

International Conference Parma 2024

The Role of Origin in the Sustainability of localised Food Systems in particular, the role of circular economy in Geographical Indications

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Origine
Diversité
Territoires

The role of GIs in sustainable dietary patterns

Beatrice Biasini, PhD

Human Nutrition Unit
Department of Food and Drug
University of Parma

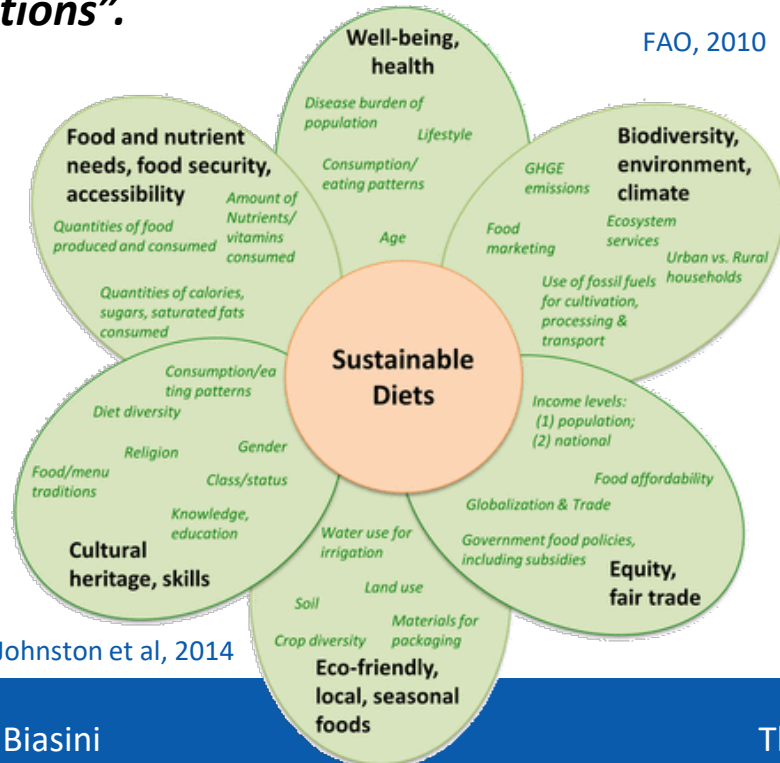
Sustainable Diet(s)

“...food choices might regularly be made not merely in terms of their **nutritional impact** on the individual but in terms of their impact on the **long-term stability of the food system**”.

Gussow and Clancy, 1986

“...diets with **low environmental impacts** which contribute to **food and nutrition security** and to **healthy life for present and future generations**”.

FAO, 2010



Johnston et al, 2014



¹⁰ Food processing can be beneficial for the promotion of high quality diets; it can make food more available as well as safer. However, some forms of processing can lead to very high densities of salt, added sugar and saturated fats and these products, when consumed in high amounts, can undermine diet quality. (Global Panel on Agriculture and Food Systems for Nutrition, 2016. Food systems and diets: Facing the challenges of the 21st century. London, UK. <http://eharty.fpri.org/sites/g/files/colleq/p15738col5/rd/5516/#name/5517.pdf>)

¹¹ Potatoes, sweet potatoes, cassava and other starchy roots are not classified as fruits or vegetables.

¹² They include up to 30-35 percent of total energy intake from fats, with a shift in fat consumption away from saturated fats to unsaturated fats and towards the elimination of industrial trans fats; less than 10 percent of total energy intake from free sugars (possibly less than 5 percent) and not more than 5 g per day of salt (to be iodized). WHO, 2018. Healthy diet. WHO fact sheet No. 394 (updated August 2018). Geneva, World Health Organization, 2018. https://www.who.int/nutrition/publications/nutrientrequirements/healthydiet_factsheet/en/

