



ABOUT ATNI

ATNi (Access to Nutrition initiative) is a global foundation headquartered in the Netherlands that actively challenges the food industry, investors, and policymakers to shape healthier food systems. Its mission is to transform markets so that, by 2030, at least half of companies' food and beverage sales are derived from healthy products. ATNi analyzes and translates data into actionable insights, driving financing, partnerships and innovations for market transformation so that all people have access to nutritious and sustainable food. ATNi is overseen by an independent unpaid board and is funded, among others, by the Gates Foundation and the UK Foreign, Commonwealth and Development Office. More information about ATNi's governance and operating policies is available online.

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VITAMIN METHODOLOGY 2025

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ABBREVIATIONS

ATNi	Access to Nutrition initiative
B2B	Business-to-business
B2C	Business-to-consumer
ERM	Enterprise Risk Management
FAO	Food and Agriculture Organization of the United Nations
F&B	Food and beverage
GAIN	Global Alliance for Improved Nutrition
GDP	Gross domestic product
GPF	GAIN Premix Facility
ILO	International Labour Organization
KPIs	Key Performance Indicators
LMICs	Lower- and middle-income countries
LMICs LSFF	Large-scale food fortification
LSFF	Large-scale food fortification
LSFF N4G	Large-scale food fortification Nutrition for Growth
LSFF N4G PAHO	Large-scale food fortification Nutrition for Growth Pan American Health Organization (regional agency of WHO)
LSFF N4G PAHO RDA	Large-scale food fortification Nutrition for Growth Pan American Health Organization (regional agency of WHO) Recommended Dietary Allowance
LSFF N4G PAHO RDA SDG	Large-scale food fortification Nutrition for Growth Pan American Health Organization (regional agency of WHO) Recommended Dietary Allowance Sustainable Development Goal
LSFF N4G PAHO RDA SDG SOP	Large-scale food fortification Nutrition for Growth Pan American Health Organization (regional agency of WHO) Recommended Dietary Allowance Sustainable Development Goal Standard Operating Procedure
LSFF N4G PAHO RDA SDG SOP UNICEF	Large-scale food fortification Nutrition for Growth Pan American Health Organization (regional agency of WHO) Recommended Dietary Allowance Sustainable Development Goal Standard Operating Procedure United Nations Children's Fund

METHODOLOGY INTRODUCTION

Micronutrient deficiencies remain a pervasive global health issue, affecting billions of people, particularly in low- and middle-income countries (LMICs).¹⁻³ Deficiencies in critical micronutrients—such as iron, zinc, vitamin A, and folate—can lead to serious health consequences including anaemia, impaired cognitive development, and birth defects.³⁻⁸

Vulnerable groups-such as infants, adolescents, pregnant and breastfeeding women, and the elderlyare at heightened risk of micronutrient deficiencies due to increased nutritional needs or reduced food intake. These risks are exacerbated when access to diverse and nutrient-rich diets is limited, especially in LMICs.9,10 In these contexts, food fortification-especially large-scale food fortification (LSFF)—can be a cost-effective public health strategy for addressing micronutrient deficiencies.¹¹ LSFF involves adding essential micronutrients to widely consumed foods like flour, oil, and salt, often mandated by government regulation.¹² Globally, substantial progress has been made in expanding food fortification regulations as a strategy for preventing micronutrient deficiencies, particularly in LMICs.¹³ However, challenges persist across the fortification value chain, including weak regulatory enforcement and monitoring, poor fortificant quality, and limited technical capacity among small-scale producers. 14-17

While fortificant producers play a vital role in delivering high-quality fortificants (i.e. micronutrients and premix blends), they also have numerous opportunities to strengthen the fortification value chain and advance the global nutrition agenda. Consensus is needed on the wider role and expected performance of fortificant producers, alongside clearer insights into their current nutrition and fortification practices.

ATNi's VitaMin Assessment provides a first-of-its-kind evaluation that establishes a baseline of current nutrition-related practices among 11 of the largest global fortificant producers, extending corporate accountability further up the supply chain.^a

The Assessment consists of a Corporate Profile component assessing the 11 companies' global nutrition-related policies and practices. The Assessment also includes case studies in India and Kenya, chosen for their contrasting fortification environments, to provide insight into practical implementation of national fortification measures and the roles played by fortificant suppliers, food producers, and regulatory agencies.

While the case studies rely on desk research and key informant interviews, the VitaMin Corporate Profile methodology builds on ATNi's previous benchmarks. ATNi's existing assessment framework was adapted to focus specifically on food fortification, and to evaluate companies operating at the upstream end of the fortification value chain. The methodology was developed in consultation with public, private, and civil society stakeholders, and draws on international fortification guidelines such as those from the World Health Organization (WHO)/Food and Agriculture Organization (FAO) fortification guidelines and the Pan American Health Organization (regional agency of WHO) (PAHO) Code of Practice for Food Premix Operations. Companies are assessed on practices that go beyond regulatory compliance.

The findings of the VitaMin Assessment are intended not only to guide industry efforts but also to inform policymakers, investors, and civil society—who have an important role in enabling and incentivizing responsible business practices that improve public health outcomes and fostering accountability across both the business-to-business (B2B) and business-to-consumer (B2C) sector.

a ATNi's Indexes assessing B2C F&B companies—such as the Global Index 2024, Kenya Market Assessment 2025, and India Index 2023—include indicators that track fortification commitments and practices, and their alignment with international fortification guidelines by WHO, FAO and Codex.



CORPORATE PROFILE: SCOPE AND APPROACH

The VitaMin Assessment Corporate Profile evaluates the nutrition-related policies and practices of 11 of the world's largest manufacturers of fortificants, including vitamins, minerals, and premix blends. These companies collectively supply a majority of fortificants used in LSFF globally (see Company Selection). Of the 11 selected companies, several operate across sectors beyond food and human nutrition, including animal nutrition, cosmetics, industrial applications, and pharmaceuticals. For some companies, nutrition represents a relatively small part of their core business, yet they hold significant potential to influence nutrition outcomes—internally through their workforce, externally through their customers, and more broadly across the value chain.

