Analysis of Nutrition-Sensitive Budget Allocations: Experience from 30 countries

MQSUN REPORT

11TH OF MARCH 2016

FINAL REPORT

ABOUT MQSUN

MQSUN aims to provide the Department for International Development (DFID) with technical services to improve the quality of nutrition-specific and nutrition-sensitive programmes. The project is resourced by a consortium of six leading non-state organisations working on nutrition. The consortium is led by PATH.

The group is committed to:

- Expanding the evidence base on the causes of undernutrition
- Enhancing skills and capacity to support scaling up of nutrition-specific and nutrition-sensitive programmes
- Providing the best guidance available to support programme design, implementation, monitoring and evaluation
- Increasing innovation in nutrition programmes
- Knowledge-sharing to ensure lessons are learnt across DFID and beyond.

MQSUN PARTNERS:

Aga Khan University
Agribusiness Systems International
ICF International
Institute for Development Studies
Health Partners International, Inc.
PATH

CONTACT

PATH, 455 Massachusetts Avenue NW, Suite 1000
Washington, DC 20001 USA
Tel: (202) 822-0033
Fax: (202) 457-1466

ABOUT THIS PUBLICATION

This report was produced by Robert Greener, Clara Picanyol, Ana Mujica and Stephanie Allan from Oxford Policy Management, in partnership with Patrizia Fracassi and William Knechtel from the SUN Movement Secretariat, through the UKGovernment's Department for International Development (DFID)-funded MQSUN project.

This document was produced through support provided by UKaid from the Department for International Development. The opinions herein are those of the author(s) and do not necessarily reflect the views of the Department for International Development.

TABLE OF CONTENT

ACKNOWLEDGEMENTS

This authors would like to thank in particular Patrizia Fracassi from the SUN Movement Secretariat for guiding this work and providing thorough comments to previous versions of this paper, as well as William Knechtel for extensive data review and validation based on countries' submissions. This report is only possible thanks to the work of 30 countries that carried out a budget analysis of potential nutrition relevant allocations in 2015. We thank them for sharing their experience and data and providing invaluable insights into in-country financial reporting processes. We would also like to thank Monica Kothari from PATH for careful review and comments. This version also benefitted from the discussions at the meeting hosted by FAO on the 2nd of February 2016 on "Nutrition-sensitive agriculture: Sharing lessons on costing, financial tracking and economic financial analysis", as well as at the technical consultation on the 3rd and 4th of November 2015 and on budget analysis on nutrition co-hosted by SPRING and R4D. Errors and interpretations remain the sole responsibility of the authors.

LIST OF ABBREVIATIONS

DFID	Department for International Development
FAO	Food and Agriculture Organisation
GDP	Gross Domestic Product
GGE	General Government Expenditure
H&N	Health and Nutrition
MQSUN	Maximising the Quality of Scaling Up Nutrition
M&CHC	Maternal and Child Health Care
NCD	Non-communicable diseases
OPM	Oxford Policy Management
SUN	Scaling Up Nutrition
UNICEF	United Nations International Children's Emergency Fund
WASH	Water, Sanitation, and Hygiene
WATSAN	Water and Sanitation
WEO	World Economic Outlook
WHO	World Health Organization

EXECUTIVE SUMMARY

There are increasing demands to estimate the financing of nutrition interventions at the country level, as well as to have a better understanding on the composition of this financing, particularly the budgets allocated by governments to nutrition interventions. Thanks to the data collected and shared by 30 SUN Countries in 2015, we can present the emerging estimates on how much countries are allocating to nutrition interventions, and discuss potential relations with nutritional outcomes or relevant factors, such as ability to pay and population size.

Methodology

We build on the synthesis report on the Budget Analysis (Fracassi et al, 2015) and examine the categorisation of nutrition budget line items prepared by countries, and analyse it across the five key sectoral domains identified in the 2014 Global Nutrition Report (health, education, agriculture, social protection, agriculture and WASH). Within each thematic sector, the SUN Secretariat was able to sub-classify items by 'typology', i.e., an additional layer of classification grouping budget line items by 'type' of intervention.

As the level of disaggregated data is often unavailable in many national budgets or not easily accessible, a number of assumptions need to be made to standardise the existing data. For example, when budget line items reflected a broader intervention such as an integrated programme for Maternal and Child Health, countries were invited to assign a "weight" as a proxy of the proportion of a particular budget line item that is contributing to nutrition outcomes. An analysis of the weights assigned by 14 countries shows that there is some consistency in the weights countries have assigned to nutrition-sensitive interventions, with the median being 25% for all identified sectors. There is also similar consistency when budget lines are further sub-classified into typologies, so by type of intervention within thematic level.

We extrapolated the mean and the median of each typology from the 14 countries available (accounting for approximately 50% of the budget lines) to determine the values of weights for the remaining budget lines in the analysis to be able to calculate estimates of total weighted expenditure for a set of 24 countries.

To account for different size economies, we standardise the data presenting the allocations as percentage of countries' General Government Expenditure (GGE) and per capita with data from the IMF database.

We use the data from the Global Nutrition Report on nutritional outcomes to plot it against nutrition-sensitive allocations.

Estimates on nutrition-sensitive budget allocations

We find that the sum of all nutrition-sensitive budget lines for all sectors represents about 1.7% of total GGE across 24 countries, and about USD 4.4 per capita. There is however a large degree of variation, from 0.01% to possible more than 7% of government budget. Similarly, allocations per capita vary from just 10 cents to up to USD 57 per capita. This is by no means a ranking and may reflect significant policy difference between the countries, different weighting applied or different levels of nutritional burden.

With the available data, it appears that the sector that contributes the most is social protection, followed by agriculture and then health. Broken down by typology, the highest budget allocations were reported in items classified as cash transfers or safety nets, water and sanitation, school meals and health and nutrition education. It is these types of interventions that account for the largest proportion of nutrition-sensitive allocations and is therefore important to pay closer attention in its programme design and potential areas of improvement.

Potential basis for establishing benchmarks

There are on-going discussion into the possibility of establishing indicative benchmarks or targets on how much countries should be allocating to nutrition, not only for the high-impact nutrition-specific interventions but also on wider nutrition investments including nutrition-sensitive interventions in the five key sectoral domains. We explore the extent to which budget allocations have been related to ability to pay, nutritional or intermediate outcomes, and the level of nutrition-specific budget allocations, showing potential correlations between the variable used.

With the limited data available, we have found no significant correlation of nutritional outcomes with either the total or the sectoral weighted allocations. This may not be seen as surprising since there expenditures are all part of the other sectoral spending, and are thus more likely to be driven by other sectoral policy concerns.

To explore the degree to which allocations may be related with the ability to pay, we plot nutrition-sensitive allocations against general government expenditure per child under 5. There is significant evidence that higher-income countries are allocating more per child under-5 than lower-income countries, as one might expect. We suggest that this association may form a useful basis for a benchmark to guide nutrition-sensitive allocations, based on the normalised ability to pay measure. This question may be answered more fully if it were possible to expand the available dataset and the analysis can be updated as more data becomes available.

1. INTRODUCTION

There are increasing demands to estimate the financing of nutrition interventions at the country level, as well as to have a better understanding on the composition of this financing, particularly the budgets allocated by governments to nutrition interventions. There are also on-going discussions into the possibility of establishing indicative benchmarks or targets on how much countries should be allocating to nutrition, not only for the high-impact nutrition-specific interventions but also on wider nutrition investments including nutrition-sensitive interventions in the five key sectoral domains identified in the 2014 Global Nutrition Report.

This paper aims to identify patterns and trends in the data provided by SUN member countries on budget allocations to nutrition. The two questions we seek to respond to are:

- What are the emerging estimates on how much countries are allocating to nutrition-sensitive interventions?
- How do these estimates relate to indicators of nutritional outcomes or economic factors which might provide a basis for potential benchmarks?

This paper aims to contribute to this debate exploiting existing data. It builds on the synthesis report on the Budget Analysis (Fracassi et al, 2015) and links allocations with outcomes data. We expect findings to be updated as more and better data become available.

We would like to be clear from the outset on the caveats of the underlying raw data as well as the risks in the use of the results:

- The averages or patterns found should only be seen as indicative and should not be used to compare countries.
- It is important to zoom into the detail before jumping into any conclusions, as often results can be driven by just a few observations.
- Each country will have a different strategy to tackle malnutrition. Global averages or patterns may not be relevant in all cases.
- While we have aimed to normalise data, the various data sources used contained significant gaps, meaning that the denominators also suffer from data quality.

However, we believe the analysis provides important insights into countries investments in tackling malnutrition, and can assist in improving the quality of the data over time.

In Section 2, we explain the data sources. In Section 3, the report presents:

- The average and median weight given by country by thematic sector and typology, as well as the minimum and maximum weight, and,
- The weighted nutrition-sensitive budget allocations as percentage of General Government Expenditure (GGE) by country, by thematic sector and typology.

In Section 4, we explore the extent to which budget allocations have been related to ability to pay, nutritional or intermediate outcomes and the level of nutrition-specific budget allocations, showing potential correlations between the variables used. We conclude in Section 5.

