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European Food Information Resource

Final report on Balkan Food Platform and recommendations for future integration of WBC/EECA countries

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EuroFIR TECHNICAL REPORT



D 4.6 - Final report on Balkan Food Platform and recommendations for future integration of WBC/EECA countries

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Executive Summary

The Balkan food platform assembling key food and nutritional stakeholders from Balkan region and its 1st online Regional Food Composition Data Base are cornerstones for future work of dietitians, nutrition researchers and policy makers in the region. The Balkan Food Platform and the 1st online Regional Food Composition Data Base is linked and embedded into EuroFIR Food Platform and will contribute to data exchange throughout Balkan countries and between different countries in Europe. It will enable integration of regional FCDB with EuroFIR Food Composition Exchange Platform in order to provide other users in Europe and others EuroFIR AISBL nutritional tools. Further collaboration with EuroFIR AISBL and the membership will continue with the different stakeholders from CEE /Balkan region and the members of the CAPNUTRA. Capacity development (CD) in Food Composition Database (FCDB) is a long-term, continuous process that focuses on national priorities and development of policies and action plans. EuroFIR-Nexus FP7 (www.eurofir.net) project together with Institute for Medical Research, University of Belgrade, Serbia (IMR) (www.srbnutrition.info) & Network for Capacity Development in Nutrition for Central and Eastern Europe (NCDNCEE-CAPNUTRA) (www.agrowebcee.net/ncdn) initiated the Balkan food platform in 2011 with the aim to develop the 1st Regional FCDB for West Balkan Countries (WBC) and engage compilers from different countries. Web-based Food Composition Data Management (FCDM) software for creation of (national/regional) FCDB is developed by the IMR research team according to EuroFIR recommendations. CD activities comprise of NCDNCEE workshops, trainings and compilation of the foods and recipes information from Balkan countries. The basis of the regional FCDB is Serbian FCDB with contribution from other countries, i.e. Croatia, Slovenia and Macedonia and is open for new members' contribution. Regional FCDB is established and maintained and to date it contains 2080 foods and 150 traditional recipes. They are defined with cc.15 nutrients per food item, LanguaL food codes, FoodEx2 codes etc. Memorandum of Understanding (MoU) is signed between EuroFIR-Nexus & IMR & CAPNUTRA, Federation of Bosnia & Herzegovina, Cyprus, Croatia, Republic of Macedonia, Republic of Moldova, Montenegro, Russia and Ukraine. Identified training needs in FCDB management are of great importance for shaping further CD activities in the region.

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1. Introduction

This report presents the final deliverable from the EC FP7 project EuroFIR-Nexus, WP4. Task 4: Final report on Balkan Food Platform, recommendations for future integration WBC/EECA countries: Final report on Balkan Food Platform including results from capacity building in food and health, and future recommendations for long-term sustainability.

The **EC FP7 project EuroFIR**- the objective was to further integrate/refine the EuroFIR Food Platform (EFP), to improve/support the ways research is undertaken into relationships between food, diets and health in Europe. More information on EuroFIR-Nexus can be found on website: <http://www.eurofir.org>.

Work Package 4 main objectives are to promote knowledge and skills development in food composition research within the network and across Europe through training and education activities.

Task 4.4 – Shaping and implementing Balkan Food platform with UNU Network for Capacity Development in Central & Eastern European Countries”

FP7 EuroFIR-Nexus project together with UNU/SCN Network for Capacity Development in Nutrition in Central and Eastern Europe (NCDNCEE, <http://www.agrowebcee.net/ncdn/>) took challenge to create the Balkan food platform and develop the first regional online FCDB for Balkan and CEE Region integrated to EuroFIR Platform.

2. Background

Institute for Medical Research (IMR) was a partner in Network of Excellence FP6 EuroFIR project (www.eurofir.net) in period 2006-2010 and its research team developed the tool Food Composition Data Management (FCDM) - web based software for creation of new harmonized FCDB according to EuroFIR technical annex, EuroFIR standards and recommendations (Glibetic M 2010). Using this tool IMR created the 1st online Serbian FCDB harmonized with EuroFIR recommendations which contained 1046 LanguaL indexed foods.

Partnership between IMR and EuroFIR together with the UNU/SCN Network for capacity development (CD) in Nutrition in Central and Eastern Europe (NCDNCEE) (<http://www.agrowebcee.net/ncdn/>) (Pavlovic M. 2009) was a milestone in building relations with prospective compilers in non-EuroFIR CEE and MENANA countries for inventory of Food Composition Database Status (FCDB) and training needs in these regions. Specific training needs and opportunities for collaboration in food and nutrition and lack of FCDB and software for database management in non-EuroFIR countries have been identified. (Pavlovic M. 2009)

Tailor made FCDB training workshops and CD activities and courses were organized with the support of EuroFIR. NCDNCEE support and individual EuroFIR training bursaries were given to CEE and MENANA participants (Gurinovic M. 2010).

In four specialized EuroFIR courses, from 2006 -2010, 108 participants in total took part; 68 participants from European countries, 29 from Central and Eastern European (CEE) countries, 5 from non-EuroFIR CEE with MoU, 4 from other non-EuroFIR CEE countries, 2 from the Middle East and North Africa (MENANA) countries. During the 6 workshops and meetings in the same period, 165 participants from 15 CEE non-EuroFIR countries have been involved. In 2009, two IMR team members took part in training exchange visit with EuroFIR grants. EuroFIR has signed a Memorandum of Understanding with the Czech Republic, Hungary, Slovenia, Croatia and Estonia. Ten non-EuroFIR partners from European

countries, CEE and MENA countries benefited EuroFIR exchange grants and PhD fellowship awards (uptake 2006-10). (Gurinovic M. 2010).

Reports from the 2nd; 3rd; 4th and 5th NCDNCEE meetings from 2006-2011 are available on <http://www.agrowebcee.net/ncdn/events/>.

During the 5th Meeting of the UNU/SCN Network for Capacity Development in Nutrition in Central and Eastern Europe (NCDNCEE) in Belgrade, Serbia, on November 12th, 2009 the application of innovative web tool for the creation of regional Food Composition Data Base was presented. All participants from Balkan Region expressed their interest to use this new tool for FCDB in their country and in the region. Surely, use of this tool should facilitate harmonized capacity development and creation of national/regional FCDB in Balkan countries according to EuroFIR standards.

Deliverable D1.8.42 *Report on training workshop for WB/CEEC and recommendations for future use by AISBL* presents the results and recommendation (D 1.8.42). This will also improve integration of national FCDBs in the Balkan using created tool with web database, based on EuroFIR standards.

On June 11th 2010, Regional Workshop for Food Composition Data Base Development took place in Belgrade. It was organized by UNU/SCN Network for Capacity Development in Nutrition in Central and Eastern Europe (NCDNCEE) with the support from the Institute for Medical Research, University of Belgrade (IMR).

The aim of the regional workshop was to present possibilities and advantages of innovative web tool, and to stimulate participants to start developing a regional FCDB for Balkan countries using the IMR developed web tool. Participant from 5 Balkan countries (Slovenia, Croatia, Federation of Bosnia and Herzegovina, Serbia, Macedonia) were trained how to use the web tool with detailed information on how to create and insert new food items, what the key characteristics are, etc.

Find more on the report from the meeting: <http://www.agrowebcee.net/ncdn/events/>.

3. Objectives

EuroFIR Nexus aims to improve connection between the availability and use of food composition data and related tools within science community and involved stakeholders.

EuroFIR-Nexus together with IMR & NCDNCEE initiated the Balkan platform with the aim to improve and extend the existing Balkan Food Platform and develop the 1st online regional FCDB for West Balkan Countries (WBC) which will use EuroFIR harmonized Food Comp Data Management (FCDM) software.

The overall objective is to integrate harmonized Balkan regional FCDB with EuroFIR Food Composition Exchange Platform in order to provide it to other users in Europe and others EuroFIR AISBL nutritional tools.

4. Strategy

In order to shape and implement the Balkan Food Platform the following actions were taken:

- Involvement of compilers from different countries in shaping Balkan Food platform;
- Identification of FCDB status in Balkan and CEE countries
- Identification and prioritization of training needs;
- Plan and organization of CD meetings and workshops ;
- Improvement and extension of web applications for nutrition research and training in application of FCDM software;
- Development and signing MoUs with key food and nutrition stakeholders from Balkan and CEE countries

5. Food composition data base status in CEE/Balkan - results from the questionnaires

The first step of the activities in the development of the Regional Food Composition Data Base was inventory on the existing FCDB in the region. The “FCDB status” questionnaire (see annex 2) was created and distributed to all contact institutions in Balkan and CEE countries (Table1). On the network meetings in Belgrade participants presented the FCDB situation in their countries.

For more information visit website: <http://www.agrowebcee.net/ncdn/events/>

Table 1: List of countries participants

Country	Institution
Croatia	Faculty of Food Technology and Biotechnology, University of Zagreb: http://www.pbf.unizg.hr/en , Croatian food agency: http://www.hah.hr/english/eng_index.php
Cyprus	State General Laboratory, Nicosia, www.moh.gov.cy/sgl
Federation of Bosnia and Herzegovina	Institute of Public Health of Federation of Bosnia and Herzegovina, Sarajevo
Republic of Macedonia	Institute of Public Health of the Republic of Macedonia, Skopje, www.iph.mk
Montenegro	Institute of Public Health, Podgorica
Republic of Moldova	Technical University of Moldova, Chisinau, www.utm.md
Russia	Scientific Secretary of Russian Platform “Food for Life”, Moscow, Russia , Far Eastern Federal University School of Biomedicine, Vladivostok, Russia
Slovenia	University of Ljubljana, Biotechnical Faculty, http://www.bf.uni-lj.si/
Ukraine	Uzhhorod National University, Faculty of Medicine (www.univ.uzhgorod.ua); Ukrainian National Technology Platform “Agro-Food” (http://new.agrofoodplatform.com)

The results from the collected questionnaires are presented in Tables 4-9 of Annex 4.

Out of 10 countries, 6 have FCT in printed form. Electronic version of FCDB is present in 4 countries, out of which 2 have online version with restricted access. Data in FCDBs are analytical (in 7 DB) and borrowed (in other 6 DB). Most of the countries find creation of FCDB very important and report on significant scientific resource in grey literature in their countries. From CD achievement in FCDB overview it is reported that countries are at different stages of application of knowledge and facilities offered by the network. Those who do not have FCDB state that main problems they are facing are lack of funds, equipment, professionals, training and responsible institutions which will carry out the activities. However, all countries state that collaboration is important for further development of FCDBs, partnership in projects and collaboration with domestic and international stakeholders.

6. FCDB training and Capacity Development activity needs in CEE and Balkan-identification of regional training needs and future priorities in food and nutrition research -results from questionnaires

The “FCDB training needs” questionnaire was created and distributed to all contact institutions in Balkan and CEE countries (see Annex 2). On the network meeting in Belgrade participants presented their FCDB training needs <http://www.agrowebcee.net/ncdn/events/>.