FAO, 2019



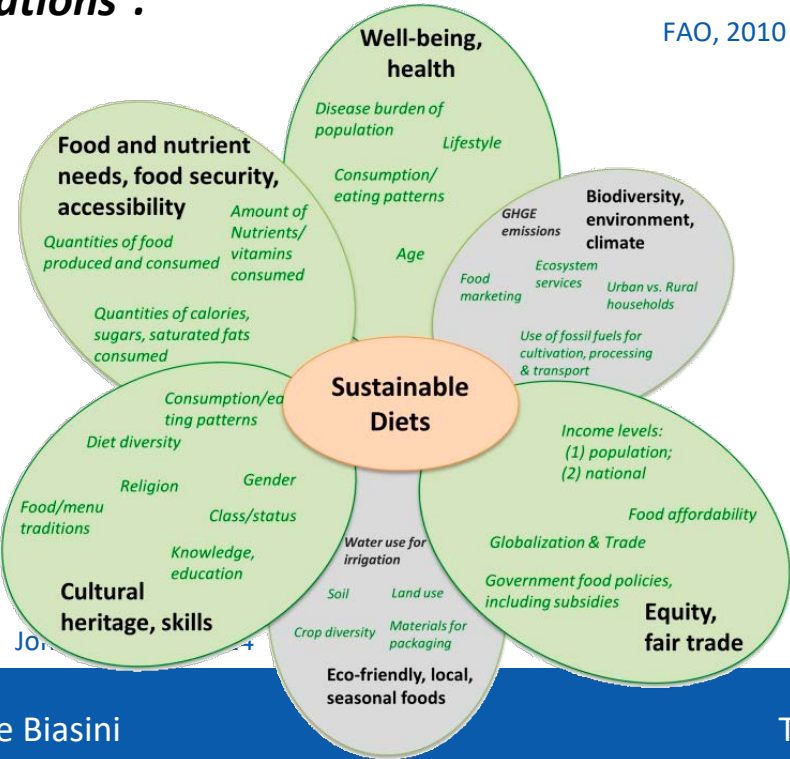
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Global Reference Diet



«Transformation to healthy diets by 2050 will require substantial dietary shifts, Global consumption of fruits, vegetables, nuts and legumes will have to double, and consumption of foods such as red meat and sugar will have to be reduced by more than 50%.

A diet rich in plant-based foods and with fewer animal source foods confers both improved health and environmental benefits».

