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ESTABLISHMENT AND ACHIEVEMENTS OF THE UNU/SCN NCDNCEE* –CAPACITY DEVELOPMENT IN NUTRITION

CAPNUTRA **IN 20 YEARS (2005-2025)

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**United Nations University Food and Nutrition Programme (UNU-FNP), Capacity Building Working Group of the United Nation's Standing Committee on Nutrition (SCN)- UNU/SCN NCDNCEE-United Nations University /Standing Committee of Nutrition Network for Capacity Development in Nutrition in Central and Eastern Europe*

*** CAPNUTRA Capacity Development in Nutrition*

December 2025, Belgrade, Serbia

CAPACITY DEVELOPMENT IN CEE

Outline

- ✓ The definition of the Capacity Development (CD)
- ✓ Background-history UNU/SCN NCDNCEE/CAPNUTRA
- ✓ Objectives
- ✓ Frameworks for analyzing actors and responsibilities & planning guidelines for CD based on needs in CEE countries
- ✓ Collaboration with FAOREU & EC & EuroFIR, EFSA & Partners & Networks (<https://www.capnutra.org/collaborations/>) (<https://www.capnutra.org/co-partners>)
- ✓ CAPNUTRA experiences, results and achievements (projects, publications, development of research infrastructure and nutritional tools)



Network members from food and nutrition research/public health nutrition institutions:

Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, North Macedonia, Moldova, Montenegro, Poland, Romania, Slovakia, Slovenia, Serbia, Belgium, the Netherlands, Norway and UK



Capacity Development (CD): Definition

- CD in food and nutrition is more than formal training, it includes also human resource development, organizational, institutional and legal framework development with aim of enhancing knowledge and skills (*Lopes, Theisohn, 2003*).
- CD is a long-term, continuing process, which gives primacy to national priorities, policies, plans and processes.

Lopes, C., Theisohn, T., 2003. Ownership, Leadership and Transformation: Can We Do Better for Capacity Development United Nations Development Programme. Earthscan Publications Ltd, New York.

Background-history UNU/SCN NCDNCEE -CAPNUTRA



The agenda & gallery & reports from the meetings available at the website: <https://www.capnutra.org/events/>

2000's

- Regional SCN networks already existed in Asia, Latin America, the Middle East and Southern Africa

2000's

- The network in Central and Eastern Europe is the newest network facilitated by the UNU Food and Nutrition Programme, through SCN

2005

- Kick-off meeting for a capacity development initiative in nutrition in Eastern and Central Europe, 19 May 2005 FAO-SEUR office, Budapest, Hungary, support by UNU & FAO-SEUR office

2006

- The inaugural meeting of the UNU/SCN Network for CD in nutrition for Central and Eastern Europe (NCDN-CEE) took place in Budapest on the 13-14 February 2006, at the FAO SEUR Office: Established to initiate and support food and nutrition CD activities in research and training in CEE countries based on country/region specific needs.
- The 2nd meeting of the UNU/SCN, 16th - 17th November 2006, Budapest, FAO SEUR Office 18 participants from 9 CEE countries supported by UNU & FAO-SEUR office and EuroFIR

2007/8

- 3rd Meeting of the UNU/SCN 1st - 2nd November 2007, Belgrade, Serbia, 22 participants 10 CEE countries, support UNU
- 4th UNU/SCN NCDNCEE. Belgrade, 10-12 November 2008. Support from UNU Central and Eastern Europe ; 31 participants from 15 CEE countries, 7 participants supported by EURRECA

Gurinovic M (ex Pavlovic) et al 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. <https://doi.org/10.1017/S136898008004692>

Gurinovic, M., Milesevic, J., Zekovic, M., Kadvan, A., Ranic, M. (2020). Capacity development in food and nutrition in central and Eastern Europe: A decade of achievements. *Food Policy*, 96, 101850 <https://doi.org/10.1016/j.foodpol.2020.101850>

Background-history UNU/SCN NCDNCEE -CAPNUTRA



The agenda & gallery & reports from the meetings available at the website: <https://www.capnutra.org/events/>

2009

- 5th Meeting of the NCDNCEE Belgrade, Serbia, 11-12 November 2009. support by UNU 32 participants from 10 CEE countries, 7 participants had support from EURRECA

2010

- Regional Workshop 11th June 2010, Belgrade, Serbia, Regional Workshop for Food Composition Database Development.

