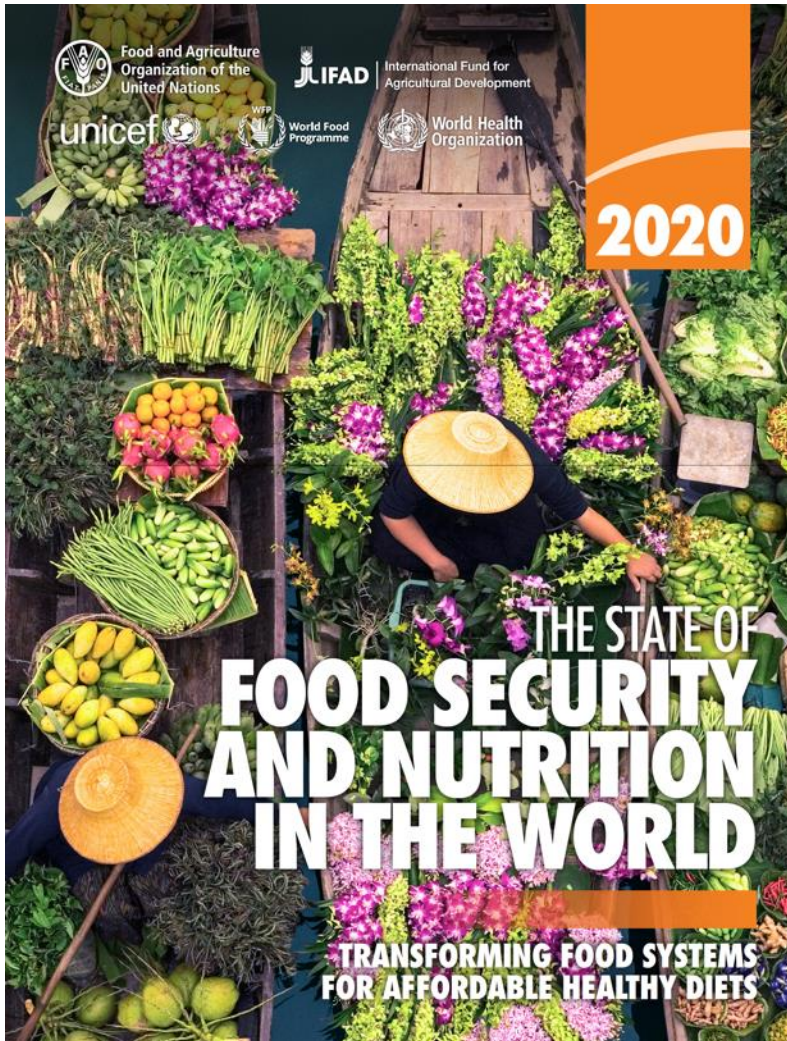




Cost and Affordability of Nutritious Diets Globally

Background paper to the SOFI 2020

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Will Masters



<http://www.fao.org/publications/sofi/2020/en/>

PART 1

FOOD SECURITY AND NUTRITION AROUND THE WORLD IN 2020

- 1.1 Progress towards hunger and food insecurity targets
- 1.2 Progress towards global nutrition targets
- 1.3 The critical link between food security and nutrition outcomes: food consumption and diet quality
- 1.4 Conclusions

PART 2

TRANSFORMING FOOD SYSTEMS TO DELIVER AFFORDABLE HEALTHY DIETS FOR ALL

2.1 The cost and affordability of healthy diets around the world

Today!

2.2 The hidden health and environmental costs of what we eat

→ Next week!

2.3 What is driving the cost of nutritious foods?

2.4 Policies to reduce the cost of nutritious foods and ensure affordability of healthy diets

Vision:

Food price measurement to match this aspiration

Food security is...

*when all people, at all times, have physical and economic access to sufficient, safe, **nutritious food to meet dietary needs** and food preferences for an active and healthy life.*

-- World Food Summit, 1996



Aim

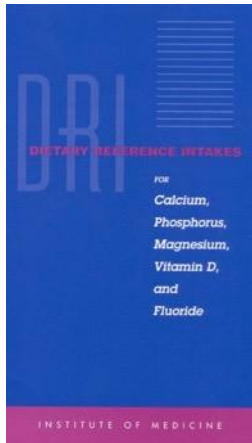
- If you went to an average market in any country, how much would it cost to obtain a diet that satisfies dietary guidelines? Nutrient requirements?
- How many people could not afford this cost?



