The EAT Lancet Publication: Implications for Nutrition Health and Planet

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Why and who?

• Address absence of scientific targets for achieving healthy diets from sustainable food systems limiting large scale coordinated efforts to transform the global food system.

• The Commission: 19 Commissioners and 18 co-authors from 16 countries and areas of specialization (human health, agriculture, political sciences, and environmental sustainability)

• Develop global scientific targets informed by the best evidence available for healthy diets and sustainable food production.

• Define a safe operating space for food systems that address nutrition, health and a sustainable planetary system.

• Ensure meeting Sustainable Development Goals (SDGs) and Paris Climate Agreement.

https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)31788-4/fulltext#
The scale of the challenge

- 2 billion people lack key micronutrients like iron and vitamin A
- 155 million children are stunted
- 52 million children are wasted
- 2 billion adults are overweight or obese
- 41 million children are overweight
- 88% of countries face a serious burden of either two or three forms of malnutrition

And the world is off track to meet all global nutrition targets
EAT-\textit{Lancet} Commission Approach

Define a healthy reference diet using the best available evidence (controlled feeding studies, long-term cohort studies, randomized trials).

Define planetary boundaries for 6 key environmental systems and processes (GHG, cropland use, water use, nitrogen and phosphorus application, extinction rate).

Apply a global food systems modeling framework to analyze what combinations of readily implementable measures are needed to stay within food production boundaries while still delivering healthy diets by 2050.

Outline Strategies to achieve the changes needed to meet the goal of healthy diets from sustainable food systems for all by 2050.
## Healthy Diets

### 2500 kcal/day

<table>
<thead>
<tr>
<th>Food Category</th>
<th>Macronutrient intake grams per day (possible range)</th>
<th>Caloric intake kcal per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole grains</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rice, wheat, corn and other</td>
<td>232</td>
<td>811</td>
</tr>
<tr>
<td>Tubers or starchy vegetables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potatoes and cassava</td>
<td>50 (0–100)</td>
<td>39</td>
</tr>
<tr>
<td>Vegetables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All vegetables</td>
<td>300 (200–600)</td>
<td>78</td>
</tr>
<tr>
<td>Fruits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All fruits</td>
<td>200 (100–300)</td>
<td>126</td>
</tr>
<tr>
<td>Dairy foods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole milk or equivalents</td>
<td>250 (0–500)</td>
<td>153</td>
</tr>
<tr>
<td>Protein sources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beef, lamb and pork</td>
<td>14 (0–28)</td>
<td>30</td>
</tr>
<tr>
<td>Chicken and other poultry</td>
<td>29 (0–58)</td>
<td>62</td>
</tr>
<tr>
<td>Eggs</td>
<td>13 (0–25)</td>
<td>19</td>
</tr>
<tr>
<td>Fish</td>
<td>28 (0–100)</td>
<td>40</td>
</tr>
<tr>
<td>Legumes</td>
<td>75 (0–100)</td>
<td>284</td>
</tr>
<tr>
<td>Nuts</td>
<td>50 (0–75)</td>
<td>291</td>
</tr>
<tr>
<td>Added fats</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unsaturated oils</td>
<td>40 (20–80)</td>
<td>354</td>
</tr>
<tr>
<td>Saturated oils</td>
<td>11.8 (0–11.8)</td>
<td>96</td>
</tr>
<tr>
<td>Added sugars</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All sugars</td>
<td>31 (0–31)</td>
<td>120</td>
</tr>
</tbody>
</table>
Healthy Diets
2500 kcal/day
Current Intakes vs Planetary Health Diet

Limited intake
- Red meat
- Starchy vegetables

Optional foods
- Eggs
- Poultry
- Dairy foods

Emphasized foods
- Fish
- Vegetables
- Fruit
- Legumes
- Whole grains
- Nuts

North America

Health boundary
- Red meat: 638%
- Starchy vegetables: 171%
- Eggs: 268%
- Poultry: 145%
- Dairy foods: 234%
Current Intakes vs Planetary Health Diet

