

**CONNECTING THE DOTS: THE LINK BETWEEN HUNGER,
MALNUTRITION AND EDUCATION**

**PROPOSAL FOR A NEW INDICATOR UNDER THE SDG 4
FRAMEWORK**

**Submitted by the School Based Programmes Division of the
World Food Programme**

TCG 9 Joint Working Group
on EMIS and Household Surveys

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Connecting the dots: the link between hunger, malnutrition and education

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The condition of children is one of the most powerful determinants of learning outcomes. Healthy and well-nourished schoolchildren learn better, have a greater opportunity to thrive and fulfil their potential as adults, and increase their earning potential. The dynamic interaction between health, nutrition and education is one of the driving forces for developing the human capital that drives shared prosperity.

Despite its importance, the health and nutrition of school-aged children has, until very recently, been neglected in global measuring and accountability frameworks. For example, there is no systematic tracking of the health and nutrition status of the school-age cohort. Although some countries periodically measure certain indicators, there is no global standardized practice. Currently, the health and nutrition of schoolchildren does not feature in SDG targets or indicators and only 2% of academic research on children is focused on the school age cohort (the rest is focused on children under age 5).¹

In the last few years, however, a number of initiatives from UN agencies and governments have begun to address this. Discussions during the Food Systems Summit of 2021 and the Transforming Education Summit of 2022 have highlighted the need to focus on the relationship between hunger and education and the fact that systemic shortcomings both in education and food systems are failing children and their families in many parts of the world.

There is strong consensus that we need to measure the extent to which school children are supported with health and nutrition interventions as part of our efforts to assess child wellbeing, support learning, foster human capital development and sustainable and resilient communities.² This paper makes the case that an indicator on school health and nutrition should be included in the SDG4 indicator framework and that it should center around the provision of school meals to children.

This proposal is overwhelmingly supported by countries and partners. In the two months following the Transforming Education Summit, a broad constituency has called for a school meal indicator to be included explicitly in the SDG4 framework. Specifically, this was recommended by the London School of Hygiene and Tropical Medicine as the host of the Research Consortium for School Health and Nutrition through a recent [statement](#).³ It was also raised in a [call to action](#) signed by 76 School Meals Coalition partner organizations in October (list of partners in Annex II).⁴ Lastly, it was also explicitly mentioned in the [Helsinki Declaration](#) signed in October by representatives of the African Union, Finland, France, Guatemala, Honduras, Japan, Kenya, Iceland, Rwanda, Senegal, Sweden and the United States of America, who are members of the School Meals Coalition Taskforce.⁵

Measuring what works and what is already being done in practice

The school system represents an exceptionally cost-effective platform through which to deliver an essential integrated package of health and nutrition services to schoolchildren. This is why most

¹ Bundy, D. A. P., N. de Silva, S. Horton, D. T. Jamison, and G. C. Patton, editors. 2017. Child and Adolescent Health and Development. Disease Control Priorities (third edition), Volume 8. Washington, DC: World Bank.

² Transforming Education Summit. Action Track 1 Discussion Paper on Inclusive, equitable, safe and healthy schools.

<https://transformingeducationsummit.org/AT1DiscussionPaper>

³ Statement-Research-Consortium-September-2022 (1).pdf | DocDroid

⁴ Call to Action School Meals_FINAL .pdf - Google Drive

⁵ School Meals Coalition Leaders' Declaration - Ministry for Foreign Affairs (um.fi)

countries provide in one way or another a diverse package of interventions which can include school meals, micronutrient supplementation, vaccination, oral health promotion, vision screening and treatment, malaria control, deworming, sexual and reproductive health services, and menstrual hygiene management.⁶

In practice, school feeding has emerged as the main intervention for children in schools around which other services are delivered. This is because it is the most widely implemented element of the integrated package – almost every country in the world provides food to its schoolchildren at some scale – reaching about 388 million children worldwide.⁷ Communities more often than not prioritize this over any other intervention in schools. This is true even for the poorer countries, and a recent assessment of school feeding coverage in low- and middle-income countries suggests that 178 million children are now fed in school daily, 40 percent of all the children enrolled.⁸ This paper argues that an indicator on the provision of school meals is the most appropriate way to measure the extent to which countries are investing in the health and nutrition of learners.

