EuroFIR
European Food Information Resource

New initiatives on open access food data for Developing and Emerging Countries

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EuroFIR Food Forum 2019
Brussels, 10th April 2019

Global Challenges Research Fund (GCRF)

- A 5-year resource funding stream through Biotechnology and Biological Sciences Research Council and Medical Research Council
- Using the UK's world-class research capability to address the challenges faced by the developing world
- Part of the UK Government's pledge to allocate 0.7% of Gross National Income to Official Development Assistance
  - Promotes the welfare and economic development of developing countries
- Research investments are expected to span disciplines including biological sciences, environmental sciences, medicine and the social sciences

Regional meeting to standardize and update food composition tables, reflecting sugar, trans fat, saturated fat and salt contents

Rabat, Morocco, 20 – 22 September 2016

WHO EMRO meeting to inform key partners on standards for food composition tables, methodologies and share international experience

- Meeting outcomes led to follow up funding proposals and projects
- Further training and knowledge exchange workshops held in 2017-2018

Global Challenges Research Fund Projects

- **Biotechnology and Biological Research Council 2017**
  - WHO Eastern Mediterranean Region
- **Biotechnology and Biological Research Council 2018**
  - AFROFOODS (south and eastern regions)
- **Medical Research Council 2018-2019**
  - Capacity building in dietary monitoring and public health nutrition in the Eastern Mediterranean Region

Project partners:

Quadram Institute Biosciences (UK)
WHO Eastern Mediterranean Regional Office
EuroFIR
University of East Anglia (UK)
Wageningen University (NL)
Institute of Medical Research (RS)
EMR and AFROFOODS compilers

Pretoria workshop (Feb 2018):

Workshop	Countries involved
Production & use of food composition data to support AFROFOODS	UK, Nigeria, South Africa, Burkina Faso, Tanzania, Kenya, Madagascar, Botswana, Ghana, Ethiopia & Egypt.

Activities and Outcomes

- Status of food composition datasets in Africa
- Creation of new AFROFOODS website
- Design of sampling protocols & creation of network of laboratories
- Review of methods of nutrient analysis & analytical performance
- Access to tools for data compilation & data management systems (FoodCASE) by EuroFIR
- Priority setting and identification of possible funding

AFROFOODS meeting, Feb2018, Pretoria, South Africa

Rabat workshop (May 2018):

Workshop	Countries involved
Standardization of regional food composition tables in the Eastern Mediterranean Region	Morocco, Tunisia, Mauritania, Egypt, Jordan, Sudan, Iraq, Islamic Republic of Iran, Pakistan and Kuwait.

Activities and Outcomes

- Review status and support development of regional FCTs using European and International Standards.
- Identify training & capacity needs & organize short-term scientific exchanges.
- Supporting WHO EMR roadmap for developing and updating new regional & national FCTs.

Regional WHO meeting, May, 2018, Rabat, Morocco.

Training & capacity building activities in 2018:

Countries	Activity	Venue and trainers
Kuwait, Iraq, Iran, Pakistan.	• Attend WHO Sustainable Food System Symposium • Workshop on methodologies for food composition data compilation & standardisation of national datasets for online publication	**Belgrade:** October, (2 weeks) Institute for Medical Research (IMR), Quadram Institute Bioscience (QIB), EuroFIR
Tunisia, Morocco, Mauritania. + Burkina Faso, Ivory Coast, Togo.	• Harmonisation and standardisation of the national datasets • International framework of food description • Publication methods for new datasets	**Tunis:** November (1 week) QIB and EuroFIR
Sudan, Egypt, Jordan.	• Standardised methods for food composition data: vitamins, fatty acids, amino acids, sugars, dietary fibre and minerals • Quality Management Systems • Food metrology and food labelling legislation	**Lisbon**: November (3 weeks), Instituto Nacional de Saúde Doutor Ricardo Jorge (INSA).

Challenges and needs for regions

- More representative food composition data needed
  - Usual consumption in the region (traditional, processed)
  - New foods
  - Additional nutrients
- Harmonized data (compilation process)
  - Values (units, mode of expression, calculations)
  - Recipe calculation methods
  - Documentation
  - Classification and description
  - Sources of data
  - Types of data
  - Data quality
- Sampling methods
- Analytical methods and performance
- Publication and data sharing
- Regional and international cooperation

Project outputs

- New, updated (documented) datasets from:
  - Tunisia (228 foods)
  - Morocco (183 foods)
  - Iran (91 foods)
  - Iraq (92 foods)
  - Pakistan (209 foods)
  - South Africa (381 foods)
  - Kuwait (107 foods)

- Datasets checked for compliance with EuroFIR thesauri
- Datasets added to FoodEXplorer on open access basis (for research use)