2. DATA SOURCES

2.1 Data on budget allocations to nutrition

In 2015, the SUN Movement collected data on budget allocations on nutrition interventions for 30 SUN Countries that voluntarily responded to a Call for Interest to accelerate efforts to track financial resources for nutrition. Among the objectives of the exercise, which included understanding better how investments can improve their effectiveness and reach as well as building evidence for advocacy, the data resulting from it was also meant to contribute to understanding patterns and shape of nutrition interventions at the country level.

Countries were asked to identify and categorise nutrition interventions (between nutrition-specific and nutrition-sensitive). In addition, for the budget line items categorised as nutrition-sensitive, countries were asked to attach a 'weight' (between 0-100%) to each budget line identified as a proxy of the proportion of a particular budget line item that is contributing to nutrition outcomes, determined through in-country expert judgement, document review and/or key informant interview.[1]

The resulting data was reported in the 2015 Global Nutrition Report.

From the 30 countries, we excluded 6 for the following reasons[2]:

- Cote d'Ivoire, Lesotho, Togo and Uganda – different datasets were submitted and was not possible to confirm which are on-budget government allocations, or in some cases to clarify the currency and unit.
- Cameroon and Maharashtra – the IMF does not report on Government General Expenditure so was not possible to standardise for the analysis.

2.2 Macro-fiscal data by country

Estimates of population, gross domestic product (GDP) and general government expenditure (GGE) at constant prices were taken from the October 2015 database of the World Economic Outlook (WEO) from the IMF. Exchange rates were also estimated from the WEO, by dividing the GDP estimates in national currency by those in US dollars.

The analysis presented below makes use primarily of the GGE estimates, which represent the total resources available to government.

2.3 Data on national nutrition burden

Estimates of prevalence for stunting, wasting, extreme wasting and overweight were taken from the GNR database, which also provided estimates of the national population under-5. These were used in order to represent the overall nutritional burden ("size of the problem") faced by countries. The under-5 population was also used as a first estimate of population at risk. In

[1] The exercise is based on background research on tracking expenditures on nutrition at the international and at country level. Published material is available at http://scalingupnutrition.org/resources-archive/financial-tracking-resource-mobilization/budget-analysis and further references available on request.

[2] Further details on data queries for each country available on request.

addition, the GNR database was also used for indicators on undernourishment, female enrolment, density of nurses and midwifes, rate of poverty and improved drinking coverage.[3]

2.4 Standardising the classification of budget line items

2.4.1 Classifying budget line items by thematic sector

Each country submitted an excel spreadsheet with all the budget line items identified, the amount allocated in the budget in their national currency, as well as whether it fell under the category of nutrition-specific or nutrition-sensitive. With this, the countries representatives and the SUN Movement Secretariat was able to group budget line items into the five key sectoral domains identified in the 2014 Global Nutrition Report (Haddad et al): health, agriculture, education, social protection and WASH.

2.4.2 Classifying budget line items by "typology"

In order to add an additional layer or granularity into the "type" of budget line items identified, the SUN Movement Secretariat was able to sub-categorise these into "typologies" within each thematic sector. For example, within the health sector, budget line items can be classified into the following typologies: food safety, child immunisation, integrated maternal and child health care, etc. All the typologies by sector and their explanatory note are provided in Annex A.

[3] Further details on each indicator is available in the GNR website, in particular in Technical Note 1 accompanying the dataset and available at http://globalnutritionreport.org/files/2014/11/gnr14_tn_n4g_01nutrition_country_profile.pdf

3. DATA ANALYSIS

3.1 Using 'weights' to estimate total budget allocations contributing to nutrition outcomes

Some nutrition-specific budget line items are straightforward to track. They may include a specified activity of an integrated program or a specified intervention/activity that clearly refers to high-impact nutrition actions as described in the 2013 Lancet Nutrition Series. The "weighting" is not required when national budgets are disaggregated to a sufficient level to allow a clear delineation of the budget amounts contributing to nutrition outcomes (e.g. Guatemala, Peru). When this is the case, the breakdown of budget line items provides enough detail to attribute a budget line item as nutrition-specific or nutrition-sensitive.

However, this level of disaggregated data is often unavailable in many national budgets or not easily accessible. Most often, the budget line items will reflect a broader intervention such as an integrated programme for Maternal and Child Health. In these cases, we can assign a 'weight' as a proxy of the proportion of a particular budget line item that is contributing to nutrition outcomes. The way to estimate the 'weight' is based on its activity breakdown, which is determined through document review, key informant interview, etc.

If a budget line item could not be broken down into separate activities, countries applied either 25% across the board for nutrition-sensitive budget line items or another weight between 0% and 100% based on their own judgement.

3.2 Nutrition-sensitive weightings

The values of the weights were provided for 14 out of the 24 countries in the dataset, and about 50% of the budget lines that were surveyed. Note that this includes the case of Guatemala and Peru, who did not carry out a weighting exercise, but where weighting was not required as the national budgets are disaggregated to a sufficient level to allow a clear delineation of the budget amounts contributing to nutrition outcomes. For this reason, a weight of 100% was applied to the budget lines from Peru and Guatemala (approximately 5% of the total number of budget lines), but these were not used in order to calculate the averages described below, since this would distort the analysis in countries where a disaggregation of this kind was not possible.

The variation of values provided for the weights is summarised in Table 1, showing the minimum, maximum, mean and median values of the weights for each of the primary thematic sectors (across the years 2010-2015). The second and third columns show for each sector the number of countries represented in the dataset, and the number of countries who reported values for the weights. The fourth and fifth columns show the number of budget lines in the dataset, and the number for which a weight was provided.

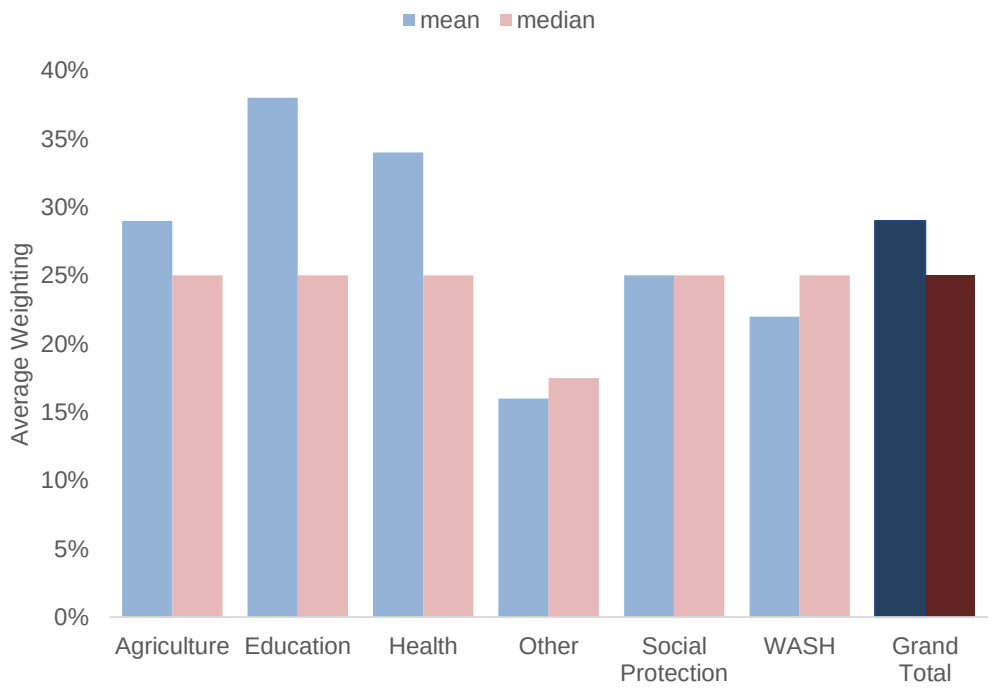
The average is presented as a mean (in the 8th column), rounded to the nearest percentage point, and by the median (in the final column). The average weightings were very similar across the sectors, all reporting a median of 25% except for the "Other" category which was lower. The mean weights were in general higher than the median values. Mean weights were highest for

education, followed by health and agriculture, and lowest for WASH. The values of the average weights are also summarised in Figure 1.

Table 1: Average weights by thematic sector for dataset of 14 countries

	Number of countries		Budget lines		Reported weights			
Thematic sector	**In dataset**	**With weights**	**In dataset**	**With weights**	**Smallest**	**Largest**	**Mean**	**Median**
Agriculture	23	14	745	341	1%	100%	29%	25%
Education	18	10	131	52	5%	100%	38%	25%
Health	24	14	421	170	5%	100%	34%	25%
Other	7	4	27	10	1%	25%	16%	18%
Social Protection	20	11	248	126	1%	100%	25%	25%
WASH	21	12	260	170	3%	100%	22%	25%
Grand Total	**25**	**14**	**1,832**	**869**	**1%**	**100%**	**29%**	**25%**

Figure 1: Average weights by thematic sector



There was also considerable variation of the values assigned to weights by countries for the different categories of typology, as shown in Table 2, rounded in the same way as for Table 1, and showing only those typologies that were assigned weights by three or more countries.

