Strengthening Food-based Approaches To Reduce Iron Deficiency: The FAO/WHO Global Individual Food consumption data Tool (FAO/WHO GIFT)

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The theory of change: providing the data that are needed to implement food-based approaches to combat iron deficiency

- **Promotion of diversified diets, and local and biodiverse foods rich in key nutrients**
- **Biofortification and food fortification**
- **Provision of supplements**

**Food-based indicators expressed in terms of nutrient intake**
- Allow to identify the food sources of nutrient in the diet

**Food-based indicators expressed in terms of quantity of food consumed**
- Allow to assess the quantity of nutrients to be added to foods in order to reach nutrient requirements

**Health-based indicators**
- Characterize nutritional deficiencies in terms of nature (which nutrients), prevalence and severity

- **Local Food Composition data**
- **Food Balance Sheets**
- **Household food consumption surveys**
- **Qualitative food consumption surveys (Dietary Diversity)**
- **Individual quantitative food consumption surveys**
- **Anthropometry**
- **Biomarkers of nutritional status**
Data that can be used to assess the nutritional adequacy of the diet

- Food Balance Sheet (national availability)
- Household Food Consumption Surveys (household availability)
- Individual food consumption surveys (individual food intakes)

Nutrient intake of individuals, to be compared with age and sex specific nutrient requirements
Dietary assessment methods allowing a multipurpose use of quantitative data on food intakes

- Quantitative Dietary record
- Quantitative 24-hours recall
- Qualitative 24-hours recall
- Qualitative Food Frequency Questionnaire
- Semi-quantitative Food Frequency Questionnaire
- Qualitative 24-hours recall through food list questionnaire
Dietary assessment methods allowing a multipurpose use of quantitative data on food intakes

- Quantitative Dietary record
- Quantitative 24-hours recall
- Semi-quantitative Food Frequency Questionnaire
- Qualitative Food Frequency Questionnaire
- Qualitative 24-hours recall through food list questionnaire
Welcome to the FAO/WHO GIFT dissemination platform!

This platform aims at supporting policy makers, program planners, NGO staff and many other stakeholders in taking informed decisions at country, regional and global level in the area of nutrition and food safety. FAO/WHO GIFT makes publicly available existing quantitative individual food consumption data from all countries around the world, collected through both large nationwide surveys and small scale surveys. The platform provides food-based indicators in the field of nutrition and food safety as well as microdata.


Contact: fao-who-gift@fao.org
The platform provides an inventory of existing quantitative individual food consumption datasets worldwide.
Each survey contains a metadata that indicates if the information on iron intake was collected.
The end user can select the population group that is at risk of iron deficiency.
Food consumption patterns are described through average food consumption.

Daily diet: Average food consumption (in grams per person per day)

This indicator shows the average foods and food group consumption expressed in grams per person per day. The calculation takes into account all individuals in the population: consumers and non-consumers. Consumers are those individuals who did consume the food of interest during the survey period, and non-consumers are those who did not.

- **Grams per person**
  - Percentage as g per 100g
  - Calories per person
The main sources of iron and other key micronutrients are identified.
The overall adequacy of the diet is assessed through macronutrient contribution to total energy intake.

**Macronutrient contribution to total energy intake**

This indicator shows the average percentage contribution of macronutrients (fat, carbohydrate and protein) to total energy intake. The values are shown with reference to the recommended by WHO proportions of macronutrients in the diet (see methodology section for references).
The proportion of the population at risk of micronutrient deficiency is estimated.
High consumption of specific foods allows the assessment of dietary exposure to food chemicals.
Microdata and metadata describing the datasets can be downloaded by the end user.

<table>
<thead>
<tr>
<th>Title</th>
<th>Sample Size</th>
<th>Region</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>HarvestPlus Reaching End Users (REU) Orange-Fleshed Sweet Potato (OFSP) Project</td>
<td>452</td>
<td>Uganda</td>
<td>2007</td>
</tr>
<tr>
<td>HarvestPlus Bangladesh Bio-fortified Rice Project - Baseline Dietary Survey</td>
<td>475</td>
<td>Bangladesh</td>
<td>2007</td>
</tr>
<tr>
<td>Food consumption and iron status survey in two provinces of rural Burkina Faso</td>
<td>960</td>
<td>Burkina Faso</td>
<td>2010</td>
</tr>
</tbody>
</table>

Showing 1 to 4 of 4 rows
Harmonisation of individual food consumption data at global level

- Identification of existing data worldwide
  - Through network (projects, related initiatives, etc.)
  - Through search on public access repositories (google, PubMed, ScienceDirect, etc.)

- Contact with data owners
  - To introduce the projects and tools
  - To require additional information related to the data

- Validation of the basic quality criteria
  - Quantitative 24h recalls or records
  - Year of assessment
  - Total food coverage
  - Sample size

- FoodEx2 training provided to data managers
  - Physical or Virtual
  - Hands-on training with their own data vs. examples

- Mapping of the data with FoodEx2
  - By data owner
  - Identification of food items potentially missing in FoodEx2

- Checking of the mapping
  - By the trainer
  - Discussion on the unclassified food items

- Sharing of data through FAO/WHO GIFT
  - Data sharing agreement
  - Public dissemination

Food and Agriculture Organization of the United Nations
What is FoodEx2?

FoodEx2 is a comprehensive system allowing classification and description of foods at the same time developed by the European Food Safety Authority (EFSA).

