

## Definition and operationalization of the concept of a nutritious and safe food

GAIN's purpose is to advance nutrition outcomes by improving the consumption of nutritious and safe food for all people, especially those most vulnerable to malnutrition. As such, GAIN values the importance of nutritious diets and is engaged, as a primary aim, in many efforts to promote them; by increasing the availability and affordability of nutritious foods, enhancing the nutritional value of foods, or influencing people's food choices. No one single food item exists that provides all elements needed for a healthy diet; individuals consume a number of foods as part of a diet and also make choices on the basis of individual foods. GAIN focuses on food safety as a secondary aim, ensuring that the nutritious foods we work on should be safe and thereby maximizing health outcomes. GAIN also seeks to ensure sustainable diets with co-benefits on climate, nutrition, human health and the environment.

In order to ensure consistency internally in GAIN and provide guidance for the implementation of GAIN's strategy, this guidance note serves to define and provide a typology that interprets and operationalizes the concept of "nutritious and safe food".

### 1. Definition

GAIN defines a "nutritious" food as a food that in the context where it is consumed and by the individual that consumes it, provides beneficial nutrients (e.g. vitamins, major and trace minerals, essential amino acids, essential fatty acids, dietary fiber) and minimizes potentially harmful elements (e.g. anti-nutrients, quantities of saturated fats and sugars) <sup>1,2</sup>. The contextual or target group qualification is necessary because particular vulnerable groups have special needs, which can make a given food nutritious for them while being potentially undesirable for others. For example, a one-year old infant needs foods that are energy- and nutrient-dense, while this might be undesirable for an adult who might receive excessive amounts of some micronutrients or an adolescent at risk of obesity. Similarly, high energy density is of importance for individuals suffering from acute malnutrition, whereas low energy density may be preferable for overweight individuals.

GAIN defines a "safe" food as a food that does not increase the probability of poor health outcomes when part of a broader recommended diet in the context where it is consumed. Specifically, safe food is that in which attributes derived from the value chain (pathogens, parasites and contaminants, including agrochemicals and food chain mycotoxins) that could cause adverse health outcomes <sup>3,4,5</sup> do not exceed internationally agreed thresholds. The Codex Alimentarius collection of internationally recognized standards provides reference points for adhering to such thresholds, which GAIN will use where and when needed.

### 2. Operationalization

The definition of safe food is in alignment with its operationalization. For simplicity we encompass all foods categorized in the typology below under the definition of a "nutritious" food:

Table. Typology of Nutritious foods <sup>i</sup>

Characteristic	Description	Examples of food categories
<b>High inherent nutritional value</b>	Naturally contains micronutrients, dietary fiber, high quality protein and/or essential fats in significant quantities <sup>ii</sup> . No major anti-nutritional or harmful qualities when consumed in recommended quantities.	Rich sources of nutrients <sup>ii, iii</sup> ; Fruits and vegetables; legumes; nuts and seeds; unsweetened dairy products; eggs; fish, lean <sup>iv</sup> meats
<b>Enhanced nutritional value</b>	Foods with some inherent nutritional value that become more nutritious through the addition of nutrients (i.e. fortification) or changes to the processing procedures. No major anti-nutritional or harmful qualities.	Fortified staple grains; mitigating loss of germ and dietary fiber in grain products
<b>Some inherent nutritional value</b>	Foods with some inherent nutritional value for which potentially harmful elements have been minimized	Minimally sweetened dairy products; low fat <sup>iv</sup> , sodium and minimally processed meat; low sugar fortified biscuits
<b>Source of added nutrients</b>	A condiment, food or product that enhances the nutritional value of foods or diets to which it is added <sup>v</sup> .	Iodized salt; fortified cooking oil; micronutrient powders; lipid-based nutrient supplements

<sup>i</sup> GAIN will not work on breast milk substitutes, sugar sweetened beverages (other than minimally sweetened dairy), highly processed meat products

<sup>ii</sup> While the specific terminology used varies by country, we can consider food sources of nutrients in two different ways—as either “important” or “rich” sources. Rich sources are those foods containing the highest amount or density of a nutrient, whereas important sources are those that contribute the most to a population’s dietary intake. A food composition table or database can provide information about rich sources of nutrients, whereas a combination of population intake as well as food composition data is needed to identify important sources.

<sup>iii</sup> An accessible reference of a more complete discussion of food sources of nutrients: Food and Agriculture Organization (1997). Agriculture, food, and nutrition for Africa – a resource book for teachers of agriculture. Rome, Italy: FAO. [Chapter 7: Food, nutrients and diets; <http://www.fao.org/docrep/w0078e/w0078e08.htm>]

<sup>iv</sup> Some exceptions may apply, such as in the case of malnourished people

<sup>v</sup> Note for programmatic application: Either we will not encourage additional consumption of the vehicle; or it has no significant nutritional risk; or it is designed for a vulnerable group for which guidelines exist or evidence of beneficial effects has been shown using trials with appropriate methodologies.

### 3. References

1. Drewnowski, A. Concept of a nutritious food: toward a nutrient density score. *Am J Clin Nutr.* 2005;82:721–732.
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4. Grunert, K.G. (2005). Food quality and safety: consumer perception and demand. *European Review of Agricultural Economics*, 32(3):369–391.
5. Hennessy, D. A., J. Roosen, and H. H. Jensen. 2003. Systemic failure in the provision of safe food. *Food Policy* 28(1):77–96.