Table 2: Average weights by typology

		Number of countries		Budget lines		Reported weights			
Thematic sector	**Typology**	**In dataset**	**With weights**	**In dataset**	**With weights**	**Smallest**	**Largest**	**Mean**	**Median**
Agriculture	**Agriculture**	**23**	**14**	**745**	**341**	**1%**	**100%**	**29%**	**25%**
	Agriculture Production Development	15	10	231	111	5%	75%	30%	25%
	Agriculture Production Non-Staples	8	5	40	14	10%	75%	35%	25%
	Agriculture Services	8	5	30	14	5%	50%	18%	10%
	Fishery	10	5	95	30	5%	50%	27%	25%
	Food Safety	6	3	23	10	25%	75%	50%	50%
	Food Security	18	11	150	80	1%	100%	33%	25%
	Livestock	11	8	143	59	5%	75%	26%	25%
	Other	1	0	1	0	N/A	N/A	N/A	N/A
	Rural Development	10	7	32	23	3%	25%	22%	25%
Education	**Education**	**18**	**10**	**131**	**52**	**5%**	**100%**	**38%**	**25%**
	Early Child Development	5	3	9	5	10%	50%	24%	25%
	Education Access for All	6	2	19	10	N/A	N/A	N/A	N/A
	Education Closing Gender Gap	3	0	35	0	N/A	N/A	N/A	N/A
	Education Generic	2	2	5	3	N/A	N/A	N/A	N/A
	H&N Education	5	2	8	4	N/A	N/A	N/A	N/A
	Other	2	1	5	1	N/A	N/A	N/A	N/A
	School Meals	9	5	50	29	25%	100%	46%	25%
Health	**Health**	**24**	**14**	**421**	**170**	**5%**	**100%**	**34%**	**25%**
	Basic Health Care Generic	13	7	81	48	6%	25%	21%	25%
	Food Safety	5	4	21	6	5%	25%	22%	25%
	H&N Education	4	1	9	1	N/A	N/A	N/A	N/A
	Immunization	10	7	21	16	25%	100%	66%	63%
	Infectious Diseases	16	10	119	54	5%	75%	27%	25%
	Integrated M&CHC	6	3	97	8	25%	75%	38%	25%
	NCD	6	5	10	9	10%	25%	23%	25%
	Other	3	1	10	2	N/A	N/A	N/A	N/A
	Reproductive Health	11	7	43	26	25%	100%	52%	50%
Other	**Other**	**7**	**4**	**27**	**10**	**1%**	**25%**	**16%**	**18%**
	Governance	1	0	12	0	N/A	N/A	N/A	N/A
	Other	7	4	15	10	1%	25%	16%	18%
Social Protection	**Social Protection**	**20**	**11**	**248**	**126**	**1%**	**100%**	**25%**	**25%**
	Cash Transfer/ Safety Nets	10	4	39	13	5%	50%	18%	25%
	Humanitarian / Emergency Relief	5	4	16	10	10%	50%	30%	25%
	Other	1	0	1	0	N/A	N/A	N/A	N/A
	Social Protection Children	5	3	14	5	5%	50%	20%	20%
	Social Protection Generic	14	10	89	46	5%	100%	30%	25%
	Social Protection Women	12	7	53	30	1%	50%	24%	25%
	Welfare Services Generic	3	2	4	3	N/A	N/A	N/A	N/A
	Welfare Services M&C	4	1	10	4	N/A	N/A	N/A	N/A
	Welfare Services OVC	7	6	22	15	5%	50%	26%	25%
WASH	**WASH**	**21**	**12**	**260**	**170**	**3%**	**100%**	**22%**	**25%**
	Drinking Water Supply	13	9	73	50	10%	100%	26%	25%
	Promotion of Sanitation and Hygiene	5	5	16	14	5%	25%	19%	25%
	Sanitation Only	5	2	15	6	N/A	N/A	N/A	N/A
	Water Supply Generic	11	7	67	41	3%	50%	16%	10%
	WATSAN	14	9	89	59	10%	50%	26%	25%
Grand Total		**25**	**14**	**1832**	**869**	**1%**	**100%**	**29%**	**25%**

3.3 Estimates of weighted nutrition-sensitive budget allocations

In order to estimate the weighted nutrition-sensitive budget allocations also for those budget line items where no weights was provided by countries, we used the average typology weights show in Table 2 as default values for the missing weights. Note that this procedure was necessary for the 50% of the budget lines sampled which did not have a weight attributed by the countries themselves.[4]

The procedure was repeated in order to provide a sensitivity analysis – once using the mean weights per typology, and again using the median weights per typology. Recall that in Table 2 we only calculated the 'mean' and 'median' for those typologies that were assigned weights by 3 or more countries. To complete the estimates for missing values (where no countries reported a weight for the budget lines within a typology), the analysis that follows substituted a default value taken from the average weight for the sector within which the typology appears. This applied to 17 of the remaining typologies not shown in the table.

In this way, a weight was estimated for every budget line. These weights were then multiplied by the budget allocation (or expenditure amount where available) in order to give an estimate of the weighted nutrition-sensitive expenditure for each country and within each thematic sector and typology.

For ease of comparison between countries with very different-sized economies, the data have been expressed as a percentage of the total government budget and per capita, reported by the IMF as General Government Expenditure (GGE) and population.

3.3.1 Nutrition-sensitive budget allocations by country

The resulting estimates of weighted nutrition-sensitive budget allocations aggregated by country are shown in Table 3. The table uses the most recent estimates of allocations, and the GGE and population from the same year reported by the IMF.

Note the large degree of variation between countries – from 0.01% to possibly more than 7% of the government budget, with an overall average of about 1.6%-1.7% of GGE. Similarly, allocations per capita vary from just 10 cents to up to $57 per person. This may reflect significant policy difference between the countries, different weightings applied by the countries, or different levels of nutritional burden in terms of stunting, wasting and overweight prevalence.

It is also important to note that the delineation of nutrition-sensitive interventions was also based on a judgement call by in-country experts, so some countries may have excluded some interventions that other have included, given different national nutrition strategies or operationalisation on the ground.

With regards to the sensitivity analysis, note that the estimates using the median weights are usually slightly smaller than those that use the mean weights. The overall difference across the 24 countries is very small, about 0.03% of GGE and 3 cents per capita.

[4] Note that this excludes the budget line items reported by Peru and Guatemala, where a weighting of 100% was applied since the national budgets are disaggregated to a sufficient level to allow a clear delineation of the budget amounts contributing to nutrition outcomes.

Table 3: Weighted budget allocations by country

	Weighted allocation, per-capita		Weighted allocation, %GGE	
Country	**Mean weights**	**Median weights**	**Mean weights**	**Median weights**
Bangladesh	$3.16	$2.73	2.09%	1.80%
Benin	$2.39	$2.39	1.38%	1.38%
Burkina Faso	$1.41	$1.41	0.75%	0.74%
Burundi	$1.14	$1.14	1.15%	1.15%
Chad	$3.95	$3.95	1.49%	1.49%
Comoros	$10.30	$10.30	4.84%	4.84%
Costa Rica	$33.84	$33.84	1.68%	1.68%
DRC	$0.31	$0.30	0.63%	0.61%
Gambia	$1.30	$1.13	1.06%	0.92%
Ghana	$5.09	$3.99	1.21%	0.95%
Guatemala	$37.60	$37.60	7.78%	7.78%
Indonesia	$2.82	$2.82	0.43%	0.43%
Kenya	$2.40	$2.40	0.64%	0.64%
Madagascar	$0.62	$0.59	0.96%	0.91%
Mauritania	$8.89	$8.89	2.08%	2.08%
Nepal	$4.02	$4.02	3.11%	3.11%
Pakistan	$1.82	$1.96	0.69%	0.75%
Peru	$57.56	$57.56	4.02%	4.02%
Philippines	$2.22	$2.63	0.38%	0.45%
South Sudan	$1.50	$1.06	0.47%	0.33%
Tajikistan	$8.00	$7.85	2.58%	2.54%
Vietnam	$0.07	$0.07	0.01%	0.01%
Yemen	$5.77	$5.77	1.36%	1.36%
Zambia	$0.53	$0.53	0.12%	0.12%
Average	**$4.43**	**$4.40**	**1.70%**	**1.67%**

3.3.2 Nutrition-sensitive budget allocations by thematic sector

Table 4 shows the most recent weighted budget allocation as percentage of General Government Expenditure by thematic sector. This estimates how much nutrition-sensitive budget lines represent of total General Government Expenditure for each sector. It must however be borne in mind that the set of countries reporting in each sector is not the same (although there is substantial overlap), so direct comparison between the sectors may not stand up to further investigation, and these estimates should not be interpreted as benchmarks for nutrition-sensitive budget allocations in sectors. In addition, the total of the sectors does not represent the total in any representative country, since not all countries allocate in all of the sectors. The totals are thus about 0.1% larger than the country totals shown in Table 3 (which represents the actual totals in this set of countries).