We estimate the cost of three diets

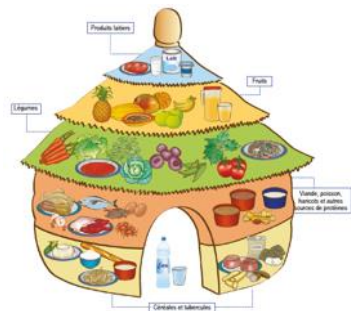


- Cost of Calorie Adequacy (CoCA)
 - minimum cost to meet energy requirements using the least cost available starchy staple food in each country

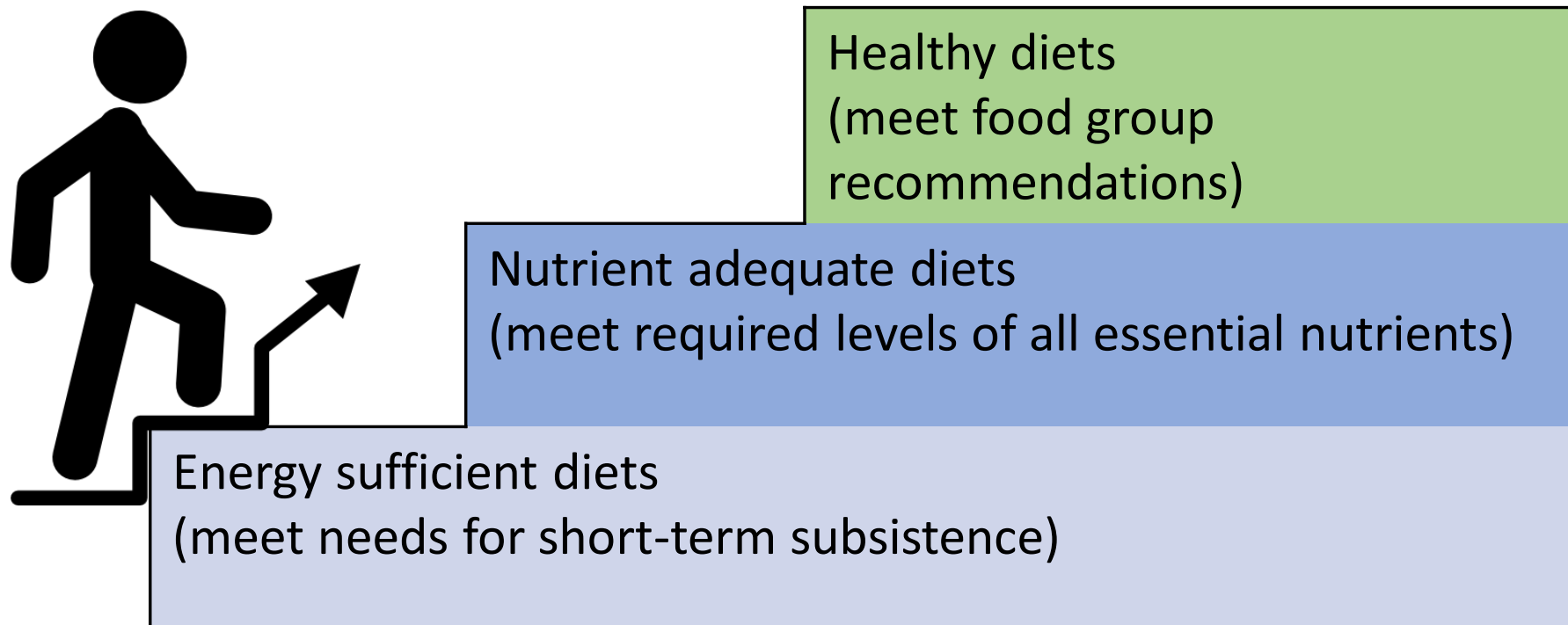


- Cost of Nutrient Adequacy (CoNA)
 - minimum cost to meet energy and nutrient requirements (23 macro and micro-nutrients, with upper as well as lower bounds)

- Cost of Recommended Diet (CoRD)
 - Minimum cost to meet food-based dietary guidelines, based on food group classifications



The stairway of affordability, from subsistence to health



Why focus on least-cost diets?

