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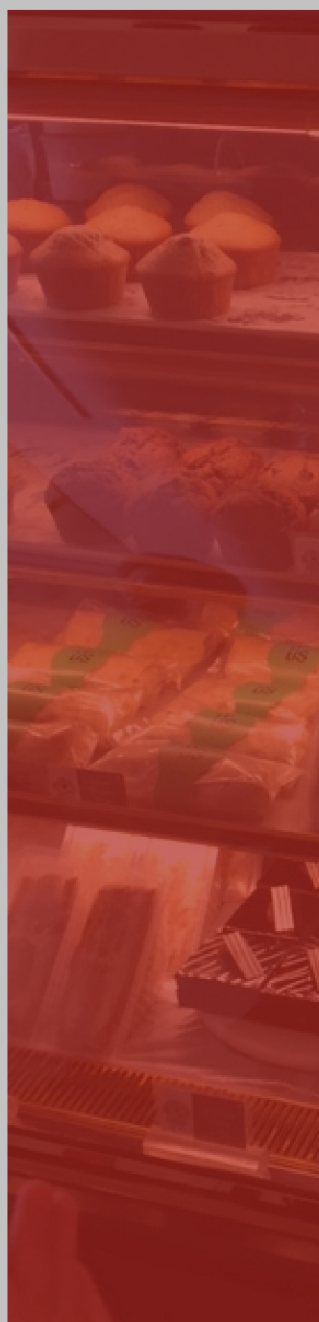

WHO NUTRIENT PROFILE MODEL

FOR SOUTH-EAST ASIA REGION

To implement the set of recommendations on the marketing of foods and non-alcoholic beverages to children

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Contents

1 Introduction

South-East Asia's rising prevalence of overweight and obesity needs urgent attention. A key driver of obesity and diet related NCDs is the consumption of foods high in sugar, salt and fat including trans-fats. [1] The growing availability and consumption of attractive, palatable, low-cost, processed food products that are characteristically energy-dense [2,3] are fuelling the rise in obesity and NCDs. [4] In September 2016, at the Sixty-ninth Session of the Regional Committee, Member States endorsed a resolution on the Strategic Action Plan to reduce the double burden of Malnutrition in South-East Asia Region 2016–2025 (SEA/RC69/R5). [5] This endorsement reflects the concern of Member States regarding the nutrition situation in the Region, the rising threat of NCDs and the modifiable dietary risk factors that need early attention. The resolution mandates WHO to support countries to implement evidence-based interventions to reduce the double burden of malnutrition. One key aspect of technical support is the development/adaptation of tools and policy instruments to address overweight and obesity.

The Strategic Action Plan, informed by global guidance, such as the WHO's Global Strategy on Diet, Physical Activity, and Health, [6] and the recent report by the Ending Childhood Obesity Commission, [7] advocates several population-based strategies to reduce the obesogenic environment and promote healthy diets. These include fiscal measures such as taxation of sugar-sweetened beverages (SSBs), implementing the set of recommendations on the marketing of foods and non-alcoholic beverages to children to reduce the exposure and the power of marketing of foods high in salt, sugar and fat [8] (WHA63.14), implementing a standardized nutrient labelling system with interpretive front-of-pack labelling, supported by education of both adults and children to improve nutrition literacy and creating a healthy food environment around schools.

1.1 Healthy diets

The exact make-up of a diversified, balanced and healthy diet will vary, depending on individual needs, e.g. age, gender, lifestyle, degree of physical activity as well as the cultural context, locally

available foods and dietary customs. A healthy diet should consist of a variety of fresh foods from all food groups, and help obtain the right amounts of essential nutrients. A healthy diet is low in energy-dense, nutrient poor foods. [9] Where undernutrition persists, the best options to meet energy needs should be from nutrient-rich foods (containing complex carbohydrates, proteins, micronutrients and healthy fat in the correct proportions) and not from energy-dense, nutrient poor foods that meet energy needs but do not supply essential nutrients in a healthy way. Annex 1 provides definitions of energy-dense foods from the literature and examples of such foods. [10]

The WHO Population Nutrient Intake Goals for preventing diet related chronic diseases provides the acceptable levels of consumption of specific nutrients as a percentage of daily energy requirements (Table 1). These goals are also useful as a guide for healthy diets. [11]

Table 1. Ranges of population nutrient intake goals [11]

Dietary factor	Goal (% of total energy, unless otherwise stated)
Total fat	15–30%
Saturated fatty acids	<10%
Polyunsaturated fatty acids (PUFAs)	6–10%
n-6 Polyunsaturated fatty acids (PUFAs)	5–8%
n-3 Polyunsaturated fatty acids (PUFAs)	1–2%
Trans-fatty acids	<1%
Monounsaturated fatty acids (MUFAs)	By difference[i]
Total carbohydrate	55–75%[ii]
Free sugars[iii]	<10%
Protein	10–15%[iv]
Cholesterol	<300 mg per day
Sodium chloride (sodium)[v]	<5 g per day (<2 g per day)
Fruits and vegetables	≥400 g per day
Total dietary fibre	From foods[vi]
Non-starch polysaccharides (NSP)	From foods[vi]

[i] This is calculated as: total fat - (saturated fatty acids + polyunsaturated fatty acids + trans-fatty acids).

[ii] The percentage of total energy available after taking into account that consumed as protein and fat, hence the wide range.

[iii] The term "free sugars" refers to all monosaccharides and disaccharides added to foods by the manufacturer, cook or consumer, plus sugars naturally present in honey, syrups and fruit juices.

[iv] The suggested range should be seen in the light of the Joint WHO/FAO/UNU Expert Consultation on Protein and Amino Acid Requirements in Human Nutrition, held in Geneva from 9 to 16 April 2002.[a]

[v] Salt should be iodized appropriately. The need to adjust salt iodization, depending on observed sodium intake and surveillance of iodine status of the population, should be recognized.

[vi] See section under "Non-starch polysaccharide (www.who.int/mediacentre/factsheets/fs394/en/)

1.2 Nutrient profile models

Implementing WHO's recommendations to reduce the obesogenic environment and promoting a healthy diet necessitates an objective method of categorizing foods that are components of a healthy diet and those that are less likely to be constituents of a healthy diet. Nutrient profiling is a scientific method for categorizing food and beverage items according to their nutritional composition. [12] It provides a method of differentiating between foods and non-alcoholic beverages (henceforth known as "foods") that are more likely to be part of a healthy diet from those that are less likely (notably those foods that may contribute to excess consumption of energy, saturated fats, trans fats, sugar or salt). Nutrient profile models vary in complexity and detail and are based on a categorical or a scoring system. Category-specific models are considered easier to adapt or modify than models based on scoring, an important consideration for a regional model that will be adopted by countries. [12]

1.3 A nutrient profile model for WHO South-East Asia Region

It is expected that this model will be adopted by Member States to implement the set of recommendations on marketing of food and non-alcoholic beverages to children. The use of nutrient profiling as a means of assessing eligibility for marketing and for other purposes would also become a driver for product reformulation. Processed foods that fail to meet the criteria permitting their advertising to children might benefit from reformulation, enabling the manufacturer to continue to advertise them.

1.4 Model development process

The development of the model was a policy exercise based on scientific information, identifying the best way to respond to the current food environment and to achieve the aim of aligning diets to current food-based dietary guidelines. Some components of the SEAR model were adapted from the model developed by WHO WPRO, which was developed from the WHO EURO model. [13] Justification

a Food and Agriculture Organization; Joint Expert Consultation on Protein and Amino Acid Requirements in Human Nutrition; United Nations University; World Health Organization. Publisher: Geneva WHO 2007. Series: WHO technical report series, 935; WHO technical report series, World Health Organization, 935.

for the thresholds was based on principles used in the PAHO nutrient profile model, [14] i.e. the population Nutrient Intake Goals. [11] A three step process was followed for adapting the draft model into a region-specific model.