Limited intake
- Red meat
- Starchy vegetables
- Eggs
- Poultry
- Dairy foods

Optional foods

Emphasized foods
- Fish
- Vegetables
- Fruit
- Legumes
- Whole grains
- Nuts

Sub-Saharan Africa

Health boundary

729%
Current Intakes vs Planetary Health Diet

<table>
<thead>
<tr>
<th>Limited intake</th>
<th>Optional foods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red meat</td>
<td>Starchy vegetables</td>
</tr>
<tr>
<td>Eggs</td>
<td>Poultry</td>
</tr>
<tr>
<td>Dairy foods</td>
<td></td>
</tr>
</tbody>
</table>

Emphasized foods

- Fish
- Vegetables
- Fruit
- Legumes
- Whole grains
- Nuts
### Too little or too much

Different patterns of consumption of food groups and components

<table>
<thead>
<tr>
<th>Country</th>
<th>Red meat</th>
<th>Saturated fat</th>
<th>Sugar sweetened beverages</th>
</tr>
</thead>
<tbody>
<tr>
<td>United states</td>
<td>22.5g</td>
<td>0%</td>
<td>2.5g</td>
</tr>
<tr>
<td>Netherlands</td>
<td>22.5g</td>
<td>0%</td>
<td>2.5g</td>
</tr>
<tr>
<td>South Africa</td>
<td>22.5g</td>
<td>0%</td>
<td>2.5g</td>
</tr>
<tr>
<td>India</td>
<td>22.5g</td>
<td>0%</td>
<td>2.5g</td>
</tr>
<tr>
<td>Zambia</td>
<td>22.5g</td>
<td>0%</td>
<td>2.5g</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>22.5g</td>
<td>0%</td>
<td>2.5g</td>
</tr>
</tbody>
</table>

Source: adopted from global nutrition report, WHO, 2018

- ○ Average consumption of the respective country
- ○ Regional average consumption
- ○ Global average for every food group

TMREL = Theoretical minimum risk exposure level
Too little or doing better

Different patterns of consumption of food groups

Source: adopted from global nutrition report, WHO, 2018

- Average consumption of the respective countries
- Regional average consumption
- Global average for every food group

TMREL= Theoretical minimum risk exposure level
Food production a major contributor to climate and environmental change

- Food production one of the largest drivers of global environmental change by contributing to climate change, biodiversity loss, freshwater use, interference with the global nitrogen and phosphorus cycles, and land-system change.

- Yet food production depends on continued functioning of biophysical systems and processes and a stable Earth System.

- There is need for us to operate within a safe planetary boundary to avoid Earth System failure.

- Diets therefore link nutrition, human health and environmental sustainability
Acknowledgment

• Professor Jessica Fanzo EAT Commissioner for sharing Eat Commission slides
• The EAT Lancet Commission for ground braking work that is helping us the-think our efforts
• The Global Nutrition Report 2018 for the relevant report on consumption patterns that has contributed to this presentation
## Achieving Planetary Health Diets

<table>
<thead>
<tr>
<th>Actions</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dietary shift</strong></td>
<td>Planetary health diet – as earlier described</td>
</tr>
<tr>
<td><strong>Halve waste</strong></td>
<td>Food losses and waste reduced by half, in line with SDG target 12.3.</td>
</tr>
<tr>
<td><strong>PROD</strong></td>
<td>Closing yield gaps to about 75%; rebalancing N and P application; improving water management; implementation of agricultural mitigation options; and land is expanded first into secondary habitat and then to intact forests to minimize impacts on biodiversity.</td>
</tr>
<tr>
<td><strong>PROD+</strong></td>
<td>Closing yield gaps to 90%; a 30% increase in N use efficiency and 50% recycling rates of P; phase-out of first-generation biofuels; implementation of available bottom-up options for mitigating GHG emissions; and optimizing land-use across regions to minimize impacts on biodiversity.</td>
</tr>
</tbody>
</table>