- Diet cost in each place is based on the most affordable combination of foods that meets the criteria for the diet
- No standard set of items in the least-cost basket: Food items chosen would vary by time and place, drawing on locally-available or seasonal items

Our estimates provide a lower bound on the cost per day of meeting each dietary standard.

- Adding food preferences and convenience would raise the estimated costs, and raise the number of people who cannot afford the diet
 - CoRD-FP (food preferences) is a variant which is the cost of a diet meeting food-based dietary guidelines that accounts for local food preferences within each food group

Global food price dataset

- We use the World Bank's International Comparison Program (ICP) dataset from 2017
 - Unique dataset
 - Main purpose: establishing purchasing power parity (PPP)
 - Published every few years (2005, 2011, 2017)
 - Global and regional lists for 2017 include 680 foods & non-alcoholic beverages in 173 countries
 - Items limited to standard products sold in multiple countries

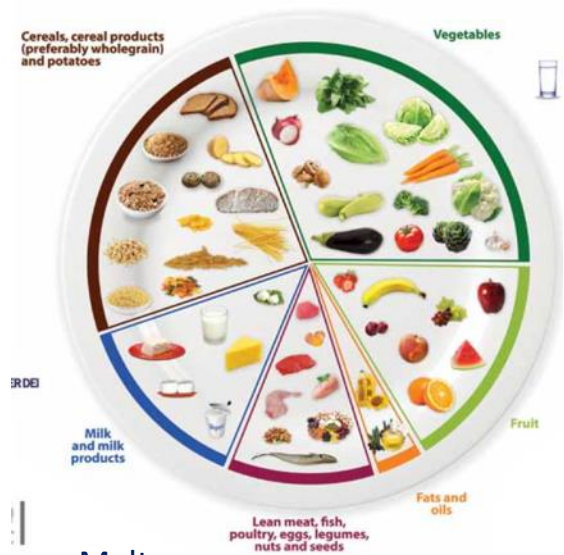


Limitations

- ICP data is sourced from national governments; food prices collected may not include all low-cost food items
- Data at national level; does not allow for sub-national analysis
- Does not include cost of home production of food; market cost only

Main results: Global average costs

- **\$0.79** per day to meet daily energy needs using the most affordable starchy staple
- **\$2.34** per day to meet all essential nutrient requirements
 - *no requirement for proportionality/palatability*
- **\$3.75** per day (range **\$3.29 to \$4.58**) to meet dietary recommendations
 - *we use 10 different definitions of a healthy diet published by UN member states (no single definition of a healthy diet)*



Malta



India



Jamaica



Argentina

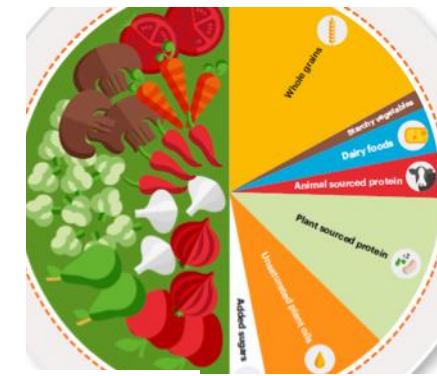


Vietnam

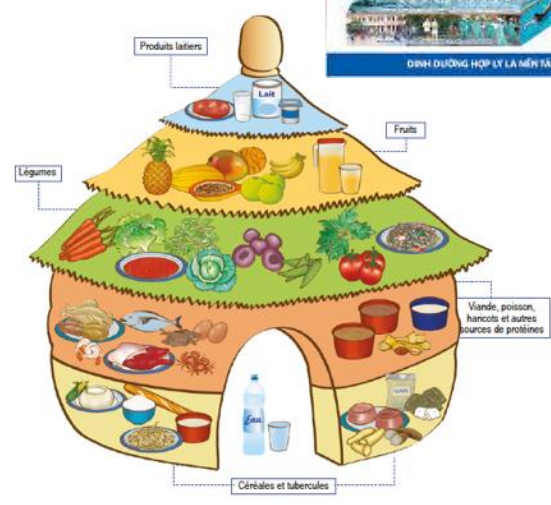


China

盐	<6克
油	25~30克
奶及奶制品	300克
大豆及豆制品	25~35克
畜禽肉	40~75克
水产品	40~75克
蛋类	40~50克
蔬菜类	300~500克
水果类	200~350克
谷薯类	250~400克
全谷物和杂豆类	50~100克
大豆和坚果类	50~100克
水	1500~1700毫升