The results from collected questionnaires are presented in Tables 10-13 of Annex 4. Predominating training needs are: *Choices of analytical methods, Data Quality and Evaluation, Food nomenclature systems, Recipe calculation, Data base management systems and Reviewing of existing data.*

Five countries expressed their needs in training in analytical methods particularly in vitamins, dietary fibers and minerals. The most needed professional trainings are in fields of application of nutritional intake software tools in dietary surveillance, dietary intake assesment methods and harmonised methodology of dietary intake.

7. Nutritional tool in Balkan platform, shaping and implementing for development of the Regional Food Composition Data Base (FCDB)- Software- web based application (Food Comp Data Management (FCDM) for creating regional FCDB

Tool development, maintenance, update and extension

From the beginning The FCDM software was projected and developed according to EuroFIR technical standards. These standards are defined in the Technical Annex (Proposal for structure and detail of a EuroFIR Standard on food composition data II. Technical Annex Version 2008 Prepared by Wulf Becker, Anders Møller, Jayne Ireland, Mark Roe, Ian Unwin, Heikki Pakkala- EuroFIR Technical Report D1.8.19).

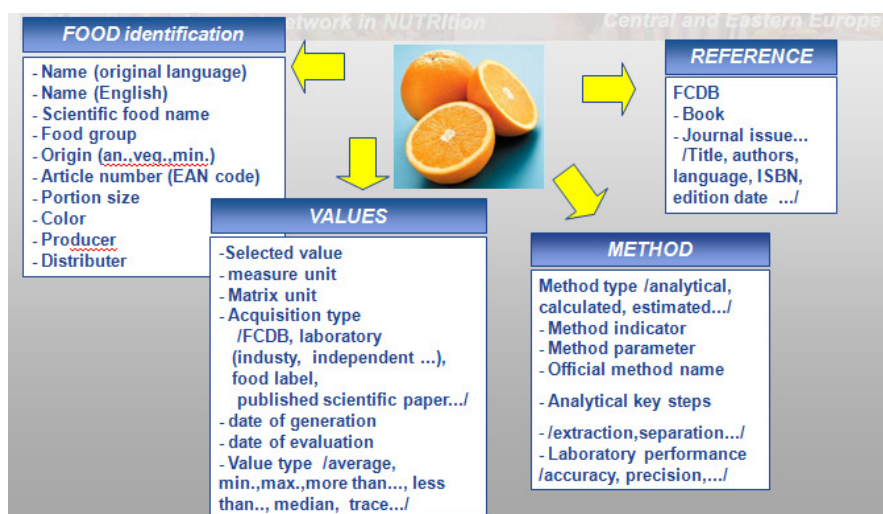
The technical annex describes the technical standards, database establishment standards, the main entities (food and food parameters) and the functional details. It also collects the description of the technical issues with listings of data structures and thesauruses and within proposed data structure specification for food composition data.

Following this proposal the IT team from IMR designed and implemented the food composition database. The database is developed with MySQL data access engine. The MySQL is one of the most reliable and common data platforms for online databases (www.mysql.com). The database is placed on the Internet server of the IMR.

The database contains the two following groups of data:

- Food related data – contain all the relevant data tables related to food, food nutritive parameters and other food characteristics:
- General food description
- Nutritive parameter description (value, method, value reference and method reference)
- Food Sampling procedure
- Food Languag thesauri description
- Recipe and ingredient description
- Quality access

Figure 1: Food – and food parameters in FCDM



- Thesauri data – contain the data tables with previously defined, standardized and systematically organized food and food attribute properties.
- List of chemical components and component groups
- List of value types
- List of chemical methods and method indicators
- List of cooking methods and related retention factors for micronutrients
- List of matrix units
- List of units
- List of Languag facets
- List of FoodEX2 codes

The FDCM user interface is developed for the compilers. This tool is installed on compilers' local computers and with granted access via ODBC connection the tool establishes connection with online database and enables compilers to insert new food items and maintain and modify the existing food related data in the database.

The compiler interface is developed in Microsoft Visual FoxPro (v.9) environment.

Basically, the EuroFIR Technical Annex describes the database structure for one food composition database. To upgrade and extend it to regional level, one additional attribute is adjoined to the database. It uniquely defines the country source in the regional database. Based on this additional attribute and on the compiler login identification system, the compilers are able to view the all data items from all counties, and only to modify the food item data belonging to their country.

Food Composition Data Management (FCDM) - Version 1 was developed during 2008 and used first for the creation of the Serbian data base. In November 12th, 2009 during 5th NCDNCEE meeting the software was presented to the members of the Network from Balkan and CEE countries. The report from the workshop is presented in the Deliverable D1.8.42 *Report on training workshop for WB/CEEC and recommendations for future use by AISBL* presents the results and recommendation (D 1.8.42). User Manual was provided.

FCDM software- Version 2 was created in 2010, with the updates to enable use in more countries from CEE/BC and in June 11th 2010 in Belgrade, during “Regional Workshop for Food Composition Data Base Development” the software was provided to the participant from 5 Balkan countries (Slovenia, Croatia, Federation of Bosnia and Herzegovina, Serbia, Macedonia) to use and test. User Manuals were provided.

The food compilers who were working and testing FCDM were supported by e-mails, phone calls or Skype for any enquires and could discuss minor improvements of some FCDM features.

Special training and education on how to use the software was held in Belgrade, 25th-26th May 2011 on the workshop: “Regional Food Composition Data Base: Web based Food Comp Data Management (FCDM) software application in Balkan Food Platform development” when the participants were updated with the new version of the software and to be used in their further work in compilation the foods for the regional FCDB (Slovenia, Croatia, Federation of Bosnia and Herzegovina, Serbia, Macedonia, Albania, Moldova, Bulgaria).

In the **FCDM software Version 3** the following enhancements were implemented to date: EFSA food coding system- FoodEX2; Food coding to EFSA facets; Recipe input –composite dishes data input. Link with DIETASSES software for nutrition values calculation was established.

This third version of the software was presented and provided to participants from CEE/BC countries during “The First Symposium-Capacity Development in Nutrition and Food Research in Central and Eastern Europe (CAPNUTRA): Balkan Food Platform - Regional Food Composition Data Base development”, on 21-23 January 2013, in Belgrade. The participants were trained how to enter the recipes on harmonized way. The user manual was provided.

Memorandum of Understanding (MoU) between EuroFIR Nexus & IMR & CAPNUTRA, Federation of Bosnia & Herzegovina, Cyprus, Croatia, Republic of Macedonia, Republic of Moldova, Montenegro, Slovenia, Russia and Ukraine was signed to engage parties in further harmonized development of regional FCDB and collaboration.

Contract for the maintenance i.e. future enhancements, problem correction and user support service is signed between IMR and Delta Electronic and it is updated annually.

Definition of the main food properties

The data entry process is the following:

Defining main food properties for new food entries requires food name- original, English and scientific name, source of origin (animal, vegetable, and mineral, mixed), edible portion, producer, etc.

Figure 2: List of foods from Serbian FCDB with other parameters

NAME (ENGLISH)	COUNTRY	FOOD GROUP	PIECE WEIGHT	MM	ORIGIN	RECIPE	BAR CODE	EFSa CODE
Vegetables mix for Russian salad	Serbia	VEGETABLE OR VEGETABLE PRODUCT	0.0000	V	-	-	-	Mixed vegetables
Vegetable mix with potatoes	Serbia	VEGETABLE OR VEGETABLE PRODUCT	0.0000	V	-	-	-	Other vegetables
Vegetable mix, frozen	Serbia	VEGETABLE OR VEGETABLE PRODUCT	0.0000	V	-	-	-	Mixed vegetables
Balkan vegetable mix, frozen	Serbia	VEGETABLE OR VEGETABLE PRODUCT	0.0000	V	-	-	-	Mixed vegetables
Vegetable mix with peppers, frozen	Serbia	VEGETABLE OR VEGETABLE PRODUCT	0.0000	V	-	-	-	Mixed vegetables
Vegetable mix peas - carrot, frozen	Serbia	VEGETABLE OR VEGETABLE PRODUCT	0.0000	V	-	-	-	Prepared legumes
Soybean, flour	Serbia	GRAIN OR GRAIN PRODUCT	0.0000	V	-	-	-	Soya flour or meal
Soybean, minced	Serbia	GRAIN OR GRAIN PRODUCT	0.0000	V	-	-	-	Soya flour or meal
Soybean, chunks	Serbia	GRAIN OR GRAIN PRODUCT	0.0000	V	-	-	-	Soya flour or meal
Soybean, slices	Serbia	GRAIN OR GRAIN PRODUCT	0.0000	V	-	-	-	Soya flour or meal
Juice, from citrus fruit, sugar free	Serbia	BEVERAGE (NON-MILK)	0.0000	V	-	-	-	Juice, orange
Soup, cream of broccoli, dehydrated	Serbia	MISCELLANEOUS FOOD PRODUCT	0.0000	V	-	-	-	Creamed vegetables
Fruit nectar, peach and apple	Serbia	BEVERAGE (NON-MILK)	0.0000	V	-	-	-	Mixed fruit nectar
Anise, seed	Serbia	MISCELLANEOUS FOOD PRODUCT	0.0000	V	-	-	-	Anise seed
Basil, dried	Serbia	MISCELLANEOUS FOOD PRODUCT	0.0000	V	-	-	-	Basil
Garlic, powder	Serbia	MISCELLANEOUS FOOD PRODUCT	0.0000	V	-	-	-	Garlic and shallots
Ginger, root, raw	Serbia	MISCELLANEOUS FOOD PRODUCT	0.0000	V	-	-	-	White ginger
Ginger, ground	Serbia	MISCELLANEOUS FOOD PRODUCT	0.0000	V	-	-	-	Ginger root
Rosemary, dried	Serbia	MISCELLANEOUS FOOD PRODUCT	0.0000	V	-	-	-	Rosemary

Food mapping: definition of LanguaL and FoodEx2 codes

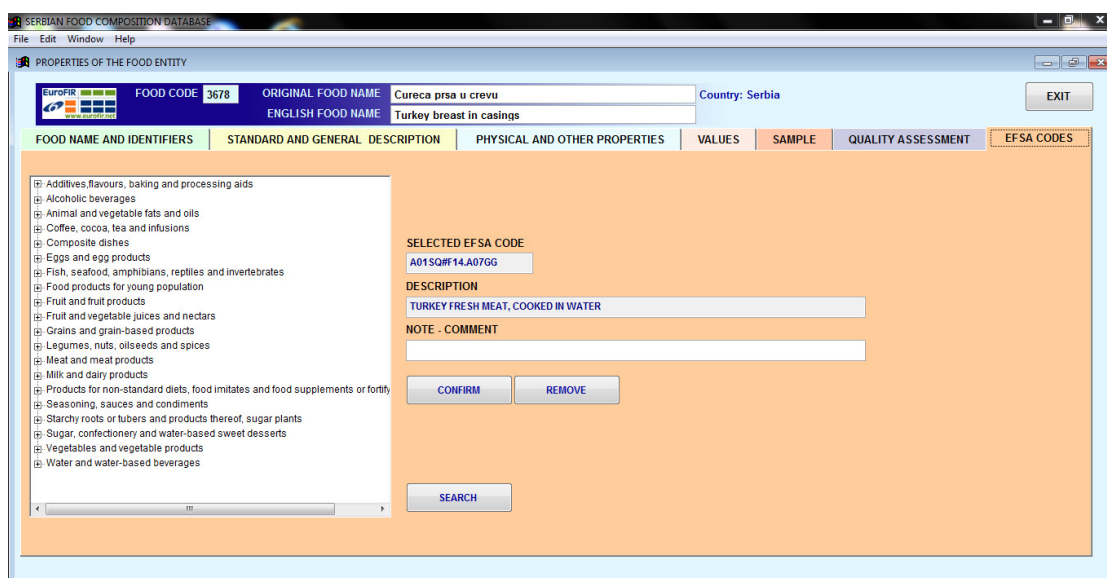
The LanguaL coding system (*lingua alimentaria- language of food*) is an internal EuroFIR coding thesauri which describes the food from the following aspects: product type (A facet), food source (B facet), part of plant or animal (C facet), physical state or form (E facet), extent of heat treatment (H facet), cooking method (G facet), treatment applied (H facet), preservation method (J facet), packing medium (K facet), container or wrapping (M facet), food contact surface (N facet), consumer/ dietary/label use (P facet), cuisine (Q facet), area of origin (R facet)