School meals: beyond the plate of food

There now is overwhelming evidence that well-designed and effectively delivered school meal programmes yield outcomes related to multiple sectors: education and gender equality– through human capital development; local economy and food systems – through local procurement and local employment; and social protection – through substantial resource transfer to the household.⁹

Well implemented school feeding programmes can help attract and retain children in school, increase enrolment, reduce absenteeism and drop-out.¹⁰ School meals have also been shown to help children learn by addressing short term hunger and enhancing cognitive abilities.

In terms of health and nutrition, school feeding contributes to the continuum of development by building on investments made earlier in life, including maternal and infant health and early child development interventions. Meals in school have demonstrated effects on reducing anaemia in primary school-aged children and adolescent girls.¹¹ Evidence shows that school feeding programmes can lessen gender disparities in terms of school enrolment especially in context where girls have more barriers accessing education thus preventing early marriages, and unintended pregnancies. In particular, the provision of take-home rations to girls can represent a significant income transfer to households, outweighing the forgone benefits of non-attendance.¹²

Programmes that source food locally offer additional benefits for smallholder farmers, supporting local food production and economies and promoting sustainable local markets for diverse and nutritious foods. Local procurement creates employment opportunities for women smallholder

⁶ Transforming Education Summit. Technical Paper 4. The Case for School Health and Nutrition: Investing in the Condition of the Learner. <https://transformingeducationsummit.org/AT1DiscussionPaper>

⁷ WFP. 2020. State of School Feeding Worldwide 2020. Rome, World Food Programme.

⁸ WFP. 2020. State of School Feeding Worldwide 2020. Rome, World Food Programme.

⁹ Research Consortium for School Health and Nutrition and Education Commission. The Investment Case for School Health and Nutrition. Paper prepared for the Global Education Forum April 2022

¹⁰ Jomaa, L.H., McDonnell, E. and Probart, C. 2011. School Feeding Programs in Developing Countries: Impacts on Children's Health and Educational Outcomes. *Nutrition Review* 69: 83–98.

¹¹ Adelman, S., Gilligan, D.O., Konde-Lule, J. and Alderman, H. 2019. School Feeding Reduces Anemia Prevalence in Adolescent Girls and Other Vulnerable Household Members in a Cluster Randomized Controlled Trial in Uganda. *The Journal of Nutrition*, Volume 149, Issue 4, April 2019, Pages 659–666, <https://doi.org/10.1093/jn/nxy305>.

¹² Bundy, D. A. P., N. de Silva, S. Horton, D. T. Jamison, and G. C. Patton 2018. *Optimizing Education Outcomes: High-Return Investments in School Health for Increased Participation and Learning*. Washington, DC: World Bank

farmers or jobs in the school canteens for women and improves the livelihoods of the communities near the schools; therefore, contributing to women's economic empowerment and decision making.¹³

School feeding is one of the most common safety nets, providing the daily support and stability that vulnerable families and children need, and was shown to be one of the first social protection solutions that poor countries turned to during the social shocks of the 2008 financial crisis.¹⁴ More recently, it is one of the tools that countries are scaling up in response to the growing food crisis exacerbated by the war in Ukraine.¹⁵

The growing support to scale up school meals and measure progress

The closure of schools in response to the COVID-19 pandemic caused a global crisis in the education sector and saw 370 million children worldwide lose access to their daily school meal. In parallel, an additional 100 million people were pushed below the USD 1.90 poverty threshold in 2020, with the increase in poverty concentrated in the Africa region. These concurrent events highlighted the need to build-back education systems that can deliver health services which keep children safe. In response, over 70 countries have committed to the School Meals Coalition, established at the 2021 UN Food Systems Summit under the leadership of Finland and France, with the specific goals of restoring national school meals to pre-pandemic coverage by 2023, and to reach another 73 million of the most in-need children, who had not previously been reached, by 2030.¹⁶

Countries have started to deliver on their commitments since last year and there are signs of widespread progress. In Rwanda, the national school meals programme has increased its coverage from 660,000 to 3.8 million children and the national budget from USD 8 to 44 million in the last two years. In Benin, President Talon announced a national budget increase from USD 79 million to USD 240 million over the next five years to scale up their national programme. In Senegal, President Macky Sall, was the first President to personally sign the declaration of commitment of the Coalition and has increased the national budget for school feeding in 2022.