The Corporate Profile assessment includes a set of indicators structured under four thematic categories evaluating 1) the inclusion of nutrition within core business strategies, 2) support provided to food manufacturers and distributors to ensure safe and effective handling and use of fortificants, 3) broader efforts to support fortification, especially in highburden markets, and 4) workforce nutrition measures. Equal weight is given to all categories. It additionally assesses whether company commitments and practices are disclosed-where applicable- (see Box 1) and whether they apply across all markets in which the companies operate. To capture LMIC relevance, specific evidence is requested from Kenya and India-the two case study countries-and companies were invited to demonstrate how practices are operationalised in these contexts. The full list of indicators can be found in the following sections 'Company Portfolio Information' and 'VitaMin Assessment Categories'. Table 1 presents an overview of the four thematic categories and the key elements assessed within each.

BOX 1 **DISCLOSURE LEVEL**



To encourage companies to be transparent about their commitments, policies, and activities, enable greater scrutiny by stakeholders, and enhance accountability, ATNi applies a 'disclosure level' to certain indicators. These indicators are identified by the 'page' symbol (shown above).

The disclosure level measures how transparent the company is about commitments/policies and activities, i.e. the extent to which the information that meets the indicator's criteria is available on the company's public domain (i.e. own website(s) and reports).

Fully
Partially
No
Not applicable

Notes on use:

- 'Fully' is selected when all necessary information is on the public domain.
- If some information is publicly available but key details are based on internal documentation provided by the company during engagement, 'Partially' is selected.
- If information used to assess the indicator is publicly available on the websites/reports of third-party organizations (such as industry associations or initiatives), 'Partially' is selected.
- If the third-party source is an online news site/ magazine etc., 'No' is selected.
- If information is only shared with ATNi and is not available in the public domain, 'No' is selected.
- 'Not applicable' is selected if the company does not receive a score for the relevant indicator.

TABLE 1

OVERVIEW OF THE VITAMIN ASSESSMENT CORPORATE PROFILE METHODOLOGY

Category	No. of Indicators ^b	Scope	Elements Assessed
Commercial nutrition strategy	4	Core business operations	Integration of public health nutrition goals into business strategy, beyond merely supplying fortificants. Governance structures supporting these nutrition goals
Engagement with customers and distributors	4	Commercial operations across the supply chain	Structured collaboration with customers to deliver effective technical support and develop fortificants tailored to the intended market, and in compliance with national regulations and dietary guidelines, while meeting customer specifications. Formal engagement with distributors to ensure proper handling and storage across the supply chain to maintain fortificant quality. Structured contribution to broader
Nutrition-sensitive activities	1	Broader initiatives i.e. not targeted at customers	Structured contribution to broader fortification efforts across the global food value chain.
Workforce Nutrition	2	Internal (company employees, including office and factory workers)	Implementation of nutrition interventions at scale to support the nutritional well-being of all employees globally.

COMPANY SELECTION

Company selection for the Corporate Profile assessment was guided by a set of inclusion criteria designed to ensure the relevance, comparability and potential impact of the assessment. Core criteria included: active supply of micronutrients and premix for LSFF programmes; significant operations or market presence in LMICs; global geographic reach; and supply into at least one or both focus countries of the VitaMin case studies (Kenya and India). Certification under the Global Alliance for Improved Nutrition (GAIN) Premix Facility (GPF) was also a key requirement, reflecting recognized standards for fortificant quality and safety. Additional factors informing company selection included: whether the companies were publicly listed (thereby enhancing transparency) and whether they participate in initiatives such as Millers for Nutrition.

A list of 11 of the largest global producers of micronutrients and premix was identified for inclusion in the VitaMin assessment, based on market intelligence from the Giract value chain analysis commissioned by the Bill & Melinda Gates Foundation, consultations with expert stakeholders, and publicly available information on companies' activity in LSFF and LMIC markets. These producers supply premix blends and single ingredients of vitamin A, iron, folic acid and zinc-micronutrients of global public health concern, particularly in LMICs.

During the research process, minor amendments were applied to the initial methodology by consolidating closely related indicators to improve the coherence and effectiveness of the assessment.

TABLE 2 COMPANIES ASSESSED IN THE VITAMIN ASSESSMENT

C ompany ^c	Short Name used in Assessment	НО	Private/ Publicly Listed
AQC Chemlab Private Limited	AQC	India	Private
BASF SE	BASF	Germany	Public
dsm-firmenich	dsm-firmenich	Switzerland, the Netherlands	Public
Glanbia plc	Glanbia	Ireland	Public
Hexagon Nutrition Limited	Hexagon	India	Private
Mirpain Gıda San. ve Tic. A.Ş.	Mirpain Supplevit	Türkiye	Private
Piramal Pharma Limited	Piramal	India	Public
SternVitamin GmbH & Co. KG/ Mühlenchemie GmbH & Co. KG	SternVitamin/ Mühlenchemie	Germany	Private
Sudeep Nutrition Private Limited	Sudeep	India	Private
Zhejiang Medicine Co., Ltd.	Zhejiang Medicine	China	Public
Zhejiang NHU Co., Ltd.	Zhejiang NHU	China	Public

RESEARCH PROCESS

The Corporate Profile research followed a structured process beginning with the development of an indicator framework and company selection, followed by an initial assessment carried out by ATNi researchers using publicly available information. Each selected company was provided with access to its assessment on ATNi's online data gathering platform (Probench) to share additional input and evidence. Prior to accessing the survey, companies were invited to attend a training hosted by ATNi, which introduces the assessment framework and research process that involves two rounds of company engagement.

In the first round, companies were encouraged to provide information and supporting evidence that is either publicly available or confidentially shared with ATNi with the option of doing so under a non-disclosure agreement. ATNi researchers reviewed these submissions iteratively, engaging in bilateral clarification calls with companies where necessary to verify claims, address data gaps and obtain supporting documentation. Participation in the assessment is voluntary. For non-engaging companies, researchers relied on information available in the public domain.