2011

- 6th Meeting of the UNU/SCN NCDNCEE, Belgrade, 25th-26th May, 2011, 32 participants from 15 CEE countries, support from UNU; FAOREU, EuroFIR-Nexus

2012

- NCDNCEE's follow-up from 2013 is CAPNUTRA

2013

- First Symposium of the Capacity Development in Nutrition and Food Research in Central and Eastern Europe (CAPNUTRA), 21-23 January 2013, Belgrade, Serbia, 31 participants from various CEE countries

2017

- CAPNUTRA symposium, Capacity development in dietary intake survey - harmonisation with EU Menu methodology regional training for DIET ASSESS & PLAN (DAP) application and implementation in West Balkan countries (WBC) 11-12th September 2017 Belgrade, Serbia

Gurinovic M (ex Pavlovic) et al 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.
<https://doi.org/10.1017/S136898008004692>

Gurinovic, M., Milesevic, J., Zekovic, M., Kadvan, A., Ranic, M. (2020). Capacity development in food and nutrition in central and Eastern Europe: A decade of achievements. *Food Policy*, 96, 101850
<https://doi.org/10.1016/j.foodpol.2020.101850>

Background-history UNU/SCN NCDNCEE -CAPNUTRA



**Kick-off meeting for a capacity development initiative
in nutrition in Eastern and Central Europe,
19 May 2005 FAO-SEUR office, Budapest, Hungary**



**1st inaugural meeting of the NCDNCEE
16 participants from 10 countries supported
by UNU&FAO-SEUR office
13-14 February 2006, Budapest, FAO SEUR
Office, Hungary**



**2nd Meeting of the NCDNCEE. 16th -17th November 2006.
Budapest, Hungary FAO-SEUR office
18 participants from 9 CEE countries supported by UNU
&FAO-SEUR office and EuroFIR**

The agenda & gallery & reports from the meetings available at the website: <https://www.capnutra.org/events/>



EuroFIR workshop "Trainig and Capacity Building for non EuroFIR CEE Countries"
Belgrade, Serbia, June 2007



EuroFIR Course on Production and Use of Food Composition Data in Nutrition.
Bratislava, Slovakia, 6-17 October 2008, 3 participants from NCDNCEE with support



EURRECA Course Evidence-based nutrition:
Warsaw – Sep 9-14, 2008; 4 participants from NCDNCEE with support



2nd EURRECA week, Budva, Montenegro 9-13 June 2008,
5 members from NCDNCEE with EURRECA support



Regional Workshop for Food Composition Data Base Development; 19 participants from CEE 5 countries NCDNCEE Belgrade, Serbia June 11th 2010

Background-history UNU/SCN NCDNCEE -CAPNUTRA

The main objective was to stimulate CD in food and nutrition in CEE through identifying research infrastructure (RI) status and needs, specific education/training needs, and to establish networking with European countries through collaboration with international networks and international research projects.