(EAT-Lancet)



Benin



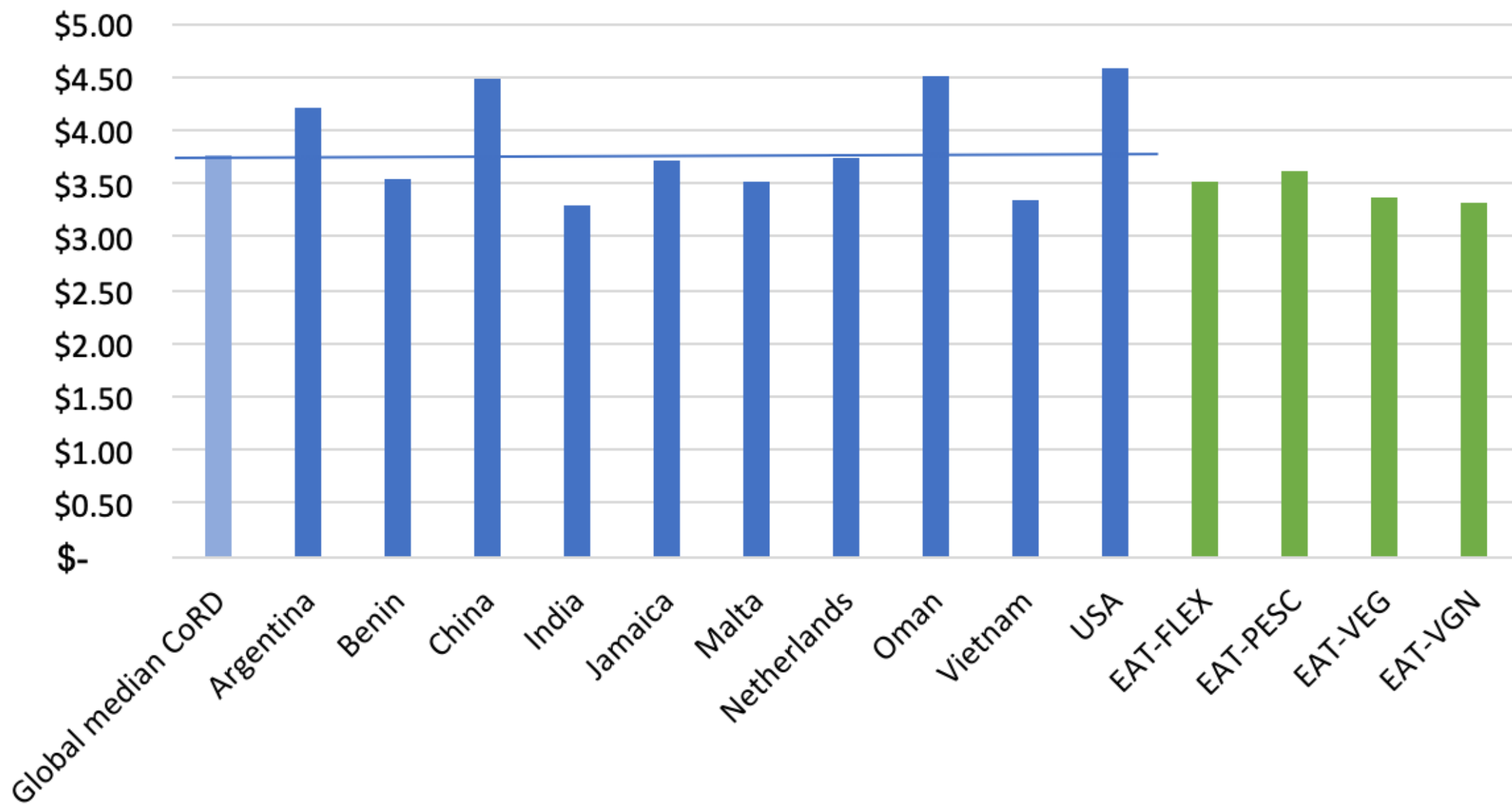
U.S.A.