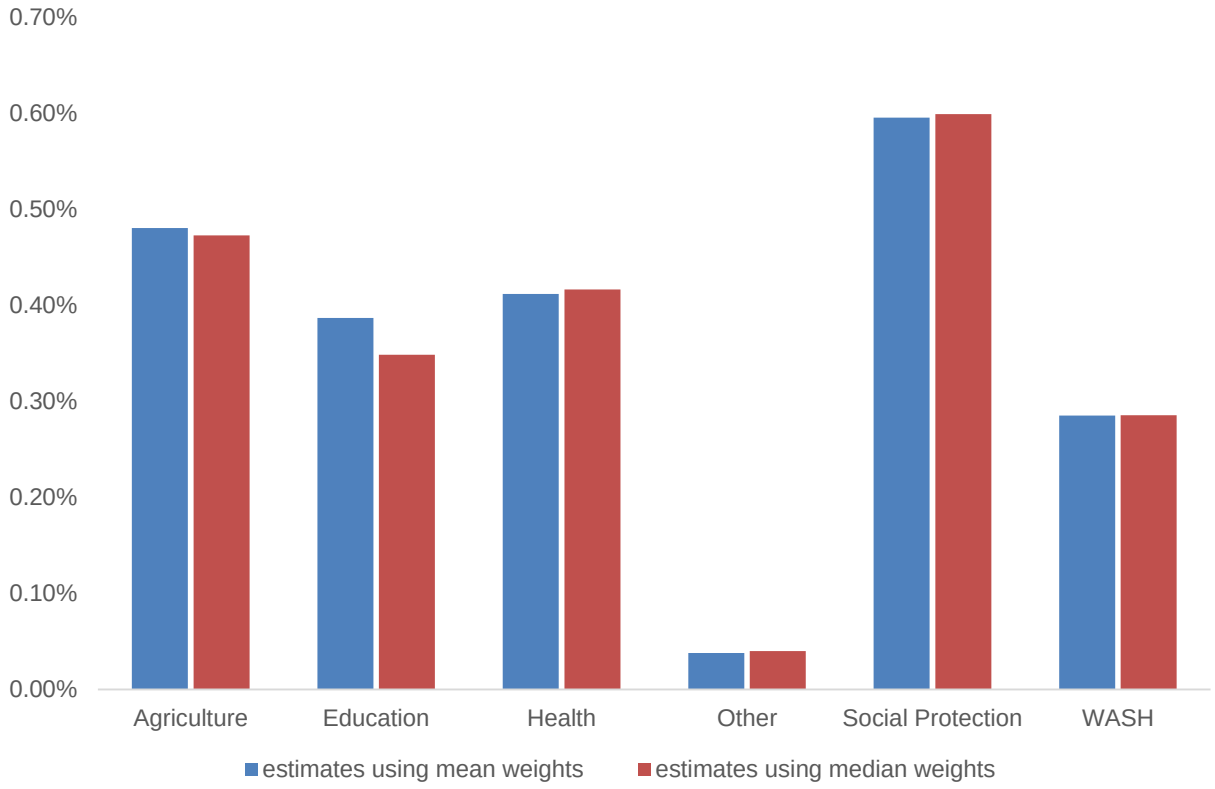
The Social Protection sector shows the highest weighted budget allocation in both cases, followed by agriculture and then health.

Table 4: Weighted budget allocations by thematic sector

	Weighted allocation, % GGE	
Thematic sector	**Mean weights**	**Median weights**
Agriculture	0.48%	0.47%
Education	0.39%	0.35%
Health	0.41%	0.42%
Other	0.04%	0.04%
Social Protection	0.60%	0.60%
WASH	0.29%	0.29%
Grand Total	**1.81%**	**1.79%**

Figure 2 illustrates the variation between sectors.

Figure 2: Weighted budget allocations by thematic sector (% GGE)



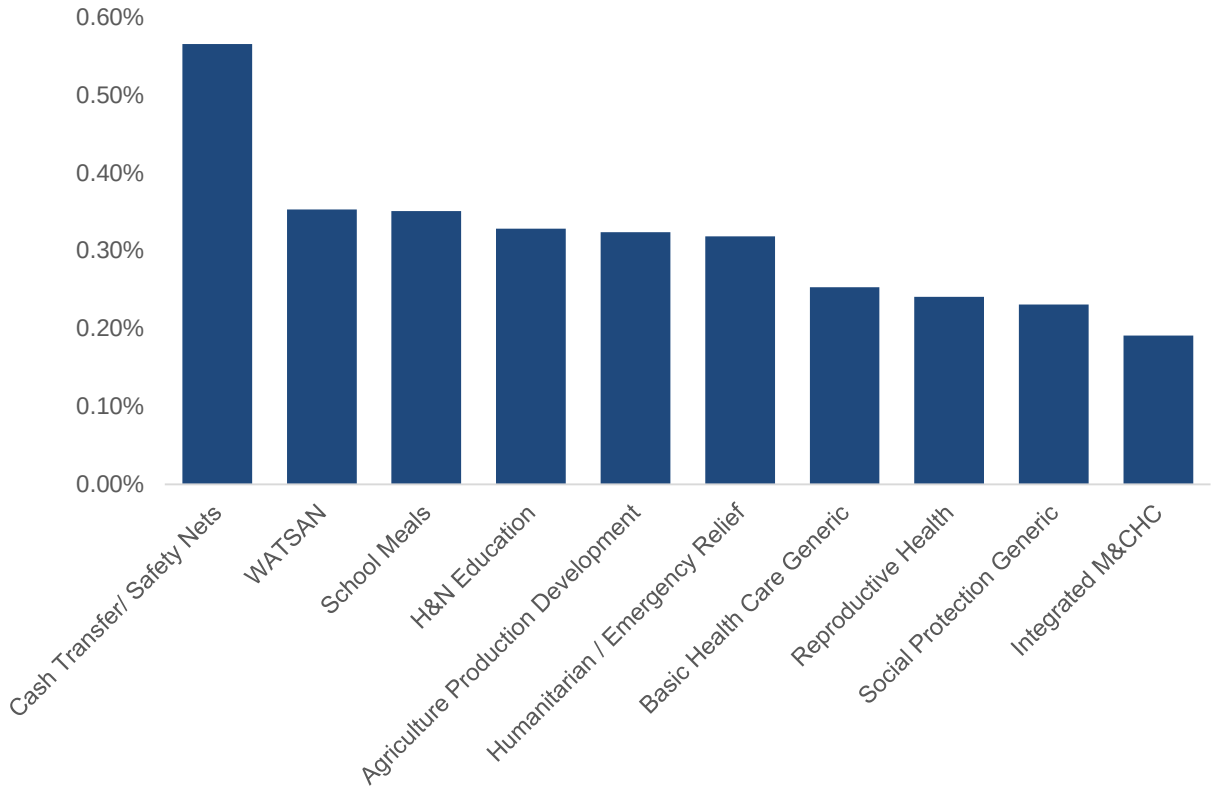
3.3.3 Nutrition-sensitive budget allocations by typology

The most recent estimates of weighted nutrition-sensitive expenditure by typology categories are shown in Table 5, which illustrates the typologies that are the main drivers of expenditure within each sector. As before, the table is restricted to those typology categories where there were more than three reporting countries. As can be seen, the highest expenditure as proportion of the most recent GGE estimate was reported in the categories of cash transfer / safety nets, humanitarian / emergency relief, Water and Sanitation (WATSAN), and school meals. The ten most important typologies based on the most recent estimates for typology categories with more than 5 reporting countries (using mean weights) are illustrated in Figure 3.

Table 5: Weighted budget allocations by typology (% GGE)

		Weighted allocation, % GGE	
Thematic sector	**Typology**	**Mean weights**	**Median weights**
Agriculture	**Agriculture**	**0.48%**	**0.47%**
	Agriculture Production Development	0.32%	0.32%
	Agriculture Production Non-Staples	0.06%	0.06%
	Agriculture Services	0.04%	0.04%
	Fishery	0.04%	0.04%
	Food Safety	0.04%	0.04%
	Food Security	0.19%	0.18%
	Livestock	0.07%	0.07%
	Other	N/A	N/A
	Rural Development	0.03%	0.03%
Education	**Education**	**0.39%**	**0.35%**
	Early Child Development	0.02%	0.02%
	Education Access for All	0.09%	0.08%
	Education Closing Gender Gap	0.08%	0.05%
	Education Generic	N/A	N/A
	H&N Education	0.33%	0.30%
	Other	N/A	N/A
	School Meals	0.35%	0.30%
Health	**Health**	**0.41%**	**0.42%**
	Basic Health Care Generic	0.25%	0.26%
	Food Safety	0.00%	0.00%
	H&N Education	0.02%	0.02%
	Immunization	0.10%	0.10%
	Infectious Diseases	0.05%	0.05%
	Integrated M&CHC	0.19%	0.19%
	NCD	0.01%	0.01%
	Other	0.13%	0.13%
	Reproductive Health	0.24%	0.24%
Other	**Other**	**0.04%**	**0.04%**
	Governance	N/A	N/A
	Other	0.03%	0.03%
Social Protection	**Social Protection**	**0.60%**	**0.60%**
	Cash Transfer/ Safety Nets	0.57%	0.59%
	Humanitarian / Emergency Relief	0.32%	0.31%
	Other	N/A	N/A
	Social Protection Children	0.00%	0.00%
	Social Protection Generic	0.23%	0.22%
	Social Protection Women	0.01%	0.01%
	Welfare Services Generic	0.01%	0.01%
	Welfare Services M&C	0.00%	0.00%
	Welfare Services OVC	0.02%	0.02%
WASH	**WASH**	**0.29%**	**0.29%**
	Drinking Water Supply	0.07%	0.07%
	Promotion of Sanitation and Hygiene	0.00%	0.00%
	Sanitation Only	0.03%	0.03%
	Water Supply Generic	0.02%	0.02%
	WATSAN	0.35%	0.35%
Grand Total		**1.81%**	**1.79%**

Figure 3: Weighted expenditure as % GGE in the top 10 typologies



3.1.1 Nutrition-sensitive budget allocations as a proportion of sectoral budgets

Another potentially interesting analysis would be to estimate the nutrition-sensitive budget allocations by sector with respect to the relative weight of the sector in the budget. This would allow us to search for potential relationships between the relative weight of a particular sector in terms of nutrition-sensitive allocations versus the weight of that sector in the budget. However, we were not able to find sectoral budgets for enough countries or relevant years to make the analysis credible.