OBJECTIVES

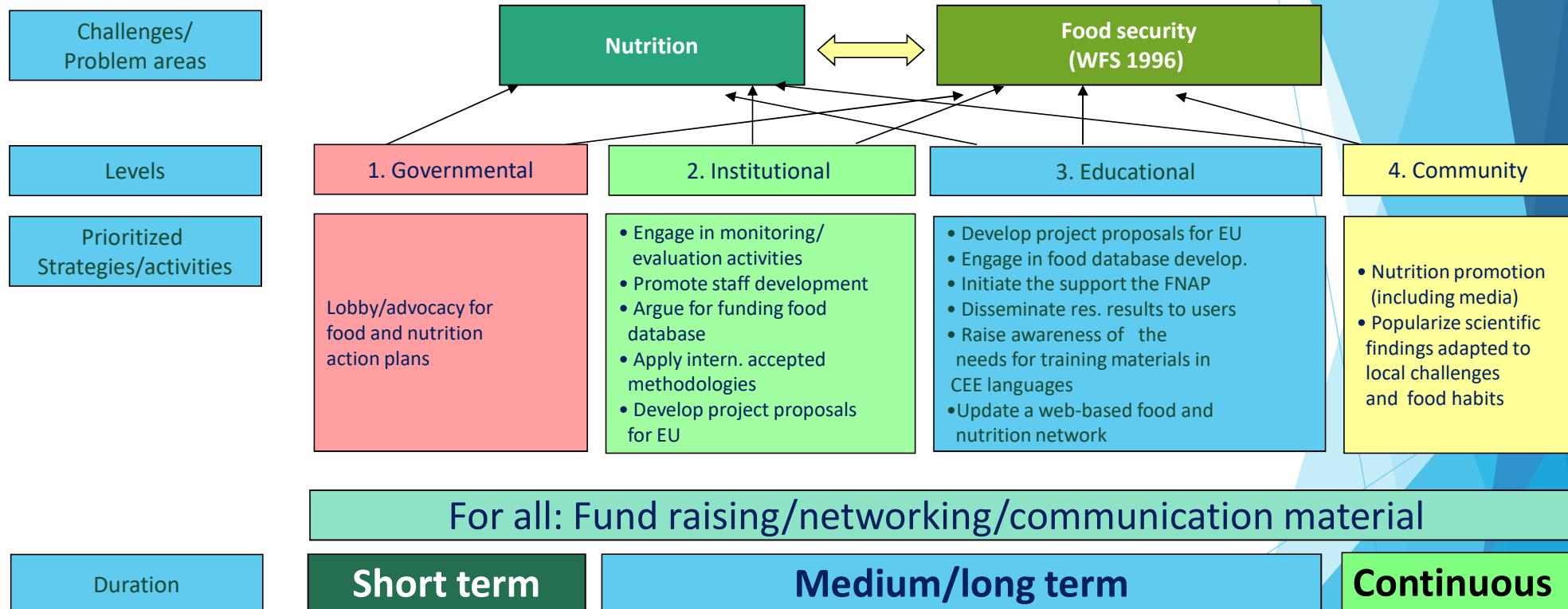
<https://www.capnutra.org/objectives/>

NCDNCEE/CAPNUTRA works toward the enhancement of individual, institutional and organizational capacity in food and nutrition research, including identification of the challenges and needs, development of strategies, frameworks* and planning guidelines for CD in nutrition in CEE and Balkan countries (BC).

Pavlovic M. (Gurinovic M) et al, Turning Dilemmas into opportunities: A UNU/SCN Capacity Development Network in Public Nutrition in Central and Eastern Europe Public Health Nutr 2009 12 (8) 1046-1051 <https://doi.org/10.1017/S136898008004692>

*Frameworks for analyzing actors and responsibilities and planning guidelines for CD in nutrition in CEE and Balkan countries (BC):
https://www.capnutra.org/wp-content/uploads/2022/12/NCDNCEE_Framework.pdf