1.5 Model development

Step 1. Pilot testing of draft model

The selected draft model (WPRO model) was pilot tested in five Member States. Testing consisted of examining the applicability of the model using a range of foods commonly consumed by children in each country to evaluate if foods generally categorized as high in sodium, sugar and fats could be differentiated from other foods. Each country also held a stakeholder discussion on the applicability, feasibility, strengths and weaknesses of the draft model. Alignment of the guidance from the model with the country's food-based dietary guidelines was also assesed. This information was provided at the regional workshop. (Annex 2)

Step 2. Technical meeting

A technical meeting, the Regional workshop to develop a nutrient profile model for South-East Asia to promote healthy diets and reduce childhood obesity, 2016, was held to review and finalize the model. Results of the field testing of the draft nutrient profile model were analysed, and reviewed. The recommendations and directions that were received from experts and country participants have been considered in final model. (Annex 3)

Step 3. Consolidation of Member States' comments, viewpoints and specific requests, review and finalization of the model

Finalization of the model was done in line with country recommendations and conclusions obtained from the Regional workshop. Member States were requested to comment further on the improved final model, and these observation were considered when finalizing the model.

2

Nutrient profile model for the South-East Asia Region[b]

2.1 Aims

1. The primary purpose of this model is to help classify foods to implement the set of recommendations on marketing of food and non- alcoholic beverages to children.[c]
2. This model could also be adapted (after suitable testing and validation) for other purposes, such as defining tax policy to limit consumption of unhealthy foods and developing benchmarks for foods sold in school cafeterias.
3. The food and beverages that can be evaluated with this model are food categories which are usually considered in general to have elevated levels of any of the following nutrients: sodium, free sugars, saturated fat, total fat and trans-fatty acids (3, 10 and Annex 1). Examples for each category are provided in the model. However, two categories of fresh foods are included for emphasizing that fresh foods are encouraged over other products.

b For the definition of terms used in this nutrient profile model, please refer to the glossary on page 6.

c Unhealthy diet is a risk factor for noncommunicable diseases. The risks presented by unhealthy diets start in childhood and build up throughout life. In order to reduce future risk of noncommunicable diseases children should maintain a healthy weight and consume foods that are low in saturated fat, trans-fatty acids, free sugars and salt. Evidence on the extent, nature and effects of food marketing to children shows that advertising is extensive and other forms of food marketing to children are widespread across the world. Most of this marketing is for foods with a high content of fat, sugar or salt. Evidence also shows that television and other forms of media including digital advertising influences children's food preferences, purchase requests and consumption patterns and that increasingly children are being exposed to a wide range of other marketing techniques. Food marketing to children is now a global phenomenon and tends to be pluralistic and integrated, using multiple messages in multiple channels. The set of recommendations on the marketing of foods and non-alcoholic beverages to children was endorsed by the Sixty-third World Health Assembly in May 2010 and urges Member States to take action at the national level and to cooperate to put in place the means necessary to reduce the impact of marketing of foods high in saturated fats, trans-fatty acids, free sugars, or salt.

2.2 Principles and rationale of the SEAR nutrient profile model

1. The 18 food categories in the SEAR model are aligned with food category systems used by codex to set food additive standards for ease of usage of food categories since all food regulatory bodies are familiar with codex guidance: CODEX STAN 192-1995. [15]
2. Categorizing food items that cannot reflect the similarity in production process, consumption pattern and/or nutrition profile led to the decision not to use the International customs tariff codes from the Harmonized Commodity Description and Coding System. [16]
3. The nutrient profile model is meant to be applied to foods consumed by a healthy population and excludes special food supplements for specific disease conditions.
4. Two categories of fresh foods, i.e. fresh and frozen vegetables and animal products have been included in the model to encourage the consumption of fresh foods over other products (e.g. lean animal products rather than animal parts such as pork rind and belly).
5. The model is designed to measure the nutritional quality of the food regardless of the quantity consumed. The nutrient profile score is always calculated per 100 g, irrespective of the amount of product consumed. Using a 'per serving' approach introduces several difficulties, including the fact that serving sizes and consumption patterns are an individual matter and cannot be standardized, especially across different age groups. An exception is made for category 18, sauces, dips and dressings where portion size is considered since serving sizes tend to be very small and are usually in the range of 10-20 g.
6. Threshold criteria for nutrients in most food categories in the model are based on two main assumptions.
    (i) The daily energy requirement is approximately 2000-2150 kcal for a 10-11 year old, moderately active female and male child respectively. Therefore an average of 2000 kcals is used as the energy intake for calculation of Thresholds. [17] This model is targeted towards children of all ages and both sexes and activity levels.
    (ii) Approximately 25% of the energy requirement is from each main meal (3 meals/day) and 10-12% from snacks (2 snacks/day). [18] Therefore, thresholds have been calculated on the basis that each 100 g of product provides approximately 230 kcals. This energy level also aligns with the threshold energy content of foods defined as energy dense by various agencies. [19,20]

For some food categories, energy, fat, sugar and sodium values for products as stated in the USDA food composition database[d] have been used for setting thresholds.

7. The nutrients for which thresholds have been set are: total fat, saturated fat, total sugars, added sugars and sodium. The thresholds are based on the WHO Population Nutrient Intake Goals for preventing obesity and related NCDs [11] and sugar and salt guidelines of WHO and salt and sugar guidelines. [21, 22] A food product is classified as "excessive" in one or more critical nutrients if its relative nutrient content is higher than the corresponding maximum level recommended in the salt [21] or sugars guidelines [22] and the population nutrient intake goals of WHO unless indicated otherwise (Annex 3).

   These guidelines and goals are aimed at guiding overall daily food intake rather than individual food consumption. However, since consumption of food products classified as excessive in one or more critical nutrients increases the likelihood that the diet will exceed the recommended nutrient goals, the model assumes that limiting such nutrients by setting thresholds based on the WHO guidance would help achieve correct nutrient intake levels.[e]

   (i) Sodium thresholds are based on the rationale that if the ratio between the amount of sodium (mg) in any quantity of the product and the energy content (kcal) is equal to or higher than 1:1, the product is considered excessive in sodium. The ratio is derived from a maximum recommended daily intake of 2000 mg of sodium, the WHO limit for adults, on an average total daily energy intake of 2000 kcal).[11,21] The threshold is set at 1 mg sodium:1 kcal energy or lower wherever possible.

   (ii) Sugar thresholds are based on the rationale that a product is considered excessive in free sugars, if in any given quantity of the product, the amount of energy (kcal) from free sugars [free sugars (g) x 4 kcal] is equal to or higher than 10% of the total energy (kcal) for the product. A lower threshold of 5% is used for sugar sweetened beverages. [22]

   (iii) Total fat is considered excessive, if in any given quantity of the product the amount of energy (kcal) from total fats [total fats (g) x 9 kcal] is equal to or higher than 30% of the total energy (kcal) and excessive in saturated fats, if in any given quantity

d USDA Food Composition Databases, https:ndb.nal.usda.gov.
e The detailed rationale for thresholds for each food category is provided in Annex 3.

of the product the amount of energy (kcal) from saturated fats [saturated fats (g) x 9 kcal] is equal to or higher than 10% of the total energy (kcal). [11]

8. Thresholds are given for single food items and not for whole meals except in the category of composite dishes.
9. Foods and beverages for special uses, such as "breast milk substitutes," food supplements, and alcoholic drinks, should be subjected to specific regulations and thus have not been included in this model.
10. This nutrient profile model applies to products for children aged > 36 months. Follow up formulae and growing up milks are not covered by this model. It should be noted that WHA 39.28 (1986) states that the practice of providing infants with specially formulated milks is not necessary.