4. ESTABLISHING BENCHMARKS

It may be possible to establish benchmarks that are based on a comparison across countries, and the degree to which the budget allocations may be related to economic or other factors. In order to develop suitable criteria that might be used for benchmarking, we investigated the extent to which the nutrition-sensitive allocations might be related to:

- The ability to pay, represented by the General Government Expenditure (GGE), which is an expression of the total fiscal space available in the country;
- Indicators of nutritional outcomes such as stunting, which may proxy for the need to invest in nutrition-sensitive programmes;
- Intermediate outcomes that are specific to sectors and known to be important for nutrition, such as female educational enrolment and levels of poverty;
- The allocation for nutrition-specific programmes, which may proxy for the importance attached to nutrition by government

4.1 Relation between weighted budget allocations and nutritional outcomes

We first examine the extent to which nutrition-sensitive budget allocations are driven by ability to pay (as represented by the size of the overall budget, or GGE) and the measures of nutritional outcomes – in particular the prevalence of stunting which represents the accumulated effect of under-nutrition over a 5-year period.

It is unfortunate that there are significant data gaps with regard to the main nutritional burden measures – stunting, overweight, wasting and extreme wasting. Of the 24 countries for which we have analysed nutrition-sensitive budget allocations, only 9 countries also have point estimates for at least one recent year of stunting, 8 have estimates of overweight and wasting, and 7 have estimates of extreme wasting.[5] This means that it is very difficult to find evidence of a pattern that would apply across all countries.

In order to increase the number of observations somewhat and in particular increase the number of matches between stunting data and data on allocations, we have made use of the most recent values of variables in all cases. Although this means that the measures of weighted allocation and outcome variables may not be for the same year, they are generally within 2-3 years of each other, and this method does allow for a full set of 24 countries in most cases.

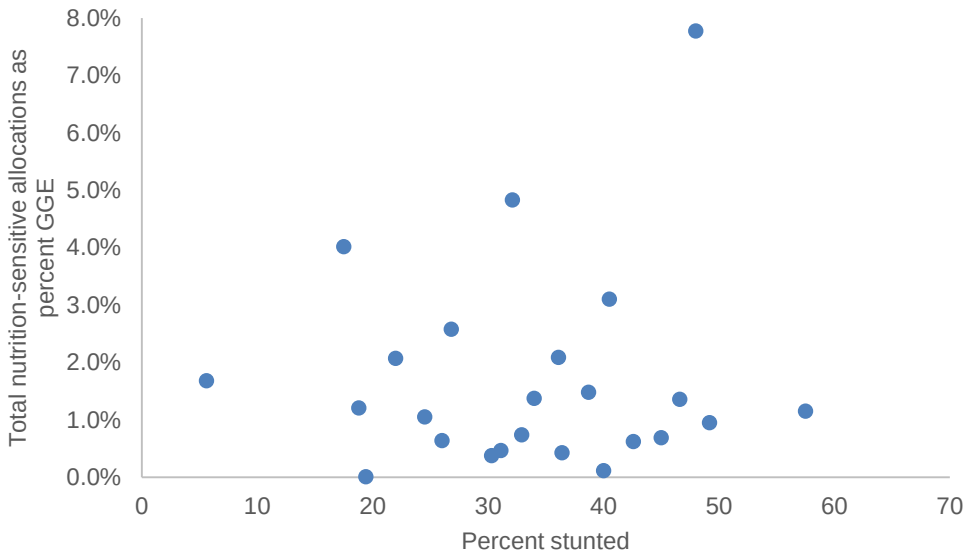
In the case of stunting, our *a-priori* expectation would be that budget allocations are positively correlated with current levels of stunting, and negatively correlated with future levels of stunting. That is that current levels of stunting would be negatively correlated with the levels of budget allocations over the last 5-10 years and conversely, we might expect that current high levels of stunting may motivate higher budget allocations in order to reduce them in the future.

Unfortunately the data set contains a mixture of the two cases, and it is possible that the two effects (if they exist) may cancel each other out.

[5] For one year only in all cases except Bangladesh, which has measures for up to 3 years between 2010-2015.

4 below shows a scatter-plot of the available allocation data against the most recent data on stunting prevalence. As can be seen, there is no significant association between the two variables and a wide scatter of observations suggesting that any effects present may well be cancelling each other. It will be necessary to collect more comprehensive time-series data of both variables in order to investigate further.

Figure 4: Total weighted allocations and stunting



4.2 Relation between sectoral weighted allocations and intermediate outcomes

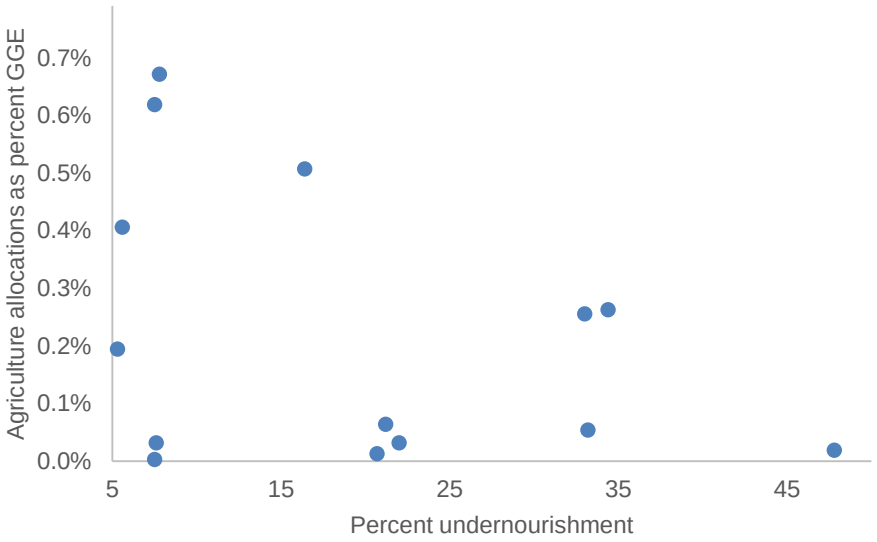
Figure 4 shows no relation between stunting and total weighted allocations. It may however be argued that since there is a complex causal pathway between nutrition-sensitive investments and the measures of nutritional outcomes, we should not expect to find a simple correlation. We therefore looked briefly at possible associations between the sector-specific budget allocations and intermediate outcomes that are more relevant to the particular sector and are known to be associated with beneficial nutritional outcomes.

Figure 5 shows corresponding sample of scatter plots for the five sectors:

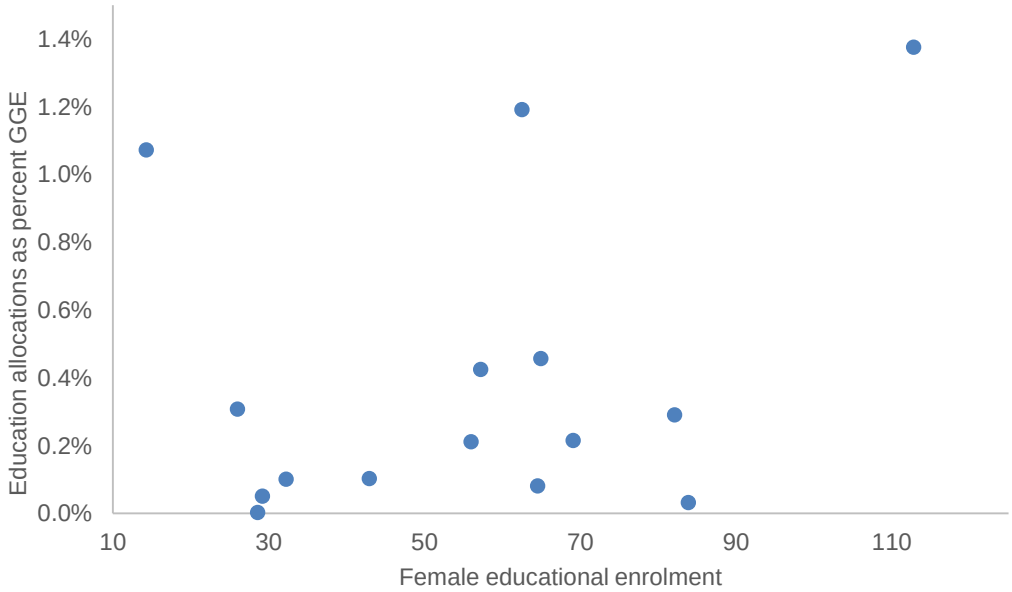
- Nutrition-sensitive agriculture allocations and undernourishment
- Nutrition-sensitive education allocation and female enrolment
- Nutrition-sensitive health allocation and density of nurses and midwifes
- Nutrition-sensitive social protection allocations and rate of poverty
- Nutrition-sensitive WASH allocations and access to piped water

