alicia Groh, whose insights and suggestions were invaluable to this work.

Contributors NMT and KDB conceptualised the study. NMT analysed the data and drafted the article. KDB provided critical revision. NMT and KDB approved the final version.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests No, there are no competing interests.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data are available upon reasonable request. Qualitative data for policy analysis are available on the World Food Programme webpage. Please see <https://www.wfp.org/publications>. Interview data based on key informant interviews can be made available upon reasonable request.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

ORCID iD

Niisoja M Torto <http://orcid.org/0000-0003-4409-8938>

REFERENCES

- 1 FAO, IFAD, UNICEF, WFP, and WHO. *The state of food security and nutrition in the world: Safeguarding against economic slowdowns and downturns*, 2019.
- 2 Popkin BM, Corvalan C, Grummer-Strawn LM. Dynamics of the double burden of malnutrition and the changing nutrition reality. *Lancet* 2020;395:65–74.
- 3 Prentice AM. The double burden of malnutrition in countries passing through the economic transition. *Ann Nutr Metab* 2018;72:47–54.
- 4 World Health Organization. Double-duty actions for nutrition: policy brief. World Health organization, 2017. Available: <https://www.who.int/publications/i/item/WHO-NMH-NHD-17.2>
- 5 Hawkes C, Demaio AR, Branca F. Double-duty actions for ending malnutrition within a decade. *Lancet Glob Health* 2017;5:e745–6.
- 6 Hawkes C, Ruel MT, Salm L, et al. Double-duty actions: seizing programme and policy opportunities to address malnutrition in all its forms. *Lancet* 2020;395:142–55.
- 7 Nugent R, Levin C, Hale J, et al. Economic effects of the double burden of malnutrition. *Lancet* 2020;395:156–64.
- 8 World Food Programme [Internet]. Nutrition. Available: <https://www1.wfp.org/nutrition> [Accessed 1 Dec 2019].
- 9 Popkin BM, Adair LS, Ng SW. Global nutrition transition and the pandemic of obesity in developing countries. *Nutr Rev* 2012;70:3–21.
- 10 Branca F, Demaio A, Udomkesmalee E, et al. A new nutrition manifesto for a new nutrition reality. *Lancet* 2020;395:8–10.
- 11 Matilda Steiner-Assiedu SD, Newton SK. *World food programme and the John A. Jufour Foundation*, 2017.
- 12 Ofori-Asenso R, Agyeman AA, Laar A, et al. Overweight and obesity epidemic in Ghana—a systematic review and meta-analysis. *BMC Public Health* 2016;16:1239.
- 13 World Health Organization. Noncommunicable disease country profiles, 2018. Available: <https://apps.who.int/iris/handle/10665/274512>
- 14 Doku DT, Neupane S. Double burden of malnutrition: increasing overweight and obesity and stall underweight trends among Ghanaian women. *BMC Public Health* 2015;15:670.
- 15 World Health Organization. The double burden of malnutrition: policy brief, 2017. Available: [https://www.who.int/nutrition/publications/doubleburdenmalnutrition-policybrief/en/#:~:text=Overview,related%20noncommunicable%20diseases%20\(NCDs\)](https://www.who.int/nutrition/publications/doubleburdenmalnutrition-policybrief/en/#:~:text=Overview,related%20noncommunicable%20diseases%20(NCDs))
- 16 World Food Programme [Internet]. Country strategic planning. Available: <https://www.wfp.org/country-strategic-planning> [Accessed 1 Dec 2019].
- 17 Kallio H, Pietilä A-M, Johnson M, et al. Systematic methodological review: developing a framework for a qualitative semi-structured interview guide. *J Adv Nurs* 2016;72:2954–65.
- 18 Shawar YR, Shiffman J, Spiegel DA. Generation of political priority for global surgery: a qualitative policy analysis. *Lancet Glob Health* 2015;3:e487–95.
- 19 Thomas DR. A general inductive approach for analyzing qualitative evaluation data. *Am J Eval* 2006;27:237–46.
- 20 World Food Programme. Nutrition policy, 2017. Available: <https://docs.wfp.org/api/documents/a9d60cbcaa9a40aba847958837eb162c/download/>
- 21 World Food Programme. Ghana country strategic plan (2019–2023), 2018. Available: <https://www.wfp.org/operations/gh02-ghana-country-strategic-plan-2019-2023>
- 22 Garmendia ML, Corvalan C, Uauy R. Addressing malnutrition while avoiding obesity: minding the balance. *Eur J Clin Nutr* 2013;67:513–7.
- 23 Fernandez A, Martinez R. *The cost of the double burden of malnutrition: social and economic impact. summary of the pilot study in Chile, Ecuador and Mexico*. UN Economic Commission for Latin America and the Caribbean (ECLAC), 2017.
- 24 Nguyen BT, Shuval K, Bertmann F, et al. The supplemental nutrition assistance program, food insecurity, dietary quality, and obesity among U.S. adults. *Am J Public Health* 2015;105:1453–9.
- 25 Damiri B, Abualsoud MS, Samara AM, et al. Metabolic syndrome among overweight and obese adults in Palestinian refugee camps. *Diabetol Metab Syndr* 2018;10:34.
- 26 Pradeilles R, Baye K, Holdsworth M. Addressing malnutrition in low- and middle-income countries with double-duty actions. *Proc Nutr Soc* 2019;78:1–10.
- 27 Leatherman S, Dunford C. Linking health to microfinance to reduce poverty. *Bull World Health Organ* 2010;88:470–1.