The Corporate Profile assessment period ran from March 2025 till mid-June 2025. Once completed, each assessment was peer reviewed by another member of the research team to ensure consistency, accuracy, and impartiality. After this, the information was used to develop report chapters and individual company result cards, which include findings and recommendations for each company. Prior to publication, companies are provided the opportunity to review written information, for the specific purposes of confirming accuracy and that information is suitable for publication and not confidential.

- Note: Company names refer to the parent company unless otherwise stated below.
 - DSM-Firmenich AG is the parent company of dsm-firmenich.
 - Piramal Enterprises Limited is the parent company of Piramal
 - Stern-Wywiol Gruppe is the parent company of SternVitamin and Mühlenchemie.
 - Sudeep Pharma Private Limited is the parent company of Sudeep.
 - NHU Holding Group Co., Ltd. is the parent company of Zhejiang NHU.

BOX 2

ASSURANCE OF NON-DISCLOSURE/ CONFIDENTIALITY

ATNi has a strict data protection policy. The platform 'Probench' ATNi uses to collect data for the Corporate Profile assessment is protected, ensuring that companies' submitted information is safe and protected within the platform. Companies receive individual accounts for their assessment which only staff who have log in details can access. In addition, ATNi offers companies the option of a non-disclosure agreement for the purpose of submitting data for the Corporate Profile assessment.

LIMITATIONS

While the Corporate Profile aims to provide a comprehensive assessment of fortificant manufacturers' policies and practices, it is based primarily on self-reported data submitted by companies. It is assumed that all publicly reported and privately disclosed data is accurate. ATNi also requires companies to provide evidence to substantiate their statements. As this was an initial assessment and considering resource requirements, it was not feasible to conduct independent, on-the-ground assessments of companies' products (i.e. product testing) or practices. This is also the first application of the methodology to B2B companies operating in upstream fortification supply chains; thus, some indicators have limited historical benchmarks, and companies' policies in this area are still evolving. Time constraints may also limit the amount of evidence that companies share. Additionally, participation in the assessment is voluntary; therefore, insights are limited to those companies willing to engage in the process. The actual performance of non-engaging companies, or companies with limited engagement during the research process, may not be fully captured. As a result, the findings of the VitaMin Assessment may not reflect the full extent of companies' actions to support effective fortification and improve nutrition.



COMPANY PORTFOLIO INFORMATION

The 'Company portfolio' section aims to collect basic company information that will provide an overview of the vitamin, mineral, and premix portfolio, including markets of production and distribution, as well as quality and food safety certifications in place for the company's manufacturing facilities. This section includes the following indicators:

Question 1: Please complete the form listing the different types of vitamin and mineral single ingredients and premixes supplied by the company globally for various food applications. If a type is only sold in selected markets, please indicate so. Companies with the largest market share in Tanzania were selected based on their national retail sales of food and non-alcoholic beverages, using sales estimates from Euromonitor International Passport data for the financial year 2022.

The form aims to collect information on the following:

- Type of micronutrient/premix
- List of vitamins/minerals
- Market
- Specify production source (domestic/imported)
- Food application and intended use (e.g. LSFF, market-driven fortification, management of malnutrition)
- Annual metric tons of micronutrients/premix supplied from the previous calendar year

Question 2: Please complete the form listing your company's vitamin and mineral single ingredients and premix production sites, where they are located, and whether any are GPF-approved and/or FSSC22000-certified or received another relevant certification.

The form aims to collect information on the following:

- Micronutrient premix/single ingredient production site
- Type of micronutrient premix/single-ingredient produced at this site?
- Is the facility GPF-approved? (Yes/No/In process)
- Is the facility FSSC22000-certified?
- If neither GPF-approved, nor FSSC22000-certified, please specify type of certification received.

Question 3: Please list the distributors you work with to distribute vitamin and mineral single ingredients and premixes in the different markets your company supplies to.

Question 4: What proportion of the company's business focuses on human nutrition? Please provide details about the company's different business segments and their relative size.

Question 5: What proportion of the company's overall nutrition portfolio focuses on vitamin and mineral single ingredients and premixes for food fortification?

VITAMIN ASSESSMENT CATEGORY: COMMERCIAL NUTRITION STRATEGY

TABLE 3

COMMERCIAL NUTRITION STRATEGY

Indic	cator Question	Answers
	company have ents to address	a. Yes, the company sets Specific, Measurable, and Time-bound nutrition commitmen in its corporate strategy
public hea	alth nutrition through ercial activities?	b. Yes, the company articulates some commitments to grow through a focus on nutrition in its corporate strategy
		c. Yes, the company articulates some commitments and/or nutrition-related activities, but not as part of a clear corporate strategy
		d. No/no information
	•	ompany prioritize fortificant sales intended for products that are considered relatively all public health authorities?
	nt guidance	company sets out, in its corporate strategy (e.g. document, report page, webpage),
To be cred time-boun "Specapprotection of the control of the cont	below). lited for answer 'a' the or describing their key cific" refers to defining baches, pillars, workstroommitment(s) made; isurable" refers to describe	each concept described in the commitment, including the stakeholders involved, eams, each commitment goal, the target population, and the geographical coverage of ribing the target level for each goal starting from a specified baseline (i.e. if the target is seline level must be reported), and having a monitoring plan in place with Key
	rmance Indicators (KPI	s); ng a timeframe (for example, in years) for achieving target levels.
deve Further exa	rmance Indicators (KPI e-bound" refers to setti ble: 026, increase the propo ed] in countries with a ement a pricing schem loping countries by 20	ortion of premix produced by the company for large-scale food fortification [formally high burden of malnutrition by X% globally (from 2022 levels). e to provide premix at reduced cost to at least 5 high-need markets in emerging and 28.
deve Further exa	rmance Indicators (KPI e-bound" refers to setti ole: 126, increase the propo ed] in countries with a ement a pricing schem loping countries by 20 amples can be found in a supply chain. ¹⁸	ortion of premix produced by the company for large-scale food fortification [formally high burden of malnutrition by X% globally (from 2022 levels). e to provide premix at reduced cost to at least 5 high-need markets in emerging and

TABLE 3 (CONT.)