Figure 5: Variation of nutrition-sensitive sectoral allocations with intermediate outcomes

a. **Nutrition-sensitive agriculture allocation and undernourishment[6]**

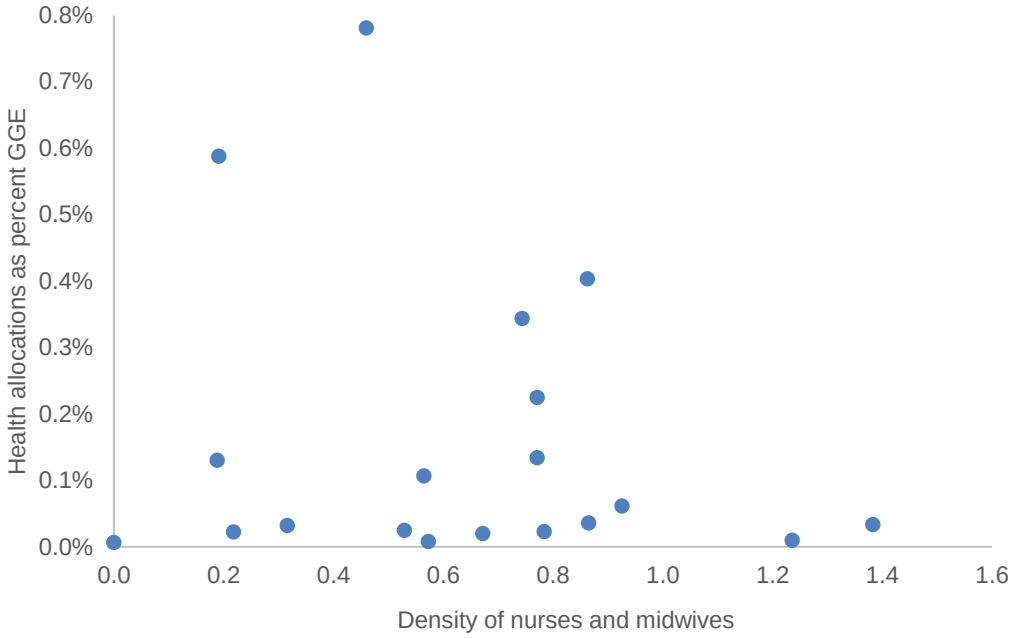


b. **Nutrition-sensitive education allocation and female enrolment**

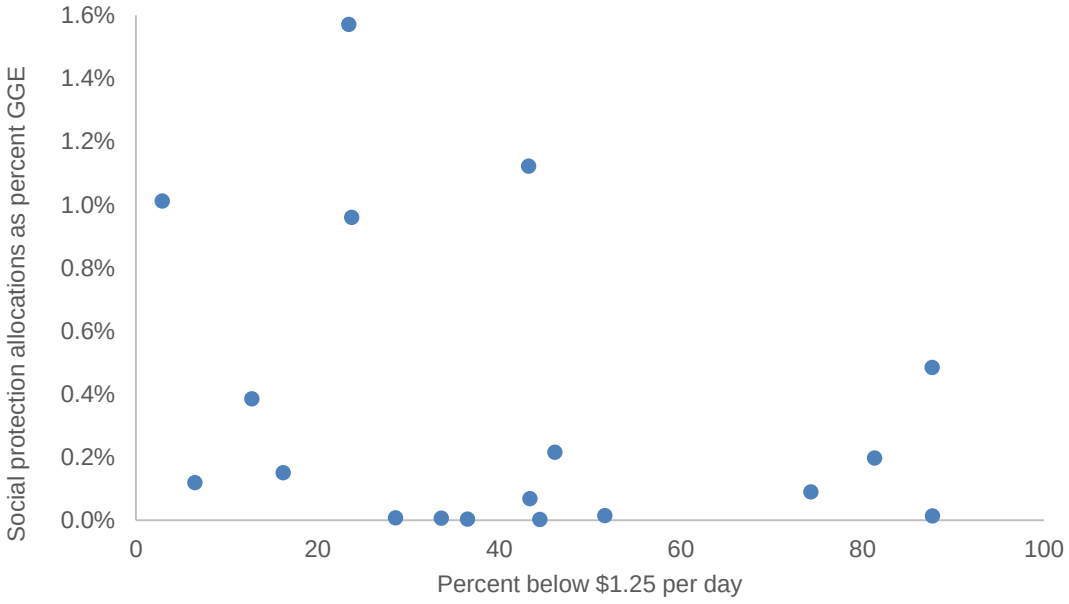


[6] As reported in the 2015 GNR, 'percent undernourishment' estimates "the proportion of the population in a condition of undernourishment. Undernourishment refers to the condition of people whose dietary energy consumption is continuously below their dietary energy requirement for maintaining a healthy life and carrying out a normal physical activity."

c. **Nutrition-sensitive health allocation and density of nurses and midwifes**[7]

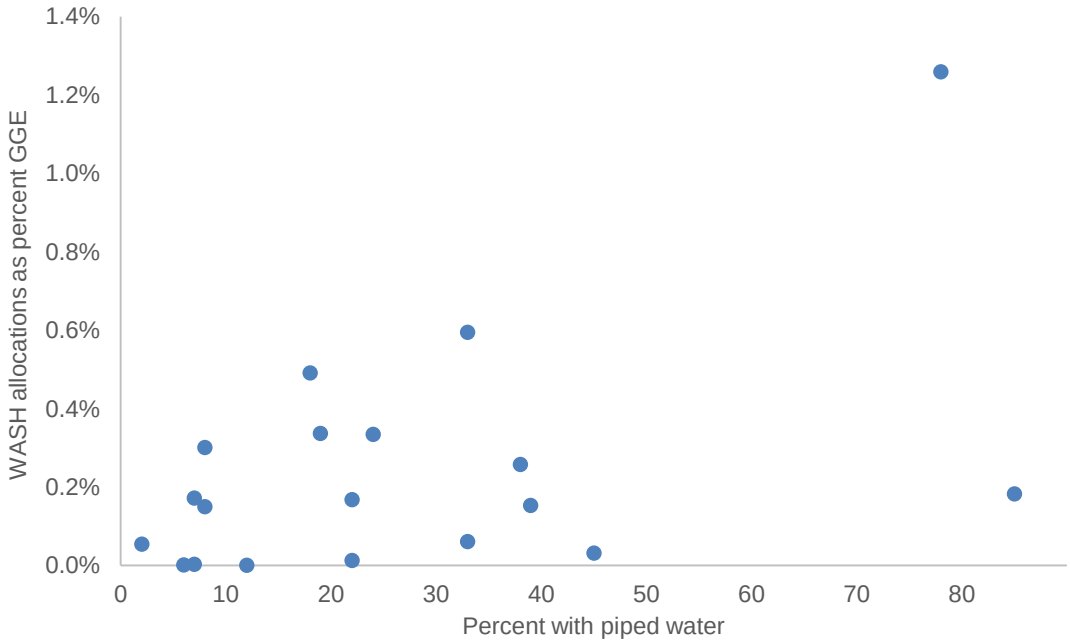


d. **Nutrition-sensitive social protection allocations and rate of poverty**



[7] As reported in the GNR 2015, 'density of nurses and midwifes' estimates the population density of nurses and midwifes (per 1,000 population).

e. **WASH allocations and improved drinking water coverage[8]**



Note that none of the sectors show a significant correlation between sectoral allocations and the intermediate variables selected here. In the case of agriculture, there is a suggestion of a slight negative (though not significant) association – which is a possible indication of reverse causation – that lower nutrition-sensitive allocations may be associated with worse intermediate outcomes. The data shown here are however not sufficient to support this conclusion, and it is clear that this set of questions will require a larger data set in order to enable further analysis.

4.3 Relation between sectoral weighted allocations and ability to pay

The scatter plots shown in Figure 4 and Figure 5 show the budget allocations as a percentage of GGE, thereby normalising for the overall government budget, which is one measure of the government's "ability to pay" for any public investments. Given the inability to find significant associations between budget allocations and nutritional or intermediate outcomes, it may be that a simpler consideration of ability to pay can provide a more robust method for establishing a benchmark for investment levels in nutrition-sensitive programmes.