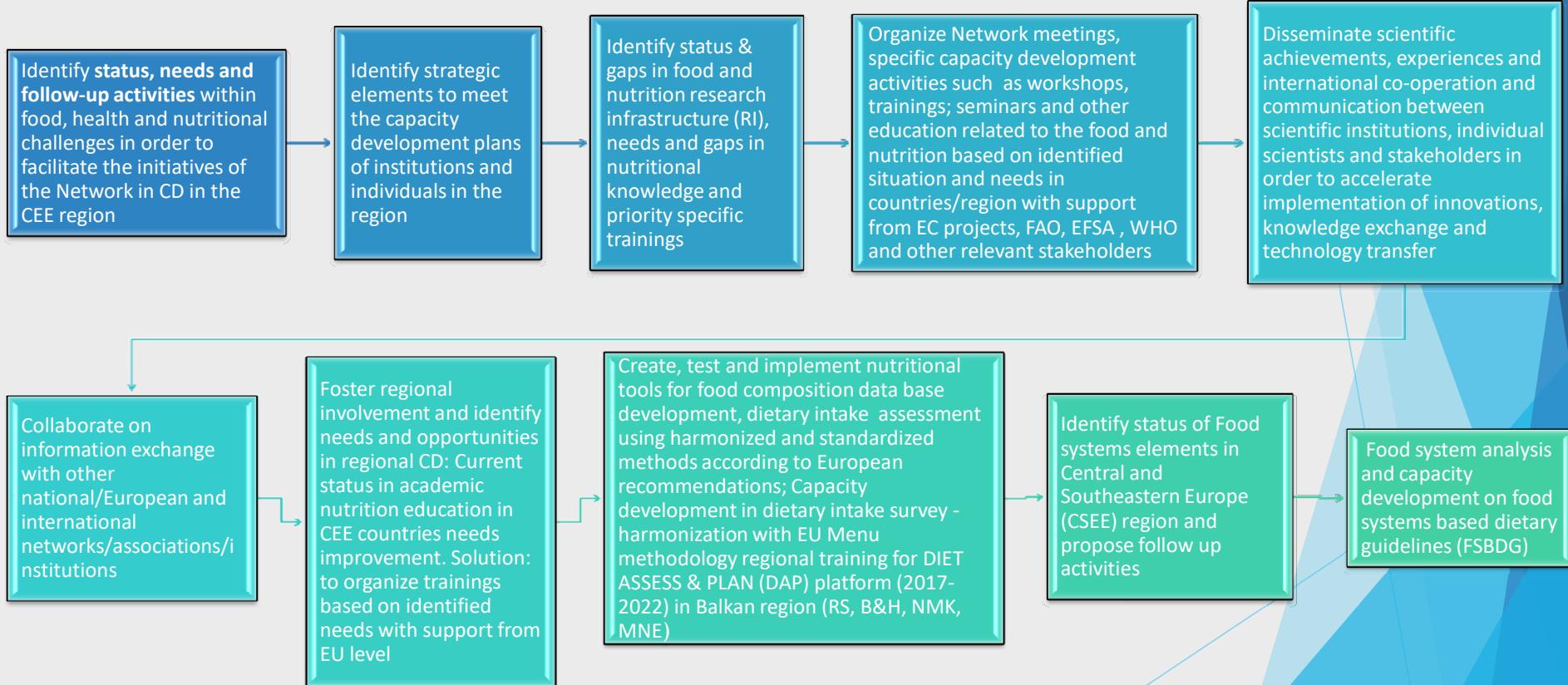
PLANNING GUIDELINES FOR CAPACITY DEVELOPMENT IN NUTRITION IN CEE



Gurinovic M (ex Pavlovic) et al 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.
<https://doi.org/10.1017/S1368980008004692>

*Frameworks for analyzing actors and responsibilities and planning guidelines for CD in nutrition in CEE and Balkan countries (BC):
https://www.capnutra.org/wp-content/uploads/2022/12/NCDNCEE_Framework.pdf

ACTIVITIES OF THE UNU/SCN NCDNCEE – CAPNUTRA 2005-2025





3rd UNU/SCN NCDNCEE
Belgrade, Serbia, 1-2 November 2007
22 participants from 10 CEE countries support by UNU&EURRECA



5th Meeting of the NCDNCEE
Belgrade, Serbia, 11-12 November 2009. support by UNU
32 participants from 10 CEE countries, 7 participants had support from EURRECA



4th UNU/SCN NCDNCEE.

Belgrade, 10-12 November 2008.

Support from UNU Central and Eastern Europe I

31 participants from 15 CEE countries, 7 participants supported by EURRECA



6th Meeting of the UNU/SCN NCDNCEE,

Belgrade, 25th-26th May, 2011,

32 participants from 15 CEE countries, support from UNU; FAOREU, EuroFIR-Nexus

The agenda & gallery & reports from the meetings available at the website: <https://www.capnutra.org/events/>

35th SCN Meeting-CD Group, Viet Nam, Hanoi 2-6 March 2008



35th SCN Meeting, Viet Nam, Hanoi 2-7 March 2008

Working Group on Capacity Development

- United Nations University Food and Nutrition Programme for Human and Social Development (*Patrick Stover*)
- Strengthening capacity in academic institutions & institutionalizing these efforts for sustainable faculty and research programs (*Anna Lartey*)
- Report of the Network for Capacity Development in Nutrition in Central and Eastern Europe NCDN CEE (*Mirjana Pavlovic*)
- Strengthening capacity in academic institutions to serve regional local food and nutrition programmes (training, monitoring, evaluation, programme research) for improving public health (*Arne Oshaug*)
- Strategic plan for engagement: the academic network in the Middle East (*Osman Galal*)
- Panel discussion: *Mirjana Pavlovic* – University of Belgrade, UNU-FNP; *Emorn Wasantwisut*, University of Mahidol, UNU-FNP; *Azza Gohar*, National Nutrition Institute, Cairo, UNU-FNP; *Joseph Ashong* – Cornell University, AGSNet; *A. Oshaug*

Steering Committee (SC) meeting of the United Nation University Standing Committee Nutrition (UNU/SCN) Network for capacity development in nutrition in Central and Eastern Europe (NCDNCEE), Belgrade , Serbia, 17-18th July 2008

Members of the SC UNU/SCN NCDNCEE



Fre Pepping PhD, Managing Director, Regional coordinator United Nation University UNU Food and Nutrition Program, The Graduate School VLAG, Wageningen University, Wageningen The Netherlands, (Facilitator)

Prof. Arne Oshaug, Professor in Public Health Nutrition, PhD Nutrition, Research Director, Akershus University College , Centre for Research on Health, Society and Environment Lillestrom, Norway, (Facilitator) , UNU SCN for Capacity development Task lieder

Mirjana Gurinovic, MD PhD, Senior research advisory, Coordinator UNU/SCN Network for capacity development in nutrition in Central and Eastern Europe (NCDNCEE)-CAPNUTRA, United Nation University/ Food and Nutrition Program for CEE region, Institute for Medical Research ,University of Belgrade, Serbia

4th Meeting of the UNU/SCN 10th - 12th November 2008, Belgrade, Serbia
Network for Capacity Development in Nutrition in Central and Eastern Europe (NCDNCEE).