2.3 Conditions for general exclusion

Exclusion criteria related to the application of the model in implementing the set of recommendations on marketing of foods and non-alcoholic beverages to children. Marketing is not allowed for the following:

1. Food products that do not pass Codex Alimentarius's standard on uses of food additives.
2. Food products that contain >1% of total energy in the form of industrially produced trans-fatty acid or 0.5 g of trans fat per serving (1% of energy = 20 kcal = 2.2g trans fat).
3. Food products that contains > 0.5% of total energy in the form of alcohol. This content aims to allow for maximum level of alcohol from the alcohol-based flavouring agents generally used by the food industry.[f] The ingredient panel will provide information on alcohol.
4. Food products with added with non-sugar sweetener (note: The use of non-sugar sweetener may be safe for consumers. However, children should not only reduce their energy intake but also need to adjust their eating behaviour on habitual consumption of sweet flavor. [23] Addition of non-sugar sweetener can be obtained from the ingredient list.
5. Subject to the exclusionary criteria, if a product falls under a protected geographical or quality designation regime (e.g. traditional medication), then marketing may be permitted; if a product is a traditional item associated with a celebratory event, then marketing may be permitted within a reasonable period prior to the event.

f http://www.fda.gov/Food/IngredientsPackagingLabeling/FoodAdditivesIngredients/ucm091048.htm

2.4 How to use the model

This model is designed for the purpose of implementing marketing recommendations to children. When determining whether a food product may or may not be marketed to children, the following steps should be taken.

1. Identify the corresponding food category for the product. Usually, the category will be clear according to the food category name (for example, breakfast cereals; yoghurts). In other cases, it may be necessary to reference the codex number column or the examples provided in the "included in category" or Annex 3.
2. Once the appropriate food category has been identified, the nutritional content of the product provided in the nutrient declaration panel must be cross-checked against the thresholds. A product must not exceed on a per 100 g/ml basis, any one of the relevant thresholds for that food product category if marketing is to be permitted (i.e. the product cannot be marketed if any one of the nutrients are above the threshold provided in the model).
3. The nutrient profile should usually be calculated for a product as sold. Where a product needs to be reconstituted before it is eaten, e.g. soup, the nutrient profile score should be calculated based on 100 g of the product as reconstituted according to the manufacturers instructions.[g]
4. If the marketing is for a restaurant meal, including a quick-service or take-away meal of two or more menu items, all items must individually meet the relevant nutrient criteria.
5. The nutrient profile score for dried pasta, noodles, dried rice and other foods which require reconstitution prior to consumption should be calculated on the basis of the nutritional composition per 100 g of the reconstituted product according to the manufacturer's instructions.

g E.g. Worked example 2: Product: Cup soup, vegetable flavour (instructions for reconstitution provided on pack are 25 g of soup powder and 230ml of water)

- Use nutrition info for 25 g of product
- No calculation for weight of water needed (1 ml = 1 g)
- Add together 25 g soup powder and 230 g water
- Scale down nutrition info from 255 g (25 g + 230 g) to per 100 g.

	Info per 25 g soup + 230 ml water	Nutrition info scaled down to 100 g
Energy (KJ)	395	155
Sodium (mg/100 g)	1200	471

2.5 The nutrient profile model for the South-East Asia Region

Food Category		Examples of food items[i]	Codex Food Category code	Marketing prohibited if thresholds exceed values per 100 g[j k]					
				Total fat (g)	Saturated fat (g)	Total sugars (g)	Added sugars (g)[l]	Sodium (g)	Energy (kcal)[m]
1	Confectionery	Cocoa/chocolate bars, spreads, including imitations and chocolate substitutes, hard, soft and chewy candies, chewing gum, Indian sweets, sweet sauces, topping sauces, creamy desserts, sweet desserts, traditional desserts	5.1.1,5.1.2 (except for products used to prepare chocolate milk or hot chocolate), 5.1.3, 5.1.4, 5.1.5, 5.2, 5.3,5.4	8.0	No threshold provided	6.0	No threshold provided	No threshold provided	230
2	Fine bakery wares	Cakes, cookies, pies, doughnuts, sweet rolls, muffins, macaroons, biscuits, pancake (*ready–to-eat form*)	7.2	8.0	No threshold provided	6.0	No threshold provided	0.25	230
3	Bread and ordinary bakery wares	Bread and rolls, pita, naan, rotis, steamed bread, steamed buns, crackers, mixes for making bread and ordinary bakery wares	7.1	8.0	No threshold provided	6.0	No threshold provided	0.25	No threshold provided

i Few examples are given. Many other products could be included this category. For further clarification, please refer to Annex 3.
j Refer to Annex 4 for rationale /justification on thresholds.
k Most thresholds have been rounded up to the nearest half or one decimal where relevant, to allow for minor variations in products.
l If no threshold is provided for added sugar, but a threshold has been set for total sugar, the sum of both intrinsic sugar and added sugar will be considered as the limiting threshold.
m Energy threshold not provided for staple foods, beverages and

Food Category		Examples of food items[i]	Codex Food Category code	Marketing prohibited if thresholds exceed values per 100 g[j k]					
				Total fat (g)	Saturated fat (g)	Total sugars (g)	Added sugars (g)[l]	Sodium (g)	Energy (kcal)[m]
4	Cereals	Whole, broken or flaked grains of rice and other cereals, (dalia-broken wheat), rice-based, wheat-based or maize-based breakfast cereals of all flavours, oat meal, mueslis, granola and muesli bars, cereal bars, rice cakes	6.1, 6.3, 6.7	12.0	No threshold provided	9.0	No threshold provided	0.35	No threshold provided
5	Ready-to-eat savouries (savoury snack foods)								
	(a) Potato, cereal or starch-based (from roots, tuber, or legumes) and animal based (from skin)	Popcorn and maize corn, savory biscuits, crackers, other snacks made from rice, maize, wheat, dough, potato, cassava (i.e. chips, crisps), varieties of namkeen, papadams	15.1	8.0	No threshold provided	No threshold provided	0.0	0.25	230
	(b) Processed nuts	Nuts, and mixed nuts (including with fruit content)	15.2	No threshold provided	No threshold provided	No threshold provided	0.0	0.05	No threshold provided
	(c) Fish-based	fish-based snacks	15.3	No threshold provided	No threshold provided	6.0	No threshold provided	0.25[n]	230

n The sodium threshold is double of that allowed as per calculation of 1mg/1kcal to allow for processing needs.

Food Category		Examples of food items[i]	Codex Food Category code	Marketing prohibited if thresholds exceed values per 100 g[j k]					
				Total fat (g)	Saturated fat (g)	Total sugars (g)	Added sugars (g)[l]	Sodium (g)	Energy (kcal)[m]
6	Beverages								
	(a) Juices	100% fruit and vegetable juices prepared from direct extraction or reconstituted from the concentrate[15]	14.1.2, 14.1.3	No threshold provided	No threshold provided	6.0	0	No threshold provided	No threshold provided
	(b) Milk and dairy based drinks	Milk, butter milk, flavoured dairy-based milk, fermented dairy-based milk e.g. chocolate milk, strawberry milk, cocoa, eggnog, drinking yoghurt, whey-based drinks. Milk means milk from animals such as cow, buffalo, goat etc.	1.1	7.0	No threshold provided	No threshold provided	0.0	No threshold provided	No threshold provided
	(c) Water-based flavoured drink	Sport, energy, electrolyte drinks, carbonated and non-carbonated water-based flavoured drinks, jaljeera, concentrates (liquid or solid) in or calculated as ready-to-drink form	14.1.4	No threshold provided	No threshold provided	2.0	No threshold provided	0.30	No threshold provided
	(d) Coffee, coffee substitutes, tea, herbal infusions	Coffee, coffee substitute, tea, herbal infusion in or calculated as ready-to-drink form	14.1.5	No threshold provided	No threshold provided	2.0	No threshold provided	No threshold provided	No threshold provided