Willett et al, 2019

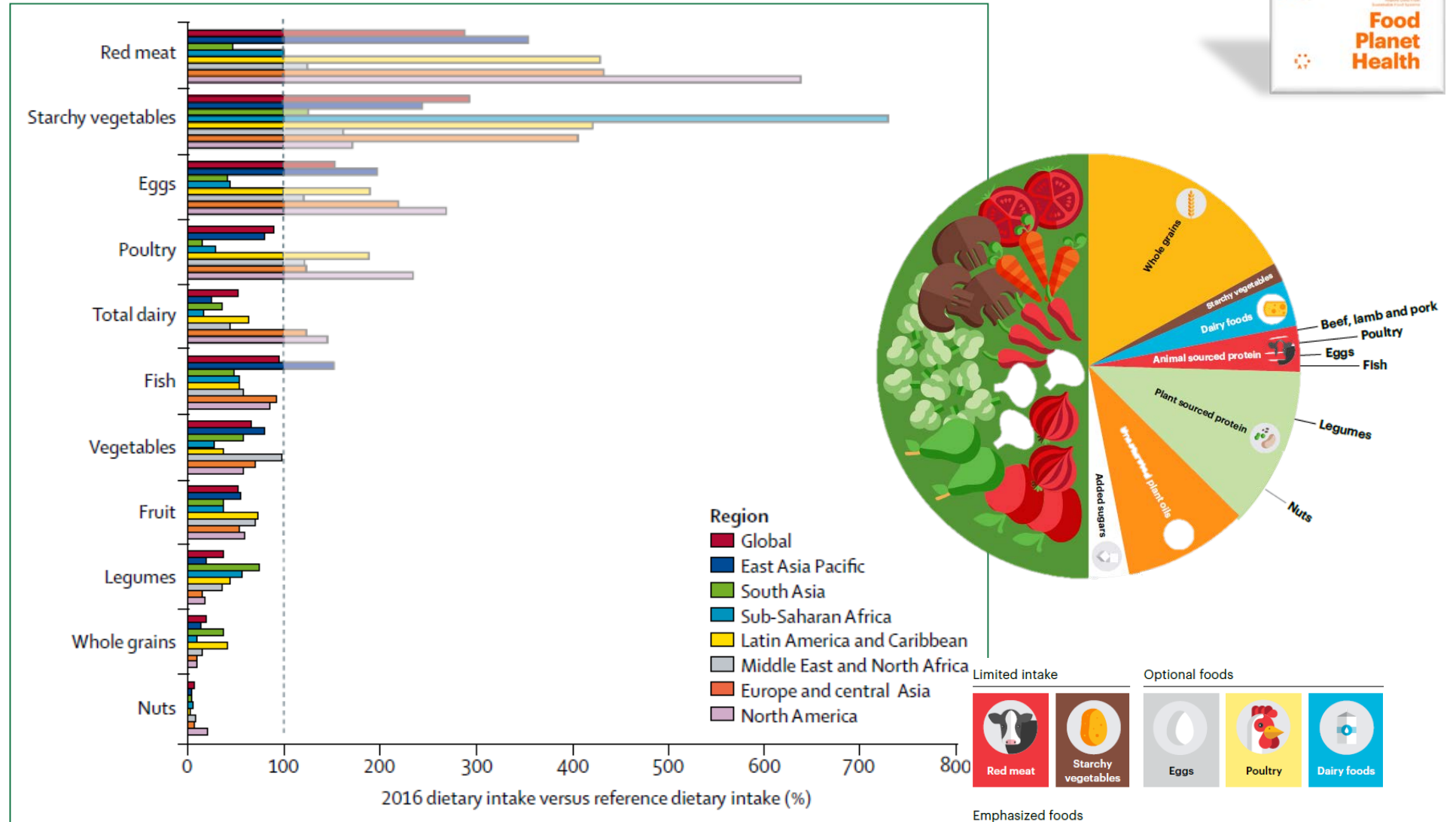


Figure 1: Diet gap between dietary patterns in 2016 and reference diet intakes of food

The role of GIs in sustainable dietary patterns

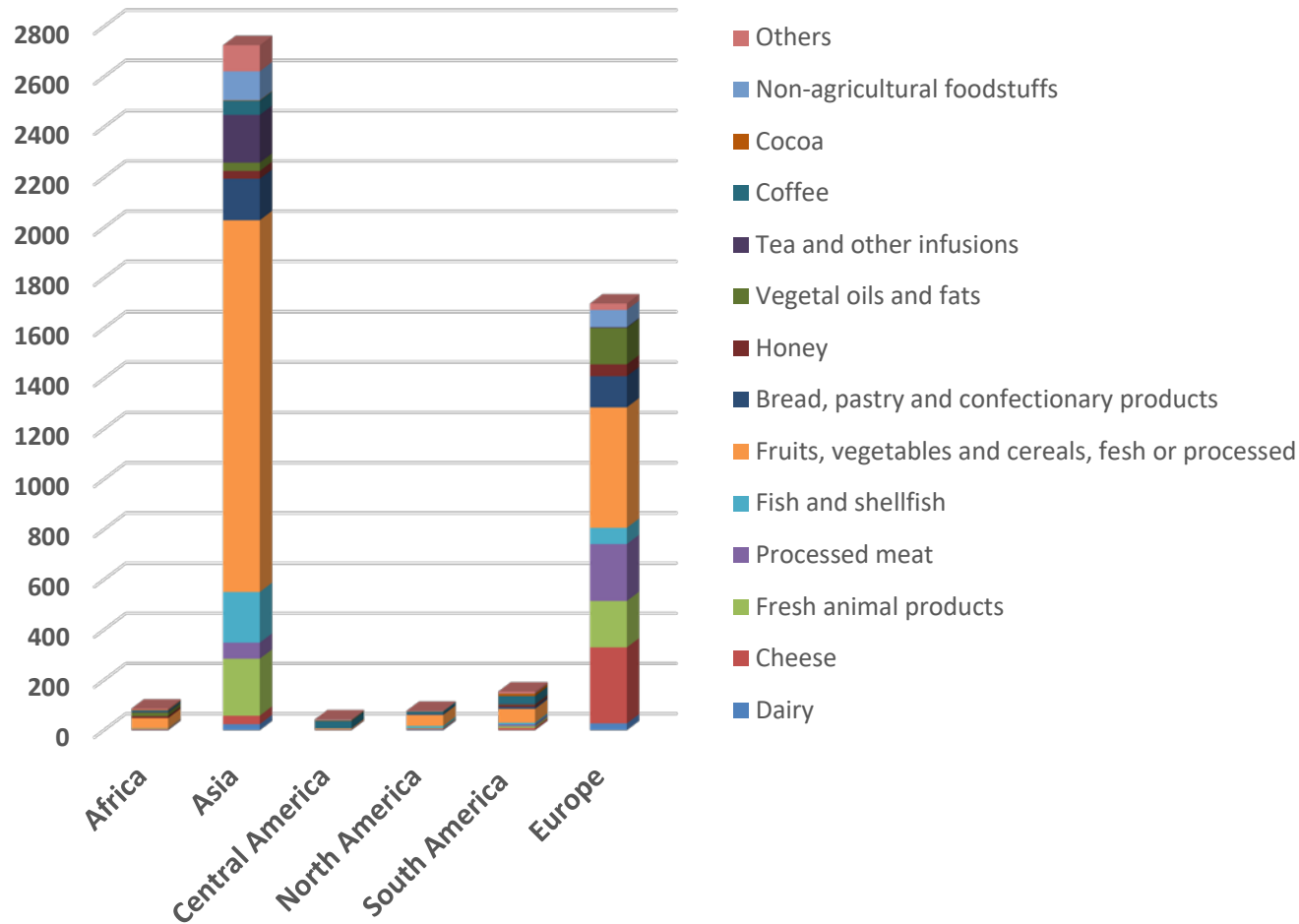
New Pyramid for a Sustainable Mediterranean Diet