Figure 3: The LanguaL coding in FCDM

CODE	STANDARD FOOD CLASSIFICATION	DESCRIPTION	NOTE
A0823	Product type, CODEX Food Categorization	NUT, SEED OR KERNEL	EFG group 13. Eurocode-2 groups 2
B1272	Food source	ALMOND	<SCIFAM>Rosaceae<<SCINAM>
C0132	Part of Plant or Animal	SEED OR KERNEL, SKIN REMOVED	
E0150	Physical State Shape or Form	WHOLE, NATURAL SHAPE	
F0018	Extent of Heat Treatment	PARTIALLY HEAT-TREATED	
G0003	Cooking Method	COOKING METHOD NOT APPLICABLE	
H0138	Treatment Applied	WATER REMOVED	
J0116	Preservation Method	DEHYDRATED OR DRIED	
K0003	Packing Medium	NO PACKING MEDIUM USED	
M0001	Container or Wrapping	CONTAINER OR WRAPPING NOT KNOWN	
N0001	Food Contact Surface	FOOD CONTACT SURFACE NOT KNOWN	
P0024	Consumer/Dietary use or Label	HUMAN FOOD, NO AGE SPECIFICATION	Food produced and marketed for human consumption

The 'FoodEX2' is preliminary standardized food classification and description system of codes (version 2 of the EFSA Food classification and description system for exposure assessment). The system consists of descriptions of a large number of individual food items aggregated into food groups and broader food categories in a hierarchical parent-child relationship.

Figure 4: Food coding to EFSA facets in FCDM



Definition of nutritive components

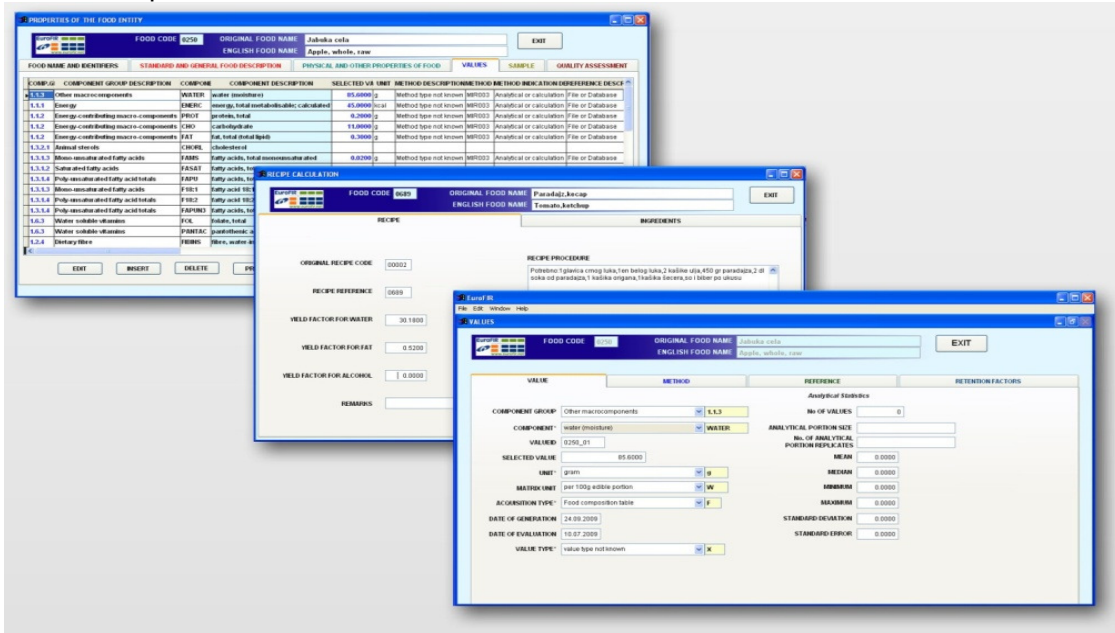
All micronutrients and macronutrients are defined with Value, Method Specification, Acquisition type, Quality Assessment and Reference. In the background of all these attributes are the vocabularies (thesauri) created and standardized by EuroFIR. These thesauri tables describe in unique way the list of components, list of units, matrix units, method types, method, indicators, acquisition types, reference types, etc, and guide the compiler through the application in determination of the food properties and attributes (Figure 5).

In current stage the regional food composition database comprise of following parameters shown in table 2.

Table 2: Overview of parameters in Regional FCDB

<i>Parameters of Regional FCDB</i>	<i>Total sum</i>
No. of food items (# countries)	2080 (in 6 countries)
Total no. of nutrients (avg. per food)	31993 (15)
No. foods with Languag Codes (avg. no. codes)	965 (12)
<i>No. foods with EFSA FoodEx2 codes</i>	<i>1030</i>
<i>No. foods with CHANCE food codes</i>	<i>1039</i>
<i>No. of composite dishes, recipes</i>	<i>150</i>

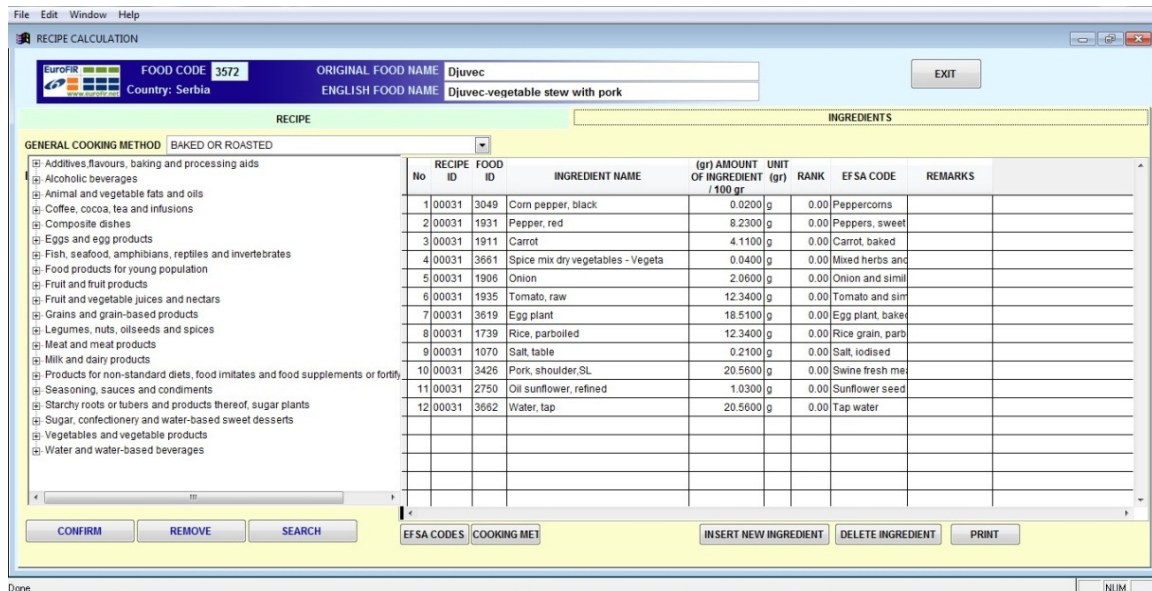
Figure 5: Component nutritive values



Composite dishes

Application allows input of the composite dishes with the ingredients. The nutritive value for the recipes is automatically calculated – based on ingredients nutritive values in the software. The recipe calculation function contains the cooking method vocabulary which is augmented with the yield and retention factors and provides the calculation of retention factors for micronutrients in recipes (Figure 6).

Figure 6: Composite dish data input



The sampling procedure and the quality index definition is also the integrated part of the software

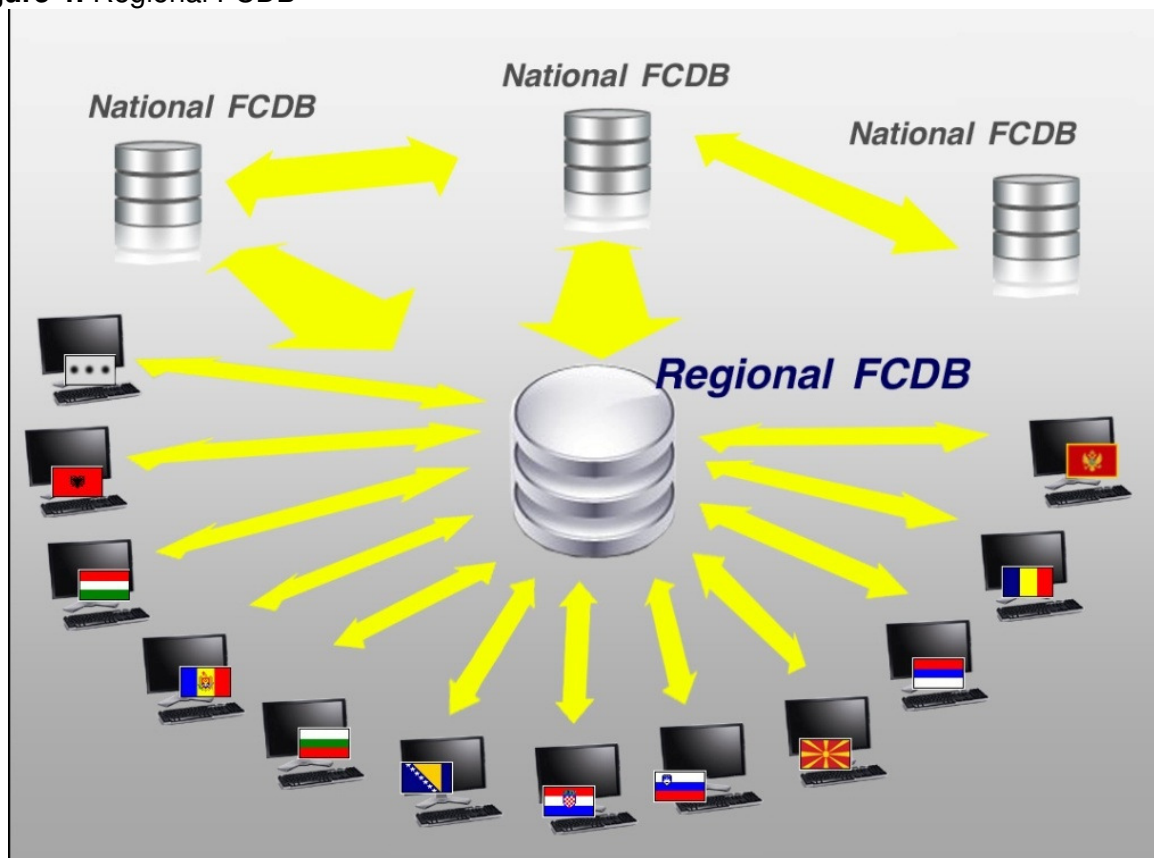
The sampling procedure for selected composite dishes is based on analysis of the most frequently consumed composite dishes reported in dietary surveys or according to the previous knowledge of nutritionists. The preparation methods for most frequently used composite dishes and traditional dishes were then looked for in old cookbooks, from experienced cooks, internet cookbooks etc. Pictures of dishes are also integrated into the database. To date regional FCDB for CEE/BC has entered cc.150 composite dishes from 7 different countries. Quality index definition is not considered at this stage of regional FCDB development.