COMMERCIAL NUTRITION STRATEGY

No.	Indicator Question	Answers	
	These activities may be credited elso should be forward-looking, i.e. what	ewhere in the methodology, but this is not sufficient to be credited as a 'strategy', which it plans to do in the coming years.	
	Rationale		
	Increasing rates of malnutrition continue to challenge efforts to achieve the Sustainable Development Goals (SDGs), impacting not only public health, but also economies, the environment, and the quality of life of billions of consumers, now and in the future. Fortificant manufacturers have an increasingly urgent responsibility and opportunity to contribute to healthier diets and address malnutrition through their commercial operations. This means ensuring that their commercial activities can influence more positive public health nutrition outcomes. For example, this can be achieved by improving consumer diets by meeting micronutrient shortfalls through healthier foods, especially for populations with higher risks of hidden hunger. Specifically, a premix company can encourage their customers to use premixes in the fortification of healthier consumer products, rather than in products that have high levels of nutrients of concern (saturated fats, salt and sugar). Another option can be to nudge customers to reformulate less healthy products (e.g. sugar-sweetened beverages) in order to fortify a healthier version.		
	Micronutrient and premix manufacturers can also play a pivotal role in improving consumer diets by focusing on supplying to regions with a relatively high prevalence of micronutrient deficiencies, ensuring their products are affordable and accessible, and by supporting their proper use (e.g. through providing technical assistance). These efforts can help ensure that micronutrients are adequately delivered to populations most at risk of hidden hunger.		
	It should be clear which aspects of public health nutrition the company is seeking to address, and how the company plans to address them. To ensure this, a company should set nutrition-related commitments that are specific, measurable, and time-bound.		
	cohesively in a publicly available do	rate strategy where the nutrition-related commitments are outlined and presented cument/page, both to signal to external stakeholders the company's plans, enabling now that the planned activities are deliberate and intentional, rather than ad hoc and	
2	Does the company report on its pro	a. Yes, quantitative metrics of progress in achieving nutrition commitments	
	in implementing its public health nu commitments (assessed in indicator	P. 163, Qualitative illetifes of progress in achieving nutrition committees	
ري		c. No/no information	
	Assessment guidance		
	To be credited with answer 'a' , the company's nutrition commitments (as assessed in indicator 1) are quantitatively reported.		
	If the company reports only qualitative measures of progress of its public health nutrition commitments such as examples of specific case studies for specific fortification projects, or only selected or incomplete metrics, then it is credited with answer 'b'.		
	Rationale		
	It is important that companies publicly and comprehensively report on progress made on each of their nutrition/ fortification commitments. By doing so, this publicly enhances the credibility of their efforts, enabling stakeholders to hold them accountable to meeting their goals within the indicated timeframe. Ideally, the company tracks progress systematically and quantifiably. A key aspect of a robust commitment is the development of quantitative metrics or KPIs for each element (where this is feasible) in order to measure progress and success. This helps to drive results and enhances internal accountability. When reported publicly, this further enhances the credibility of its efforts in the eyes of external stakeholders, as it reduces the risk of cherry-picking specific or qualitative examples to report on while simultaneously carrying out activities that run counter to these.		

TABLE 3 (CONT.) COMMERCIAL NUTRITION STRATEGY

No.	Indicator Question	Answers
3	le accountability for the company's	a. Evidence of regular review of nutrition commitments at senior levels of management
	assigned to the highest levels of the	b. Formal accountability assigned to executive management
	implementation incentivized:	c. Executive's remuneration linked to performance on nutrition-related objectives
	(Check all that apply)	d. No/no information
	Assessment guidance	
	indicator 1) are regularly reviewed by senior l meeting agenda/minutes showing this to be	licit statement in its reporting that nutrition commitments (assessed in evel management (annually at minimum), or through evidence such as a the case. This does not mean that the individual at senior level management ccountable for the successful implementation of the given commitment.
	T	e individual who has 'ownership' of the nutrition commitments and is on. It must be clear from external reporting or internal documentation where ed.
		ould include bonuses, stock options, or other incentives. The company must on which performance is measured, and they are applied to the individual
	Rationale	
		nting nutrition commitments is assigned within the company's management sufficient influence, drive accountability, and ensure alignment with the a senior executive.
	the significance of the commitments and incr	y implementing nutrition commitments to senior management demonstrates eases the likelihood of sustaining their success. This occurs in part because tize the commitments, coordinate different business units, and allocate tation.
	implementing the nutrition commitments, me	commitments more concrete, compensation should be linked to successfully eaning that they are directly incentivized to act in the best interests of the jectives. 19,20 Regularly discussing and reviewing the nutrition commitments at empany considers these a priority.
4	Does the company's global risk assessment include risks related to the topic of nutrition?	a. Yes, the company acknowledges nutrition as a material issue for its business
	If yes, please state if any specifically relate to fortification and provide supporting evidence.	b. No/no information

TABLE 3 (CONT.)