FoodEXplorer Search Example

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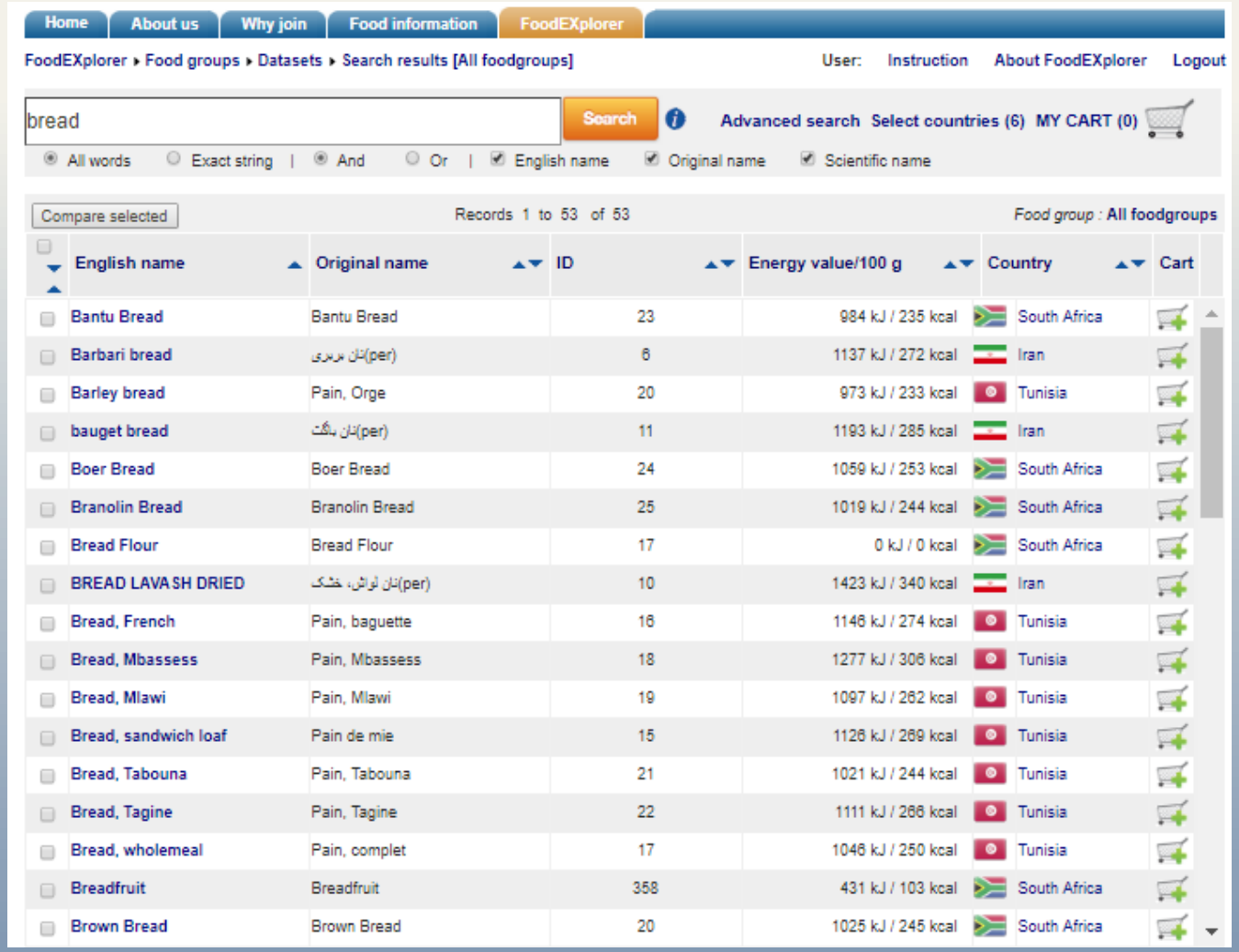

English name	Original name	ID	Energy value/100 g	Country	Cart
Bantu Bread	Bantu Bread	23	984 kJ / 235 kcal	South Africa	
Barbari bread	نان بربری(per)	6	1137 kJ / 272 kcal	Iran	
Barley bread	Pain, Orge	20	973 kJ / 233 kcal	Tunisia	
bauget bread	نان باگت(per)	11	1193 kJ / 285 kcal	Iran	
Boer Bread	Boer Bread	24	1059 kJ / 253 kcal	South Africa	
Branolin Bread	Branolin Bread	25	1019 kJ / 244 kcal	South Africa	
Bread Flour	Bread Flour	17	0 kJ / 0 kcal	South Africa	
BREAD LAVASH DRIED	نان لواش، خشک(per)	10	1423 kJ / 340 kcal	Iran	
Bread, French	Pain, baguette	16	1146 kJ / 274 kcal	Tunisia	
Bread, Mbassess	Pain, Mbassess	18	1277 kJ / 306 kcal	Tunisia	
Bread, Mlawi	Pain, Mlawi	19	1097 kJ / 262 kcal	Tunisia	
Bread, sandwich loaf	Pain de mie	15	1126 kJ / 269 kcal	Tunisia	
Bread, Tabouna	Pain, Tabouna	21	1021 kJ / 244 kcal	Tunisia	
Bread, Tagine	Pain, Tagine	22	1111 kJ / 266 kcal	Tunisia	
Bread, wholemeal	Pain, complet	17	1046 kJ / 250 kcal	Tunisia	
Breadfruit	Breadfruit	358	431 kJ / 103 kcal	South Africa	
Brown Bread	Brown Bread	20	1025 kJ / 245 kcal	South Africa	

