

Recommendations for Developing Commitments on Data, Research, Innovation and Artificial Intelligence



Background

Good nutrition is the outcome of a myriad of systems working efficiently and in concert to enable healthy diets, adequate infant and young child feeding practices, clean water, adequate sanitation and hygienic environments, and necessary preventative and curative health services. To understand and act on challenges to achieving good nutrition, data and evidence across all of these multi-stakeholder, multisectoral systems are needed. No country is free of malnutrition and thus these data are needed from all contexts including in stable, transitional and fragile and conflict affected states; in all resource settings; and in all geographies.

In 2019, prior to the Nutrition for Growth (N4G) Summit in Tokyo, the Financing for Nutrition Thematic Working Group advised N4G stakeholders on potential commitments around strengthening nutrition data and information systems. Despite numerous pledges during N4G Tokyo (78 goals, out of 897 total goals, set under the subcategory of research, monitoring, and data), a number of critical gaps in data and evidence continue to persist.

GAP 1 – EVIDENCE ON WHAT, WHY AND HOW

Currently, we know that progress towards Sustainable Development Goal (SDG) 2 is off track. However, our understanding of progress is limited through the SDG framework, given that SDG2 indicators around nutrition are all measures of distal outcomes, with no measure of intermediate outcomes, such as the healthfulness of diets, micronutrient intake and status. This challenges the ability to track progress and to hold stakeholders accountable for their efforts to support achievement of zero hunger and malnutrition. This also limits the ability to understand **why** malnutrition persists (i.e., what is driving acute malnutrition or wasting in diverse contexts? Why is anaemia prevalence moving the wrong direction globally?). More and easily accessible market and food product data can also contribute to a better understanding of causal and remedial correlations.

There are also gaps in our understanding of **how** to address all forms of malnutrition and how to achieve cost-effectiveness. Evidence on outcomes and impact of interventions are the cornerstone of evidence-informed decision-making, but gaps exist in the empirical data on outcomes from policy and scaled



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programme implementation, including data on impact, feasibility, acceptability etc. The challenge of quantifying impact, cost and cost-effectiveness impedes uptake of evolving interventions, including those addressing multiple problems simultaneously, such as malnutrition, climate change and gender inequalities. There is a critical need to invest more in nutrition implementation science and programme evaluation methods. Robust and timely nutrition data can also help attract increased investment in nutrition. Further, more evidence is needed to improve nutrition without causing unintended consequences on environmental, social and economic outcomes (e.g., trade-offs) and visa-versa.

GAP 2 – EFFICIENCY AND EFFECTIVENESS GAPS

Some data gaps are causing inefficiency and reduced effectiveness of evidence for informed decision-making. Furthermore, there are challenges in current tools and systems for data collection, analysis, storage and knowledge management, which are often fragmented, hard-to-access, outdated or not user-friendly, making it difficult to capture data and lessons learned. This is particularly pronounced at subnational level and for traditionally marginalized groups. In other cases, where data are available, they may not be translated effectively into evidence-based decision-making. Overcoming the time lag between evidence generation and uptake into effective, scaled policy and action is therefore critical (e.g., evidence on the effectiveness of multiple micronutrient supplementation in pregnancy on birth outcomes took 20 years to be reflected within global recommendations).

The value of the data can be extended further to deliver greater insights, including through predictive analytics, particularly in volatile and data poor contexts and for outcomes with data scarcity (such as micronutrient intakes and status). Interoperability of multisector data systems is needed for comprehensive and inclusive data analysis and use; the lack thereof seriously impedes comprehensive understanding of nutritional challenges, determinants and effective actions.

Innovative approaches, such as digital and technological advances and innovations in behavioural sciences, social media and digital networking can be important for improving stakeholder engagement, interaction and evidence uptake. However, many of these innovative approaches also require initial data to train digital tools; these data must be high quality, treated with appropriate security and safety precautions and compliant with ethical principles.