It is therefore useful to examine the extent to which the nutrition-sensitive allocations are driven by the size of the overall budget. In order to correct for the very different sizes of economies, it is natural to normalise the government budget in relation to the overall population – i.e. to represent it as per-capita General Government Expenditure (GGE). The total weighted nutrition-

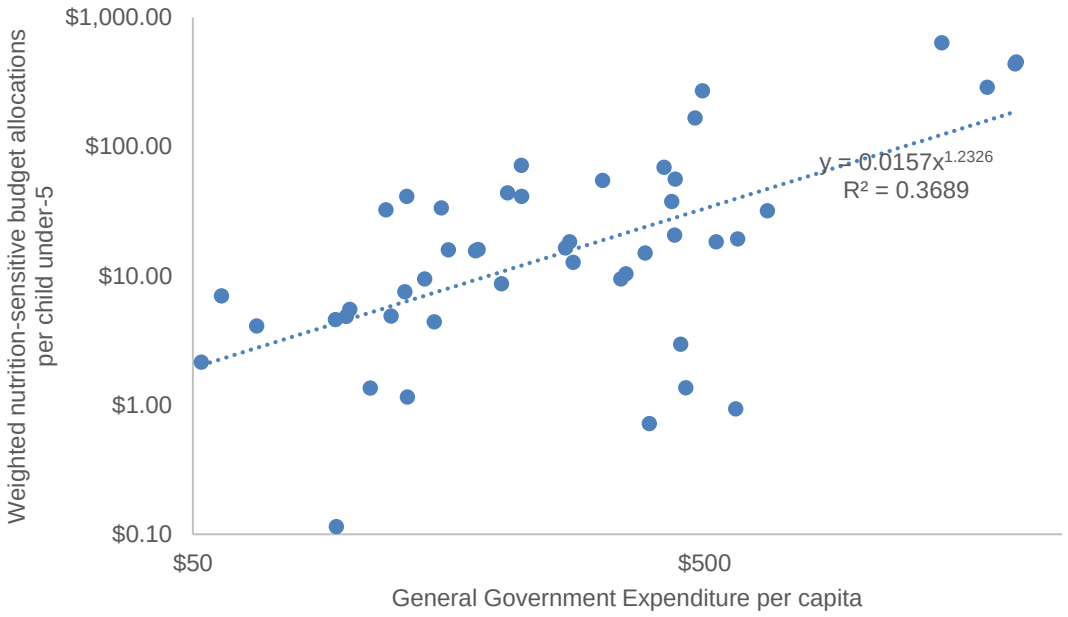
[8] As reported in the 2015 GNR, "percent with piped water" refers to the percentage of the population using improved drinking-water sources", using as indicator the "number of households members living in households using piped drinking-water connections located inside the user's dwelling, plot, or yard".

sensitive allocations should also be normalised by the population being served – in the main this is represented here by the total population of children under-5.

Figure 6 shows the scatter of weighted budget allocations per child under 5 (using the mean weights), plotted against per-capita GGE. The scatter is very large – from as low as fifty cents per child to almost $500 per child - approximately a hundred-fold between smallest and largest allocations, while per-capita GGE varies from around $50 to $1500 – about 30-fold. The scatter suggests a correlation for this set of 24 countries as might be expected - higher-income countries are allocating more per child under-5 than lower-income countries.

It is possible that this association may form the basis for a benchmark. For illustration, the chart shows a regression line of best fit that might be interpreted in a larger data set as the average level of nutrition-sensitive allocation for a country of a particular income level. This may be a rational basis for the formulation of a normative benchmark based on national income and population under-5, of course with the necessary caveats on its interpretation[9].

Figure 6: Weighted nutrition-sensitive budget allocations per child under 5



4.4 Relation between nutrition-specific and nutrition-sensitive allocations

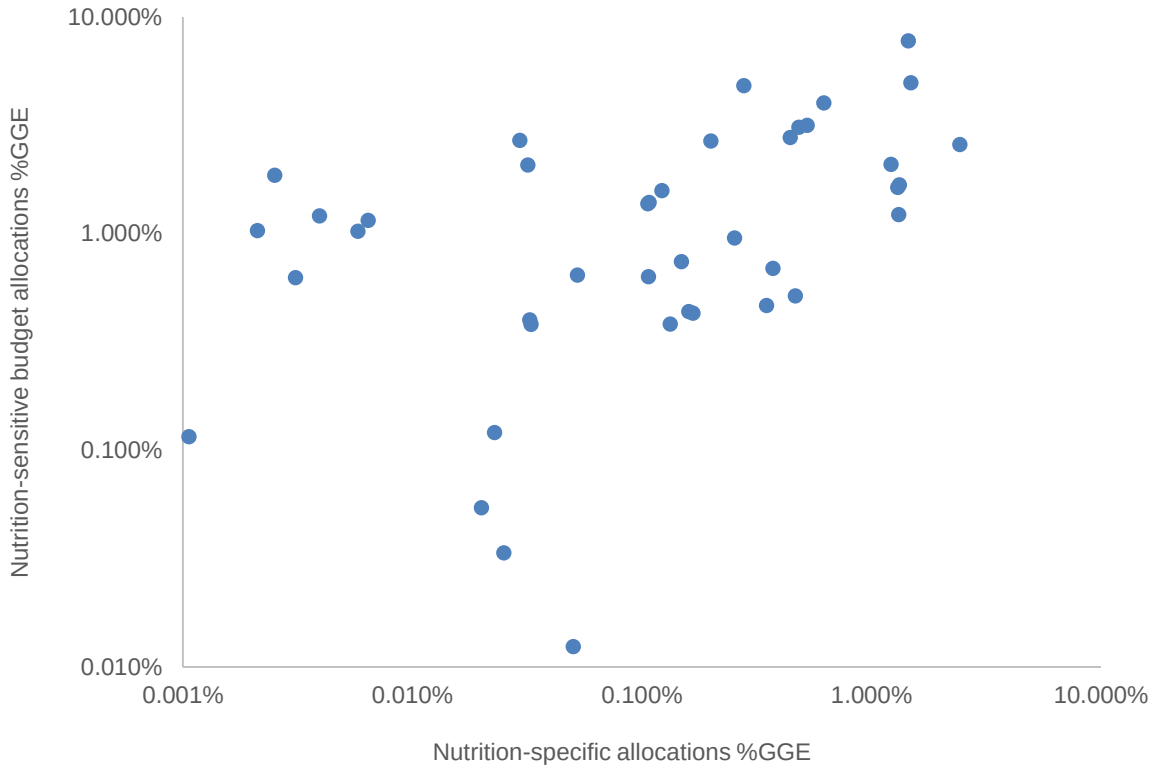
An alternative form of benchmark for an appropriate level of nutrition-sensitive allocations might be determined by the level of nutrition-specific allocations in countries. A benchmark of this kind would rest on the argument that nutrition-sensitive aspects of programmes across all sectors are supportive of nutrition-specific programmes in the sense that they provide enabling factors

[9] Note that a similar method has been used in the past in order to estimate possible benchmarks for domestic contribution to the response to AIDS. The resulting Domestic Investment Priority Index (DIPI) carries out a similar normalisation of domestic allocations, using the GGE and the number of people living with HIV (representing the population at risk).

such as the necessary infrastructure, or support food consumption indirectly through income support or knowledge provision.

We investigated this hypothesis by comparing the respective levels of nutrition-sensitive and nutrition-specific allocations (normalised by GGE) across the sample of 24 countries for each of the years where data were available. Figure 6 shows the resulting scatter plot.

Figure 7: Nutrition-sensitive vs nutrition-specific budget allocations



As can be seen, there is no discernible relation between nutrition-sensitive and nutrition-specific allocations in this sample, which shows more than a thousand-fold variation in each of the two variables. It seems clear that the level of nutrition-specific allocations cannot be used as a comparative benchmark for nutrition-sensitive allocations. Any benchmark based upon this principle would need to be based on normative principles guiding the degree of association between the two that would be appropriate.

5. CONCLUSIONS

Standardising the data

A number of assumptions need to be made to standardise the existing data reported by countries on nutrition-sensitive budget allocations.

There is some consistency in the weights countries have attributed to nutrition-sensitive interventions, with the median being 25% for all identified sectors. The mean weights by sector are very similar, with education at 38%, health 34% and agriculture at 29%. There is also similar consistency when budget lines are further sub-classified into “typologies”, so by type of intervention within each thematic sector.

By extrapolating the mean and the median of each typology from the 14 countries available (accounting for approximately 50% of the budget lines), we determined the values of weights for the remaining budget lines in the analysis to be able to calculate estimates of total weighted expenditure for a set of 24 countries.

What are the emerging estimates on how much countries are allocating to nutrition-sensitive interventions?

The sum of all nutrition-sensitive budget lines for all sectors represents about 1.7% of total General Government Expenditure across 24 countries and $4.4 per capita. With the data available, it appears that the sector that contributes the most is social protection, followed by agriculture and then health. However, the set of countries reporting in each sector is not the same, so direct comparison between the sectors should be done with caution. The most recent estimates may also not be representative of the last 5 years, so at the current stage of analysis the figures cannot be interpreted as benchmarks for nutrition-sensitive budget allocations in sectors.

Although in aggregate countries are allocating around 1.7% of General Government Expenditure, there is a large degree of variation between countries – from about 0.01% to possibly more than 7% of the government budget. This is by no means a ranking and may reflect significant policy difference between the countries, different weightings applied by the countries, or different levels of nutritional burden in terms of stunting, wasting and overweight prevalence. As a sensitivity analysis, the estimates using the median weights are seen to be about 0.03% smaller overall than those that use the mean weights, and 3 cents per capita.

Broken down by typology, the highest budget allocations were reported in items classified as cash transfers / safety nets, water and sanitation (WATSAN), school meals and health and nutrition education. It is these types of interventions that account for the largest proportion of nutrition-sensitive allocations and is therefore important to pay closer attention in its programme design and potential areas of improvement.