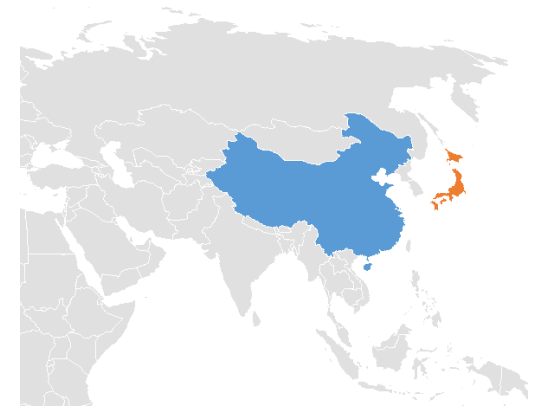
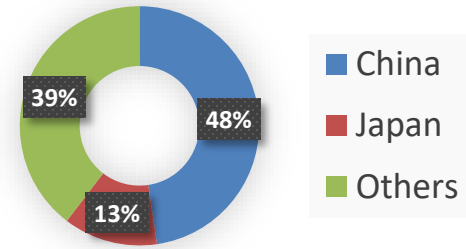
Source: Serra-Majem et al, 2020

GIs and food consumption

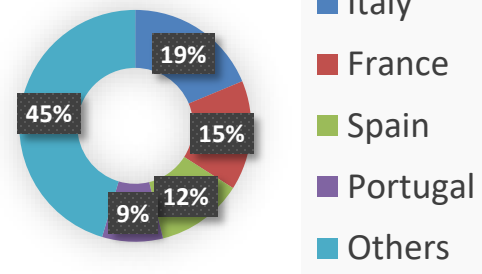
Number of GI products by food categories in world regions