Oman

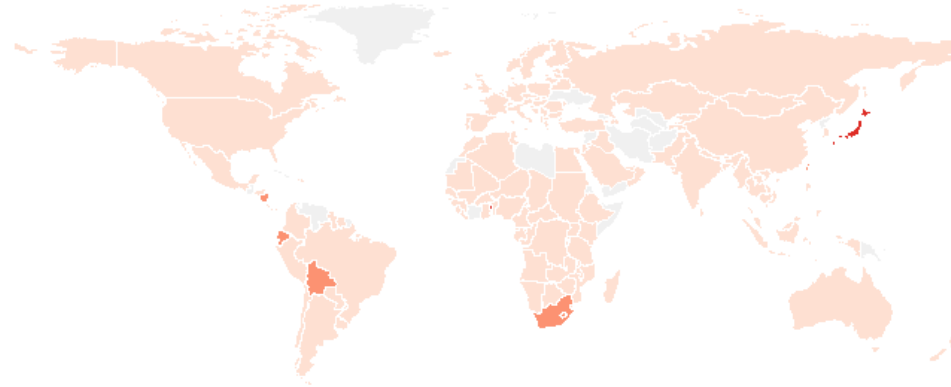


Netherlands

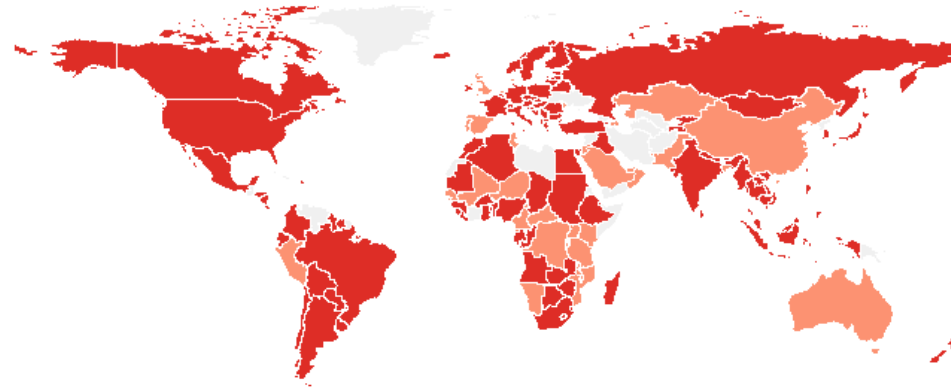


- Healthy diets *by any definition* are far more expensive than the entire international poverty line of \$1.90...let alone the upper bound portion of the poverty line that can credibly be reserved for food of \$1.20.

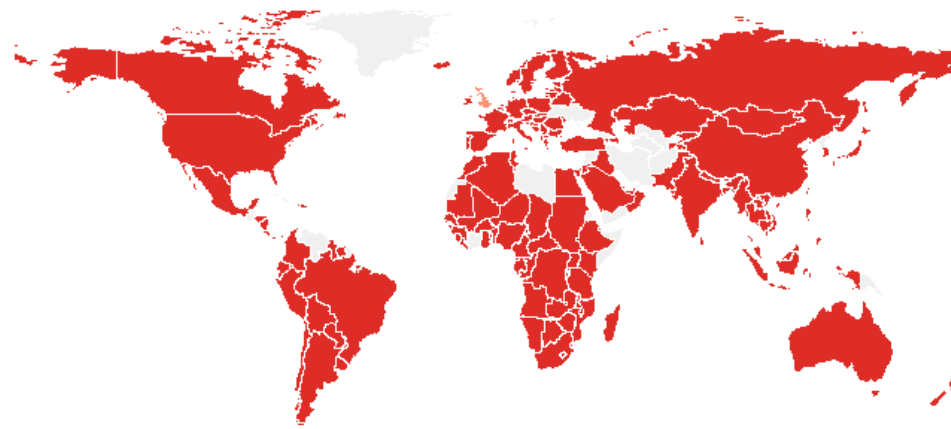
CoCA vs 63% and 100% of Int'l poverty line



CoNA vs 63% and 100% of Int'l poverty line



CoRD vs 63% and 100% of Int'l poverty line



The cost of nutrient adequacy exceeds the poverty line in most countries, let alone the cost of healthy diets