GAP 3 - ENABLING ENVIRONMENT, INFRASTRUCTURE AND CAPACITY

The ecosystem of support for the generation and use of high-quality data is not fit-for-purpose for either rapid assessment or long-term monitoring. In addition to data gaps, there are challenges in statistical systems related to timeliness, relevance and granularity. Improvements are needed in indicator development, definitions and standardization. More data guidelines and guidance are also needed, including for data harmonization and open data sharing for improved access to evidence for all stakeholders.

To strengthen system stability, there is a need for improved governance, risk mitigation protocols and guidelines, and infrastructure. Improved computing power is also needed in low resource settings, where poor internet connectivity contributes to fragmented data availability. These needs will only increase with the increased uptake of innovations and advanced technologies, such as large language model usage. Furthermore, these advances will require increased capacity at individual and institutional levels. People-centred design and intuitive data utilization models are critical for large-scale uptake across varying resource and capacity contexts. Expanding existing and building new partnerships, including with local institutions, across the data, evidence and science community, can support capacity and technology exchange for greater efficiency.

Knowledge systems are also challenged by low capacity for identifying, analysing and interpreting existing data, as well as poor access and limited user-friendliness. There are currently limited opportunities for groups working on data and evidence to meet with decision-makers, and decision-makers have limited capacity to use data and evidence. Platforms for sharing for lessons learned through communities of practice are fragmented and there is limited harmonization of guidelines and standards across regions. Capacity strengthening and the sharing of success stories in all domains of data, data systems, knowledge systems and data usage for decision-making can further enhance the utility of data for decision-making, particularly in support of government-led data generation and use. Lessons from best practice (sub) national efforts and successful platforms can increase opportunities for greater efficiencies. Some of these platforms include the National Information Platforms on Nutrition (NIPN) and the Scaling Up Nutrition (SUN) Academic Networks; for example, in the East African region, the Learning Network on Nutrition Surveillance; and globally, DataDent and the Micronutrient Data Innovation Alliance. Opportunities also exist for these platforms to continue to grow and strengthen.

Opportunities for N4G Paris

Building from the Tokyo N4G Summit subcategory of commitments in research, monitoring and data under “enabling action”, the N4G Paris provides a unique opportunity to advocate for better and more accessible data for better decision-making and improved accountability to maximize impact at all levels (global, regional, national and subnational) through evidence, innovation and artificial intelligence (AI).

N4G Paris is not occurring in isolation and the multisectoral and collaborative nature of the preparation provides an opportunity to connect and align integrated data systems and evidence generation commitments, investments and opportunities to increase efficiencies and reduce overall costs for data and evidence generation. Examples include linking commitments for data and evidence across N4G areas, such as improving surveillance and early warning in hard-to-access areas or triangulating evidence across climate and nutrition domains (resilience) or developing improved social registries and enhanced nutrition assessments (social protection and health). Furthermore, commitments should be linked across summits, conferences and global convenings, such as the Conference of the Parties to the Rio Conventions or the United Nations Food Systems Summit.

In addition to pursuing commitments and investments for enhancing existing data, evidence and knowledge management systems and leveraging emerging practices in more innovative and effective ways, N4G Paris offers an exciting opportunity to explore advanced technological solutions to counter the gaps in evidence, efficiencies, effectiveness and the enabling environment. N4G Paris offers a global



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marketplace where those seeking solutions to augment evidence-driven policies, strategies, legislation, programmes, services and products can connect with those who can offer support in developing suitable data and analytics tools and capabilities. Technologies applied in related fields, such as climate action and agrifood systems (geospatial data and satellite imagery), or in the private sector (e.g., scans, codes, sensors etc.) can be borrowed to enhance data collection and utilization.