ASIA



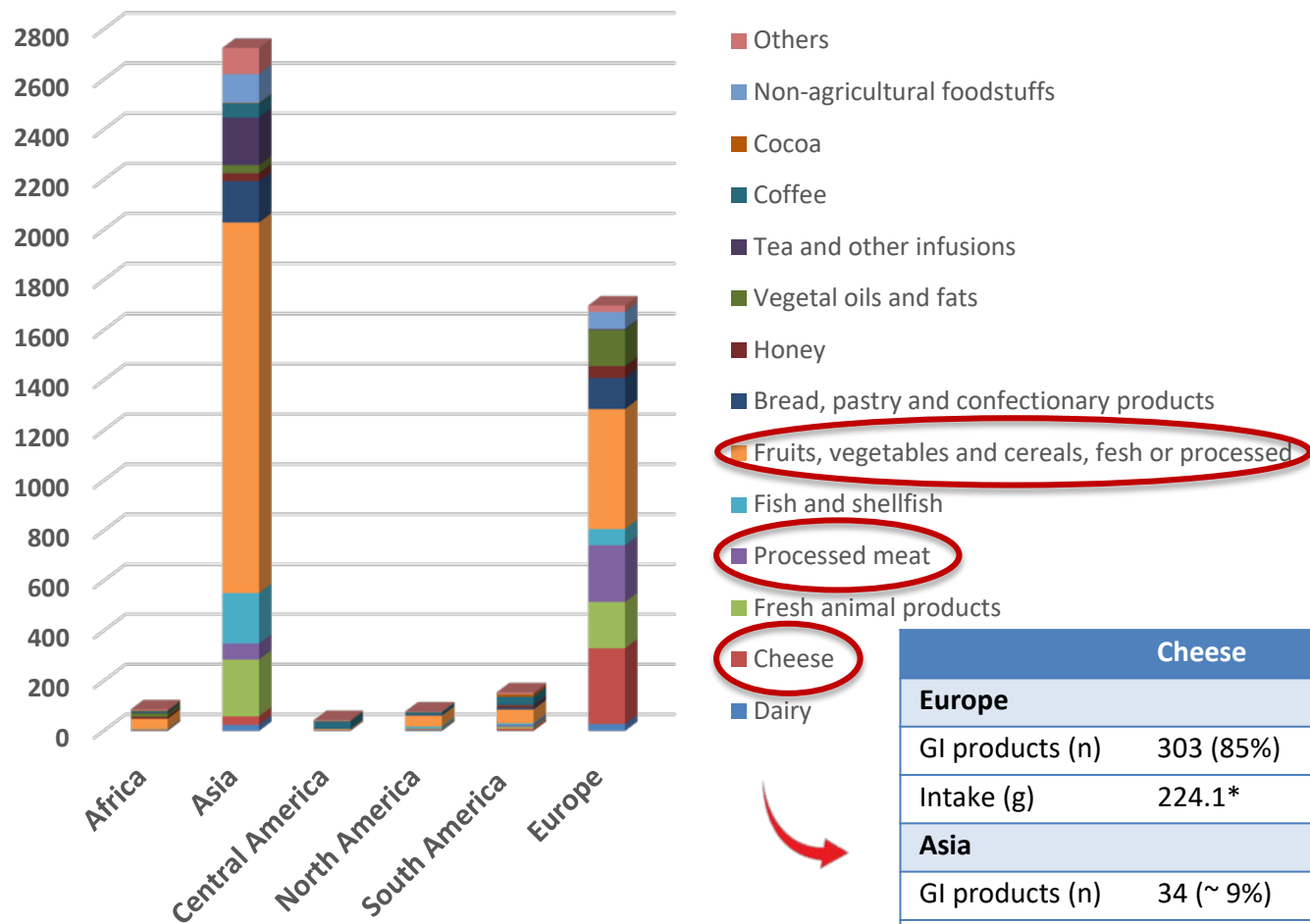
EUROPE



Source: OriGIn, 2024

GIs and food consumption

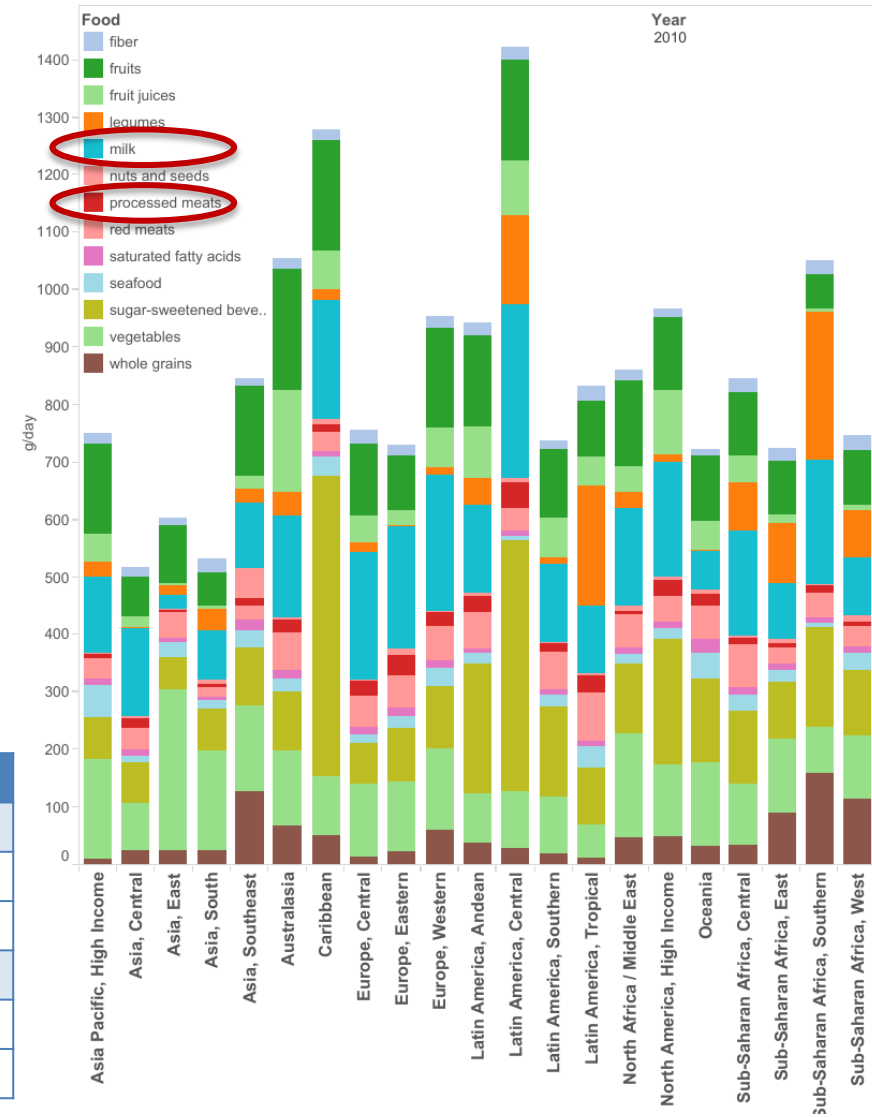
Number of GI products by food categories in world regions