COMMERCIAL NUTRITION STRATEGY

No.	Indicator Question	Answers
	Assessment guidance	
	Examples of key nutrition-related company's core business include:	risk indicators relevant for fortificant manufacturing companies that are focused on the
	protocols or premix standard Impact of future potential red Impact of future potential red Impact on reputation and/or Risks associated with current	strition-related litigation, such as the company failing to comply with future changes to ds and food legislation; gulation of labelling, and health and nutrition claims; gulation of marketing of less healthy food products; brand value due to poor nutritional quality of premix; and future poor economic performance of key markets due to technical and food out duties and taxes on premixes affecting affordability of fortified products).
	Rationale	
	an essential process for any busin regardless of size or ownership, e portfolio of key risk indicators that	inities that could affect the financial performance and strategic success of a company is ess, especially (but not limited to) those that are publicly listed. Most companies, ingage in a process called 'Enterprise Risk Management' (ERM) to develop a holistic, is predict potential risks that can negatively impact businesses and hinder the gy and objectives (as well as the opportunities).
	potential future impact on the bus risks are posed related to nutrition nutrition-related risks in a compar address public health nutrition in shareholders (if applicable) and o	es the company to develop plans and processes to anticipate them and mitigate their siness and strategy. For companies producing and selling fortificants, a wide range of a see 'Assessment guidance' for examples. Clear identification of the wide range of my's ERM system indicates that the company acknowledges the potential cost of failing to its commercial strategy and operations, and should clearly be conveyed to its ther stakeholders. If a company recognizes nutrition-related risks, it is more likely to be public health nutrition and prioritize this issue to a greater extent within the company.

VITAMIN ASSESSMENT CATEGORY:

ENGAGEMENT WITH CUSTOMERS & DISTRIBUTORS

TABLE 4

ENGAGEMENT WITH CUSTOMERS AND DISTRIBUTORS

No.	Indicator Question	Answers
1	Does the company provide technical assistance to	a. Yes, and with a clearly defined plan including measurable targets or key performance indicators (KPIs)
	customers to support proper fortificant use and fortification	b. Yes, and with a clearly defined plan without measurable targets/KPIs
	practices?	c. Yes, some evidence of providing technical assistance, but not part of a clear plan/programme
		d. No/no information

Assessment guidance

To be credited with **answers 'a'** or **'b'** or **'c'**, the company should show evidence of providing technical assistance to its customers.

Examples could include:

- Providing customers advice on meaningful premix formulations for the selected food vehicles.
- Training new customers across all markets on country-specific fortification standards and best-practices in handling premix.
- Offering customers support in testing micronutrient levels in the final product for consumption.

To be credited with **answer 'a'** or 'b', the programme should be designed with a clear plan and consist of several elements designed to achieve a clear goal. To be credited with **answer 'a'**, there must be measurable targets or KPIs in place. These could be in terms of timeline, the number/percentage of customers reached, or percentage of adequately fortified oil (against baseline).

If the examples/evidence provided are not clearly part of a long-term plan - for example, if they are more ad hoc in nature, involve only a singular, very specific intervention, are primarily passive in nature, and/or are short-term/temporary - **answer** 'c' is selected.

Evidence can include company policies, public statements/reporting on activities of technical assistance, internal documentation, work/training plans, and/or programme evaluation.

The evidence should be relatively recent (within the past 5 years) and should clearly demonstrate how the technical assistance provided by the company contributes to improved fortification practices and outcomes.

Please provide evidence from markets in different regions where the company offers such technical assistance. If the company provides technical assistance to its customers in Kenya and/or India, evidence should include examples from the respective countries. If the company provides this type of assistance to smaller-scale customers in LMICs, evidence should include examples of these too.

TABLE 4 (CONT.)

ENGAGEMENT WITH CUSTOMERS AND DISTRIBUTORS

No.	Indicator Question	Answers
	Rationale	
		emix used in fortification have an increasingly urgent responsibility and opportunity to dress malnutrition through their commercial operations.
	meaningfully to reducing micronutr food value chain. Fortificant produc	mpanies in the global market have the financial and technical resources to contribute ient deficiencies by supporting industry-wide efforts to improve fortification across the ers can support industry through their commercial activities by including provision of training and testing support to customers.
		cly report on the outcomes of such efforts to enhance transparency and recognition, as of a robust programme is the development of quantitative metrics or KPIs for each rder to measure progress/success.
2	Does the company request any of t	a. End-product micronutrient/premix is used for (food/product application)
_	following information from its custo to ensure the most suitable micronu	mers, b. End-product composition
	premix formulation?	c. End-product processing conditions
	(Check all that apply)	d. End-product packaging and labels
		e. End-product shelf life
		f. Type of micronutrients desired for the premix/end-product
		g. Desired micronutrient level in end-product
		h. Intended market for end-product distribution
		i. No/no information
	customers to complete. Provide evidence that covers marke	ic and include a form, checklist or questionnaire that the fortificant manufacturer asks ts from different regions, including LMICs, where this information is requested. If the remix in India and/or Kenya, evidence should include examples from these countries.
	Rationale	
	Premix Operations recommends the	ffective and suitable for the intended application, the PAHO Code of Practice for Food at a premix manufacturer should request detailed information from its customer. This emix, the composition and processing conditions of the final product, the final product exired levels of micronutrients. ²¹
	sensory qualities of added nutrients the nutritional impact, and upholds may limit the amount or type of mic even inhibit nutrient absorption. Ad	naracteristics and fortification requirements can impact the stability, bioavailability, and so Such data ensures the fortificant aligns with the end-product requirements, improves the quality and safety of fortified foods in the market. For instance, certain food vehicles cronutrients that can be added due to interactions that could reduce nutrient stability or ditionally, knowing the processing conditions helps the manufacturer determine if an efor nutrient loss during production and storage.

TABLE 4 (CONT.)