Balkan FCDB Platform: design, resources and access

The Application of innovative web tool is created as a simple tool easily applicable for the creation of new national/regional FCDB through trainings and/or workshops.

- FCDB is placed on the Internet server.
- Data entry and maintenance by the compilers are managed from Food Comp Data Management (FCDM) software installed on compiles local computes.
- The access to the food data items for end users is through the web site (www.nutricascience.org) where they are able to search for food items chemical components based on several search criteria.

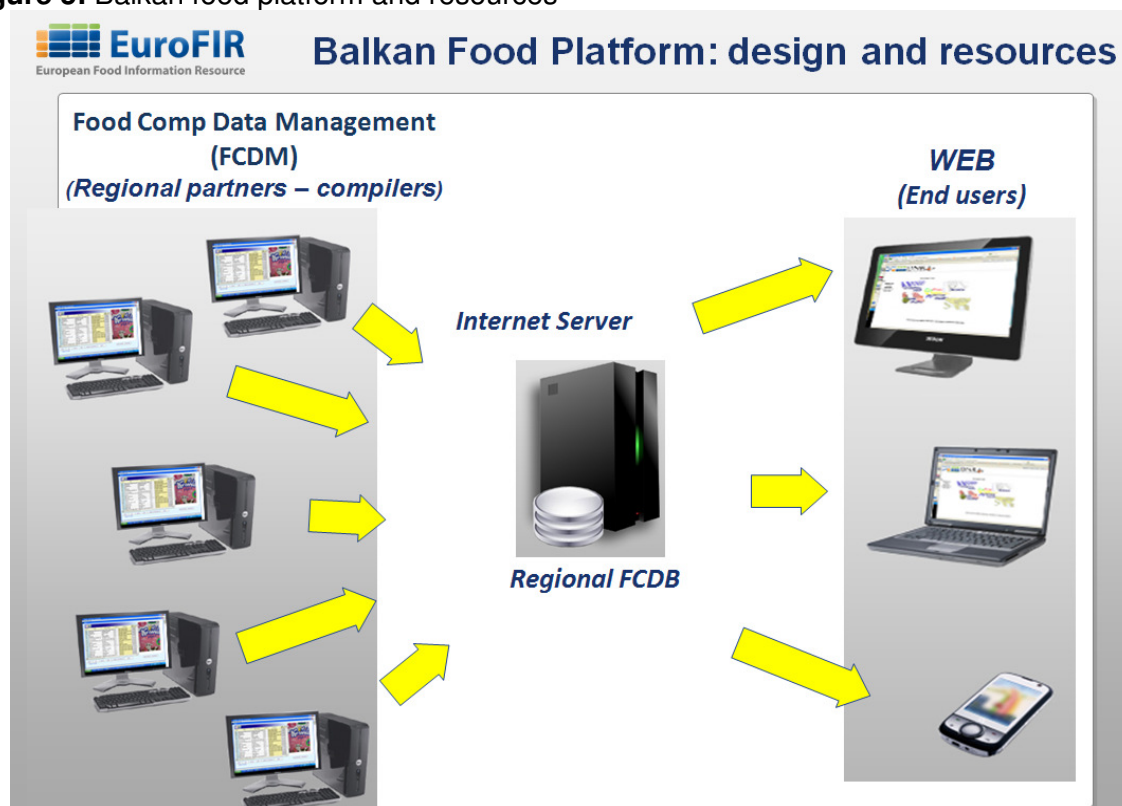
Figure 4: Regional FCDB



The need for regional FCDB in Balkan region countries was identified and the use of this web application in creating FCDB could provide a quality datasets harmonized with proposed EuroFIR guidelines. This would enable good communication and easy data interchange between different Balkan countries as well as EuroFIR members.

This web application of FCDM software can be a useful training tool for capacity development in FCDB creation on national and/or regional level and can promote knowledge, skills development and vision in food composition research, training and education.

Figure 5: Balkan food platform and resources



Since none of the countries in our region had an electronic version of FCDB, this is step forward to help them establish one based on EuroFIR recommendations. Language adaptation and communication with other FCDB and EuroFIR food platform and other tools is also possible. This enables better communication and data interchange between different EuroFIR member databases. Recipe calculation, part of the web tool, also developed according to EuroFIR recommendations is additional advantage. It allows creation of national and/or regional (traditional) recipe data base. This is a logical continuation of the process of forming regional FCDB based on EuroFIR principles.

8. Capacity Development (CD) activities in CEE/Balkan countries in shaping and implementing Balkan food platform

Lopes and Theisohn in 2003 (C. Lopes et al, 2003), define Capacity Development (CD) in food and nutrition as more than just formal training; it also includes human resource development, organizational, institutional and legal framework development with the aim of enhancing knowledge and skills. Thus, Capacity Development (CD) in Food Composition Database (FCDB) is a long-term, continuous process that focuses on national priorities and development of policies and action plans. EuroFIR-Nexus FP7 project together with Institute for Medical Research, University of Belgrade, Serbia (IMR) & Network for Capacity Development in Nutrition for Central and Eastern Europe (NCDNCEE-CAPNUTRA) initiated the Balkan food platform in 2011 with the overall aim to develop the first Regional FCDB for West Balkan Countries (WBC) and requires involvement of compilers from different countries.

The following actions were taken to shape and implement the Balkan Food Platform:

- Involvement of compilers from different countries in shaping Balkan Food platform (presented in part 5);
- Identification of FCDB status in Balkan and CEE countries (presented in part 5);
- Identification and prioritization of training needs (presented in part 6)
- Improvement and extension of web applications for nutrition research and training in application of FCDM software; (presented in part 7)
- Development and signing MoUs with key food and nutrition stakeholders from Balkan and CEE countries (presented in part 9)

Capacity Development activities in shaping and implementing the Balkan Food Platform- meetings and workshops

CD meetings and workshops were organized to support shaping and implementing Balkan food platform and development Regional FCDB.

There were two special CD meetings related the Balkan Food Platform development:

- **The 6th Meeting of the UNU/SCN Network for Capacity Development in Nutrition in Central and Eastern Europe (NCDNCEE)** in Belgrade, 25th-26th May 2011 with the Workshop: **Regional Food Composition Data Base: Web based Food Comp Data Management (FCDM) software application in Balkan Food Platform development**

The agenda and report: <http://www.agrowebcee.net/ncdn/events/> and video film <http://www.youtube.com/watch?v=OGAaVs3po-c>

During the workshop each country attendee presented FCDB status of own country, CD activities and achievement in collaboration with EuroFIR-Nexus & NCDNCEE & IMR. Network members were trained in application of web based Software Food Comp Data Management (FCDM), developed by IMR, in establishment of national FCDB and for further used in work on the development of Regional Food Composition Data Base of Balkan Food platform with EuroFIR-Nexus & NCDNCEE.

IMR provided all members with the FCDM Software free of charge including the Manual for use, to support further work in national and regional FCDBs. Training and technical support for FCDB provided to all members from the IT and other staff from IMR.

The meeting attended 32 participants from 15 CEE countries. Memorandum of Understanding (MoU), a document describing bilateral or multilateral agreement between parties, was presented and discussed with each country representative from Balkan countries (Albania, Bulgaria, Federation of Bosnia and Herzegovina, Croatia, Republic of Macedonia, Moldova, Montenegro, Romania, Hungary, Slovenia, Serbia).

EuroFIR Nexus - Deliverable 4.4- the 1st updated MoUs with WBC/EECA and planned joint activities with other projects/networks finalized and sent the final MoU to EC and to network members to sign.

- **The 1st Symposium-Capacity Development in Nutrition and Food Research in Central and Eastern Europe (CAPNUTRA): Balkan Food Platform - Regional Food Composition Data Base development**, 21-23 January 2013, Belgrade, Serbia

Report, agenda and photo gallery available on: <http://www.agrowebcee.net/ncdn/events/>

Video film: <http://www.youtube.com/watch?v=-8Dx9SkKsqo&feature=youtu.be>

The general objectives of the CEE Network and EuroFIR Nexus were CD in the CEE region and extension of the Network with new countries and more participants to support CD in research in CEE region based on identified country specific needs.

In 2012 the UNU/SCN ceased further support of the regional networks activities. Therefore to continue our activities in CEE region, we established the "Capacity Development Network in Nutrition in Central and Eastern Europe- CAPNUTRA" in 2012. CAPNUTRA is successor of NCDNCEE. This meeting was the 1st symposium held by CAPNUTRA and had 32 participants from various CEE countries.

The special "Training and capacity development needs questionnaire" was created by IMR and sent to all CEE members before the meeting (Annex 2). During the meeting participants presented the training and CD needs in their countries. Identification of the FCDB status & training needs and opportunities for further collaboration is important for future CD in FCDB in this region and Balkan Food Platform development. The need for tailor made FCDB training workshops, capacity development and courses were identified and regional training needs for future priorities in food and nutrition research region based on results from questionnaires.

IMR updated Food Comp Data Management software with EFSA food coding system-FoodEX2; Food coding to EFSA facets; Recipe input –composite dishes data input. Link with DIETASSES software for nutrition values calculation was established.

During the meeting workshop all members were provided USB stick with the new version of the software and the latest version of the data base and practiced recipe calculation and input.

Serbia, Slovenia, Croatia, Macedonia majorly contributed to Regional FCDB with their national food composition data (table 10. and 11.). However, it is work in progress. The development of the Regional Food Composition data base is a concrete result of collaboration between EU funded project EuroFIR-Nexus and NCDNCEE network. This collaboration aimed to capacity development in food composition database with EuroFIR, particularly for the CEE countries seen through constant correspondence collaboration and support in data compilation process.

Summary of dissemination, CD and training activities in the Balkan Food Platform

The dissemination activities on Balkan food platform, beside the Capacity Development in research, education and training are presented in summary Table 3.