	Cheese	Processed meat
Europe		
GI products (n)	303 (85%)	227 (76%)
Intake (g)	224.1*	28
Asia		
GI products (n)	34 (~ 9%)	64 (21%)
Intake (g)	102.1*	10

*Data refer to milk.

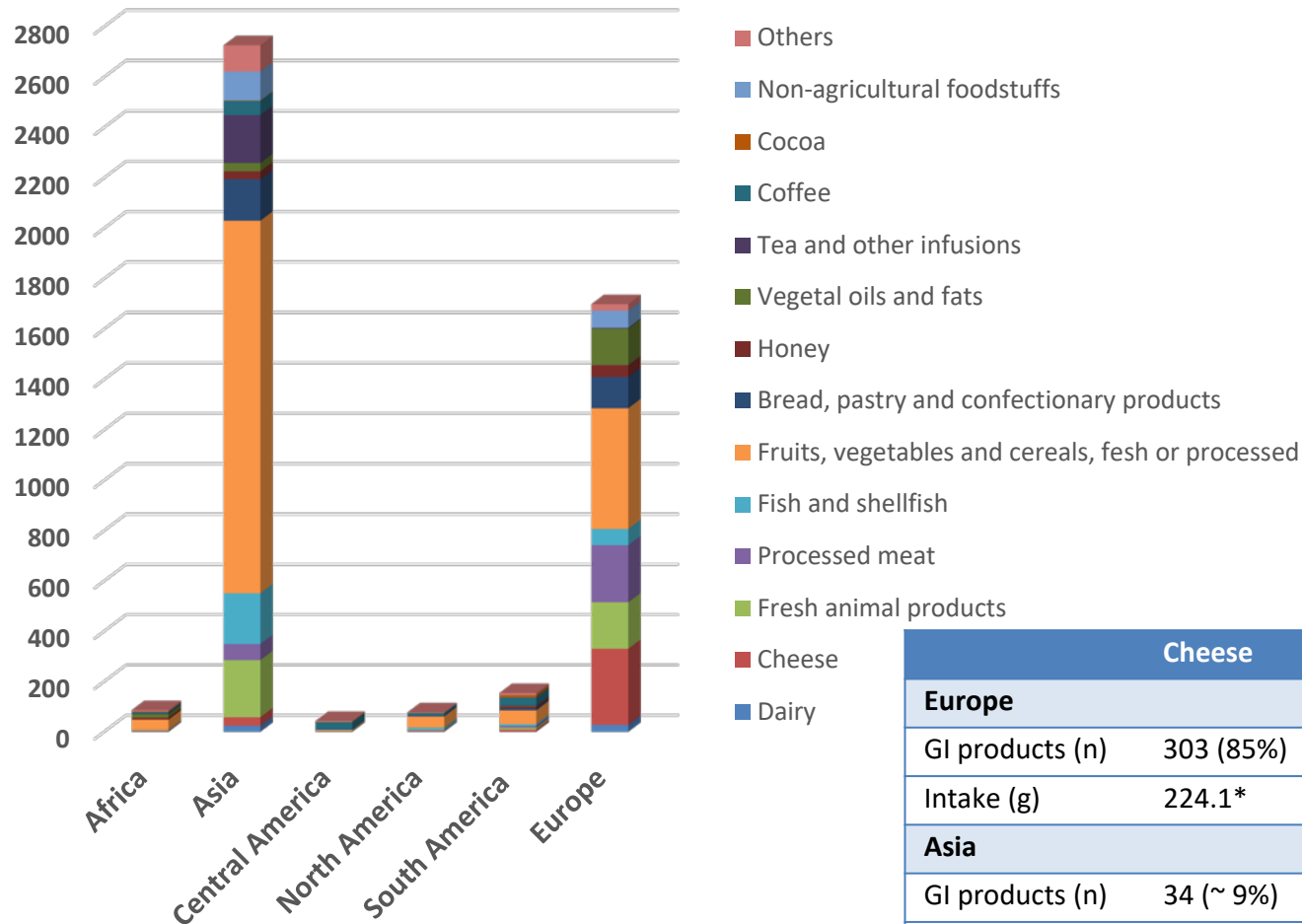
Dietary Intake of Major Foods by Region, 2010