Establishing benchmarks

A broader question might be whether there are normative reasons for advocating that governments should pay greater attention to the nutrition-sensitive components of sectoral spending across different areas of the budget. It may be possible to establish benchmarks that

are based on a comparison across countries, and the degree to which the budget allocations may be related to economic or other factors. We investigated the extent to which the nutrition-sensitive allocations might be related to:

- The ability to pay, represented by the General Government Expenditure (GGE), which is an expression of the total fiscal space available in the country;
- Indicators of nutritional outcomes such as stunting, which may proxy for the need to invest in nutrition-sensitive programmes;
- Intermediate outcomes that are specific to sectors and known to be important for nutrition, such as female educational enrolment and levels of poverty;
- The allocation for nutrition-specific programmes, which may proxy for the importance attached to nutrition by government

With the limited data available, there is no sign of a significant correlation with either the total or the sectoral weighted allocations and therefore on the basis of this evidence alone, we would not conclude that nutrition-sensitive budget allocations are significantly related to nutritional outcomes, nor to intermediate sectoral outcomes that are important for nutrition.

Looking at weighted budget allocations per child under 5 shows the large scatter between countries, from as low as 50 cents per child to more than $500 per child (a hundred-fold between the smallest and largest allocation). When plotted against per capita General Government Expenditure, there is significant evidence that higher-income countries are allocating more per child under-5 than lower-income countries, as one might expect. We suggest that this association may form a useful basis for a benchmark to guide nutrition-sensitive allocations, based on the normalised ability to pay measure (GGE per capita).

The finding that nutrition-sensitive budget allocations seem uncorrelated to nutritional burden may not be seen as surprising, since these expenditures are all part of other sectoral spending, and are thus more likely to be driven by other sectoral policy concerns. It does however imply that the level of nutrition-specific allocations is not at present a suitable basis for benchmarking nutrition-sensitive allocations across countries.

It may therefore be appropriate to suggest benchmarks guided by the level of normalised expenditure illustrated by Figure 6, for example per child under-5 or as a proportion of GGE per capita. This question may be answered more fully if it were possible to expand the available dataset, but the possibility would seem to be open for further discussion.

References

Fracassi et al (2015). “SUN Budget Analysis Synthesis Document: Establishing Nutrition Spending in SUN countries”. October.

Fracassi, P (2015). “Guidance notes for Step 2 (categorisation) and Step 3 (weighting)”. March. Available at: http://scalingupnutrition.org/wp-content/uploads/2015/05/150406_Guidance-Note_Step-2-and-Step-3_PF.pdf

Fracassi, P. and C. Picanyol (2014). “Tracking Government Investments for Nutrition at Country Level”. SUN Movement, July. Summary available at http://scalingupnutrition.org/wp-content/uploads/2014/08/140703_EN_SUMMARY-3-STEP-APPROACH_Tracking_Domestic_Investments_for_Nutrition.pdf

Picanyol, C (2014). “Is there a better way to track nutrition spending?” in ‘Global Nutrition Report 2014: Actions and Accountability to Accelerate the World’s Progress on Nutrition’, International Food Policy Research Institute. Washington, DC. November. Available at http://globalnutritionreport.org/files/2014/11/gnr14_pn4g_11picanyol.pdf

ANNEX A: TYPOLOGIES BY SECTOR BASED ON BUDGET LINE ITEMS CATEGORISED AS NUTRITION-SENSITIVE

Sector	Typology	Example	
		Budget line item	**Explanatory note provided**
Health	**Food safety**	Food Safety and Hygiene (Vietnam)	This budget of Government to management and to support all activities or research for Programme of Food Safety
	Child immunisation	Surveillance and Immunization (Indonesia)	Implementation of immunization and surveillance
	Integrated Maternal and Child Health Care[10]	Reduce maternal, neonatal and child health morbidity and mortality (Ghana)	Improve governance and strengthen efficiency and effectiveness in health service delivery; Program: Health Service Delivery - Strategy formulation and operational coordination
	Reproductive health care	Increase Advocacy and IEC Program (Indonesia)	IEC for improving the Family Planning Program recipient
	Health & Nutrition education	Mass media (Tajikistan)	Organization and regulation of broadcasting and publishing events. Operation and support of broadcasting services. Expenses, including transfers, loans or other types of support for the construction or acquisition of conditions for TV broadcasting, production of broadcasting material and its preparation for presentation. Management, operation and support of publishing services. Costs, including loans, transfers and other forms of support for the construction and acquisition of plant, equipment and material for newspapers, magazines and book publishing, news and information gathering and dissemination of published work.

10 Most of the integrated Maternal and Child Health Care Programmes have been classified as "nutrition-specific" budget line items

Sector	Typology	Example	
		Budget line item	**Explanatory note provided**
	Overweight, obesity and NCD	Non-communicable diseases (Vietnam)	This budget of Government supports all activities for prevention of cancer, diabetes, high blood pressure
	Infectious diseases (HIV/AIDS, TB and Malaria)	Emergency Plan for Polio Eradication (Pakistan)	
	Basic health care (generic)	Clinical services (Kenya)	
Education	**Early child development**	The provision of early childhood services (Indonesia)	To ensure the early childhood education related to food and parenting
	Education – closing gender gap	Establishment of Girls Degree Colleges in Sindh (Pakistan)	
	Education – access to all	Revised English Literacy curriculum and Instructional Materials (Ghana)	Improve quality of teaching and learning; Program: Non formal Education
	School meals	Provide Feeding for SHS Students (Ghana)	Increase equitable access to and participation in education at all levels; Program: Management and Administration - Pre-Tertiary Education Management
	Health education in schools	Healthy Schools (Guatemala)	Promoting Health and Nutrition in Schools
	Education (generic)	Planning and budgeting department (South Sudan)	This contains generic spending that refers to different types of activities including (but not specified) school feeding, M&E and improvement of education quality
Agriculture	**Food safety**	Aquatic animal health and Post-Harvest management (Ghana)	To reduce health risks associated with fisheries exploitation, production and utilization along the value chain. To ensure safe and quality in fish product processing.

Sector	Typology	Example	
		Budget line item	**Explanatory note provided**
	Agriculture services	Agriculture Extension Services (Nepal)	
	Food security	Food Security and Development in agriculture (Vietnam)	This program seeks to ensure the food security
	Rural development	Agriculture and rural development (Vietnam)	
	Livestock	Appui au développement de l'aviculture moderne (Benin)	
	Fishery	Fish Health System Development and Fish Farming (Indonesia)	
	Agriculture production – non-staples	Increased Growth Income (Ghana)	Build capacity of peri-urban vegetable producers in good agricultural practices (GAPs)
	Agriculture production development (generic)	Production Management of Cereals and Various Crops (Indonesia)	To increase productivity of Cereals
Social protection	**Welfare services Maternal & Child**	Centre Mère et Enfants de Kinshasa-Ngaba (DRC)	
		Palnaghar (creches) and mothers meeting (Maharsastra)	Palnaghar/ Creches initiated and implemented in 6 high burden tribal districts. Will be implemented at the aganwadi level with the support of DWCD staff
	Welfare services Orphans and Vulnerable Children (OVC)	Street children rehabilitation center (Kenya)	
	Welfare services (generic)	Social welfare (Kenya)	

Sector	Typology	Example	
		Budget line item	**Explanatory note provided**
	Humanitarian / emergency relief	Disaster preparedness and response (Kenya)	
	Cash transfers / safety nets	Social Welfare Assurance (Conditional Cash Transfer / PKH) (Indonesia)	To support the implementation of Conditional Cash Transfer for Very Poor Households (Rumah Tangga Sangat Miskin)
	Social protection children	Child Protection (Indonesia)	Child protection
	Social protection women	Preparation and harmonization of policies on women's participation in politics and decision-making (Indonesia)	To increase number of participation policy women in politics and decision-making
		Baby-care for working mothers (South Sudan)	
	Social protection (generic)	Project and Control Program Against Poverty and the Legacy of Slavery (Mauritania)	
WASH	**Sanitation only**	Regulating, Development, Supervision and Implementation of Sanitation Infrastructure and Solid Waste (Indonesia)	To support the wastewater infrastructure; urban drainage infrastructure; Waste Infrastructure place of final processing; Integrated Waste Processing / 3R infrastructure
	Promotion of sanitation and hygiene	Programme de promotion de l'hygiène et de l'assainissement (Benin)	
	Drinking water supply	*Establishment of Drinking Water Hubs (Phase-I,II,III,IV)	

Sector	Typology	Example	
		Budget line item	**Explanatory note provided**
		(Pakistan)	
	Water and Sanitation (WATSAN)	Water Supply & Sanitation (Pakistan)	
	Water supply (generic)	Collection and disposal of garbage, cleaning of streets (Tajikistan)	All departments, agencies and programs for development, management and control of water supply, including control of purity, value and volume of water. Government support in the form of transfers, loans, grants and other assistance, needed for the development, expansion and support of the water supply system operation, regardless of ownership forms or structural organization. Arrangements for water systems organization in residential and industrial areas, as well as in the national economic sector.

Source: “Tracking Government Investments on Nutrition at Country Level”, Fracassi and Picanyol (2014), updated November 2015.