To measure progress and improve the quality of available data, the School Meals Coalition established a Data and Monitoring Initiative which is led by the World Food Programme and has a steering group composed of the following partners: African Union, AUDA-NEPAD, OECD, USDA, Research Consortium for School Health and Nutrition, Rockefeller Foundation, GCNF, Alliance Bioversity-CIAT, PCD, FAO, UNESCO-UIS, UNICEF, and WHO. Building on existing efforts, the Data and Monitoring Initiative will improve the availability of quality data on national school meal programmes; establish a core set of

¹³ WFP, FAO, IFAD, NEPAD, GCNF and PCD. 2018. Home-Grown School Feeding Resource Framework. Technical Document. Rome. Available at: <https://www.wfp.org/content/home-grown-school-feeding-resource-framework>

¹⁴ Bundy, D.A.P., Burbano, C., Grosh, M., Gelli, A., Jukes, M. and Drake, L. 2009. Re-thinking School Feeding: Social Safety Nets, Child Development, and the Education Sector. Directions in Human Development. Washington, DC, World Bank Group.

¹⁵ Indermit Gill, Peter Nagle. 2022. World Bank blog. Inflation could wreak havoc on the world's poor. <https://blogs.worldbank.org/voices/inflation-could-wreak-havoc-worlds-poor>

¹⁶ 74 countries have joined - **Europe**: Denmark, Finland, France, Germany, Iceland, Luxembourg, Monaco, Norway, Poland, Spain, Sweden; **Africa**: Angola, Benin, Burkina Faso, Burundi, Cameroon, Chad, Democratic Republic of Congo, Egypt, Ethiopia, Gambia, Guinea, Kenya, Lesotho, Liberia, Madagascar, Mali, Mauritania, Morocco, Mozambique, Namibia, Niger, Nigeria, Republic of Congo, Rwanda, Senegal, Sierra Leone, Somalia, Sudan, Tanzania, Togo, Zambia, Zimbabwe; **Latin America and the Caribbean**: Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Panama; **Middle East**: United Arab Emirates, **Asia and the Pacific**: Armenia, Bhutan, Cambodia, China, Iraq, Japan, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, Timor Leste; **North America**: Canada, United States; **Regional Bodies**: European Union, African Union

indicators to improve consistency and comparability of data; design an improved survey tool and setup a new global database to house this information to be available as a global public good.

The core indicator of these efforts is the proportion of school children receiving school meals, which should be included in the SDG 4 framework. Around 161 countries already report on this indicator as published by the World Food Programme every two years, in its flagship report “State of School Feeding Worldwide”. The current WFP database includes information from various sources including data from the Global Child Nutrition Foundation, World Bank, OECD and others.

As mentioned in the initial sections of this paper, there is a need to fix the existing gaps in terms of what we measure for school aged children. As discussions in Action Track 1 of the Transforming Education Summit have clearly highlighted, children cannot learn if they suffer from the effects of poor health and nutrition; conversely long-term goals in health, nutrition and food security are unattainable without an educated population. An SDG4 indicator on the proportion of school children receiving school meals will help measure the extent to which school children are being provided with the support they need to take advantage of the other investments being made in education.

Indicator definition and methodology of measurement

Below is a description of the definition and computation on how the proposed indicators is derived.

Indicator name

Proportion of school attending children receiving school meals (coverage)

Definition

School feeding coverage in a country (or group of countries) i (C_i) is defined as the number of children receiving school feeding in primary schools (B_i) divided by the number of pupils in primary schools (P_i).

While the majority of school feeding are supported by a government-funded and government-led school feeding programme, some countries have opted for locally managed school feeding programmes and/or collect contributions from parents to finance their school feeding programmes. School feeding should therefore be understood as “children receiving meals, or another form of food, in schools” (not as “children benefitting from free and government-funded school meals”).

Computation of Indicator

$$C_x = \frac{B_i}{P_i}$$

Description of variables

B_i : number of children receiving school feeding in primary schools in country i , as reported in the best available source.

P_i : number of pupils in primary schools of country i , as reported by the UNESCO Institute for Statistics.

Coverage estimates range between 0 and 100 percent by definition, as there cannot be more children receiving school feeding than children at schools (pupils or enrolees).

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The following formula can be applied to calculate average coverage for a group of countries x , such as income groups or the BRICS group:

$$C_i = \frac{\sum B_{i,x}}{\sum P_{i,x}}$$

For each group of countries x , the total number of children receiving school feeding $\sum B_{i,x}$ is divided by the total number of pupils $\sum P_{i,x}$

Data sources

The availability of data on school meal provision has been improving over the last 10 years. Currently, information is mainly collected through surveys done every one or two years depending on the tool. WFP has reported and will continue to report on the state of school feeding globally as the lead technical agency for this area in the UN system and is also leading the data and monitoring initiative of the School Meals Coalition, which will serve as the mechanism through which we will progressively strengthen what is already being done.