Source: OriGIn, 2024; Tufts University, 2024

GIs and food consumption

Number of GI products by food categories in world regions



To some extent, the distribution of registered GI food categories can reflect the dietary habits and preferences of the local population, however it is not always the case for various reasons:

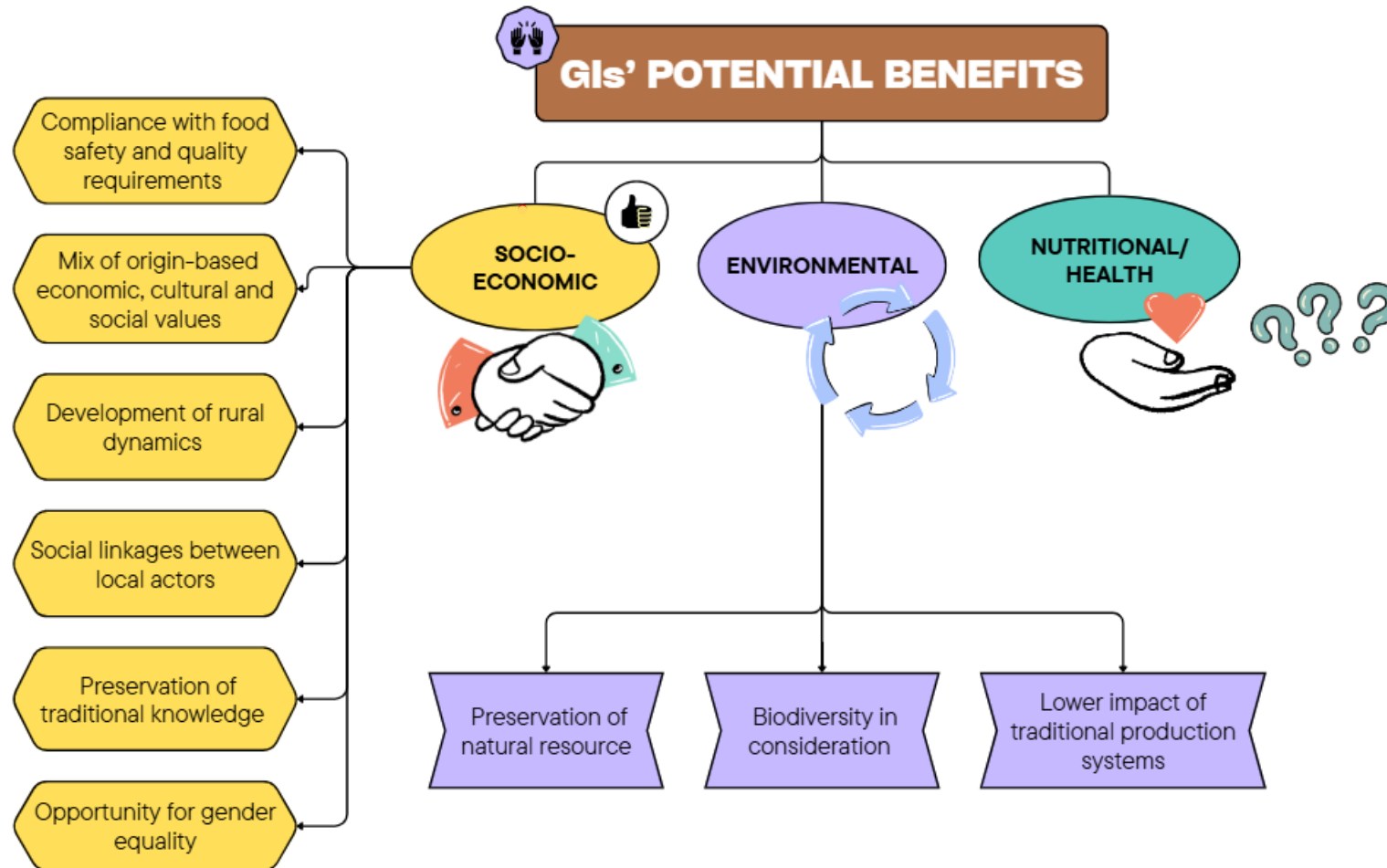
- ✓ Need of financial resources
- ✓ Destined to special occasions
- ✓ GI foods target high-value markets