Food Category		Examples of food items[i]	Codex Food Category code	Marketing prohibited if thresholds exceed values per 100 g[j k]					
				Total fat (g)	Saturated fat (g)	Total sugars (g)	Added sugars (g)[l]	Sodium (g)	Energy (kcal)[m]
	(e) Cereal, grain, tree nut-based beverages	Cereal, grain and tree nut-based beverages produced from the extracts of cereals, beans, pulses and tree nuts e.g. rice-, almond-, soybean-, oat-based beverages.	14.1.5, 6.8.1	No threshold provided	No threshold provided	6.0	No threshold provided	0.20	No threshold provided
7	Frozen dairy based desserts and edible ices	Ice cream, ice milk, frozen flavoured yoghurt, iced lollipops and sorbets.	1.7, 3	8.0	No threshold provided	12.0	No threshold	0.10	230
8	Curded dairy based desserts	Dairy based products that have been curded by fermentation, acid, enzyme, heat, etc. and flavoured with sugar and other ingredients. Examples are flavoured cream-type yoghurt, jellied milk, caramel pudding, butter scotch pudding, chocolate mousse, khoa, peda, burfee, gulab jamun.	1.7	7.0	No threshold provided	6.0	No threshold provided	0.10	230
9	Cheese and analogues	Unripened or ripened cheese, whey cheese, processed cheese, cheese analogues, whey protein cheese that can be classified based on physical characteristics as hard (e.g. Parmesan), semi-hard (e.g. cheddar), medium-hard (e.g. edam), semi-soft and soft (e.g. mozzarella, paneer, cottage) as well as serving style as slice, grated or spreadable.	1.6	20.0	No threshold provided	No threshold provided	0.0	0.60	No threshold provided

Food Category		Examples of food items[i]	Codex Food Category code	Marketing prohibited if thresholds exceed values per 100 g[j] [k]					
				Total fat (g)	Saturated fat (g)	Total sugars (g)	Added sugars (g)[l]	Sodium (g)	Energy (kcal)[m]
10	Composite foods (Prepared foods)	Mixtures of multiple components (e.g. meat, sauce, grain, cheese, vegetables). These include food s that require minimal preparation heating, thawing, rehydrating) or the ready-to-serve meal from restaurants. Examples: frozen and chilled ready meals, hamburger, fried chicken, pizzas, lasagne, ready-made sandwiches, soups, instant noodles, instant porridge, steamed pork buns, dumplings, burgers in buns, ready meals, soups	16, 12.5.1, 12.5.2	8.0	3.5	9.0	No threshold provided	0.35	No threshold provided
11	Fats and oils, and fat emulsions	Butter oil, anhydrous milk fat, ghee, vegetable oils and fats, lard, tallow, fish oils and other animal fats, butter, margarine and similar products. Examples: cooking oils from plant and animal sources, butter, margarine, fat blends. Fat spreads,	2.1, 2.2	No threshold provided	35.0	No threshold provided	No threshold provided	0.10	No threshold provided
12	Pasta and noodles and like products	Fresh, precooked, or dried noodles and pastas and like products, rice paper, rice noodles, vermicelli made from wheat, tapioca, sago, legume etc. (cooked as ready to eat)	6.4	3.0	No threshold provided	No threshold provided	No threshold provided	0.25	No threshold provided

Food Category		Examples of food items[i]	Codex Food Category code	Marketing prohibited if thresholds exceed values per 100 g[j] [k]					
				Total fat (g)	Saturated fat (g)	Total sugars (g)	Added sugars (g)[l]	Sodium (g)	Energy (kcal)[m]
13	Fresh and frozen meat, poultry, game, fish and seafood products	Fresh and frozen meat, poultry, game, mollusks, crustaceans, echinoderms in the forms of whole pieces, cuts/fillet, comminuted/ minced/creamed. Examples: beef, pork, chicken, lamb, goat, tuna, mackerel, catfish, shrimp etc.	8.1, 8.2.3, 9.1, 9.2.1,9.2.3	15.0	No threshold provided	No threshold provided	No threshold provided	No threshold provided	No threshold provided
14	Processed meat, poultry, game, fish and fish products								
	(a) Processed meat, poultry and game products	Non-heat and heat treated whole pieces or cuts or commuted meat poultry and game that have been cured/cured and dried, or fermented. Examples: smoked ham, salted dried meat, salami, sausage, bacon, corned beef, smoked duck, canned meats, chicken nuggets, beef or chicken patty, pork rind	8.2.1, 8.2.2, 8.3.1,8.3.2	8.0	No threshold provided	No threshold provided	No threshold provided	0.40	No threshold provided

Food Category		Examples of food items[i]	Codex Food Category code	Marketing prohibited if thresholds exceed values per 100 g[j k]					
				Total fat (g)	Saturated fat (g)	Total sugars (g)	Added sugars (g)[l]	Sodium (g)	Energy (kcal)[m]
	(b) Processed fish and seafood products	Frozen battered, cooked and/or fried, smoked, dried, fermented, and/or salted, semi-preserved by pickling or brining, fully-preserved by canning or fermentation of fish and sea foods. Examples : salted fish and seafood, brined fish, salted fish in oil, fermented fish and seafood, anchovies, shrimp paste, canned tuna, sardine, or mackerel, smoked fishes, dried shrimp, fish balls, fish finger,	9.2.2, 9.2.4, 9.3, 9.4	8.0	3.0	No threshold provided	No threshold provided	0.40	No threshold provided
15	Fresh and frozen fruits and vegetables, and legumes	Fruits, vegetables, mushrooms and fungi, roots and tubers, pulses and legumes, nuts and seeds, seaweed.	4.1.1, 4.1.2.1, 4.2.1, 4.2.2.1	Permitted					

Food Category		Examples of food items[i]	Codex Food Category code	Marketing prohibited if thresholds exceed values per 100 g[j] [k]					
				Total fat (g)	Saturated fat (g)	Total sugars (g)	Added sugars (g)[l]	Sodium (g)	Energy (kcal)[m]
16	Processed fruits and vegetables	Dried, canned or bottled, jam, jellies, marmalades, packed in vinegar, oil or brine, pickles, spreads, candied, pulp, purees, topping, milk, fermented, fillings, cooked forms of fruits and vegetables. Examples: fruits and vegetables in vinegar, oil or brine, dried fruits, coconut cream, marmalade, jams, canned fruits, vegetables and legumes, dried mushrooms, preserved or pickled fruits and vegetables, pickled tea leaves, peanut butter	4.1.2, 4.2.2	No threshold provided	No threshold provided	No threshold provided	0.0	0.40	No threshold provided
17	Solid-form soybean products	Soybean-based beverage , soybean curd (tofu), semi-dehydrated tofu, dehydrated tofu (kori tofu), fermented soybeans (natto, tempeh), other soybean protein products (soya nuggets and textured vegetable protein)	6.8.2, 6.8.3, 6.8.4, 6.8.5, 6.8.6,6.8.7, 6.8.8, 12.9.1	12.0	No threshold provided	5.0	0.0	0.10	No threshold provided

Food Category		Examples of food items[i]	Codex Food Category code	Marketing prohibited if thresholds exceed values per 100 g[j k]					
				Total fat (g)	Saturated fat (g)	Total sugars (g)	Added sugars (g)[l]	Sodium (g)	Energy (kcal)[m]
18	Sauces, dips, and dressings[o]	Emulsified, non-emulsified mixes as concentrated, clear sauces and like products, soybean-based seasoning and condiments. Examples: mayonnaise, salad dressing, onion dips, tomato ketchup, coloured ketchup, gravy, cheese sauce, cream sauce, bouillon cubes, seasoning powder, fermented and non-fermented soy sauces, fish sauce, sweet chili sauce, spaghetti sauce, BBQ sauces, chili paste, chutney and marmite	12.6, 12.9.2	12.0	No threshold provided	10.0	No threshold provided	0.30	No threshold provided

o Portion size considered only for this category.

Glossary

Advertising: The paid public presentation and promotion of ideas, goods, or services by a sponsor that is intended to bring a product to the attention of consumers through a variety of media channels such as broadcast and cable television, radio, print, billboards, the Internet, or personal contact.

Child: Every human being below the age of 18 years, unless under the law applicable to the child, majority is attained earlier.