ENGAGEMENT WITH CUSTOMERS AND DISTRIBUTORS

No.	Indicator Question	Answers	
	Rationale (cont.)		
	other dietary reference intakes allows the and regulatory standards effectively. This i customized premixes and therefore requi	d market and its consumers' Recommended Dietary Allowance (RDA) levels or supplier to calibrate the fortificant formulation to meet local nutritional needs is especially important for food and beverage companies that often use highly be thorough trialling to ensure optimal performance. Another important the nutrition information and claims on product labels must comply with local	
	type, such as chelated forms for better bid	s useful because customers may have a preference for specific micronutrient pavailability. Customers may also require a certain level of micronutrients to meet e.g., "high in iron" or "source of vitamin D").	
3	Does the company provide its customers	a. Handling of the micronutrient/premix	
J	with any of the following instructions on	b. Micronutrient/premix addition rate/dosage	
	the supplied micronutrient/premix? (Check all that apply)	c. Packaging and labelling of the end-product with the incorporated micronutrients/premix	
	,	d. No/no information	
	Companies must demonstrate that instructions are communicated in writing, through on-site or virtual training, or by other means. Acceptable forms of evidence include instructions provided on the CoA, on the fortificant packaging, or with other documentation provided e.g. product information sheets or leaflets, QR codes or digital documentation, training materials, etc.		
	micronutrient/premix (e.g., mixing procedures, storage conditions including temperature and humidity control).		
	Answer 'b' is selected if companies provide the target addition rate specifying how much of the fortificant (in grams) should be incorporated per ton or metric ton of the food vehicle, or the real-time dosage adjustments (e.g., per minute).		
	Answer 'c' is selected if companies offer guidance on proper packaging, labelling, and regulatory compliance (e.g., nutrient claims, fortification statements) of the final product with the incorporated micronutrient/premix, relevant for the intended market.		
	Please provide evidence that covers markets from different regions where these instructions are provided. If the company supplies micronutrients/premix in India and/or Kenya, evidence should include examples from these countries.		
	Rationale		

TABLE 4 (CONT.)

ENGAGEMENT WITH CUSTOMERS AND DISTRIBUTORS

	Indicator Question	Answers
	Rationale (cont.)	
	Apart from preserving the quality of the fortificant itself, it is also important to ensure that the fortificant is appropriately incorporated into the intended food product, as under-dosing can result in nutrient deficiencies, while over-dosing can lead to toxicity or regulatory non-compliance. The target addition rate defines the amount of fortificant (in grams) that needs to be added to each ton or metric ton of the food vehicle to ensure that the final product conforms to the required micronutrient levels. ^{22,23} In addition, determining the amount of fortificant to be added per minute can also ensure that the fortificant is blended appropriately within the final food product. Fortificant companies can guide their customers in choosing the best micronutrients blend for a specific food vehicle, calculating the target addition rate, considering RDA levels in different countries and for different populations, as well as the appropriate fortificant feed rate based on the equipment used. Lastly, proper labelling and packaging guidance help fortificant users comply with fortification and food safety regulation ensuring that consumers receive adequately labelled and effectively fortified products with maintained micronutrient quality.	
4	Does the company ensure that proper	a. Yes, through instructions that are linked to formal agreements with distributors
	micronutrient/premix storage and handling practices extend to product	b. Yes, through instructions provided to distributors
	distributors?	c. No/no information
	micronutrient/premix storage and handling practices extend beyond production and include distributors. This ensures that micronutrient/premix quality is maintained throughout the supply chain. Answer 'a' is selected if the company shows evidence of contractual terms and conditions or Standard Operating Procedures (SOPs) to be followed by distributors.	
		hows evidence of contractual terms and conditions or Standard Operating
	Answer 'b' is selected if the company s linking them to formal agreements. Please provide evidence that covers many selected in the company selected in the company selected in the company selected in the company selected in the covers many selected in the company selec	hows evidence of contractual terms and conditions or Standard Operating
	Answer 'b' is selected if the company s linking them to formal agreements. Please provide evidence that covers mincluding LMICs. If the company suppli	hows evidence of contractual terms and conditions or Standard Operating istributors. shows evidence of general storage instructions provided to distributors but without arkets from different regions where the company supplies micronutrients/premix,
	Procedures (SOPs) to be followed by d Answer 'b' is selected if the company s linking them to formal agreements. Please provide evidence that covers m including LMICs. If the company suppli from these countries. Rationale Fortificant quality may deteriorate during contamination may occur due to impro-	hows evidence of contractual terms and conditions or Standard Operating istributors. shows evidence of general storage instructions provided to distributors but without arkets from different regions where the company supplies micronutrients/premix,
	Answer 'b' is selected if the company slinking them to formal agreements. Please provide evidence that covers mincluding LMICs. If the company supplifrom these countries. Rationale Fortificant quality may deteriorate during contamination may occur due to impressorage and handling throughout the sintended user. ²⁴	hows evidence of contractual terms and conditions or Standard Operating istributors. Thows evidence of general storage instructions provided to distributors but without arkets from different regions where the company supplies micronutrients/premix, es micronutrients/premix in India and/or Kenya, evidence should include examples and transportation and storage. For example, micronutrient degradation or microbial aper handling or exposure to moisture and high temperatures. Ensuring proper apply chain is critical to preserving the quality of the fortificant until it reaches the remix operations and the WHO Guidelines on Food Fortification with Micronutrients

VITAMIN ASSESSMENT CATEGORY: NUTRITION-SENSITIVE ACTIVITIES

TABLE 5

improved fortification practices and outcomes.

D.	Indicator Question	Answers
	Does the company support broader fortification efforts (i.e. not directly targeted at customers)?	a. Yes, and with a clearly defined plan including measurable targets or key performar indicators (KPIs)
		b. Yes, and with a clearly defined plan without measurable targets/KPIs
		c. Yes, some evidence of providing technical assistance, but not part of a clear plan/ programme
		d. No/no information
	development partners. Examples	
	development partners. Examples as part of Millers for Nutrition), do	er base–independently or as part of a shared value partnership with governments and/ s could include providing tailored training to smaller-scale millers, who are not clients (e
	development partners. Examples as part of Millers for Nutrition), do fortification practices. Additional examples can be foun chain. Relevant commitments re	er base—independently or as part of a shared value partnership with governments and/s could include providing tailored training to smaller-scale millers, who are not clients (exponential graphs) and in the N4G LSFF Commitment Guide, specifically for companies in the premix supply gistered during the latest N4G Summit in Tokyo are also considered. 'b', the programme should be designed with a clear plan and consist of several eleme
	development partners. Examples as part of Millers for Nutrition), do fortification practices. Additional examples can be foun chain. Relevant commitments re To be credited with answer 'a' or designed to achieve a clear goal.	er base—independently or as part of a shared value partnership with governments and/s could include providing tailored training to smaller-scale millers, who are not clients (exponenting equipment, or developing innovative testing solutions, to support proper and in the N4G LSFF Commitment Guide, specifically for companies in the premix supply gistered during the latest N4G Summit in Tokyo are also considered.
	development partners. Examples as part of Millers for Nutrition), do fortification practices. Additional examples can be foun chain. Relevant commitments re To be credited with answer 'a' or designed to achieve a clear goal. could be in terms of timeline, the fortified oil (against baseline). If the examples/evidence provides	er base—independently or as part of a shared value partnership with governments and/s could include providing tailored training to smaller-scale millers, who are not clients (so conating equipment, or developing innovative testing solutions, to support proper and in the N4G LSFF Commitment Guide, specifically for companies in the premix supplicated during the latest N4G Summit in Tokyo are also considered. 'b', the programme should be designed with a clear plan and consist of several element. To be credited with answer 'a', there must be measurable targets or KPIs in place. The