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GIs and sustainability



Graphic elaboration based on FAO, 2021



Nutritional sustainability of GIs

Values for 100 g of food	Parmigiano Reggiano	Grana Padano	Cheese, Parmesan, hard
Water (g)	31.4	32.0	26.8
Energy (kcal)	402	398	412
Macronutrients			
Protein (g)	32.4	33.0	29.9
Lipids (g)	29.7	29.0	28.8
Sat. fatty ac. (g)	19.6	18.4	16.4
Monounsat. fatty ac. (g)	9.3	7.4	6.2
Polyunsat. fatty ac. (g)	0.8	1.1	0.9
Cholesterol (mg)	83	98.3	86
Carbohydrates (g)	0	0	8.4
Sugars (mg)	<1	<1	360
Dietary fibre (g)	0.0	0.0	0.0
Micronutrients			
Sodium (mg)	650	600	1398
Calcium (mg)	1155	1165	917
Vitamin A (µg, RE)	430	224	230
Vitamin D (µg)	n.a.	0.5	0.2

«high in protein»

Standard portion:

Cheese with > 25% fat: 50 g
 (Cheese with ≤ 25% fat: 100 g)

Suggested consumption frequency for cheese by Italian FBDGs: *

2-3 portions per week, *preferring fresh, light options, with low salt*

«high in calcium»

Source: Grana Padano website; Parmigiano Reggiano website; US Department of Agriculture Agricultural Research Service, 2024; Italian Food-based dietary guidelines, 2019

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50 g PR

10% Energy requirement

26% RI proteins

7% En. from fat

4% En. from SFA



Reference adult
En. requirement: 2000 kcal
Weight: 70 kg

22% AI Na

58% RI Ca

36% RI Vit. A, 31% (female)

Source: Grana Padano website; Parmigiano Reggiano website; US Department of Agriculture Agricultural Research Service, 2024; LARN, 2014, Italian Food-based dietary guidelines, 2019

Health sustainability of GIs

PR/GP contains also:

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❑ Short peptides

- Improve gastrointestinal digestion
- Counter hypertension
- Boost the immune system
- Mediate mineral transport

Summer et al, 2017; FAO, 2021

❑ Conjugated linoleic acid (CLA)

- Protect against NCDs
- Decelerate body fat accumulation
- Stimulate bone mineralization

Evidence mainly from animal and in vitro studies, only a few in humans.

Yang et al, 2015; Crippa et al, 2016; FAO, 2021

❑ Microbial biodiversity

- Potential in developing probiotic products

Source: Grana Padano website; Parmigiano Reggiano website; US Department of Agriculture Agricultural Research Service, 2024

Take-home messages

- ❑ Well-established and well-implemented **GI product specifications** may help **ensure the safety and consistency in nutritional quality** of traditional foods.
- ❑ Increasing **producers' awareness** of the relationship between production methods and a product's nutritional quality to define GI specifications able **to enhance or maintain the nutritional quality** of the GI product.
- ❑ In some specific contexts, **new products** may be developed to incorporate more considerations related to health and nutrition.
- ❑ As comprehensive information regarding the nutritional value of many traditional/GI foods is not available, the **publication of quantitative nutrient information should be encouraged** if such data are produced to apply for GI recognition.
- ❑ **GI/traditional foods** may contribute to healthy diets by substituting similar foods or becoming an integral part of diet, playing a role **towards the desired dietary shift**.

FAO, 2021

THANK
YOU



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