GCRF/WHO datasets open access for non-members

Challenges in adding datasets

- EuroFIR Excel template used for import to FoodEXplorer
  - Some data extracted from pdf publication – transformation needed
  - INFOODS compiler format converted to EuroFIR format
- Values checked (e.g. total proximates, sums of carbohydrates, sums of fatty acids)
- Documentation checked for consistency and possible errors
  - Food names – English translations accuracy and consistency
    - e.g. Edible portion descriptions, description of type (e.g. bread, biscuits, type of dish), formatting
  - Components – check codes (especially CHO/CHOT, Fibre, Folate, Vit A, Vit E etc.)
  - Check units and matrix units
  - Check value type/acquisition type/reference type
- Communication with compilers vital!
  - Training improves quality of data
  - Enables checking possible errors and feedback
- Permissions to publish needed

Future plans

- Add datasets from additional countries
- Extend existing datasets with new foods and component values
- Continue and extend EuroFIR relationship with other regions
  - Identify funding sources to enable development of food composition datasets
  - Broaden accessibility to and use of datasets
- Include regional representatives and compilers in Working Groups
- Encourage membership for organisations and individual researchers from other regions

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Partners

Quadram Institute Biosciences

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EuroFIR AISBL

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Prof Hettie Schönfeldt, ARUA CoE in Food Security, University of Pretoria, South Africa

Prof Paul Hulshof, Wageningen University, The Netherlands

Prof Ailsa Welch University of East Anglia (UEA Medical School)

Dr Ayoub Aljawaldeh, World Health Organization Eastern Mediterranean Office (EMRO):

All compilers and participants from EMR and AFROFOODS

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Summary of Project Aims

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Main Outcomes:

- Improved knowledge of the production, management and use of food composition data
  - Development of networks, including EMR, AFROFOODS and other regional networks, that can effectively share resources and expertise to build datasets that are up-to-date and accessible to researchers
  - Connecting data to online, searchable tools

Specific project objectives and training topics:

- Current status of food composition datasets in EMR and AFROFOODS regions
- Design of sampling protocols
- Review of methods of nutrient analysis and analytical performance
- Options for contracting laboratory analysis
- Review of food description and indexing systems with focus on FoodEx2 and LanguaL
- Principles and examples of calculating nutrient values for composite foods
- Tools for data compilation, management, and data sharing
- Introduction to FoodCASE food composition data management system
- Review of documentation of data
- Review of approaches to using data from other sources, including literature, manufacturer's data
- Assessing data quality
- Implication of errors in food composition data on dietary intake assessment

Project activities to underpin capacity building

- Development and application of harmonised protocols for pilot sample collection, food analysis, data generation and creation of an online regional food composition datasets;

- Development of possible dietary and other strategies to support reduction in sugary- and fatty-foods with policy and other key stakeholders at national/regional level in order to achieve WHO policy targets.

- Training and knowledge exchange workshops;
  - Rabat, Morocco, September 2016 (Funded and organised by WHO-EMRO)
  - Amman, Jordan, April 2017
  - Pretoria, South Africa, February 2018
  - Rabat, Morocco, May 2018
  - Belgrade, Serbia, October 2018
  - Tunis, Tunisia, October 2018
  - Lisbon, Portugal, xxx 2018
  - Amman, Jordan, April 2019

- Establish regional clusters

GCRF activities in Africa/WHO EMR

- Regional network of food, nutrition and health experts with workshops held in:
- Amman, Jordan (2017), Rabat, Morocco (2018)
  - Current activities reviewed to identify gaps and need
  - Taskforce established to coordinate activities and advocate support
  - Four regional sub-groups established to encourage regional sharing of data, expertise and facilities
- Pretoria, South Africa (2018)
  - 28 experts from 14 African countries - review of progress with relaunch activities and sub-group networks and re-launch of AFROFOODS network
- New and updated food composition data being produced and reviewed
- Data to be included in FoodEXplorer online and freely available