2020 marked the first of year of production of biennial school feeding updates with an expanded methodology and more reliable data sources used in the State of School Feeding Worldwide publication, following an initial report in 2013. The analysis for 2020 was based on sample of 163 countries compared to a previous sample of 154 countries in 2013. Not only did the number of countries providing data increase but there was marked improvement in the quality of data and less reliance on estimates. Work on the 2022 edition of the report is ongoing. WFP will publish new global figures in early 2023.

These regular updates will provide governments, policy makers, donors and other decision makers with up-to-date information and a clear understanding of the status of school feeding programmes globally. Some of the data sources included in the 2020 State of School Feeding publication include the World Bank, the African Union, WFP and the 2019 Global Child Nutrition Forum (GCNF) Global Survey of School Meal Programs, funded by the United States Department of Agriculture (USDA).

Results

Recent data published in the 2020 State of School Feeding Worldwide shows that approximately one in every two schoolchildren, or 388 million children, receive school meals every day in at least 161 countries across all income levels (see map below)¹⁷.

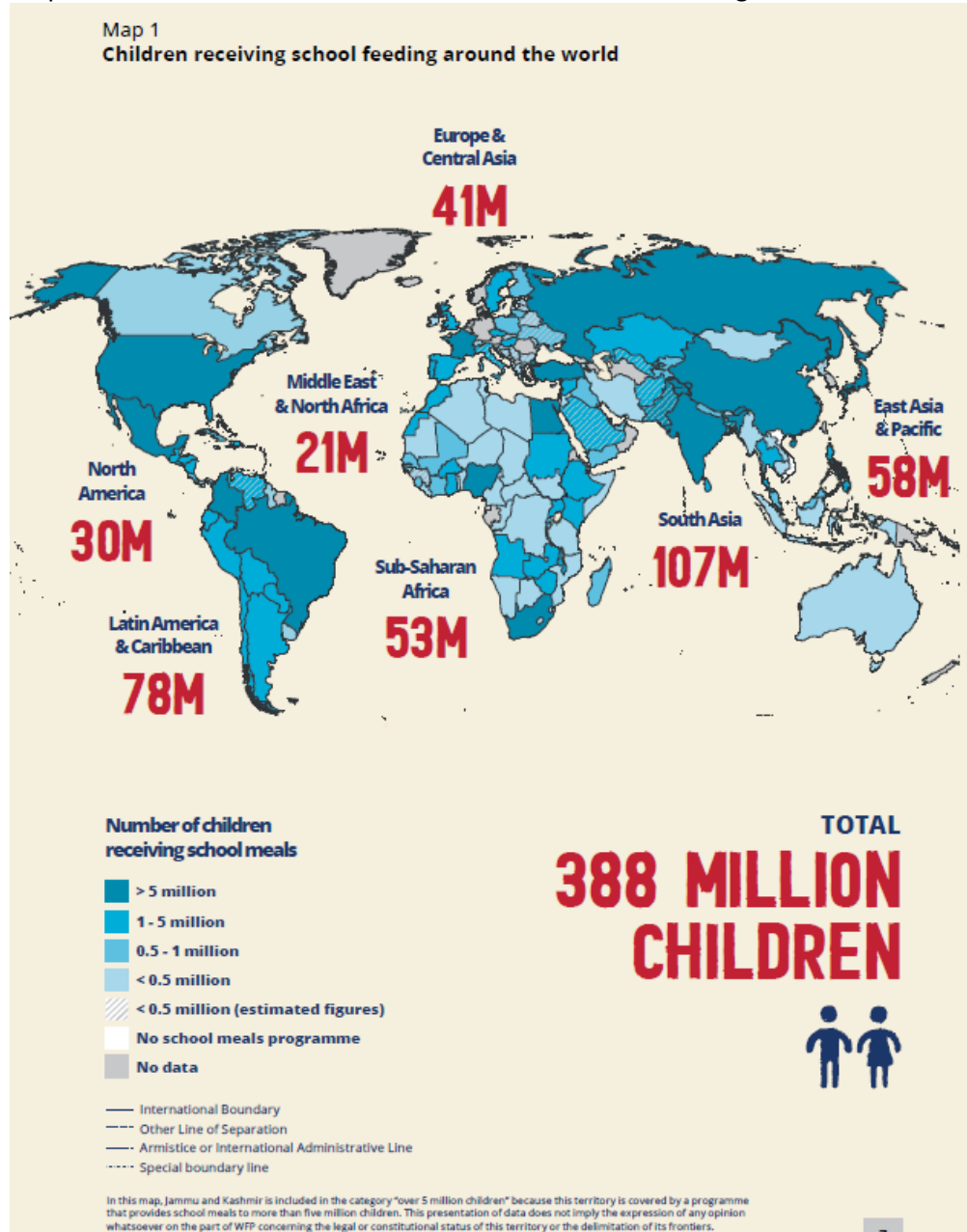
In terms of coverage, the proportion of primary school level children receiving meals was estimated to be 48% in 2020 with coverage varying widely from high-income, middle-income, and low-income countries (see figure below). Overall, coverage of school feeding programmes remains lowest in countries where the need is greatest. However, there are encouraging signs that in low-income countries the growth of school feeding programmes is beginning to outpace the growth of the school population, resulting in a significant increase from 13 percent coverage in 2013 to 20 percent in 2020.