4th UNU/SCN NCDNCEE. Belgrade, 10-12 November 2008.

Support from UNU Central and Eastern Europe I

31 participants from 15 CEE countries, 7 participants supported by EURRECA

The agenda & gallery & reports from the meetings : <https://www.capnutra.org/events/>



4th Meeting of the UNU/SCN 10th - 12th November 2008, Belgrade, Serbia Network for Capacity Development in Nutrition in Central and Eastern Europe (NCDNCEE)



4th UNU/SCN NCDNCEE.
Belgrade, 10-12 November 2008.
Support from UNU Central and Eastern Europe I
31 participants from 15 CEE countries, 7 participants supported by EURRECA

The agenda & gallery & reports from the meetings : <https://www.capnutra.org/events/>

4th Meeting of the UNU/SCN 10th - 12th November 2008, Belgrade, Serbia
Network for Capacity Development in Nutrition in Central and Eastern Europe (NCDNCEE)



4th UNU/SCN NCDNCEE.
Belgrade, 10-12 November 2008.
Support from UNU Central and Eastern Europe I
31 participants from 15 CEE countries, 7 participants supported by EURRECA

The agenda & gallery & reports from the meetings : <https://www.capnutra.org/events/>

Capacity development (CD) process 2005-2025 in CEE/Balkan countries - summary

Structure

Forming the UNU/SCN NCDNCEE 2005

Forming the CAPNUTRA 2013

- ❑ Identification of the challenges and needs, development of strategies, frameworks and planning guidelines for CD in food and nutrition
- ❑ Status identification and the development of food and nutrition research infrastructure
- ❑ Prioritizations of activities regarding food system elements and inventory of FCDB status and related training needs
- ❑ Addressing identified lack of harmonized and standardized FCDBs and dietary intake assessment tools
- ❑ Food system analysis and capacity development on food based dietary guidelines (FBDG)

Process

UNU/SCN NCDNCEE / CAPNUTRA 2005 - 2022 meetings, workshops, education & training

Collaboration with UN organizations:

- ✓ UNU-FNP- SCN
- ✓ FAO REU
- ✓ WHO
- ✓ UNICEF

Collaboration with different institutions:

- ✓ International / European food, nutrition, research and PHN institutions

Collaboration with associations, networks:

- ✓ EuroFIR AISBL
- ✓ MENANA
- ✓ CEECFOODS
- ✓ Regional Nutrition CD and Partnership Platform in Central Asia and Caucasus
- ✓ Eurasia-ECFS

Collaboration with EC&EFSA projects:

- ✓ EuroFIR (2006-2011)
- ✓ EURRECA (2007-2012)
- ✓ EuroFIR-Nexus (2011-2013)
- ✓ EFSA projects (2014, 2017, 2022, 2025)
- ✓ CHANCE (2011-2014)
- ✓ ODIN (2013-2017)
- ✓ CEI-TRAIN&SUP DIE (2019-2023)
- ✓ FNS (2019-2023)
- ✓ BIOVALUE (2021-2025)
- ✓ GIANT LEAPS (2022-2026)

Dissemination

Website, Research papers, International / national conferences, Network meetings / workshops, Video

Outcomes

Surveys – Inventory of status/needs: Professional academic nutrition education & training, Food and nutrition RI (FCDB*); FCDB management software's – Tools), National dietary surveys, Dietary intake assessment methods and tools, Food systems element status Food and nutrition policy, **Nutritional research tools development:** FCDM** web application, NutriRecQuest Balkan Food Platform, Web application grey literature data collection, DIET ASSES&PLAN (DAP). **Other activities:** Micronutrient recommendations collection, Nutritional studies data collection from CEE – grey literature

Harmonization of the food and nutritional research in CEE/ Balkan countries: Creation of the 1st online Serbian FCDB Balkan Food platform-Regional FCDB –using FCDM software Memorandum of Understanding with 11 CEE countries. Identification training needs in FCDB and dietary intake harmonization for future CD in CEE. Development of nutritional tools for food consumption collection and dietary intake assessment (DAP)

Implementation of DAP in EFSA project-Support to National Dietary Surveys in Compliance with the EU Menu methodology (sixth support): "The adults' survey", including subjects from 10 to 74 years old, 2017-2022 (Serbia, Bosnia and Herzegovina and Montenegro) and "The children's survey", including subjects from three months up to 9 years old, 2017-2021 (Serbia and Northern Macedonia & Montenegro (seventh support) 2018 to 2023.