- The same food item can be referred to in different ways.
- FoodEx2 is a concrete proposal for a common language across databases worldwide.

UK: “16-382 – Pangasius”

ASEAN: “AAG217 - Striped catfish”

FoodEx2: $= A0F8N$

(Pangas catfishes)
Food description with FoodEx2

- FoodEx2 allows us to precisely describe the food as consumed through facets.

UK: “16-382 – Pangasius”

ASEAN: “AAG217 - Striped catfish”

FoodEx2:

- A0F8N
  (Pangas catfishes)

BUT

A0F8N#F20.A07QR
(Pangas catfishes, PART=Without skin)

A0F8N#F20.A07QV
(Pangas catfishes, PART=With skin)
Upgrade of FoodEx2 at global level

- Initiated in 2014 in collaboration between EFSA, FAO and WHO
- Addition of food items not consumed in Europe

<table>
<thead>
<tr>
<th>Insects</th>
<th>Flowers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ants (Uganda)</td>
<td>Banana flower (Bangladesh)</td>
</tr>
<tr>
<td>Termites (Uganda)</td>
<td>Kapok flower (Burkina Faso)</td>
</tr>
<tr>
<td>Mayflies (Burkina Faso)</td>
<td>Roselle flower (Burkina Faso)</td>
</tr>
</tbody>
</table>
Matching with food composition data

When different coding systems are used, food matching has to be done manually:

Food consumption data:
- Rice
- Amaranth
- Banana
- Beef
- Soy sprouts

Food composition data:
- Rice
- Amaranth
- Banana
- Beef
- Soy sprouts

When one coding system is used, large part of the matching can be automatized:

Food consumption data:
- Rice
- Amaranth
- Banana
- Beef
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Food composition data:
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Achievements

- **Identifying information needs: webinars with potential users**
  - December 2016: 16 webinars involving 83 potential end users
  - January to March 2017: 11 webinars involving 90 end users

- **Harmonizing information:**
  - Upgrade of the FoodEx2 food categorization and description system to global level
  - Support to data owners to harmonise their datasets with FoodEx2 (physical and online trainings)

- **Sharing data:**
  - Development and publication of the FAO/WHO GIFT dissemination platform
FAO/WHO GIFT official launch to data providers and users

GLOBAL INDIVIDUAL FOOD CONSUMPTION DATA TOOL

» Now open to data providers and users

http://www.fao.org/gift-individual-food-consumption

Food consumption

Food safety

Nutrition
The FAO/WHO inter-agency team currently developing FAO/WHO GIFT

**FAO:**
- Nutrition and Food Systems Division (ESN)
- Information Technology Division (CIO)
- Statistics Division (ESS)
- Food Safety and Quality Unit (AGFF)

**WHO:**
- Department of Food Safety and Zoonoses (FOS)
- Department of Nutrition for Health and Development (NHD)
Projects and collaborations overview

**Institute for Health Metrics and Evaluation**

**Tufts University**
- Global Dietary Database
- INDDEX

**CGIAR**
- Bioversity
- IFPRI
- Harvest +
- ...

**Bill & Melinda Gates Foundation**

**FAO**
- FAO/WHO GIFT
- CTF ASEAN Countries

**WHO**
- FAO/WHO CIFOCOss

**IARC**
- GloboDiet
- Surveys Inventory

**EFSA**
- FoodEx2

**Food and Agriculture Organization of the United Nations**
They feel the need for FAO/WHO GIFT!

Food systems and diets: Facing the challenges of the 21st century

Box 3: Research priorities

Research on food, agriculture and nutrition must be refocused on achievement of healthy diets
The international and national agricultural research communities should play a strong leadership role in promoting research that addresses productivity, profitability, sustainability and nutritional goals at the same time. A "high-quality diet" lens must guide a rebalancing of funding allocations across the food system.

Metrics for diet quality and the food system need to be modernized
They are also needed to enable policy makers to monitor the implications of dietary choices for the future of the environment.

More and better data
Effort is urgently needed to substantially improve the quantity and quality of dietary data. Few national governments collect the data required to inform decision makers about what people actually eat and the UN has no functioning global dietary database. Recent efforts to gather data such as the Global Dietary Database (GDD) and FAO/WHO GIFT (FAO/WHO Global Individual Food Consumption data Tool), being developed by the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO), should be built upon.

Many other indicators for the food system also need to be collected, for example on food quality and safety to help policy makers understand the links between food systems and actual nutritional outcomes.

More and better evaluation
Policy makers need to be able to assess the effect that specific interventions and policy actions have on diet quality and to determine how they could be improved. For example, recent work to track changes in the purchases of sugar-sweetened beverages in Mexico following imposition of a new tax, sheds important light on consumer choices in a changing food environment.
One of the 10 priorities: “Make more data on diets widely available. It is currently difficult to compare diets across cultures, geographies and time. This has hampered a global consensus on what constitutes a healthy diet. A pilot project — the FAO/WHO Global Individual Food consumption data Tool (FAO/WHO GIFT; see go.nature.com/faogift) — aims to answer some elements, but has too few resources to be truly effective. The project needs a larger team to collate many more national surveys and develop guidelines for future surveys.”

In the area of individual food consumption data we are working towards....

Harmonizing

Sharing
How to reach these two goals?

through a snowball effect...
Our team in the Nutrition and Food System Division at FAO Head Quarters

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