Table 3: Summary of CD activities in the Balkan Food Platform

CD activities	2011	2012	2013	total
Oral pp at international meetings	24	4	28	56
Poster presentations	1	1	2	4
Newsletters/press release	7	3	1	10
Reports	1		1	2
Video film	1		1	2
Website updates	6	11	2	19
Network meetings	1		1	2
Nutritional tools/updates versions	1	1	1	3
Participants at				
➤ food comp course	2			6
➤ network meetings/workshops	32	4	31	63

Workshops/trainings and CD meetings were organized and reports uploaded to the website (<http://www.agrowebcee.net/ncdn/events/>);

- Food Comp courses: participants from CEE countries awarded bursaries from EuroFIR-Nexus

- Website developed and updated: <http://www.agrowebcee.net/ncdn/>

- Video films: <http://www.youtube.com/watch?v=-8Dx9SkKsqq&feature=youtu.be>
<http://www.youtube.com/watch?v=OGAaVs3po-c>

8.3. EuroFIR Nexus - Balkan Food Platform Memorandum of Understanding (MoU)

Memorandum of Understanding (MoU) is an important document that enables international harmonisation of standards covering food composition data, all information and technical support. The document describes a bilateral or multilateral agreement between parties within EuroFIR-Nexus project and was presented at 6th NCDNCEE meeting in Belgrade, May 2011.

The Balkan Food Platform's MoU will strengthen cooperation in food composition in the Balkan countries and with EuroFIR Food Data Platform.

A draft of MoU was sent to all partners for comments and the EuroFIR Nexus - Deliverable 4.4- the 1st update of new MoUs with WBC/EECA and planned joint activities with other projects/networks was finalized (Deliverable 4.4) (see Annex 3).

The MoU document was signed in January 2013 between the Institute of Food Research representing the "EuroFIR Food Platform: further integration, refinement and exploitation for its long-term self-sustainability", the Centre of Research Excellence in Nutrition and Metabolism (IMR), Belgrade, Serbia, the Capacity Development Network in Nutrition in Central and Eastern Europe – CAPNUTRA, the European Food Information Resource AISBL and the National food database compiler organisation from Croatia (2 institutions) , Cyprus, Federation of Bosnia and Herzegovina, Republic of Macedonia, Republic of Moldova, Montenegro, Russia and Ukraine.

Parties seek collaboration in order to establish and/or develop the national food composition database and electronic dataset in "Country" accordingly to the European Food Data Standard and linked to the Balkan and EuroFIR Food Data Platforms.

9. Conclusions

The Balkan food platform with involvement of key food and nutritional stakeholders from Balkan region and the 1st online regional Food composition data base relevant to these countries is essential to support the work of dietitians, nutritionist researchers and policy makers.

Shaping the Balkan Food platform, using FCDM software with harmonized data collection, storage and exchange throughout Balkan countries contributes to data exchange between different countries in Europe and in future link of any new food data in European Food Data Platform.

The creation of the Balkan Food Platform and development of the Regional Food Composition data base is a concrete result of collaboration between EU funded project EuroFIR-Nexus and NCDNCEE – CAPNUTRA network. There were identified needs for tailor made FCDB training workshops, capacity development courses and regional trainings for future priorities in food and nutrition research.

9.1. Recommendations for future activities for long-term sustainability

The Balkan Food Platform is shaped and implemented in Balkan and CEE region.

Nutritional tools for FCDB are available to members and different users for Balkan platform implementation.

In order to continue our activities in CEE region we established the **“Capacity Development Network in Nutrition in Central and Eastern Europe, CAPNUTRA”** in 2012. NCDNCEE’s follow-up is CAPNUTRA.

Implementation of Balkan platform through use of Nutritional tools for FCDB Capacity Development Network in Nutrition in CEE countries - CAPNUTRA, is formed as the Regional Network and the sustainability plan is made to sustain the Balkan Food Platform:

- further collaboration with EuroFIR AISBL
 - future involvement in EC projects (EuroFoodNet, EURODISH)
- Bilateral collaboration, National projects, COST actions
- collaboration with regional networks,
 - key food and nutritional stakeholders from WBC
 - SMS, clusters,
 - food industry
 - Consumers organization etc.
 - Policy makers
 - UNO

10. References

- Pavlovic M, Pepping F, Demes, M, Biro L, Szabolcs P, Dimitrovska Z, Duleva V, Parvan C, Hadziomeragic AF, Glibetic M and Oshaug A. (2009). Turning dilemmas into opportunities: a UNU/SCN capacity development network in public nutrition in Central and Eastern Europe. *Public Health Nutrition*: 12(8), 1046-1051.
- Pavlovic M, Witthoft CM, Hollman P, Hulshof PJM, Glibetic M, Porubska J, Pepping F, Oshaug A. (2009). [Training and capacity building in central and eastern Europe](#) through the EuroFIR and CEE networks. *Food Chemistry* 113 (8):846-850.
- Gurinović M, Witthöft CM, Tepšić J, Ranić M, Hulshof PJM, Hollman PC, Porbuska J, Gohar A, Debeljak-Martaćić J, Petrović-Oggiano G, Novaković R, Glibetić M, Oshaug A (2010). Capacity development in food composition database management and nutritional research and education in Central and Eastern European, Middle Eastern and North African countries. *EJCN* 64, S134-S138.
- Glibetic M, Kadvan A, Tepsic J, Debeljak Martacic J, Djekic-Ivankovic M, Gurinovic M, Management of food composition database harmonized with EuroFIR criteria using a web application. *Journal of Food Composition and Analysis*. 24 (2011) 741–743
- Gurinovic M, Glibetic M, Kadvan A, Djekic Ivankovic M, Report on the Regional Workshop for Food Composition Data Base Development, Belgrade, June 11th 2010, <http://www.agrowebcee.net/ncdn/events/>.
- Gurinovic M, Glibetic M, Ranic M, Djekic Ivankovic M, Oshaug A, Report of the 6th Meeting of the UNU/SCN Network for Capacity Development in Nutrition in Central and Eastern Europe (NCDNCEE) Belgrade, 25th-26th May, 2011 <http://www.agrowebcee.net/ncdn/events/>.
- Pavlovic M, Oshaug A, (2006). Report from the 2nd meeting of the UNU/SCN Network for Capacity Development in Nutrition Central and Eastern Europe. FAO SEUR Office, Budapest, Hungary. <http://www.agrowebcee.net/ncdn/events/>.
- Gurinovic M, Glibetic M, Oshaug A, (2009). Report from the 5th Meeting of the UNU/SCN Network for Capacity Development in Nutrition in Central and Eastern Europe (NCDNCEE), Belgrade, Serbia <http://www.agrowebcee.net/ncdn/events/>.
- Glibetic M, Gurinovic M, Kadvan A, Djekic-IvankovicM, Satalic Z, Korošec M, Spiroski I, Oshaug A, Development of Regional Food Composition Data Base (FCDB) for West Balkan Countries (WBC), Abstracts, 9th International Food Data Conference-Food Composition and Sustainable Diets , Septembar 14-17, 2011, Norwich, UK, p 51
- Kadvan A, Djekic Ivankovic M, Debeljak Martacic J, Ranic M, Glibetic M, Gurinovic M, EuroFIR D1.8.42-Report on training workshop for WB/CEEC and recommendations for future use by AISBL, 2010
- Becker, W, Møller, A, Ireland, J, Roe, M, Unwin, I, Pakkala, H. (2008). Proposal for structure and detail of a EuroFIR standard on food composition data II: Technical Annex. Danish Food Information. EuroFIR Technical Annex (2008): Page: External link <http://www.eurofir.eu/sites/default/files/Deliverables/D1.8.19.pdf>
- Pakkala H, Christensen T, Martínez de Victoria I, Presser K and Kadvan A, Harmonised information exchange between decentralised food composition database systems, *European Journal of Clinical Nutrition* 64, S58-S63 (November 2010) | doi:10.1038/ejcn.2010.212
- EuroFIR Nexus -Deliverable 4.4-1st update of new MoUs with WBC/EECA and planned joint activities with other projects/networks, 2011
- Gurinović M, Glibetić M, Milešević J, Kadvan A, Ranić M, Finglas P, Oshaug A, Report of the First Symposium of the Capacity Development in Nutrition and Food Research in Central and Eastern Europe (CAPNUTRA): Balkan Food Platform - Regional Food Composition Data Base development, 21-23 January 2013, Belgrade, Serbia <http://www.agrowebcee.net/ncdn/events/>

- Technical Report, The food classification and description system FoodEx 2 European Food Safety Authority (EFSA), Parma, Italy, 2011
- Gurinovic M, Glibetic M, Kadvan A, Milesevic J, Satalic Z, Ranic M, Korošec3, Spiroski I, Oshaug A, Finglas P, Shaping and implementing the Balkan Food Platform", EuroFIR Nexus 2nd annual meeting and conference: Developments in Food Composition Information Systems Supporting ethnic and traditional food in Europe, March 5-6, 2013, Ljubljana, Slovenia, Programme and abstracts, p24
- Gurinovic M, Glibetic M, Kadvan A, Milesevic J, Debeljak-Martacic J, Djekic Ivankovic M, Takic M, Rankovic S, Finglas P "Development of the first online Serbian Food Composition Database harmonised with EuroFIR standards", EuroFIR Nexus 2nd annual meeting and conference: Developments in Food Composition Information Systems Supporting ethnic and traditional food in Europe, March 5-6, 2013, Ljubljana, Slovenia, Programme and abstracts p 40
- Glibetic M, Gurinovic M, Kadvan A, Milesevic J, Nikolic M, Novakovic R, Nutritional research tools harmonized with EuroFIR recommendations used in food compositions information systems", EuroFIR Nexus 2nd annual meeting and conference: Developments in Food Composition Information Systems Supporting ethnic and traditional food in Europe, March 5-6, 2013, Ljubljana, Slovenia, Programme and abstracts p70
- Lopes C & Theisohn (2003) Ownership, leadership and transformation: can we do better for capacity development? New York: Earthscan Publications Ltd.

11. Annexes

Annex 1: List of Participants/Country

Annex 2 FCDB status questionnaire, FCDB training needs questionnaire

Annex 3: Memorandum of Understanding (MoU)

Annex 4: Overview summary tables for FCDB status and training needs

Annex 1: List of Participants/Countries

Members of the EuroFIR Nexus Consortium

Beneficiaries (*Compilers)

Institute of Food Research*
EuroFIR AISBL
Foodcon
University College Cork*
Wageningen University & Research Centre
British Nutrition Foundation
Danish Food Information
ETH Zurich *(only 3103212)
Danish Technical University
Swedish National Food Administration
The Institute of Medical Research
The Swedish University of Agriculture Sciences
VUP Food Research Institute
French Agency for Food, Environmental and Occupational Health Safety
Instituto Nacional de Saúde Dr. Ricardo Jorge, National Institute of Health
National Institute of Health and Welfare
Istituto Nazionale di Ricerca per gli Alimenti e la Nutrizione
International Agency for Research on Cancer
Topshare International B.V.