Recent recognition of the power of large language models, machine learning and other forms of AI has inspired continued growth in the use of advanced technologies for supporting data and evidence generation, management, dissemination and use. In fact, harnessing data, evidence, innovation and AI is key to leveraging emerging opportunities to achieve the SDGs. Partnerships with data scientists and the development of AI-based approaches are already helping to fill data and evidence gaps to accelerate progress in overcoming the challenges of malnutrition; for example, the use of machine learning models to predict vulnerability to malnutrition where data are not collected. However, it is urgent to consider good governance, triangulation of knowledge, vetting of AI-generated products from existing data sets, and collective thinking, to avoid fake or incorrect products and thus poorly informed decisions. The changes brought forward must also be equitable and benefit everyone, leaving no one behind. In this context it is critical to develop methods and metrics to assess the effectiveness of deploying AI-driven solutions in nutrition systems. The Global Digital Compact, a comprehensive framework for global governance of digital technology and AI, can assist in this.

Coherent policy and collective action in this area, working closely with all partners, including governments, academia, the private sector, civil society and international organizations, can capitalize on this new era and environment for data, including via the adoption of enhanced tech and AI solutions. Through the N4G Paris, we can collectively advocate for a robust approach, with targeted, coherent and comprehensive commitments backed by strategies and actions implemented in synergy and in compliance with ethical principles.

Call to action

Data ecosystems require significant investment and effective collaboration. Current and future challenges, such as the global nutrition transition, climate change, conflicts, demographic changes and population displacements continue to affect nutrition in unprecedented ways. The growing recognition of contributions from different sectors to good nutrition highlights the need to generate new data, strengthen data linkages and make effective use of existing evidence, data and innovations. This will elevate advocacy for new investments, guarantee that programmes and policies are relevant and impactful, and ensure that progress is monitored. Investments in nutrition interventions should therefore include high level actions on:

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At least 15% of total funding for nutrition should be allocated for new evidence generation and innovations (Gap 1); better data and knowledge management systems and use (Gap 2), and stronger systems, platforms and communities of practice to ensure capacity is adequate and to bring evidence to scale (Gap 3). This will enable workforce investments as well as investments in targeted data generation, new and more efficient data collection techniques, and investments in alternative tools and statistical methodologies (e.g., rapid surveys, proxys, modelling) to optimize design, implementation and impact of policies and programmes, and monitor overall progress towards the SDGs.

Addressing Gap 1: Evidence on *what, why and how*

Implementation science and programmatic monitoring and evaluation need to be prioritized to ensure that existing evidence-based interventions are being optimally implemented and scaled to reach target populations and to better understand how to overcome the challenges to good nutrition. Indicators, metrics and measurement and analytical tools (from assessment, implementation and monitoring and evaluation) must be urgently aligned across sectors to uniformly unpack barriers to good nutrition and document intervention impact. To ensure equitable recognition of nutritional challenges and associated investments, nutrition data should be disaggregated by age and gender and include other intersecting vulnerabilities, such as gender, socioeconomic status, geographical setting (i.e., urban or rural), etc. Data should be available and applicable at global, regional and (sub)national levels and be compatible with SDG accountabilities.

Addressing Gap 2: Efficiency and effectiveness gaps

Existing data need to be more broadly and effectively used, ensuring that evidence influences and guides nutrition policies and programmes in a timely manner. This needs to be supported by enhanced interoperability of data systems and cross/intersectoral data utilization, including in ways that enable informed decisions considering mutually reinforcing actions and/or trade-offs between sector outcomes (nutrition; health; water, sanitation and hygiene; education; agrifood systems; climate etc.). Further, global, regional and (sub)national aggregated implementation tracking and accountability on investment prioritization, efficiencies and effectiveness need to be prioritized, including accountability to platforms such as N4G and others, including the Nutrition Accountability Framework.

Addressing Gap 3: Enabling environment, infrastructure and capacity

Urgent investments are necessary for enhanced data infrastructure, governance and legislation to support broad stakeholder and public engagement in advancing nutrition actions, including through appropriate open-source data gathering and sharing, while incorporating robust practices for safeguarding privacy and maintaining confidentiality within data systems. The advances in AI call for development and responsible adoption of suitable technological solutions for enhanced nutrition action and associated safeguards on data governance, stewardship and management, including (and possibly particularly) for appropriate use in low-tech environments.