Dietary supplements: Products intended for ingestion that contains dietary ingredient (vitamin, mineral, herb or other botanical, amino acids, dietary substance for use by people to supplement the diet by increasing the total dietary intake, concentrate(s), metabolite(s), constituent(s), or extract(s)) and may be found in many forms such as tablets, capsules, soft gels, gel caps, liquids, or powders. Some dietary supplements can help ensure that you get an adequate dietary intake of essential nutrients; others may help you reduce your risk of disease.

Energy: Total chemical energy available in food (in kilocalories or kcal) and its macronutrient constituents (carbohydrates, fats, and proteins).

Energy-dense foods: The amount of energy or calories in a particular weight of food and is generally presented as the number of calories in a gram (kcal/g). Foods with a lower energy density provide fewer calories per gram than foods with a higher energy density. For the same amount of calories, a person can consume a larger portion of a food lower in energy density than a food higher in energy density.

Healthy food: All foods that are not defined as the unhealthy foods (see below).

Marketing: Various practices which constitute a commercial communication or message that is designed to, or has the effect of, increasing the recognition, appeal and/or consumption of particular products and services. It comprises anything that acts to advertise or otherwise promote a product or service. The action or business of promoting and selling products or services, including market research and advertising.

Non-sugar sweeteners: Food additives that impart a sweet taste to a food, including artificial non-caloric sweeteners (e.g. aspartame, sucralose, saccharin, and acesulfame potassium); natural non-caloric sweeteners (e.g stevia); and caloric sweeteners such as polyols (e.g. sorbitol, mannitol, lactitol, and isomalt). This category does not include fruit juices, honey, or other food ingredients that can be used as sweeteners.

Processed food: Food products manufactured by industry in which salt, sugar, fat and/or other culinary ingredients have been added to unprocessed or minimally processed foods to preserve them or make them more palatable. Processed food products are derived directly from natural foods and are recognized as a version of the original foods. The processes used in the manufacture of these food products may include different methods of preparation, cooking, preservation and, in the case of cheeses and breads, nonalcoholic fermentation. Food-grade additives may be used to preserve the sensory properties and safety of these products.

Saturated fat: Fat molecules with no double bonds between carbon molecules. The saturated fatty acids used most often in current food products are C14, C16, and C18. In the case of milk and coconut oil, however, saturated fatty acids range from C4 to C18.

Sodium: A soft, silver-white element found in salt; 1 g of sodium equals about 2.5 g of salt.

Sugars

Total sugars refers to the total sugar content of the food product, which may be composed of intrinsic sugars incorporated within the structure of intact fruit and vegetables; sugars from milk (lactose and galactose); and all additional monosaccharides and disaccharides added to foods by the manufacturer, cook or consumer, plus sugars naturally present in honey, syrups and fruit juices.

Added sugars refers to monosaccharides and disaccharides added to foods and beverages by the manufacturer, cook or consumer during processing or preparation. For the purpose of this nutrient profile model, the term 'added sugar' is used for consistency with available data in food composition tables. The WHO guidelines on sugars are for free sugars, covering monosaccharides (such as glucose or fructose) and disaccharides (such as sucrose or table sugar) added to foods by the manufacturer, cook or consumers in addition to sugars naturally present in honey, syrups, fruit juices and fruit concentrates. In this case, intrinsic sugars in, for example, fruits and vegetables are not considered free sugars.

Total fat: The total fat content of a food product composed of fatty acids from the three main groups (saturated fatty acids, mono-unsaturated fatty acids, and poly-unsaturated fatty acids), which these groups are differentiated based on their chemical formula and structure.

Trans-fat: A form of fat that results from the hydrogenation of unsaturated fatty acids or occurs naturally in the milk and meat of certain animals.

Unhealthy food: Individual or composite foods and beverages that are high in energy, sodium, sugar and/or low in other beneficial nutrients such as protein, vitamins, minerals, fibres, non-nutrient compounds. These foods and beverages mostly have strong salty and/or sweet taste and rich mouthfeel from fat. Please refer to Table 2.

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Annex 1

Selected common examples of foods described as energy rich or nutrient poor

(Adapted from Drenwoski, Am J Clin Nutr 2005; 82:721–32 (23)

Term	What is meant	Reference
Energy-dense, nutrient-poor foods	"Other foods" (fats, sweets, and alcohol), other than meat, dairy, grain, fruit, or vegetable	Kant AK, Schatzkin A. Consumption of energy-dense, nutrient-poor foods by the US population: effect on nutrient profiles. J Am Coll Nutr 1994;13:285–91.- accessed 12 August 2016.
High-calorie, low-nutrient-dense foods	Candy, chips, soda, baked goods, ice cream	Bandini LG, Vu D, Must A, Cyr H, Goldberg A, Dietz WH. Comparison of high-calorie, low-nutrient-dense food consumption among obese and non-obese adolescents. Obes Res 1999;7:438–43.- accessed 12 August 2016.
Low nutrient-density foods	Fat, sugar, candy, soft drinks, baked desserts, dairy desserts, salted snacks, coffee, tea	Kant AK. Reported consumption of low-nutrient-density food by American children and adolescents. Arch Pediatr Adolesc Med 2003;157:789–96. -accessed 12 august 2016.
	Cakes, cookies, pastries; carbonated beverages; sugars, jams, syrups; salty snacks	Phillips S, Starkey LJ, Donald KG. Food habits of Canadians: food sources of nutrients for the adolescent sample. Can J Diet Pract Res 2004;65:81–4.- accessed 12 August 2016.
Energy-dense snack foods	Baked goods, ice cream, chips, sugar-sweetened soda, candy	Phillips SM, Bandini LG, Naumova EN, et al. Energy-dense snack food intake in adolescence: longitudinal relationship to weight and fatness. Obes Res 2004;12:461–72. - accessed 12 August 2016.
Foods of minimum nutritional value	<5% of the US recommended dietary allowance for protein, calcium, iron, vitamin A, vitamin C, riboflavin, thiamine, niacin (per serving) Soda water, water ices, chewing gum, candies	US Department of Agriculture, Food and Nutrition Service. School Meals Foods of Minimal Nutritional Value http://www.fns.usda.gov/school-meals/foods-minimal-nutritional-value -accessed 4 October 2016

Annex 2

Field testing of the draft nutrient profile model

To identify foods commonly consumed by children, countries used the following methodologies: market surveys, focus group discussions, in-depth interviews with multiple stakeholders, web search of foods advertised to children and created a listing of foods and their nutrients Nutrient contents per 100 g product (total fat (g), saturated fats (g), total sugars (g), added sugar (g), non-sugar sweeteners (g), sodium (g), and energy (kcal).

- Criteria for inclusion of food products: A listing of pre- packaged processed foods usually marketed to children and their nutrients of interest and a listing of foods which are usually considered healthy for children to eat/drink (and for which the nutrient composition is available) was completed.
- At least 100-200 food items were listed by each country and entered into a spreadsheet, along with the nutrient contents as given in the nutrition information panel. Any nutrient information that was missing from the nutrition facts panel was omitted, but the product included in the testing spreadsheet and a record of such insufficient information or any other identified issues were noted for further discussion.
- In the case of alcohol or sweetener, the ingredients panel was examined to verify content.
- The decision to state if a food is permitted or not permitted was done by examining the thresholds for the relevant food categories provided in the draft model.
- This list of foods and their nutrient contents were compared across the relevant categories using the draft model and the rigor of classifying foods considered as healthy was evaluated.
- Each pilot testing country also had a stakeholder consultation with prior to finalizing the reports of the field testing and gathered the following information: suitability of thresholds, ease of using the model, how many foods could pass the model and details and confirmation if foods categorized by model are in line with country food-based dietary guidelines.