¹⁷ [State of School Feeding Worldwide 2020 | World Food Programme \(wfp.org\)](#)

In middle-income countries, coverage has decreased marginally even though there has been significant growth in the number of school feeding programmes, reflecting the momentum of population growth.

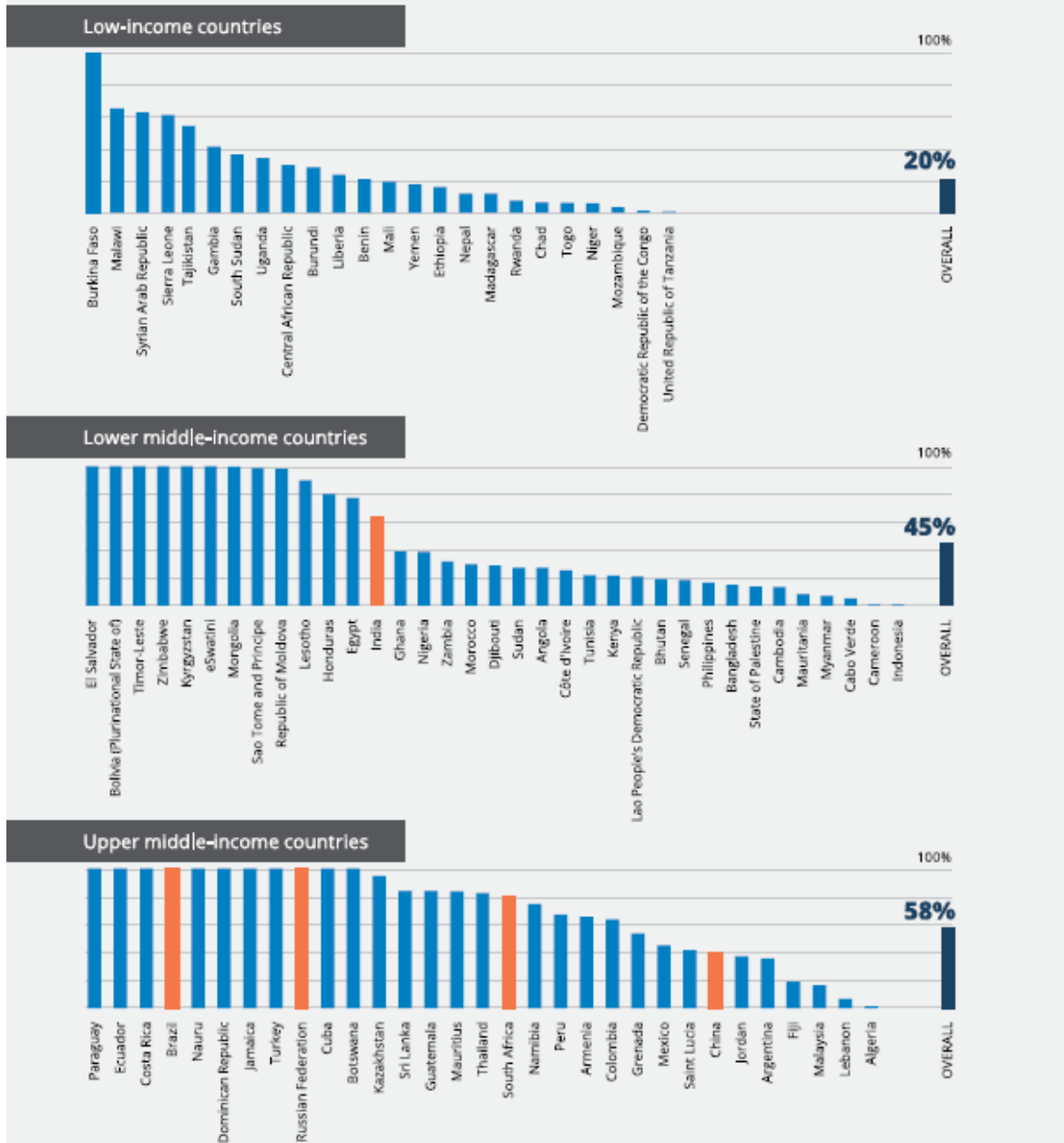
Data for the 2022 edition of the report is telling us that despite the significant damage that school closures caused by the COVID pandemic did to the availability of meals in schools, most programmes worldwide seem to be restored and coverage is back at pre-pandemic levels.