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Examples of commitments

Level	Commitment area of focus	Key commitment-makers
Global, regional, national	Invest in more and innovative data collection and management techniques in contexts where data are poor or inaccessible and in contexts where data collection methods are expensive/intrusive. Examples may include expanding predictive analyses based on proxy/associated data, validating new sampling techniques and developing new or easier tools for data collection. Gap 2	Governments, development partners, academic, research community,
Global, regional, national	Invest in information platforms that facilitate cross-sector analysis of data that support nutrition policy, programme and investment decisions by actors at national and subnational levels. Gap 2	Governments, development partners, donors,
Global, regional, national	Strengthen existing and/or build new networks for capacity building, knowledge and information exchange and stronger national academic institutions in low- and middle-income countries. Gap 3	Academic, research community
Global, regional, national	Invest in continued strengthening of successful data, knowledge, and exchange platforms such as National Information Platforms on Nutrition (NIPN) and the SUN Academic Networks, the Learning Network on Nutrition Surveillance (LeNNS) and DataDent and the Micronutrient Data Innovation Alliance (DIInA). Gap 3	Governments, development partners,
Global, regional, national	Invest in strengthening and aligning existing global and national knowledge platforms and databases to make them more up-to-date, user-friendly and accessible, including the World Health Organization Vitamin and Mineral Nutrition Information System (VMNIS) and the Global Database on Nutrition Action (GINA) on General Nutrition, and the Global Fortification Data Exchange (GFDx) on fortification data, etc. Gap 3	Governments, development partners, private sector
Global, regional, national	Enable technology exchange and strengthen capacities, including at subnational level, in digital innovations data collection, compilation, evidence generation, evidence use and for interaction with consumers, such as using new communications (social networks) and technologies to reduce costs in data collection, increase timeliness of data for decision-making and increase compliance (by beneficiaries/consumers). Gaps 2 & 3	United Nations agencies, civil society, private sector

Level	Commitment area of focus	Key commitment-makers
Global, national	Develop guidelines, standards and guidance for data systems, including on metrics, indicators, data usage, data governance, data management and data reporting, as well as evidence interpretation, evidence uptake and evidence-based decision-making. Gaps 1, 2 & 3	Governments, development partners, United Nations agencies
Global, national	Integrate nutrition-relevant indicators (with gender disaggregation and disaggregation by other groups, such as those living with disabilities, when relevant) and individual-level quantitative dietary data surveys in multisectoral surveys and systems, such as Demographic Health Surveys (DHS); Household Income and Expenditure Surveys; agricultural data systems; climate vulnerability and adaptation assessments; Integrated Phase Classification monitoring systems; water scarcity monitoring; market functionality analyses etc. Gaps 1 & 2	Governments, development partners
National, subnational	Support and strengthen efforts in implementation science for nutrition, especially in areas where recognized evidence gaps are persistent and in emerging areas (i.e., climate and nutrition nexus). Gap 1	Academics, research community
SMART commitment - example		
[UN Agency 01] will work with [UN agency 02] and lead a multi-stakeholder group of experts to develop and launch by 2027 a comprehensive guidance on nutrition data systems for national statistics offices and partners, including guidance on: metrics, indicators, data usage, data governance, data management, data reporting, evidence interpretation, evidence uptake and evidence-based decision-making.		
Global	Allocate adequate funding (>15%) for data and information system strengthening in all future nutrition investments. Gaps 1, 2 & 3	Development partners, donors
Global, regional	Build a research collaborative to prioritize current gaps in data, evidence and research efforts to improve coordination and strategic use of human and financial resources in a more coherent, collective way. Gap 1	United Nations agencies, academic, research community
Global, regional, national	Support and strengthen the capacities of actors at all levels (including the subnational level) for good data governance, including ethical, transparent, human-centred, state-of-the-art data privacy and security methodologies. Gap 3	Governments, United Nations agencies, civil society,