Annex 3

Specific recommendations with regard to the nutrient profile model

- The model and its information should be based on a sound criteria for acceptance.
- Codex food categories: the description of the food categories should be aligned to the codex food categories wherever feasible and an additional column providing the codex numbers would be included (http://www.fao.org/gsfaonline/foods/index.html?lang=en). This would enable best use of the model.
- Food examples as well as thresholds should also consider regional relevance and the presence of under nutrition, including micronutrient malnutrition.
- Traditional and celebratory foods: Explanatory notes would be further elaborated to include information on inclusion exclusion criteria in the case of traditional herbal products used for medicinal purposes, and celebratory products pertaining to cultural events.

Annex 4

Justifications/explanations for thresholds

	Food Category	Examples of food items	Rationale
1	Confec-tionary	Cocoa/chocolate bars, spreads, including imitations and chocolate substitutes, hard, soft and chewy candies, chewing gum, marshmallow, sweet sauces, topping sauces, creamy desserts, sweet desserts, traditional desserts	Most confectionary items cannot be produced without the use of high amounts of sugar or non-sugar sweetener. On a 2000 kcal diet, based on the assumption that one snack would contribute 11.5% of total energy intake/day, the energy contribution from a snack is approximately 230 kcal or less. Thus, 230 kcal or more /per 100g snack could be classified as an energy dense snack. Therefore, 230 kcal/100 kcal is set as a threshold for energy and also used for calculation of thresholds for fat and sugar. The thresholds for fat and sugars are set based on WHO/FAO population nutrient intake goals that fats and simple sugars should contribute to 30% and 10% of total energy, respectively. Sample calculation: Energy contribution from 30% fat = 230x30/100= 69 kcal. Conversion to grams= 69/9 =7.6g/100 g Energy contribution from 10% sugar =230x10/100 = 23 kcal. Conversion to grams = 23/4 =5.7g/100g All thresholds have been rounded up to the nearest whole number to allow for minor variation in product categories.
2	Fine bakery wares	Cakes, cookies, pies, doughnuts, sweet rolls, scones, muffins, macaroons, gingerbread, British biscuits, pancake (The criteria are based on the ready–to-eat form)	Most fine bakery wares cannot be produced without the use of high amounts of sugar or non-sugar sweetener. On a 2000 kcal diet, based on the assumption that one snack would contribute 11.5% of total energy intake/day, the energy contribution from a snack is approximately 230 kcal or less. Thus, 230 kcal or more /per 100g snack could be classified as an energy dense snack. Therefore, 230 kcal/100 kcal is set as the energy threshold and also used for calculation of thresholds for fat and sugar. The for fat and sugars thresholds are based on WHO/FAO population nutrient intake goals that fats and simple sugars should contribute to 30% and 10% of total energy, respectively. Sodium intake is calculated as 1 mg/1 kcal, or lower (based on the recommendation of 2000 mg /2000 kcal). All thresholds have been rounded up to the nearest round number or 2 decimal places (sodium) to allow for minor variation in product categories.

	Food Category	Examples of food items	Rationale
3	Bread and ordinary bakery wares	bread and rolls, crackers, bagels, pita, English muffins, Nan, rote, steamed bread, steamed bun, mixes for making bread and ordinary bakery wares (The criteria are based on the ready–to-eat form)	On average, energy from bread, a staple food is 250 kcal/100g. (USDA Food Composition Databases, https:ndb.nal.usda.gov). Fat and sugars thresholds are based on WHO/FAO population nutrient intake goals that fat and simple sugars should contribute 30% and 10% of total energy, respectively (sugar content is also adequate for yeast leavened products). For sodium, the recommendation is 1 mg/1 kcal (based on 2000 mg per 2000 kcal). All thresholds have been rounded up to the nearest round number or 2 decimal places (sodium) to allow for minor variation in product categories.
4	Cereals	Whole, broken or flaked grains of rice and other cereals, Rice-based, wheat-based or maize-based breakfast cereals of all flavours, oat meal, muesli, dalia (broken wheat), granola and muesli bars, cereal bars, rice cakes	The thresholds for cereals are based on average energy levels in commercial breakfast cereals, which are approximately 350 kcal/100 g. (https://ndb.nal.usda.gov/ndb/search/list). Sodium is limited at 1 mg/1 kcal (based on 2000 mg/2000 kcal), providing a threshold of 350 mg sodium. Fat and sugar contents are based on WHO/FAO population nutrient intake goals that fats and simple sugars should contribute 30% and 10% of total energy, respectively. Therefore, fat and sugar thresholds are 11.6 and 8.8 g, respectively and have been rounded up to the nearest round number to allow for minor variation in product categories.
5	Ready-to-eat savouries (savoury snack foods)		
	(a) Potato, cereal or starch-based (from roots, tuber, or legumes) and animal based (from skin)	Popcorn and maize corn, savory biscuits, crackers, other snacks made from rice, maize, wheat, dough, or potato (i.e. chips, crisps), varieties of Namkeen, papadam	The average energy content of most snacks of this type is 200-300 kcal/100 g. On a 2000 kcal diet, based on the assumption that one snack would contribute 11.5% of total energy intake/day, the energy contribution from a snack is approximately 230 kcal or less. Thus, 230 kcal or more /per 100g snack could be classified as an energy dense snack. Therefore, 230 kcal/100 kcal is set as a threshold for energy and also used for calculation of thresholds for fat and sugar. Fat and sugar thresholds are based on WHO/FAO population nutrient intake goals that fats and simple sugars should contribute 30% and 10% of total energy, respectively. Sodium content should be limited to 230 mg/100 g (1 mg/1 kcal), which is feasible since the sodium contents in these products is usually in the range of 100- 1,800 mg/100 g (*USDA Food Composition Databases, https:ndb.nal.usda.gov*). All thresholds have been rounded up to the nearest round number or 2 decimal places (sodium) to allow for minor variation in product categories.

	Food Category	Examples of food items	Rationale
	(b) Processed nuts	Nuts, and mixed nuts (including with fruit content)	The sodium threshold indicated is for unsalted nuts and accounts for the natural sodium in different varieties of nuts *(USDA Food Composition Databases, https:ndb.nal.usda.gov).* No limit is given for total fat since fat content varies significantly between kinds of nuts and nuts contain healthy fats. This criteria aims for nuts that are not deep fried.
	(c) Fish-based	fish-based snacks	On a 2000 kcal diet, based on the assumption that one snack would contribute 11.5% of total energy intake/day, the energy contribution from a snack is approximately 230 kcal or less. Thus, 230 kcal or more /per 100g snack could be classified as an energy dense snack. Therefore, 230 kcal/100 kcal is set as a threshold for energy and also used for calculation of thresholds for fat and sugar. Sugar threshold is based on WHO guideline that simple sugars should contribute 10% of total energy. Fish based snacks contain protein (range from 10-60 g/100g) and are low in fat, however they may contain high sodium and sugar. Salt is added in the process of making a protein gel and flavouring and therefore, sodium content ranges from 1600-2700mg/100g. (*Kasetsart J. (Nat. Sci.) 33 : 270 - 276 (1999). Nutrient Contents of Commercial Snack Food Products http://kasetsartjournal.ku.ac.th/kuj_files/2008/A0804281507410760.*pdf.) This product could reformulated for a better nutrition profile by using minimum salt and sugar as necessary for processing and flavouring. Sodium threshold is set as 1 mg:1 kcal.
6	Beverages		
	(a) Juices	100% fruit and vegetable juices as well as nectar prepared from direct extraction/ harvesting or reconstituted from the concentrate	WHO guidelines recommend limiting intake of all sources of free sugars, i.e. sugars naturally presented in honey, syrups, fruit juices, which may also contribute to excess energy intake. WHO recommendation on free sugars consumption is 10% of total energy intake and the desirable recommendation is to reduce to 5%. Most 100% fruit juices contain sugar of 10-14 g/100 g. By mixing fruit with vegetable juice, the sugar content can be reduced. Coconut water contains approximately 6 g/100 g and therefore, the threshold for sugars is set at 6g/100g.