Map 1 below shows the distribution of number of school age children receiving meals globally.



Coverage of school feeding programmes by country income level

Legend: On average, 20 percent of schoolchildren in low-income countries receive school feeding, compared to 45 percent in lower middle-income countries and 58 percent in upper middle-income countries. The five BRICS countries have an average coverage of 61 percent.



Annex I

Research Consortium Statement



Research-Consortium Statement

Call to action School Meals Coalition



Call to Action

School Meals Coalition – Helsinki Leaders Declaration



School Meals Coalition – Helsinki

Annex II

Partners that signed on to Call to Action (76 Partners of the School Meals Coalition - September 2022):

UN

1. FAO
2. IFAD
3. OSAA – USG Special Advisor Africa Affairs
4. UN Nutrition
5. UNESCO
6. UNICEF
7. WFP
8. WHO

NGOs

9. ADRA
10. Africa Rice Center
11. Andre Foods International
12. AVSI
13. Breakfast Club of Canada
14. Catholic Relief Services
15. Centre for Health Science and Law
16. Childs Destiny and Development Organization
17. Community Vision Group Cameroon
18. Counterpart International

19. EAT
20. EYelliance
21. Food for Education
22. Food for Thought
23. Global Communities
24. International Union of Nutritional Sciences
25. HarvestPlus
26. JAM International (now rebranded ForAfrika)
27. Kitchen Connection
28. Maple Leaf Early Years Foundation Nigeria
29. Mary's Meals
30. Nourishing Schools - India
31. OXFAM
32. Plan International
33. Save the Children
34. SolidarMed
35. USA Food Systems for the Future
36. War Child
37. World Fish Malaysia
38. World Vision
39. WWF
40. Youth Association for Development Pakistan
41. ZOA

Academia and Think Tanks

42. Alliance of Bioversity International and CIAT
43. CIRAD
44. Copenhagen Business School
45. INRAE - Institut National de Recherche pour l'Agriculture, l'Alimentation et l'Environnement
46. International Livestock Research Institute
47. International Rice Research Institute – CGIAR
48. IRD - Institut de Recherche pour le Développement
49. LSHTM/Global Research Consortium
50. Northumbria University
51. Partnership for Child Development
52. University of Leeds, Schools of Food Science and Nutrition, and Psychology/WHO Collaborating Centre for Nutrition Epidemiology
53. University of Toronto
54. Washingborough Academy

Multilateral Organizations

55. ECW
56. GPE

Foundations and Networks

57. Academy for Nutrition and Dietetics
58. Canadian Coalition for Healthy School Food
59. Chefs Manifesto SDG2Hub
60. Dubai Cares
61. Education Commission
62. Federacion Indigena Empresarial y de Comunidades Locales de Mexico
63. Global Alliance for Improved Nutrition (GAIN)
64. Global Child Nutrition Foundation (GCNF)
65. Graca Machel Trust
66. ICLEI
67. International Parliamentary Network for Education (IPNEd)
68. Pacific School Food Network
69. Resolve to Save Lives
70. Speak Up Africa
71. The Power of Nutrition
72. The Rockefeller Foundation
73. The Global Food Banking Network

Regional bodies and Cities

74. AUDA/NEPAD
75. C40
76. City of Milan