*FCDB – Food Composition Database

**FCDM – Food Composition Data Management

6th Meeting of the UNU/SCN Network for Capacity Development in Nutrition in Central and Eastern Europe (NCDNCEE)



Belgrade, 25-26 May 2011

32 participants from 15 CEE countries

support from UNU; FAOREU, EuroFIR-Nexus

The agenda & gallery & Report of the meeting is available at
website: <https://www.capnutra.org/events/>

Video film is available at:

You Tube: <http://www.youtube.com/watch?v=01000s3po-c>

6th Meeting of the UNU/SCN NCDNCEE, Belgrade, 25th-26th May 2011

32 participants from 15 CEE countries, support from UNU; FAOREU, EuroFIR-Nexus

The agenda & gallery & reports from the meetings : <https://www.capnutra.org/events/>

Video film is available at: You Tube: <http://www.youtube.com/watch?v=OGAaVs3po-c>.



**6th Meeting of the UNU/SCN NCDNCEE,
Belgrade, 25th-26th May 2011,**

32 participants from 15 CEE countries, support from UNU; FAOREU, EuroFIR-Nexus

The agenda & gallery & Report of the meeting is available at website: <https://www.capnutra.org/events/>

Video film is available at: You Tube: <http://www.youtube.com/watch?v=OGAaVs3po-c>.



First Symposium of the Capacity Development in Nutrition and Food Research in Central and Eastern Europe (CAPNUTRA), 21-23 January 2013, Belgrade, Serbia

- **Balkan Food Platform - Regional Food Composition Data Base development*** National food database compiler organisation from CEE/Balkan
- **Memorandum of Understanding (MoU)** was signed with 11 CEE and Balkan countries, forming **Balkan food platform with Regional FCDB harmonized with EuroFIR using FCDM web tool for integration to EuroFIR Platform** - Cooperation in food composition in the Balkan Countries and with EuroFIR Food Data Platform: **Croatia (2 institutions), Cyprus, Bosnia and Herzegovina, North Macedonia, Moldova, Montenegro, Russia, Slovenia, Ukraine & EuroFIR AISBL, Serbia-IMR, CAPNUTRA**
- **31 participants from various CEE countries**



*Gurinovic M, Milesevic J, Novakovic R, Kadjan A, Ranic M, et al,
Improving nutrition surveillance and public health research in Central and Eastern Europe/Balkan countries
using the Balkan food platform and dietary tools, *Food Chemistry*, 2015. <http://dx.doi.org/10.1016/j.foodchem.2015.03.103>

The agenda & gallery & Report & video of the meeting is available at website:
<http://capnutra.org/events/>