documentation, work/training plans, and/or programme evaluation. The evidence should be relatively recent (within the past 5 years) and should clearly demonstrate how the fortification support provided by the company contributes to

Please provide evidence from markets in different regions where the company offers this type of support, including LMICs. If the company provides it in Kenya and/or India, evidence should include examples from the respective countries.

TABLE 5 (CONT.)

NUTRITION-SENSITIVE ACTIVITIES

No.	Indicator Question	Answers	
	Rationale		
	According to the United Nations Children's Fund (UNICEF), a 'shared-value partnership' involves working with businesses to create a win-win arrangement that is of value to both society and business. ²⁶ From a business perspective, such a partnership can deliver benefits in terms of access to market, increased sales, enhanced reputation, license to operate, and strategic communications. Whereas from a development perspective, this type of partnership can deliver resources to drive improvements in public health (e.g. new implementation modalities, business assets such as data and expertise, programme funding, better business practices that improve life for families and children).		
	Larger micronutrient and premix companies in the global market have the financial and technical resources to contribute meaningfully to improving nutrition outcomes, such as reducing micronutrient deficiencies, by supporting industry-wide efforts to improve fortification across the food value chain. Examples of support may include provision of technical assistance to millers—beyond the company's customer base—and other stakeholders in the food fortification value chain. Support can include on-site training programmes on quality assurance practices, testing materials/kits, or dosing equipment to smaller-scale millers and food producers in areas with high incidence of hidden hunger.		
	well as accountability. A key aspec	olicly report on the outcomes of such efforts to enhance transparency and recognition, as at of a robust programme is the development of quantitative metrics or KPIs for each order to measure progress/success.	

VITAMIN ASSESSMENT CATEGORY: WORKFORCE NUTRITION

TABLE 6

WORKFORCE NUTRITION

No.	Indicator Question	Answers
1	Does the company have a program that addresses	a. Yes, healthy food at work is included for its employees
	workforce nutrition for employees?	b. Yes, nutrition education is available for its employees
		c. Yes, access to regular nutrition-focused health checks are offered to its employees
	(Check all that apply)	d. No/no information

Assessment guidance

Three examples of corporate engagement to improve employee nutritional outcomes are assessed.

For **answer 'a'**, the Workforce Nutrition Alliance (WFNA) defines 'healthy food at work' as 'programmes that focus on increasing employees' access to healthy and safe foods at work. Employers may provide healthy food for free, with a subsidy, or at full cost to the employee. These programmes change the food environment through healthier canteen meals (some include promotion alongside options), snack offerings, vending machine options, more balanced portion sizes. All of these shape people's access to nutritious foods and encourage healthier choices. ²⁷

The Chatham House Report (2020), which looks at the direct cost of malnutrition for business, provides other examples of incentives for healthy eating to the workforce, such as using nutritional food labelling in office canteens and providing employee vouchers for healthier foods.²⁸

For **answer 'b'**, the WFNA defines 'nutrition education' as programmes/interventions aiming 'to change the nutrition and/ or lifestyle behaviours of employees through increasing employees' knowledge of beneficial health habits. Nutrition education may act on several levels, including: (1) changing attitudes towards a specific food behaviour; (2) addressing normative beliefs (i.e. the perceived norm); (3) modifying beliefs about self-control and the ability to change. Interventions often work through groups with methods such cooperative menu planning, dissemination of educational materials, interactive information sessions and workshops; an alternative approach is one-to-one counselling.'²⁹

Other examples provided by the Chatham House Report (2020) include information and awareness campaigns in the workplace on nutrition, apps to support personal nutritional intake, and support groups and discussion groups around healthy eating.

For **answer 'c'**, according to WFNA, 'Nutrition-related health checks' involve 'periodic one-to-one meetings with a health or nutrition professional to assess, and usually discuss, the employee's nutritional health. Health checks provide personalized data for each employee, giving them a better understanding of their nutritional risk factors. These might include cholesterol and/or blood-pressure screenings, or weight monitoring and classification (for example using Body Mass Index (BMI) to assess whether an employee is underweight, overweight, or obese).³⁰

For answers 'a', 'b' and 'c', evidence could include, for example, a project plan or policy document, public reporting on activities, employee/management briefings, canteen menus, and/or evaluation of the programme.

The assessment will also consider if the selected programme(s) and arrangement(s) are available for all/most workers (including manufacturing workers), or only office workers.

Please provide evidence from countries in different regions where the company offers such workplace nutrition programmes. If the company has such activities in Kenya and/or India, evidence should include examples from the respective countries.

TABLE 6 (CONT.)