	Food Category	Examples of food items	Rationale
	(b) Milk and dairy based drinks	Milk, butter milk, flavoured dairy-based milk, fermented dairy-based milk e.g. chocolate milk, strawberry milk, cocoa, eggnog, drinking yoghurt, whey-based drinks. Milk means milk from animals such as cow, buffalo, goat etc.	The fat threshold is set higher than for cow's milk based on what normally found in buffalo milk, 6.6 g/100g (*USDA Food Composition Databases, https:ndb.nal.usda.gov).*
	(c) Water-based flavoured drink	Sport, energy, electrolyte drinks, carbonated and non-carbonated water-based flavoured drinks, jaljeera, concentrates (liquid or solid) in or calculated as ready-to-drink form.	The usual energy content in such beverages is approximately 150 kcal. WHOs recommendation to reduce sugar to 5% is used as the principle for setting the threshold of 2g/100g. The sodium threshold is set according to the sodium content in electrolyte drinks. *(http://www.ausport.gov.au/__data/assets/pdf_file/0008/594170/CORP_33413_SSF_Sports_drinks_FS.pdf).*
	(d) Coffee, coffee substitute, tea, herbal infusion	Coffee, coffee substitute, tea, herbal infusion in or calculated as ready-to-drink form.	A threshold similar to water based beverages has been set for sugar. The sodium threshold is set according to the sodium content in electrolyte drinks *(http://www.ausport.gov.au/__data/assets/pdf_file/0008/594170/CORP_33413_SSF_Sports_drinks_FS.pdf).*
	(e) Cereal, grain and tree nut–based beverage	Cereal, grain and tree nut-based beverages produced from the extracts of cereals, beans, pulses and tree nuts e.g. rice-, almond-, soybean-, oat-based beverage	Cereal, grain and tree nut-based beverages consist of water and sugar as well as protein and starch. The limitation is on sugar, which is allowed to be higher than in flavored drinks in order to make it palatable. Therefore, the same threshold used for juices is used for these beverages. The sodium content is limited based on what are usually found in commercial products *(USDA Food Composition Databases, https:ndb.nal.usda.gov).* Thresholds have been rounded up to allow for minor variation in product categories.

	Food Category	Examples of food items	Rationale
7	Frozen dairy based desserts and edible ices	Ice cream, ice milk, frozen flavoured yoghurt, iced lollies and sorbets	On a 2000 kcal diet, based on the assumption that one snack would contribute 11.5% of total energy intake/day, the energy contribution from a snack is approximately 230 kcal or less. Thus, 230 kcal or more /per 100g snack could be classified as an energy dense snack. Therefore, 230 kcal/100 kcal is set as a threshold for energy and also used for calculation of thresholds for fat and sugar. Fat and sugar thresholds which are based on WHO/FAO population nutrient intake goals that fats and simple sugars should contribute to 30% and 10% of total energy, respectively. A wide range of fat content found in these groups of products (range 1.6-20 g/100 g), but 8 g fat/100g is feasible in ice-cream making. According to calculations, sugar threshold should be at 6 g/100 g, however 12 g/100 g is used since low sugar creates a non-bitable hard ice crystal (*icecreamscience.com/sugar-in-icecream*). This level of sugar is similar to natural fruit juice and should also provide an acceptable taste similarly to a sorbet. Sodium content is based on what generally found in manufactured products. Sodium intake is calculated as lower than 1mg/1 kcal (*USDA Food Composition Databases, https:ndb.nal.usda.gov).*
8	Curded dairy based desserts	The dairy based products that have been curded by fermentation, acid, enzyme, heat, etc. and flavoured with sugar and other ingredients. Examples are flavoured cream-type Yoghurt, jellied milk, junket, butter scotch pudding, chocolate mousse, khoa, peda, burfee, milk cake, gulab jamun, rasgulla,	On a 2000 kcal diet, based on the assumption that one snack would contribute 11.5% of total energy intake/day, the energy contribution from a snack is approximately 230 kcal or less. Thus, 230 kcal or more /per 100g snack could be classified as an energy dense snack. Therefore, 230 kcal/100 kcal is set as a threshold for energy and also used for calculation of thresholds for fat and sugar. The thresholds are based on WHO/FAO population nutrient intake goals that fats and simple sugars should contribute to 30% and 10% of total energy, respectively. Sodium is calculated as 1 kcal :1 mg or lower. These products are good sources of protein and energy. Total sugar is limited at 6 g/100g based on WHO/FAO population nutrient intake goals that simple sugars should contribute 10% of total energy. The fat threshold considers the use of buffalo milk and is set at a similar level as for milk and dairy based drinks. Sodium content is based on what generally found (*USDA Food Composition Databases, https:ndb.nal.usda.gov).* Thresholds have been rounded up to allow for minor variation in product categories.

	Food Category	Examples of food items	Rationale
9	Cheese and analogues	Unripened cheese, ripened cheese, whey cheese, processed cheese, cheese analogues, whey protein cheese (e.g. ricotta) that can be classified based on physical characteristics as hard (e.g. Parmesan), semi-hard (e.g. cheddar, colby), medium-hard (e.g. emmental, edam), semi-soft (e.g. munster, port salut) and soft (e.g. mozzarella, chenna paneer, cottage) as well as serving style as slice, grated or spreadable.	Cheese is a good source of protein and calcium. The kind with a lower moisture content (hard cheeses) normally contains more protein and calcium as well as fat and sodium. Salt is required in production step especially water removal such as cheddaring.. The fat content allowed is for semi-hard cheese that is generally consumed and sodium content is allowed at the technical feasible level for production.

	Food Category	Examples of food items	Rationale
10	Composite foods (Prepared foods)	Mixtures of multiple components (e.g. meat, sauce, grain, cheese, vegetables). The prepared foods include the food s that require minimal preparation by the consumer (heating, thawing, rehydrating) or the ready-to-serve meal from restaurants. Examples are frozen and chilled ready meals, hamburger, fried chicken, pizzas, lasagne, ready-made sandwiches, soups, instant noodles, instant porridge, steamed pork buns, dumplings, burgers in buns, ready meals,	The thresholds have been calculated as per 350kcal/100g since most available products are estimated to contain an energy range of approximately 250 -450 kcal/100g (average 350kcal). As recommended in WHO/FAO population nutrient intake goals fat, saturated fat and sugar should contribute to 30% and 10% respectively. Thresholds are calculated as 11.6g (rounded to 12g), 3.5g and 8.8g (rounded to 9 g). Sodium threshold is set at 1mg/1 kcal (350mg). Thresholds have been rounded up to allow for minor variation in product categories

	Food Category	Examples of food items	Rationale
11	Fats and oils, and fat emulsions	Butter oil, anhydrous milk fat, ghee, vegetable oils and fats, lard, tallow, fish oils and other animal fats, butter, margarine and similar products. Examples are cooking oils from plant and animal sources, butter, margarine, fat blends. Spreads, vanaspathi	Fat and oil are good sources of energy. The concern is regarding the quality of fat, especially the ratio of saturated fat which should not be more than 1/3 of consumed fat or oil. As mentioned in the population nutrient intakes, total energy contribution from fat and saturated fat should be less than 30% and 10%, respectively , of which saturated fat should be 1/3 of the total fat (weight for weight). Sodium threshold is set as the lower range of sodium is manufactured products (*USDA Food Composition Databases, https:ndb.nal.usda.gov*).
12	Pasta and noodles and like products	Fresh, precooked, or dried pastas and noodles and like products, rice paper, rice vermicelli that made from rice, wheat, tapioca, sago, legume etc. These products are aimed to use as staple ingredients in a main dish or dessert.	These products are normally consumed as a staple, which should contribute 25% of total energy intake or 500 kcal on a 2000 kcal diet. The energy content in such products is approximately 250 kcal/100g. Since pastas and noodles are usually consumed in combination with other foods as a meal, it is assumed that half the energy (250 kcal) is from 100 g of pasta/noodle, and the other half would be possibly from a sauce, vegetable or meat preparation which would also contribute sodium to the meal. Pastas and noodle like products mainly consist of starch but the pre-cooking process may also include deep-frying where the fat content can be as high as 20 g fat/100g product. Therefore, the fat threshold is set to discourage the production/marketing of deep fried products. The threshold for sodium from pasta is limited at about 250 mg /100 g (1 mg of sodium: 1 kcal) and rounded up.