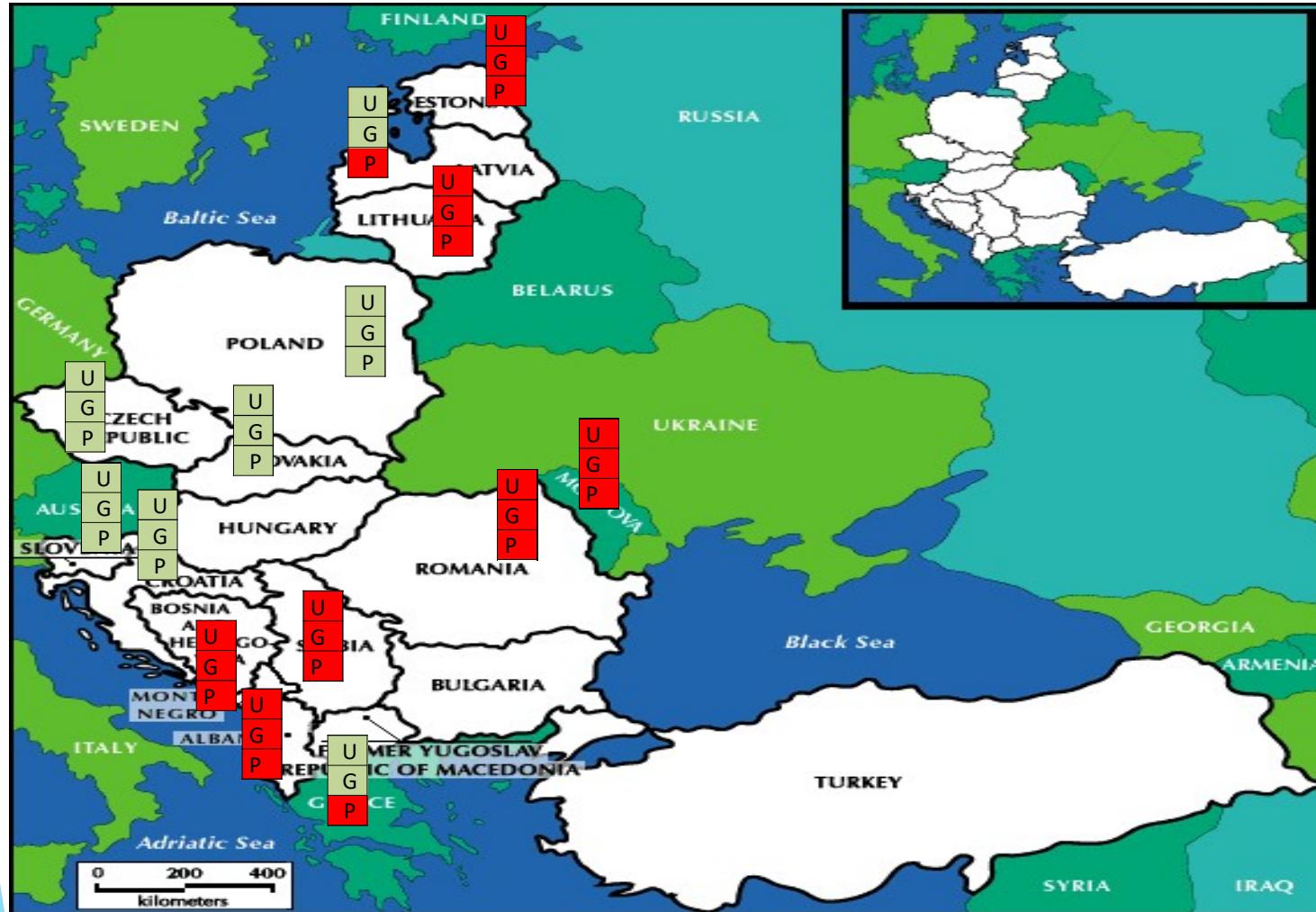


First Symposium of the Capacity Development in Nutrition and Food Research in Central and Eastern Europe (CAPNUTRA), 21-23 January 2013, Belgrade, Serbia

The agenda & gallery & Report & video of the meeting is available at website:

<https://www.capnutra.org/events/> ; <https://www.youtube.com/watch?v=TM6d1YRJGAQ>





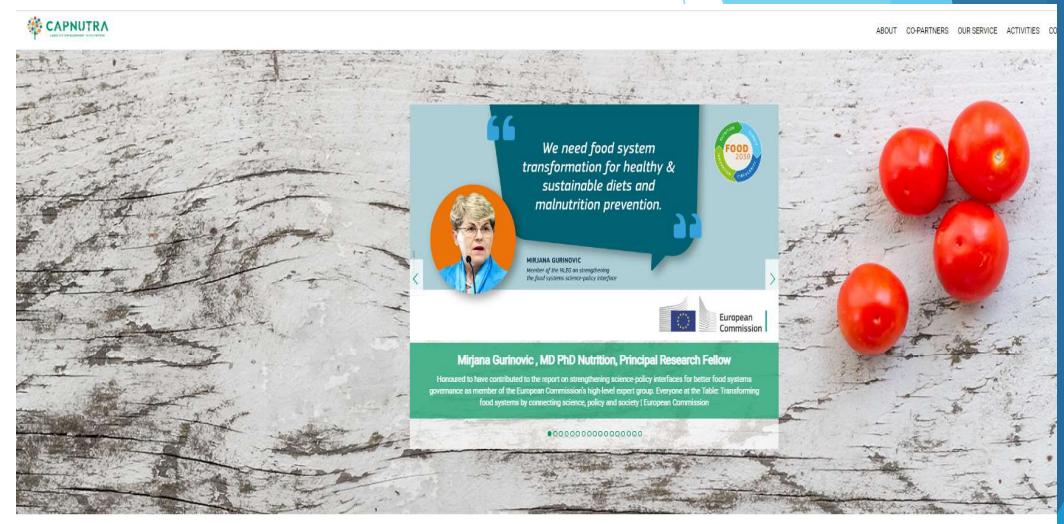
Status in academic nutrition education in Central and Eastern Europe (CEE):