WORKFORCE NUTRITION

No.	Indicator Question	Answers	
	Rationale		
	The Chatham House Report (2020) describes the hidden costs of malnutrition for business using a model developed by Vivid Economics to identify the direct costs of certain forms of malnutrition in the adult workforce in terms of reduced productivity. ²⁸ The report revealed that businesses in 'low- and middle-income' countries collectively lose between USD 130 billion and USD 850 billion a year, equivalent to between 0.4 per cent and 2.9 per cent of those economies' combined gross domestic product (GDP). In reality, the costs are likely to be much higher due to costs related to impaired cognitive development and low educational attainment arising from undernutrition in childhood, or indirect costs such as paid sick leave for malnutrition-related illness.		
	Workplace settings are recognized by the WHO to be a promising platform for implementing nutrition interventions scale. These are considered contained environments which can be modified with relative ease, and which involve consistent interaction with a substantial and recurrent audience. There is considerable evidence that providing health food at the workplace can lead to positive health outcomes for the employees, including increased understanding of healthy nutrition and positive behaviour changes towards healthy nutrition.		
	The design of a nutrition literacy programme and the nutrition education materials might need to be adapted to the different audiences being targeted. As global micronutrient/premix manufacturers likely have a varied workforce, includin both men and women, as well as blue- and white-collar workers of all ages, education, and language groups with differen nutritional needs, a 'one-size-fits-all' nutrition education strategy has proven to be ineffective for this type of programme.		
		nce also suggests that nutrition health checks can help prevent non-communicable diseases like diabetes and he se. Studies conducted in offices and factory settings found promising results especially when health-checks were led with counselling. ³¹	
	orce nutrition programmes is clear, including improved employee health and ed absenteeism, and increased employee morale, engagement, and retention.		
2	December 2011	a.1 Paid maternity leave: 26 weeks or more (WHO recommendation)	
2 ==h	Does the company provide arrangement to support working parents and protect	a.2 Paid maternity leave: Between 18 and 26 weeks (ILO recommendation)	
	breastfeeding?	a.3 Paid maternity leave: 14-18 weeks (ILO minimum standard)	
	(Check all that apply)	b.1 Paid paternity/second caregiver leave of 12 weeks or more	
		b.2 Paid paternity/second caregiver leave: between 4 and 12 weeks	
		b.3 Paid paternity/second caregiver leave: at least 2 weeks	
		 c. Yes, breastfeeding support for mothers at work. Please specify the type of arrangements offered (e.g. breastfeeding rooms, paid breaks to express breastmilk, refrigerators to store breastmilk). 	
		d. No/no information	
		e. Not applicable	
	Assessment guidance		
	Only one answer 'a' and one answer 'b' Only paid leave is assessed in this indica credited.	can be selected. tor. Leave that is unpaid or paid less than two-thirds of the usual salary will not be	
	law is taken as a given and will not be of extend the paid maternity/paternity leav	where paid maternity or paternity leave is a legal requirement, compliance with the credited. Companies are expected to go beyond regulatory requirements and e it offers to staff in other markets where this is not mandatory. If the company is latory to offer maternity leave of 26 weeks, this indicator will be considered to be	

TABLE 6 (CONT.)

WORKFORCE NUTRITION

	Indicator Question	Answers
	Assessment guidance (cont.)	
	To be credited with answer 'c' , the company must share evidence of breastfeeding support programmes such as: flexibili in working hours to allow for continued feeding at home, a private mothers' nursing room at work to express milk, provision of breastfeeding equipment, breastmilk delivery services for women on work travel, apps providing regular advice on breastfeeding, provision of breastfeeding support services to help mothers who are having difficulties continuing to breastfeed and finally, raising awareness in all staff.	
	Evidence could include, for example, a project plan or policy document, public reporting on activities, employee/management briefings, and/or evaluation of the programme. The assessment will also consider if the selected programme(s) and arrangement(s) are available for all or most workers (including manufacturing workers), or only office workers.	
	Please provide evidence from countries in different regions where the company offers such workplace arrangements. I company provides such arrangements in Kenya and/or India, evidence should include examples from the respective countries.	
Rationale		
	and continue to breastfeed, along has significant nutritional and hea therefore critical, enabling mother	ners breastfeed exclusively (no other liquids or foods) for the first six months after birth g with adequate complementary foods, for two years of age and beyond. ³² This not only lth benefits for the child, but also for the mother. Offering paid maternity leave is rs and babies to recover from birth, bond with their babies, and breastfeed in the critical wealth of evidence from countries at all income levels has found that longer periods of tality rates. ³³
	maternity leave to be offered, and Convention, 2000 (No. 183)), and	ation (ILO) stipulates that 14 weeks should be the minimum time period for paid I recommends increasing it to at least 18 weeks (Article 4(1), C183 - Maternity Protection that the amount of pay should not be less than two-thirds of the original salary. However eastfeed exclusively for the first six months, the WHO recommends paid leave of 26
	fathers who take paternity leave as mothers' ability to breastfeed, red There is currently no international	sts that paternity leave may indirectly affect children's health. Studies have found that re more involved in childcare and other unpaid labour at home. This may benefit luce the likelihood of post-partum depression, and thereby also benefit infant health. 33 standard for paternity leave. As of 2023, the United Nations and WHO offers all their ental leave, including fathers/second caregivers, increasing from 8 weeks of paternity
	of exclusive breastfeeding. In the mothers, and decreased healthcar	sures to support breastfeeding at the workplace have been shown to increase the period workplace, this translates to improved productivity and reduced sick days for working re costs. The United States Breastfeeding Committee reports that for every USD 1 g, employers realize a cost saving of USD 3. See the 'GAIN Breastfeeding Support

VITAMIN ASSESSMENT ADVISORY GROUP

This VitaMin Assessment Corporate Profile methodology and company selection is also developed and reviewed in collaboration with the project's advisory group committee consisting of:

TABLE 7

OVERVIEW OF THE VITAMIN ASSESSMENT ADVISORY GROUP

Name	Organization	Job Title
Dr. Anna Zhenchuk	BioAnalyt	Managing Director
Dr. Helena Pachon	Food Fortification Initiative	Research Director
Laura Ann Rowe	Nutrition International	Senior Technical Advisor
Leo Schulte-Vennbur	GAIN Premix Facility	Project Manager
Scott Montgomery	Food Fortification Initiative	Director

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