	Food Category	Examples of food items	Rationale
13	Fresh and frozen meat, poultry, game, fish and seafood products	Fresh and frozen meat, poultry, game, mollusks, crustaceans, echinoderms in the forms of whole pieces, cuts/fillet, comminuted/ minced/ creamed. Examples are beef, pork, chicken, lamb, goat, tuna, mackerel, catfish, shrimp etc.	Animal meat is a source of good quality protein for children. However some parts have a high content of fat which should be avoided. Lean meat and chicken can contain up to 15g fat and therefore, this limit has been set *(USDA Food Composition Databases, https:ndb.nal.usda.gov).*
14	Processed meat, poultry, game, fish and fish products		
	(a) Proce ssed meat, poultry and game products	Non-heat and heat treated whole pieces or cuts or commuted meat poultry and game that have been cured/ cured and dried, or fermented. Examples are smoked ham, salted dried meat, fermented sausages, salami, sausage, ham, bacon, corn beef, salted pork, smoked duck, canned meat (e.g. canned ham, canned chicken, canned corn beef), chicken nuggets, beef or chicken patty, pork rind	Cured meat products are also sources of protein and fat and used in situations where fresh meats maybe unavailable. Some products however contain high fat, especially saturated fat (from added animal fat) as well as sodium from salt that is used for processing and flavouring. Fat is normally added to provide soft and chewy texture to meats such as sausages and sodium chloride is necessary for the flavoring and salting-in process of meat protein that acts as an emulsifier or binder. It is feasible to produce processed meat with a lower fat and sodium content and the thresholds are set considering manufactured products with the lower range of fat and sodium values (*USDA Food Composition Databases, https:ndb.nal.usda.gov).*

	Food Category	Examples of food items	Rationale
	(b) Processed fish and seafood products	Frozen battered, cooked and/ or fried, smoked, dried, fermented, and/or salted, semi-preserved by pickling or brining, fully-preserved by canning or fermentation of fish and sea foods. Examples are salted fish and seafood, brined fish, salted fish in oil, fermented fish and seafood, anchovies, shrimp paste, pickled mollusks, canned tuna, canned sardine, canned mackerel, smoked fishes, dried shrimp, fish balls, fish finger, tempura shrimp	Fish and seafood are locally available in many parts of the Region and are preserved locally by using salt or by canning, battering, or frying. Some forms of preservation can cause overconsumption of saturated fat and salt. The fat content is limited to 8 g/100g, as found in the drained canned tuna in oil (*USDA Food Composition Databases, https:ndb.nal.usda.gov.*) Saturated fat is limited to 1/3 of total fat. Sodium content can be from salt added for both processing and flavouring, it is therefore reduced from usual levels of 900-1,000 mg (*https://www.caloriecount.com/calories-white-fish-ball-i132121*) to 400 mg/100 g.

	Food Category	Examples of food items	Rationale
15	Fresh and frozen fruits and vegetables, and legumes	Fruits, vegetables, mushrooms and fungi, roots and tubers, pulses and legumes, nut and seeds, seaweeds.	Fresh fruits and vegetables are sources of dietary fiber, vitamins and minerals and increased consumption should be encouraged.
16	Processed fruits and vegetables	Dried, canned or bottled, jam, jellies, marmalades, packed in vinegar, oil or brine, pickles, spreads, candied, pulp, purees, topping, milk, fermented, fillings, cooked forms of fruits and vegetables.[1] Examples are fruits and vegetables in vinegar, oil or brine, dried fruits, coconut cream, marmalade, jams, canned fruits, vegetables and legumes, dried mushrooms, preserved or pickled fruits and vegetables, pickled tea leaves, peanut butter	Processing of fruits and vegetables aims to preserve fruits and vegetables for a longer shelf life. However, processing tend to change the natural nutrient content due to concentration or addition of sugar or sodium. Pickled fruits and vegetables should not be promoted in children. If pickling is done as a means of preservation, minimum sodium should be used. Dried fruits and vegetables with no sugar and salt added can be promoted in children during off-seasons since about 50 gram of dried fruits and vegetables can be equal to 600 g of fresh fruits and vegetables. *Calculation: Based on the assumption that fresh fruits and vegetables have a moisture content of approximately 93% and 7% of solids, and dried fruits and vegetables have moisture content of approximately 10% and 90% of solids, 50 g of dried fruits and vegetables = 0.93 x 50 g/0.07 = would be approximately equivalent in weight and volume to 664 g of fresh fruit or vegetable approximately).*

1 This is in line with the WHO Guideline on sugars intake in adults and children (WHO 2015), as dried fruits are a significant source of concentrated sugars for children. However, it is recognized that countries, according to national context and national food-based dietary guidelines, may take the decision to permit the marketing of dried fruits in small portions.

	Food Category	Examples of food items	Rationale
17	Solid-form soybean products	Soybean-based film, soybean curd (tofu), semi-dehydrated tofu, dehydrated tofu (kori tofu), fermented soybeans (natto, tempeh), other soybean protein products (soya nuggets and textured vegetable protein)	Soybean is a good source of protein, calcium and polyunsaturated fatty acids. Different solid forms of soybean products are consumed in Asia. Fat threshold is set at 12g/100g based on the fat content of tempeh which is approximately 11.5%. Soybean-based gel can also be served with syrup as desserts, therefore, total sugar is limited at 5 g/100g based on WHO/FAO population nutrient intake goals that simple sugars should contribute 10% of total energy where energy is assumed to be 200 kcal/100g. (*Energy content of products ranges from 100-300mg/100g., therefore an average of 200kcal is used based on USDA Food Composition Databases, https:ndb.nal.usda.gov*). Energy contribution of 10% sugar =200x10/100 = 20 kcals Conversion to grams = 20/4 =5g/100g.
18	Sauces, dips, and dressings	Emulsified, non-emulsified mixes as concentrated, clear sauces and like products, soybean-based seasoning and condiments. Examples are mayonnaise, salad dressing, onion dips, tomato ketchup, coloured ketchup, gravy, cheese sauce, cream sauce, bouillon cube, seasoning powder, fermented and non-fermented soy sauces, fish sauce, sweet chili sauce, spaghetti sauce, BBQ sauces, marmite, chili paste, chutney	These products are usually eaten in small portion sizes of 10- 30 g. In 100 g of product, the content of sodium is approximately 300-1400 mg/100g, fat content ranges from 5-60g/100g fat, and sugar content is 3-22g/100g. For sodium, a limit of 350 mg, the lower threshold found in tomato sauce is set, which would make only a small contribution to sodium intake, considering the small portion size consumed. For fat, a threshold of 12g/100g and for sugar, a threshold of 10g is set considering the lower limits found in manufactured products (*USDA Food Composition Databases, https:ndb.nal.usda.gov).*

Changes in diet and lifestyle patterns have led to a rapid increase in child obesity rates across the WHO South-East Asia Region. This rise is fuelled by increased consumption of high-sugar and high-fat foods, with marketing to children playing a powerful role in shaping attitudes towards and encouraging consumption of foods and non-alcoholic beverages high in sugar, salt and fat. To reduce the impact of marketing of such foods to children, the World Health Assembly in May 2010 endorsed a set of recommendations on the marketing of foods and non-alcoholic beverages to be implemented by Member States.

The Nutrient Profile Model for the South-East Asia Region is essential to support the implementation of the set of recommendations on marketing of food and non-alcoholic beverages to children. The model sets criteria for threshold amounts of critical nutrients, salt, sugar, fat and trans-fats, which are based on scientific evidence, including the WHO guidelines on sugar and other nutrients. Though this model was designed for regulation of marketing to children, it can be adapted for multiple applications, including front-of-package labelling and setting school cafeteria policies on foods and beverages.

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