Other affordability comparisons

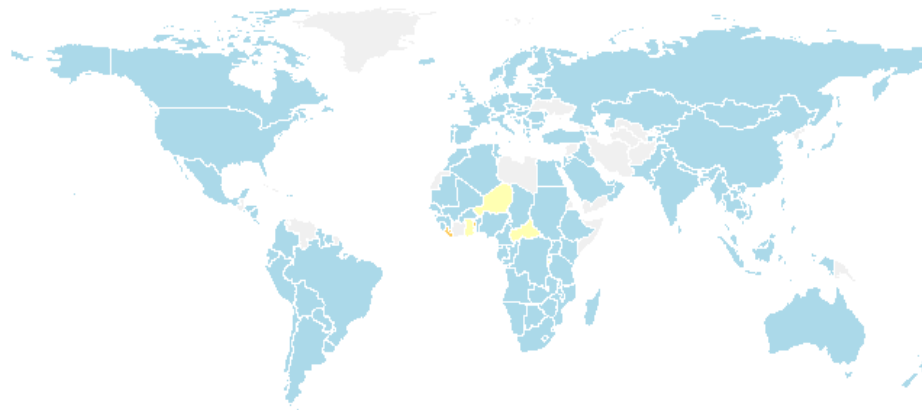
1. Comparison to national average expenditures on food by country
2. Comparison to 63% of income, using World Bank estimated 2018 income distributions across 164 countries
 - *63% is the mean proportion of expenditures on food among the bottom consumer segment in LICs (calculated from the World Bank Global Consumption Database)*

Average expenditures are almost always above **calorie adequacy**, but

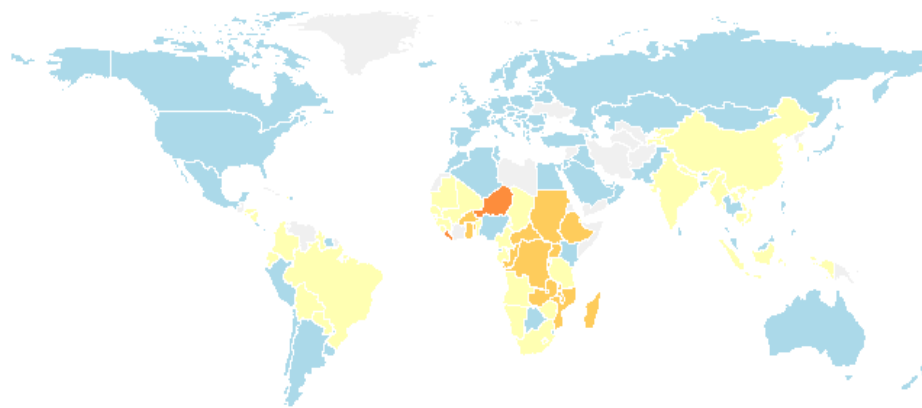
the cost of **nutrient adequacy** exceeds food expenditures in many African countries.

The cost of **recommended diets** exceeds food expenditures in most countries in Africa and Asia.

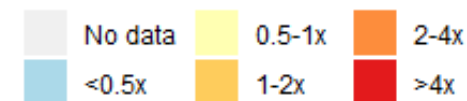
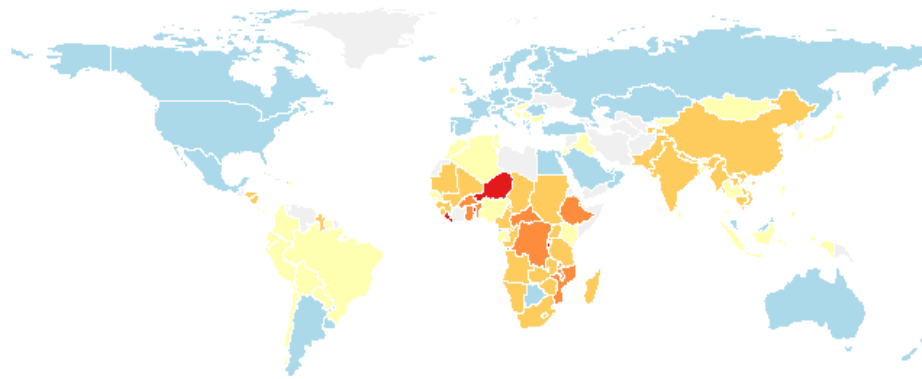
Ratio of CoCA and Food expenditure per capita