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Level	Commitment area of focus	Key commitment-makers
Global	Develop and support the use of open-source code, tools, AI-based products and services to increase data generation and improve the efficiency and effectiveness of data and knowledge systems and understand the actions necessary to encourage understanding and uptake of the evidence generated using these novel approaches. Gaps 2 & 3	Governments, development partners, private sector
SMART commitment – example		
In support of filling data and research gaps, [donor or development partner name] will allocate at least 15% of new investments in nutrition from [year] to [year] to data and evidence generation or information and knowledge management system strengthening.		
Regional	Build and manage regional networks for governance to work collectively on information infrastructure, legislation and collective accountability; as well as information exchange including digital and social innovation for increased understanding and uptake of data and evidence for decision-making and linking to global Coalitions for Action from the United Nations Food Systems Summit when relevant. Gap 3	Governments, regional platforms, development partners
SMART Commitment – example		
To prioritize the filling of current gaps in data, evidence and research efforts and provide technical capacity building, [academic partner] will, by the end 2026, launch a regional research collaborative that includes local research partners from at least 50% of the countries in the region, as well as national governmental counterparts.		
National	Develop national budgets for specific nutrition data and information needs, including investments in infrastructure, systems, legislation and governance, where needed, and mobilize and allocate sufficient domestic financing to match budgets. Gap 3	Governments
National	Assess national information systems, build roadmaps to interoperability and develop FAIR (findable, accessible, interoperable, reusable), resilient and continuous information systems. Gaps 2 & 3	Governments
National	Conduct regular national nutrition surveillance with the ability to disaggregate data by gender and other important groups, such as those living with disability and in traditionally marginalized communities. This includes collecting data on nutrition topics where recognized data gaps are persistent, such as individual quantitative dietary intake, micronutrient status, impact of climate change on nutrition, etc. and make data openly available. Gaps 1, 2 & 3	Governments, donors
National	Collect data on Minimum Dietary Diversity (MDD) for women and/or children and report them as part of SDG monitoring annually. Gap 1	Governments
SMART commitment – example		
To support informed action for healthy diets and good nutrition, [country name] will collect data on Minimum Dietary Diversity for Women and/or for Children annually starting in 2025 and will report on these indicators annually from 2025 to 2030.		

Acknowledgements

The thematic recommendations of commitments are the product of the six thematic working groups of the Nutrition for Growth International Advisory Group. These groups were coordinated by 12 co-moderators from international organizations, under the leadership of the International Advisory Group Co-Chairs: Ms. Afshan Khan, Assistant Secretary-General of the United Nations and Coordinator of the Scaling Up Nutrition (SUN) Movement, and Dr. Patricia Yoboue N’Goran-Theckly, Advisor in Nutrition, Food, and Early Childhood Development at the Presidency of the Republic of Côte d’Ivoire and SUN ExCom member, representing SUN francophone countries of Africa.

The thematic recommendations of commitments on data, research, innovation and AI were developed under the leadership of Ms. Francesca Erdelmann (United Nations World Food Programme) and Ms. Nancy Aburto (Food and Agriculture Organization of the United Nations), with participation and inputs from representatives of the Governments of Côte d’Ivoire, Ecuador, Japan, Rwanda, Spain, the United States of America, as well as representatives from the UN-Nutrition Secretariat, World Health Organization, Micronutrient Forum, Bill & Melinda Gates Foundation, Community Jameel, Stronger Foundations for Nutrition, DSM-firmenich, Global Alliance for Improved Nutrition, Inyene Agro Processing Factory Ltd, Access To Nutrition Initiative, and the SUN Movement Secretariat.

This work is published under the aegis of the Secretariat of the N4G Summit. The findings, interpretations, opinions and conclusions expressed and arguments employed herein are the outcomes of the consultations in the working groups and do not necessarily reflect the official views of the Government of France, the Co-Chairs of the International Advisory Group (the Scaling Up Nutrition Movement and the Government of Côte d’Ivoire), the working groups co-moderators or any member organization of the International Advisory Group.



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