Third Parties

National Institute of Public Health & the Environment
Istituto Europeo di Oncologia
The Jožef Stefan Institute
Nutriënten Belgie vzw
The Hellenic Health Foundation
National Food and Nutrition Institute
The Health Education and Diseases Prevention Centre
TÜBITAK Marmara Research Centre Food Institute
National Centre of Public Health and Analysis
Max Rubner-Institut, Federal Research Institute of Nutrition and Food
Matís Food Research, Innovation & Safety
Food Centre of Food and Veterinary Service
Institute of Nutrition and Food Technology "José Mataix" The Institute of Nutrition and Food
Technology (INYTA), University of Granada (INYTA-UGR)
The University of Vienna
Ian D Unwin Food Information Consultancy
Polytec Nivå
Verein zur Förderung des Technologietransfers an der Hochschule Bremerhaven e.V
Graz University of Technology, Institute of Biochemistry, Functional Food Group
Food and Environment Research Agency
The Norwegian Food Safety Authority
Agricultural University of Athens
University of Helsinki
University of Leeds

External Advisory Board

Prof Arne Oshaug, Oslo and Akershus University College of Applied Sciences. Oslo, Norway
Capacity Development Network in Nutrition in Central and Eastern Europe, CAPNUTRA:

Ministry of Health, Tirana, Albania (Dr. Eralda Mariani)

Institute of Public Health of Federation of Bosnia and Herzegovina, Sarajevo, Bosnia and Herzegovina (Dr Aida Hadziomeragic)
National Center of Public Health Protection, Department of Nutrition, Sofia, Bulgaria (Desyslava Gyirova)
Laboratory for Nutrition Science, Faculty of Food Technology and Biotechnology, Zagreb, Croatia (Dr Zvonimir Satalic)
Croatian Food Agency, Department for scientific support and data bases, Osijek, Croatia (Darja Sokolić-Mihalak dipl. ing. preh. teh.)
Institute of Public Health of the Republic of Macedonia, Skopje (Dr. Zlatanka Dimitrovska, Dr Igor Spiroski)
State General Laboratory Nicosia, Cyprus (Stelios Yiannopoulos)
Nutrition and NutriComp Táplálkozás-egészségügyi Bt Budapest, Hungary (Dr. Lajos Biró)
Technical University of Moldova, Chisinau, Republic of Moldova (Dr Lidia Cosciug, Viorica Bulgaru)
Institute for Public Health, Podgorica, Montenegro (Dr Ivana Joksimović,)
National Institute of Public Health, Bucharest, Romania (Dr Camelia Parvan)
Department of Food Science and Technology, Biotechnical Faculty, Ljubljana, Slovenia (Mojca Korošec)
Oslo and Akershus University College of Applied Sciences. Oslo, Norway (Prof Arne Oshaug)
Scientific Secretary of Russian Platform "Food for Life", Moscow, Russia (Dr Olga A Legonkova)
Far Eastern Federal University School of Biomedicine, Vladivostok, Russia (Dr Tatyana G. Dolgova)
Uzhhorod National University, Uzhhorod, Ukraine (Dr Nadia Boyko)

Annex 2



January, 2013

Belgrade

Dear Colleagues,

I am approaching you regarding the EC FP7 project **EuroFIR-Nexus “The EuroFIR Food Platform: Further integration, refinement and exploitation for its long-term self-sustainability”**

The objective is to further integrate/refine the EuroFIR Food Platform (EFP), to improve/support the ways research is undertaken with relation to food, diets and health in Europe. More information on EuroFIR-Nexus can be found at <http://www.eurofir.org>

The Work Package (WP4) - **Training and spreading of excellence within EuroFIR-Nexus** project has as its main objective to promote knowledge and skills development in food composition research within the network and across Europe through a coherent set of closely inter-related training and education activities.

One of the tasks within the WP4 is:

Task 4 – Shaping and implementing Balkan Food platform with Capacity Development Network in Nutrition in Central & Eastern European Countries

As the first step of the activities in the development of the Regional Food Composition Data Base (FCDB) is inventory about the existing FCDB in the region.

Therefore, we would like to ask you to complete the questionnaire and return to us **before 28th January 2013**.

Please send the questionnaire to:

Jelena Milesevic email: jelena.milesevic@gmail.com and

CC to Mirjana Gurinovic e-mail: mirjana.gurinovic@gmail.com

Thank you very much for your kind cooperation.

Best regards,

Mirjana Gurinovic MD.PhD Nutrition

Scientific Research Advisor, Chair of the NCDNCEE www.agrowebcee.net/ncdn

Centre of Research Excellence in Nutrition and Metabolism

Institute for Medical Research, University of Belgrade, Serbia

www.srbnutrition.info

A knowledge of the chemical composition of foods is the first essential in dietary treatment of disease or in any quantitative study of human nutrition.

(McCance and Widdowson, 1940)

Food Composition Data Base (FCDB) Questionnaire

Name:
Country:
Institution:
Address:
Web address:
E-mail address:
Telephone number:
Fax Number

1. Does your country have food composition database (FCDB)?

Please mark YES or NO
 FCDB Status overview:

Please describe current status regarding food composition data in your country:

- There are printed food composition tables (available in language(s): _____):
 YES NO
- There is electronically available FCDB with restricted access (available in language(s): _____):
 YES NO
- There is electronically available FCDB with public access (available in language(s): _____):
 YES NO
- There is online FCDB with restricted access (available in language(s): _____): YES NO
- There is online FCDB with public access (available in language(s): _____):
 YES NO
- Additionally, there are software(s) based on national food composition data:
 YES NO
- Food composition data available in my country is predominantly:
 a) analytical or
 b) borrowed from other countries food composition data or
 c) I don't know?
- Please grade the importance of creating regional FCDB - *from 1 (not important) to 5 (very important)* :
 1 2 3 4 5
- Please grade the potential of existing grey literature food composition data in your country - *from 1 (no such data exist) to 5 (great potential)* :
 1 2 3 4 5
- Please write additional remarks, comments or clarification information:

If YES Please answer the following questions :	If NO Please answer the following questionS :
--	---

How many foods and how many nutrients do you have in your FCDB? Foods: Nutrients:	Why is your country missing FCDB (e.g. no responsible institute, lack of funds, equipment, professionals, training..etc)?
Is there permanent financial support of the database or only temporary? YES/NO	Will your organisation be able to carry on these activities, building the database and supporting it after a capacity building and training? YES/NO
Are the capacities of FCDB sufficient? YES/NO	Who would be the main users of the database if you had one?
Is your FCDB structured according to some standards or recommendations? YES/NO	If your country does not have national food composition tables which database is used as a source for compilation food composition data/ tables? What else do you use as a source of your data (e.g. food producers, labelling, etc.)?
Which one?	
How is FCDB usually used in practise in your country and who are the main users ?	

2. ***Which organisation in your country is responsible for food composition data base?***

3. ***Are you familiar with steps in establishing food composition database?***
YES/NO

4. ***Did you already have collaboraton with NCDNCEE Network and EuroFIR?***
YES/NO

If YES please answer the following questions:

Capacity Development (CD) achievements in Food Composition Databases Questionnaire

QUESTIONS	ANSWERS
How has collaboration with NCDNCEE Network and EuroFIR contributed to capacity development in your country?	
How much new data has been added from the beginning of collaboration?	Foods: Nutrients:
Have you developed electronic version of the databases?	YES NO
Has national funding increased since the beginning of collaboration?	YES NO
Have you or your colleagues attended Food composition course? How many colleagues attended the course?	YES NO
Was it useful and applicable?	YES NO

--

Have you or your colleagues attended NCDNCEE Network meetings/capacity development workshop for FCDB?	YES	NO
How many colleagues attended the course?		
Was it useful and applicable?	YES	NO
Did you or your colleagues have individual training grants from NCDNCEE Network and EuroFIR?	YES	NO
Your comments and suggestions for further CD for FCDB		



Dear Colleagues,

I am approaching you regarding the EC FP7 project **EuroFIR-Nexus “The EuroFIR Food Platform: Further integration, refinement and exploitation for its long-term self-sustainability”**

The objective is to further integrate/refine the EuroFIR Food Platform (EFP), to improve/support the ways research is undertaken with relation to food, diets and health in Europe. More information on EuroFIR-Nexus can be found at <http://www.eurofir.org>

The Work Package (WP4) - **Training and spreading of excellence within EuroFIR-Nexus** project has as its main objective to promote knowledge and skills development in food composition research within the network and across Europe through a coherent set of closely inter-related training and education activities.

One of the tasks within the WP4 is:

Task 4 – Shaping and implementing Balkan Food platform with Capacity Development Network in Nutrition in Central & Eastern European Countries

As the first step of the activities in the development of the Regional Food Composition Data Base (FCDB) was the identification of status of existing FCDB in the region while the next step is inventory about the training and capacity development needs.

Therefore, we would like to ask you to complete this updated questionnaire and return to us **before 28th January 2013**.

Please send the questionnaire to:

Jelena Milesevic email: jelena.milesevic@gmail.com and

CC to Mirjana Gurinovic e-mail: mirjana.gurinovic@gmail.com

Thank you very much for your kind cooperation.

Best regards,

Mirjana Gurinovic MD.PhD Nutrition

Scientific Research Advisor, Chair of the NCDNCEE www.agrowebcee.net/ncdn

Centre of Research Excellence in Nutrition and Metabolism

Institute for Medical Research, University of Belgrade, Serbia

www.srbnutrition.info

A knowledge of the chemical composition of foods is the first essential in dietary treatment of disease or in any quantitative study of human nutrition.

(McCance and Widdowson, 1940)

Training and capacity development needs questionnaire

Your Name:

Country:

Region:

Institution:

Address:

Contact Person:

Web address:

E-mail contact address:

Phone number:

Fax Number:

FCDB Status overview:

Please describe current status regarding food composition data in your country:

- There are printed food composition tables (available in language(s): _____):
YES NO
- There is electronically available FCDB with restricted access (available in language(s): _____):
YES NO
- There is electronically available FCDB with public access (available in language(s): _____):
YES NO
- There is online FCDB with restricted access (available in language(s): _____): YES NO
- There is online FCDB with public access (available in language(s): _____):
YES NO
- Additionally, there are software(s) based on national food composition data:
YES NO
- Food composition data available in my country is predominantly:
a) analytical or
b) borrowed from other countries food composition data or
c) I don't know?
- Please grade the importance of creating regional FCDB *from 1 (not important) to 5 (very important)* :
1 2 3 4 5
- Please grade the potential of existing grey literature food composition data in your country *from 1 (no such data exist) to 5 (great potential)* :
1 2 3 4 5
- Please write additional remarks, comments or clarification information:

- 1. Training needs in the field of production of food composition databanks**
(workshops, seminars, courses, E-learning)
Please mark with numbers from 1 (no training needs) to 5 (strong training needs)

• Food and nutrient priorities (How to define priorities for including foods and nutrients in the database):	1	2	3	4	5
• Choices of analytical methods for nutrients:	1	2	3	4	5
• Sampling of Foods:	1	2	3	4	5
• Data Quality and Evaluation:	1	2	3	4	5
• Food nomenclature systems (eg. Food description, classification, identification, recipe calculation):	1	2	3	4	5
• Recipe calculation:	1	2	3	4	5
• Data base management systems:	1	2	3	4	5
• Steps in establishing a food composition database:	1	2	3	4	5
• Reviewing of existing data:	1	2	3	4	5