Ratio of CoNA and Food expenditure per capita



Ratio of CoRD and Food expenditure per capita

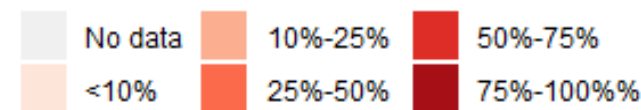
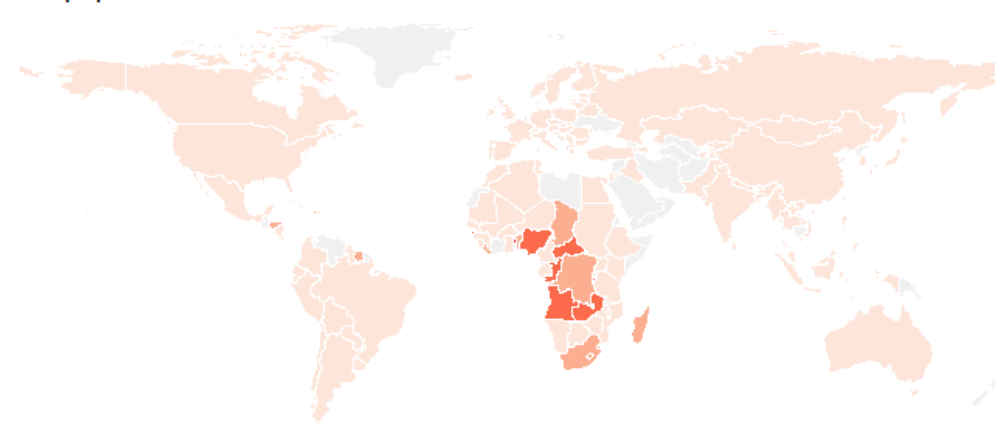


Calorie affordability
is still a problem in
some countries

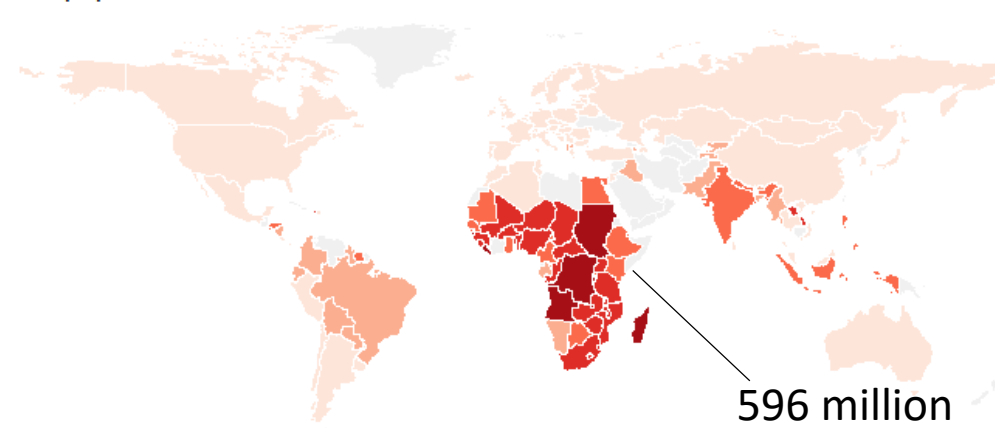
Most people in sub-
Saharan Africa
cannot afford
nutrient adequate
diets

Most people in sub-
Saharan Africa and
South Asia cannot
afford
recommended diets

% of population who can't afford CoCA

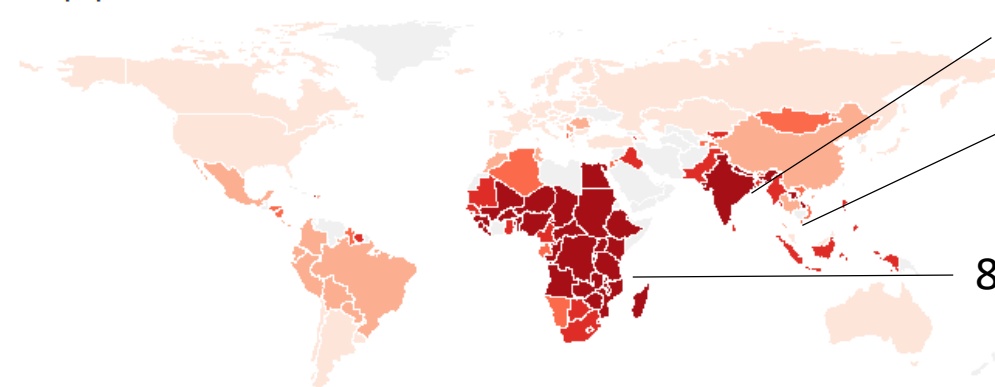


% of population who can't afford CoNA



596 million

% of population who can't afford CoRD



1.3 billion

326 million

829 million

Widespread unaffordability

- 3 billion people globally lack sufficient income to purchase the *least-cost* form of healthy diets recommended by national governments.

