Sustainable diets and policy: Why is it important?

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Roundtable on: Metrics of Sustainable Diets and Food Systems
Daniel and Nina Carasso Foundation
Bioversity International
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Madrid
“[By 2030] we need 50% more production on less land, with less water, using less energy, fertiliser and pesticides......

.............whilst mitigating and adapting to climate change”

Sir John Beddington (2009)
‘Business as usual’ is not an option

Shift in social norms - some policies may be seen as undesirable

Consumers

- Ability to Act: High
  - Adopt lower impact diet
  - Avoid unnecessary flights (short haul)
  - Use car less for short trips
  - Use more efficient vehicles
  - Eat more food that is locally in season
  - More responsible water usage
  - Better energy management
  - Install insulation
  - Buy energy efficient products
  - Install microgeneration

- Willing to Act: High
  - Waste less food
  - Increase recycling
  - High proportion of population

Producers

Industry

Retailers

- price / profits trade subsidies etc.
Sustainable diets are those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations.

They are:

- protective and respective of biodiversity and ecosystems
- culturally acceptable
- accessible
- economically fair and affordable
- nutritionally adequate, safe and healthy

........... while optimizing natural and human resources.
Low environmental impact and healthy

- climate change (GHGE)
- water use / quality
- land use
- biodiversity / ecosystems
- energy
- pollution
- etc.

- under / over nutrition
- dietary deficiencies
- chronic disease
- developmental problems
- etc.

... and all part of wider social, economic, structural problem
Greenhouse gas emissions 2000

GHGE reduction pledges / targets

United Nations
Framework Convention on Climate Change

www.worldmapper.com

Food system ~18-30% GHGE
Environmental impact of the diet

**Greenhouse gas emissions** (kgCO₂e/kg product)

**HIGHER GHGE:** animal-based products (esp. ruminant livestock)

**LOWER GHGE:** plant-based foods (cereals, fruit, vegetables, etc)

➤ Environmental ‘hotspot’ ➙ *less meat & dairy*

*But it does depend on:*

production methods (e.g. intensive vs. extensive), location/season, processing, storage, etc.
1. **Dietary constraints**: 8.1MJ diet (woman)
   - **Minimum**: carbohydrate, fibre, protein, iron, folate, calcium, zinc, vit B$_{12}$, fruit & vegetables, fish.
   - **Maximum**: total fat, saturated fat, non-milk extrinsic sugars, salt, red/processed meat

2. **Minimise GHGE**: (kgCO$_2$e)
   - 90% reduction in GHGE
   - But ..... only 8 food items
     - no meat, no milk (or much else!)

   - 36% reduction in GHGE
   - **more variety**
     - >50 types of food
     - no food groups eliminated
     - £29/week
Re-balancing the whole diet: *not just meat & dairy*

<table>
<thead>
<tr>
<th>Category</th>
<th>Current Diet (NDNS)</th>
<th>Sustainable Diet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of the total diet (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fruit, vegetables</td>
<td>31.3</td>
<td>35.5</td>
</tr>
<tr>
<td>Cereals &amp; potatoes</td>
<td>21.2</td>
<td>29.7</td>
</tr>
<tr>
<td>Dairy products</td>
<td>15.6</td>
<td>14.8</td>
</tr>
<tr>
<td>High fat &amp;/or sugar</td>
<td>16.9</td>
<td>7.8</td>
</tr>
<tr>
<td>Meat</td>
<td>9.1</td>
<td>3.8</td>
</tr>
<tr>
<td>Fish</td>
<td>2.4</td>
<td>2.9</td>
</tr>
<tr>
<td>Beans, pulses</td>
<td>1.4</td>
<td>3.9</td>
</tr>
<tr>
<td>Eggs</td>
<td>1.9</td>
<td>1.2</td>
</tr>
<tr>
<td>Nuts, seeds</td>
<td>0.3</td>
<td>0.4</td>
</tr>
</tbody>
</table>
REBOUND? reducing meat intakes

Scenario 1: individuals reduce meat by 20% (~35 kcal)

Scenario 2: meat <50 g/d and all deli meat removed (~133 kcal)

<table>
<thead>
<tr>
<th>% change in GHGE</th>
<th>no replacement</th>
<th>starchy foods</th>
<th>milk, cheese</th>
<th>fruit, vegetables</th>
</tr>
</thead>
<tbody>
<tr>
<td>20% less meat</td>
<td>-4.1</td>
<td>-3.9</td>
<td>-1.7</td>
<td>0</td>
</tr>
<tr>
<td>&lt;50g/d meat</td>
<td>-12</td>
<td>-8.4</td>
<td>-3.5</td>
<td>2.7</td>
</tr>
</tbody>
</table>

Vieux et al. (Eco Econ 2012)
mathematical models vs. human behaviour

What will be the real behavioural responses (rebound effects)?

- **reducing the meat supply / increasing the price of meat**
  - eat cheese?
  - buy more unhealthy cheap food?

- **reducing household food waste**
  - buy less fresh produce (fruit, vegetables, bread etc)?

- **eating a more diverse range of foods**
  - ???

Understand the possible unintended consequences of any policy
Compatibility of environment & health for food

Environment = sustainable FOOD (e.g. meat, dairy)

vs.

Health = sustainable DIETS (e.g. fat, sugar, salt)

Will a healthy diet be a low impact diet?
Policy for more sustainable diets????

**TRANSFORMATION OF THE FOOD SYSTEM**

**SUPPLY IMPACT**
- less environmental impact
- more even distribution of food
- unintended consequences

**DEMAND RESTRAINT**
(consumer)
- consume less high impact foods
- eat healthier diets
- less overconsumption
- value food (less waste)
- fair/real price for food

Garnett 2012
External pressures on policy: social norms & culture

expectations/influences

'Ugly' fruit and veg make the grade on UK supermarket shelves
(The Guardian 2012)

knowledge

cheap food / ‘value for money’

restaurant menus

advertising / marketing

attitudes/beliefs

“I don’t want people to think I’m strange or a hippy”

Lea et al. (EJCN 2006)
Is obesity an area for integrated policy?

1. Eat only enough to maintain a healthy weight
   - reduce obesity & environmental impact
   - is overconsumption/obesity food waste?

2. Reduce portion size / expectation
   - limit overeating & reduce GHGE
   - pay a real price for food

Possible tension (Euro, £, $)

But we need to avoid ‘too little too late’ .................
1. What does ‘sustainable food/diet’ mean to different stakeholders?

Or does it mean anything?

2012 survey (UK) only 13% had ever heard the term ‘global food security’
1. **Food system needs to become more sustainable**
   - what does it mean in practice?
     - Mediterranean diet, Double Pyramid, NL dietary guidelines etc.

2. **Whole diet not just food**
   - rebound & unintended consequences.

3. **How do we do this?**
   - commitment from government, producers, retailers, consumers.
   - integrated, effective & coherent policy
     - local, national & international levels (‘soft’ and ‘hard’ measures).
   - integrated policy/research needs us to learn new languages.
UN General Assembly **1989**

“What we are now doing to the world, by degrading the land surfaces, by polluting the waters and by adding greenhouse gases to the air at an unprecedented rate—all this is new in the experience of the earth. It is mankind and his activities which are changing the environment of our planet in damaging and dangerous ways.”
Thank you
Mediterranean diet