Other training needs, please describe: _____:
1 2 3 4 5

2. Possible areas for collaboration with EuroFIR –Nexus partners

Staff (technical/researchers/others): _____

Students (bachelor/master/PhD): _____

3. Analytical methods and equipment and facilities (Your organisation needs training in this aspect of food composition data base)

Nutrient	Need (Yes/no)	training	Comment	Approach (eg .HPLC)
Carbohydrates				
Protein				
Fat/fatty acids				
Dietary fibre (s)				
Alcohol				
other				
Minerals	Need (Yes/no)	training	Comment	Approach (eg .HPLC)
Calcium				
Phosporus				
Magnesium				
Sodium				
Potasim				
other				
Trace elements	Need (Yes/no)	training	Comment	Approach (eg .HPLC)
Chlorine				
Copper				
Iodine				
Ioron				
Selenium				
Zinc				
other				
Vitamins	Need (Yes/no)	training	Comment	Approach (eg .HPLC)
Vitamin A				
Vitamin D				

Vitamin E			
Vitamin K			
Thiamin (B1)			
Riboflavin (B2)			
Niacin (B3)			
Vitamin B6			
Folate			
Folic Acid			
Vitamin B12			
Vitamin C			
Other			

4. Is there any national/regional nutritional –food consumption survey conducted in your country:

- Country nutritional- food consumption survey : Yes/No

If Yes, please, answer to the following questions:

- Year of survey:
- Responsible Institute:
- Method of dietary assessment (24-HDR; food records; FFQ) :
- Population group:
- Sample size:
- Is there any dietary software/nutritional tool for food & nutrient intake calculation in use for dietary survey in your country (Yes/No):
- Which Nutritional tool/software you used for data entry, dietary intake assessment and data analysis:
- Which Food Composition Data Base (FCDB) was used for nutrient intake calculation:
- Assessment of nutritional status measured by biomarkers of status Yes/No
- Publications and references regarding the survey and/or tool (Title, Author, Year of publication):

5. Training needs among nutrition professionals in the field of food composition databanks application (workshops, seminars, courses, E-learning)

Please mark with numbers from 1 (no training needs) to 5 (strong training needs)

Use of food composition data in nutritional assessment:	1	2	3	4	5
Nutritional intake software tools application in dietary surveillance:	1	2	3	4	5
Dietary intake assesment methods-Selection of the best intake methods and assesment of inadequacy in intake	1	2	3	4	5
Harmonised methodology of dietary intake (nutrients, foods) for design of nutrition monitoring and surveillance system in public health nutrition research -local/regional/ national (Data Collection/Analyses/ Frequency of collection/Timeline/ Reporting)	1	2	3	4	5
How to include the human right to food and health in research	1	2	3	4	5
Epidemiology of public health nutrition	1	2	3	4	5

6. Exchange programmes and other training needs

Describe which specific (research) tasks or training needs would your visiting staff benefit from experienced EuroFIR-Nexus partners. Could you also describe subjects for PhD fellowships to be performed in another institute (EuroFIR-Nexus member):

7. Capacity development in food and health, and future recommendations for long-term sustainability

For the "Final report on Balkan Food Platform and recommendations for future integration of WBC" please write your suggestions for Capacity development in food, nutrition and health, and future recommendations for long-term sustainability.

8. Is there anything that you would like to add related to the topic of this questionnaire and you were not asked about. If yes, please provide your comment below:

9. In this box please provide short summary of your answers to this questionnaire in the form of abstract not longer than 250 words (*to be included in the Report*):

Annex 3

MEMORANDUM OF UNDERSTANDING

This agreement is executed on by and between:

Institute of Food Research representing the “EuroFIR Food Platform: further integration, refinement and exploitation for its long-term self-sustainability” having its registered address at Norwich Research Park, Colney Lane, Norwich, NR4 7UA, UK, represented by Dr Mary Anderson, Head of Contracts, and Mr Paul Finglas, Head of Food Databanks Exploitation Platform, and EuroFIR Nexus Coordinator, hereafter called IFR

and

Centre of Research Excellence in Nutrition and Metabolism, IMR, Belgrade, Serbia represented by Prof. Maria Glibetic (Head of Centre of Research Excellence in Nutrition and Metabolism) having its registered address at Tadeusa Koscuska 1, Belgrade, 11000 Serbia, and

Capacity Development Network in Nutrition in Central and Eastern Europe, CAPNUTRA represented by Prof. Mirjana Gurinović, network Coordinator, registered address at Trnska 3, Belgrade, 11000 Serbia, and

European Food Information Ressource AISBL, representing a non-profit organization under Belgian law, with company register number 811 804 183, comprising other national food database compiler organisations in Europe and worldwide having its registered address at Rue Washington 40, Ixelles, 1050 Brussels, Belgium, represented by Paul Finglas (Managing Director), hereafter called EuroFIR AISBL

and

“Name of food database compiler organisation”, represented by “Legal singatory of the organisation“, and “Name of compiler expert“, having its address at “Name and full address of organisation“, hereafter called “xxxxx” (Short Name)

Whereas agrees to collaborate with the European Union’s Framework Programme 7 project no 265967 entitled “EuroFIR Food Platform: further integration, refinement and exploitation for its long-term self-sustainability (“EuroFIR Nexus”), coordinated by IFR (hereinafter “the Co-ordinator”) and performed by the beneficiaries and 3rd parties of the EuroFIR Nexus Consortium listed in Annex 1 (hereinafter “the Consortium Members” and collectively “the Consortium”).

Whereas to facilitate this collaboration both IFR, IMR and the Consortium, and “Short Name”, will exchange any necessary information in the form of reports and/or other technical documents and know-how, training materials, software (hereafter called “Reports and Technical Documentation”), and assist in the establishment and/or development of the national food database in “Name of Country” linked to the Balkan and EuroFIR Food Data Platforms.

The Parties agree upon the following:

- 1) For the purpose of enabling international harmonisation of standards covering food composition data, all information and technical support (but excluding any direct funding) will be supplied directly by IFR, IMR, or by any one of the Consortium Members.
- 2) “Name of Compiler” shall not publish in the public domain any Reports and Technical Documentation, or copies thereof received from IFR, IMR, or the Consortium, unless permission is given by IFR and/or IMR, during the term of the agreement.

- 3) The Reports and Technical Documentation, all copies thereof and all rights thereto shall remain the exclusive property of the disclosing Consortium Member, or the Consortium in the case of Information jointly owned by the Consortium. All original or copies enclosing the reports shall be promptly returned to the disclosing Consortium Member, or the Consortium, as appropriate on receipt of the Consortium's or disclosing Consortium Member's written request.
- 4) The obligation mentioned above shall not apply to any reports and technical documentation which:
 - a) was in the possession of prior to disclosure by Consortium and which was not previously obtained, either directly or indirectly, from the Consortium under confidentiality restrictions;
 - b) was at the time of its disclosure to, part of the public domain by publication or otherwise; or hereafter becomes generally available to the public through no act or failure to act of ;
 - c) was furnished to by any third party as a matter of right without restriction on disclosure;
 - d) is to be disclosed pursuant to the order or requirement of a court, administrative agency or other government body, provided that shall provide the Consortium with prompt notice of such order or related proceeding to afford the Consortium an opportunity to intervene and prevent the disclosure.
- 5) The Consortium and "Name of Compiler" shall use reasonable endeavours to ensure the accuracy of any information, or materials it supplies and promptly to correct any error therein of which it is notified. The "Name of Compiler" shall be entirely responsible for the use to which it puts such information and materials provided that the Consortium may rely on the accuracy of any such information or material with respect to the activities of the collaboration.
- 6) The "Name of Compiler" shall inform the Consortium of any restrictions (e.g. confidentiality) that apply to information or advice provided to the Consortium as part of the collaboration.
- 7) The "Name of Compiler" shall endeavour to join EuroFIR AISBL as a food composition database compiler organisation/Associate Member for "Name of Country" within two years of the date of this agreement.
- 8) IFR, IMR, EuroFIR AISBL and the Consortium, will seek to collaborate with "Name of Compiler" in "Country" in order to establish and/or develop the national food composition database and electronic dataset in "Country" accordingly to the European Food Data Standard and linked to the Balkan and EuroFIR Food Data Platforms. IFR, IMR and the Consortium will provide support and technical guidance as necessary but no direct funding for this collaboration. Any training courses, workshops and exchanges will be made available, whenever possible and appropriate, to "Name of Compiler" subject to the Consortium's normal evaluation procedures and guidelines.

This Memorandum of Understanding shall come into force as of the date of its signature by the Parties and shall continue in full force and effect until complete discharge of all obligations resulting from the collaboration. The obligations of confidentiality herein stated

shall remain in force for a period of five (5) years after the date of expiration or termination of this Memorandum of Understanding.

This Memorandum of Understanding may be terminated by either Party at any time giving written notice to the other Party if that Party shall have committed a material breach of any term of this Memorandum of Understanding and, if such breach is capable of rectification, shall have failed to have rectified such breach within 30 (thirty) days of a written notice specifying the breach being given by the Party requiring such rectification.

This Agreement may be terminated by either Party for reasons other than a material breach by giving three months's written notice to the other Party.

This Memorandum of Understanding shall be governed by the law of the EuroFIR Nexus EC Contract. The Parties shall use reasonable endeavours to resolve any disputes arising out of or in connection with this Agreement. If the Parties cannot resolve the dispute they may enter into structured negotiations with the assistance of a mediator before resorting to litigation.

Any modification of this Memorandum of Understanding including its Annex shall be in writing and signed by all Parties. The attached Annex shall become part of this Memorandum of Understanding.

Annex 1 Members of the EuroFIR Consortium

Signature page follows.