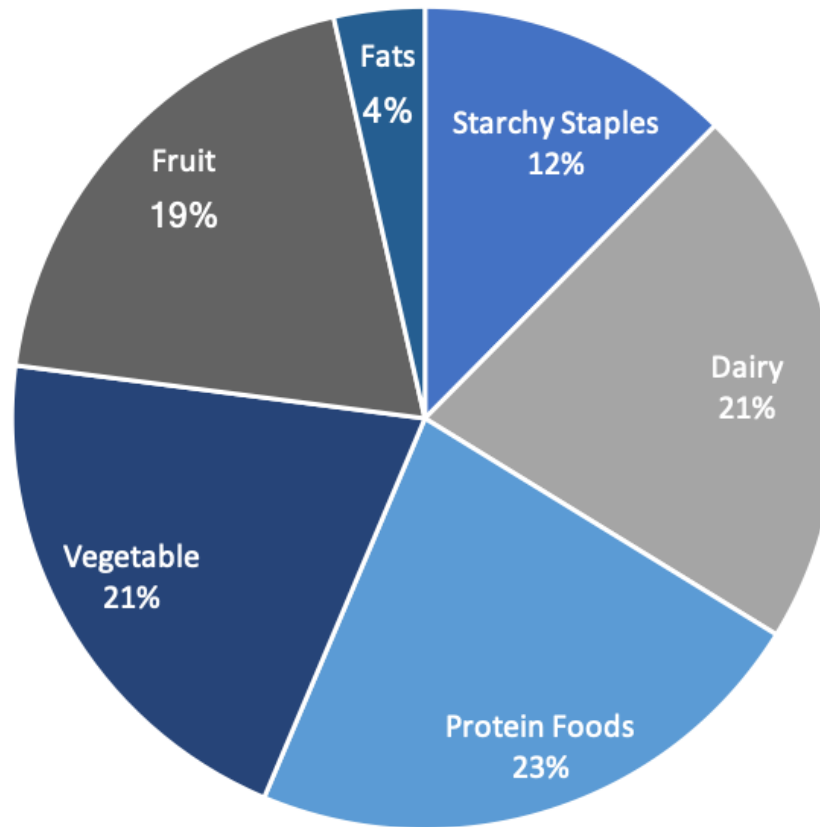
Compare to:

- 2 billion people who experience moderate or severe food insecurity as measured by the FAO Food Insecurity Experience Scale (FIES)
- 690 million hungry: FAO Prevalence of Undernourishment indicator

High cost of diverse foods

Starchy staples and oils account for only 16% of the cost

Fruits and
vegetables
account for 40%
of the cost of the
recommended
diet (\$1.50)



Conclusions

- The cost of nutritious diets in the market is more than many people can afford.
- Existing food systems and assistance programs do not fulfill longstanding aspirations for global food security.
- Implications for poverty, social protection, and agriculture

Need to reconsider poverty lines



Food poverty line is based on kcal equivalent of common diet among the poor



Need to allow for the cost of nutritious / recommended diet

What is needed in Agriculture?

- Social protection: include assistance for home production?
- Investment, Research, Development:
 - Public and private actions needed to lower cost will vary by location and type of food...
Production, distribution, storage, trade



How to reduce the cost of nutritious food?

By lowering agricultural and food worker wages	✗
By intensive animal production that discounts animal welfare and water quality	✗
By cutting down forests to produce more food	✗
Trade protectionism	✗
By investing in research and development of vegetable, fruit, and legume seeds: increase diversity in the food supply, and viable opportunities for farmers	✓
By investing in environmentally and socially sustainable ways to produce animal source foods targeted to the poor	✓
Innovations for cold chains and other means of preservation	✓
Market infrastructure to allow movement of products	✓

By diversification and connection, not by externalizing true costs!

Thank you



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