1. On behalf of the Consortium:
Institute of Food Research
Signature

Name Dr Mary Anderson
Title Head of Contracts
Date

Signature

Name Mr Paul Finglas
Title Head of Food Databanks Exploitation Platform, and EuroFIR Nexus Coordinator
Date

Signature

2. Name Prof Maria Glibetic
Title Head of Centre of Research Excellence in Nutrition and Metabolism at Institute for Medical Research
Date

Signature

Name Prof. Mirjana Gurinović

Title Coordinator of Capacity Development Network in Nutrition in Central and Eastern Europe, CAPNUTRA

Date

Signature

On behalf of "Name of Compiler"

Name

Representing

Date

Signature

Annex 4

Table 4 Overview of updated FCDB statuses in NCDNCEE network countries

FCDB status	FB&H+RS	CRO	CYP	MAC	MLD	MNE	RUS	SR	SLO	UA
There are printed food composition tables (available in language(s):	NO	YES	YES	YES	YES	NO	YES	NO	YES	NO
There is electronically available FCDB with restricted access (available in language(s):	NO	YES	YES	NO	NO	NO	NO	YES (SR&EN)	YES	NO
There is electronically available FCDB with public access (available in language(s):	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
There is online FCDB with restricted access (available in language(s):	NO	NO	NO	NO	NO	NO	NO	YES*	YES*	NO
There is online FCDB with public access (available in language(s):	NO	NO	NO	NO	NO	NO	NO	NO	NO (SLO&EN)	NO
Additionally, there are software(s) based on national food composition data:	NO	YES	YES	YES	NO	NO	NO	YES	YES	NO
Food composition data available in my country is predominantly:	B	A	A	B	A&B	B	A	A&B	A	A&B
Please grade the importance of creating regional FCDB from 1 (not important) to 5 (very important)	5	5	5	4	5	3	4	5	5	5
Please grade the potential of existing grey literature food composition data in your	2	4	1	5	2	1	4	3	4	5

country : <i>from 1 (not important) to 5 (very important)</i>											
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A-Analytical data, B-borrowed data from another country's FCDB, * Access possible with EUROFIR membership

Table 5 Current situation with FCDB in CEE countries

Situation with FCDB	FB&H+RS	CRO	CYP	MAC	MLD	MNE	RUS	SLO	SR	UA
How many foods and how many nutrients do you have in your FCDB? Foods: Nutrients:	NA	600 30	120 22	594 34	NA	NA	NA	800 90	930 68	NA
Is there permanent financial support of the database or only temporary?	NA	NO	YES	NO	NA	NA	NA	Temporary	NO	NA
Are the capacities of FCDB sufficient?	NA	NO	YES	NO	NA	NA	NA	YES (knowledge), NO (prof. personnel)	YES	NA
Is your FCDB structured according to some standards or recommendations?	NA	NK	YES	NO	NA	NA	NA	YES	YES	NA
Which one?	NA		H.Greenfield, D.A.T. Southgate, Food Composition Data, Production, Management and Use	NR	NA	NA	NA	EuroFIR standards	EuroFIR standards	NA
How is FCDB usually used in practise in your country and who are the main users?	NA	University, Industry, Consumers	Health care professionals, consumers., academic purposes	Institute of PH and Centres for PH to calculate nutrients intake by populations of	NA	NA	NA	Meal planning and assessment by nutritionists or other professionals in hospitals, schools and kindergartens	Nutritional research, SMEs, clinical and consumers	NA

				interest						
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NA-not applicable, NK-not known, NR-not reported

Table 6 Problems and opportunities for FCDB development in CEE countries

Problems and opportunities for FCDB development	FB&H+ RS	CRO	CYP	MAC	MLD	MNE	RUS	SLO	SR	UA
Why is your country missing FCDB (e.g. No responsible institute, lack of funds, equipment, professionals, training..etc)?	Lack of funds, equipment, professionals, training, no responsible institute	NA	NA	NA	No responsible institute, lack of funds, equipment, training	Lack of funds, equipment, professionals, training	Lack of funds, training	NA	NA	No responsible institute, lack of funds, equipment and trainings No real stakeholders to use it at the moment since lack of the knowledge, resources and interest
Will your organisation be able to carry on these activities, building the database and supporting it after a capacity building and training? YES/NO	YES	NA	NA	NA	YES	Depending on financial support	YES- Depending on financial support	NA	NA	YES
Who would be the main users of the database if you had one?	Scientist, public health and medical professionals, researchers, faculties for education, industry etc.	NA	NA	NA	Catering, foodservice, Food industry enterprises, New foods developers	Researchers, manufacturers, doctors	Hospitals, clinics, SMEs	NA	NA	Individual Consumers Health relevant Organisation: Ministry of Health, Medical Doctors, Nutritionists, etc. Food production Companies, Private

										Companies
If your country does not have national food composition tables which database is used as a source for compilation food composition data/tables? What else do you use as a source of your data (e.g. food producers, labelling, etc.)?	Printed Croatian food composition database	NA	NA	NA	Russian FCD, food producers, labelling	NR		NA	NA	Within the projects/trainings (BaSeFood) we have learned how to use for the FCDB compiling: LanguaL (introduced by EuroFIR) DARIS (introduced by VUP Food Research Institute) of Slovak Republic Composition Data Bank Department of Risk Assessment, Food Composition Data Bank and Consumer's Survey

NA- not applicable, NR-not reported

Table 7 Responsible institutes and collaboration with NCDNCEE Network and EuroFIR

Responsibilities and collaboration with NCDNCEE Network and EuroFIR	FB&H+RS	CRO	CYP	MAC	MLD	MNE	RUS	SLO	SR	UA
Which organisation in your country is responsible for food composition data base?	None ¹	None ²	State General Laboratory 44 Kimos Street 1451 Nicosia	None ³	None	NR	Institute of Nutrition in Moscow	University of Ljubljana, Biotechnical Faculty: compiler and main data provider „Jožef Stefan“ Institute: software provider and FCDB management	Institute for Medical research. Centre of Research Excellence in Nutrition and Metabolism	None ⁴
Are you familiar with steps in establishing food composition database?	NO	YES	YES	YES	YES	NR	YES	YES	YES	YES
Did you already have collaboration with NCDNCEE Network and EuroFIR?	YES	YES	NO	YES	YES	YES	NO	YES	YES	YES

1 In FBiH Responsible Institute Not officially specified – but according to the Law on Health Care it could be under the scope of work of Public Health Institutes

2 In Croatia previously responsible institute was national institute for public health

3 In Macedonia responsible institute is Institute of Public Health, but this responsibility is informal, there is no formal authorized organization for FCDB in Macedonia

4 In Ukraine following Organizations might be involved in case that Food Composition Data Base will be officially created: Network of Universities of Medicine, led by Uzhhorod National University Institute of Hygiene and Medical Ecology, named after O. M. Marzeev, Kyiv, Ukraine, Network of Food Technology Universities and Academies, Ministry of Health

NR- not reported

Table 8 Capacity Development (CD) achievements in Food Composition Databases

Capacity Development (CD) achievements in Food Composition Databases	FB&H+ RS	CRO	CYP	MAC	MLD	MNE	RUS	SLO	SR	UA
How has collaboration with NCDNCEE Network and EuroFIR contributed to capacity development in your country?	Activities on establishment of FCDB initiated	NR	NA	Collaboration in introduction steps in establishment FCDB according to Eurofir standards and education of staff	Course in FCDB, Network meetings	NR	NA	Better and faster actions in compilation of FCDB, more successful in project application and talks with nutritional policy makers.	Establishment of Serbian and regional FCDB, successful application for EU projects, training of personnel etc	Possible collaboration with stakeholders in future—consumers, nutritionists, medical doctors, food industrial bodies, and relevant Ministries
How much new data has been added from the beginning of collaboration? Foods: Nutrients:	0	NR NR	NR NR	20 NR	NA NR	NR NR	NA	Foods: different dishes with recipes were added (ca100) and data for 200 foods of plant origin from Slovenia will be added in early 2013 Nutrients: no new nutrients	No of food has been reduced, but the quality of data and food description increased: 930, 68	
Have you	NO	NO	NA	NO	NO	NO	NO	The electronic	YES	YES

developed electronic version of the databases?								version of FCDB created in 2002;DMS software provided through the network CEECFOODS.		
Has national funding increased since the beginning of collaboration?	NO	NO	NA	NO	NO	NO	NA	NO	NO	NO
Have you or your colleagues attended Food composition course?	NO	NO	NA	YES	YES	NO	NO	NO	YES	YES
How many colleagues attended the course?	NA	NR	NA	1	1	NA	NA	NA	6	3
Was it useful and applicable?	NA	NR	NA	YES	YES	NA	NA	NA	YES	YES
Have you or your colleagues attended NCDNCEE Network meetings/capacity development workshop for FCDB?	YES	YES	NA	YES	YES	NR	YES	YES	YES	NO

How many colleagues attended the course?	1	3	NA	2	3	NR	2	3	>10	NR
Was it useful and applicable?	YES	YES		YES	YES	NR	YES	YES	YES	NR
Did you or your colleagues have individual training grants from NCDNCEE Network and EuroFIR?	NO	NO	NA	YES	NO	YES	NO	NO	YES	YES

NA- not applicable, NR-not reported

Country suggestion

Moldavia suggests development of Balkan Food Platform with Moldavian FCDB and Nutritional Composition of Traditional Foods²; performing qualitative analysis in modern laboratories to study food composition data of local foods and traditional dishes from Moldova; training of specialists in developed electronic version of the databases. Macedonia states that there is a need for FCDB existence and it need to be sustainable. Montenegro needs financial and support in training for the beginning of establishing a database. Ukraine suggests investigation the national needs – to get the review and/or overview of the each country real needs, establishment of a strong and clear scheme of collaboration – to discuss the realistic future steps and discussion of possible funds rising.

Table 9 Training needs in establishment of FCDB

Training needs	FB&H+ RS	SLO	CRO	CYP	MAC	MNE	MLD	UA	SR	RUS
Food and nutrient priorities	5	1	4	2	5	3	5	5	1	YES*
Choices of analytical methods	4	1	4	1	1	4	5	5	3	YES*
Sampling of Foods	3	1	5	2	1	4	5	5	3	YES*
Data Quality and Evaluation	4	2	5	1	3	4	5	5	4	YES*
Food nomenclature systems	4	5	4	4	4	4	5	5	1	YES*
Recipe calculation	4	2	2	5	4	4	5	5	1	YES*
Data base management systems	4	3	5	2	5	4	5	5	4	YES*
Steps in establishing FCDB	5	1	5	1	2	4	5	5	1	YES*
Reviewing of existing data	5	4	5	4	3	4	5	5	4	YES*

* For the first time on NCDNCEE meeting

1 (no training needs) – 5 (strong training needs)

Table 10 Overview of countries' needs in analytical methods and equipment& facilities for food analysis

Needs in analytical methods and equipment and facilities	FB&H+RS	SLO	CRO	CYP	MAC	MNE	MLD	UA	SR	RUS
Macronutrients (proteins, CHO, fat, fibres)	Dietary Fibres	Dietary Fibres	Yes	*	CHO, fatty acids and fiber	Equipment available, need for more trained people	Yes	*	*	NR
Minerals (Na, Ca, K...)	-		Yes	**	Ca, Mg, Na, K		Yes	**	Yes	NR
Trace elements	-		Yes	I, Se	Co, B, I, Se		Yes	**	Yes	NR
Vitamins	A,D,E,K , Vit B's, C , Folate	Vitamins, excl. Vit C	Yes	Yes	Yes		Yes	Yes	***	Yes (excl. folate)

Application of: * Standard analytical methods for macronutrients, ** ICP- OES, ASS, *** HPLC, NR- not reported

Table 11 Overview of training needs priorities and FCDB and nutrition tools application among professionals

Training needs among nutrition professionals in the field of food composition databanks application	FB&H+RS	SLO	CRO	CYP	MAC	MNE	MLD	UA	SR	RUS
Use of food composition data in nutritional assessment	3	3	4	5	3	5	5	5	1	Yes*
Nutritional intake software tools application in dietary surveillance	5	5	5	5	4	5	5	5	1	Yes*
Dietary intake assesment methods	5	5	2	5	5	5	5	5	1	Yes*
Harmonised methodology of dietary intake	4	5	5	5	5	5	5	5	1	Yes*
Human right to food and health in research	1	4	5	5	2	5	5	5	4	Yes*
Epidemiology of public health nutrition	2	4	5	5	3	5	3	5	3	Yes*

* For the first time on NCDNCEE meeting, 1 (no training needs) – 5 (strong training needs)