Education in Nutrition
 U-undergraduate
 G-graduate
 P- postgraduate



<http://www.agrowebcee.net/ncdn/>

UNU/SCN NCDNCEE/CAPNUTRA website
www.capnutra.org



www.capnutra.org

In **2009** with the support of FAO REU and technical support of FAO HQ, a new server was set up in Rome to serve as common technical background for the AgroWeb CEE Network, ESCORENA and the Thematic Knowledge Networks

From **2013** CAPNUTRA

Collaboration between networks initiated

Regional Symposium on Sustainable Food Systems for Healthy Diets in Europe and Central Asia and , a joint FAO/WHO initiative in collaboration with UNICEF and WFP 4-5 December 2017 Budapest, Hungary

UNICEF-FAO Side event: Networking Regional Food and Nutrition Capacity Development Networks

<https://www.fao.org/europe/events/detail/Regional-Symposium-Sustainable-Food-Systems-for-Healthy-Diets-in-Europe-and-Central-Asia/en>



CAPNUTRA symposium, Capacity development in dietary intake survey - harmonization with EU Menu methodology regional training for DIET ASSESS & PLAN (DAP) application and implementation in West Balkan countries (WBC) 11-12th September 2017 Belgrade, Serbia
<https://www.capnutra.org/events/>





Food and Agriculture
Organization of the
United Nations



Symposium on sustainable food systems for healthy diets in Central and South Eastern Europe (CSEE), with integrated training on food consumption data collection and strengthening the thematic regional networking



15-17 October 2018, Belgrade, Serbia

UNITED NATIONS DECADE OF
ACTION ON NUTRITION
2016-2025

16 October 2018
World Food Day

SUSTAINABLE
DEVELOPMENT
GOALS
2030

<https://www.capnutra.org/events/>; <https://www.capnutra.org/fao-capnutra-loa/>
Video: <https://www.capnutra.org/video/>

To identify the status in 15 CSEE countries completed an online Questionnaire related to 8 thematic areas relevant to food system elements:

1. Governance, leadership and accountability for food security and nutrition
2. Food, nutrition and health Research Infrastructure (FNH-RI)
3. Software – nutritional tools for food consumption data collection, dietary intake assessment and nutrition planning
4. Capacity in nutrition and nutritional education for professionals
5. Food based dietary guidelines (FBDG)
6. Food demand and food environment
7. Nutrition of selected vulnerable group (children)
8. Sustainable, resilient food systems for healthy diets



Food and Agriculture
Organization of the
United Nations



STRENGTHENING NUTRITION ACTION

A resource guide
for countries based on the
policy recommendations
of the Second
International Conference
on Nutrition (ICN2)



UNITED NATIONS DECADE OF
ACTION ON NUTRITION
2016-2025

Symposium on Sustainable Food Systems for Healthy Diets in Central and Southeastern Europe (CSEE) countries, with integrated training on food consumption data collection and strengthening the thematic regional networking, 15-17 October 2018, Belgrade Serbia



BELGRADE DECLARATION FOR STRENGTHENING REGIONAL CAPACITIES ON SUSTAINABLE FOOD SYSTEMS FOR HEALTHY DIETS AND NUTRITION IN CENTRAL AND SOUTHEASTERN EUROPEAN REGION *

Declaration of the experts present at this meeting is based on:

- Plenary presentations external experts
- Country-presentations
- Questionnaire
- Discussion
- Key messages

[Agenda & gallery https://www.capnutra.org/events/](https://www.capnutra.org/events/)
[Video: https://www.youtube.com/watch?v=zFzG0G0G0Ik&t=11s](https://www.youtube.com/watch?v=zFzG0G0G0Ik&t=11s)

The symposium was attended by 42 participants from 26 countries, representing a wide range of stakeholders, government officials, research and academic institutions, EFSA and specialized United Nations agencies including FAO and UNICEF. Support from FAOREU (LoA 2018).

**Gurinović, M., Milešević, J., et al. 2022. Challenges and opportunities to support food systems transformations for healthy and sustainable diets in central and southeastern Europe. In: F. Cheng & M. Gurinović, eds. Sustainable and nutrition-sensitive food systems for healthy diets and prevention of malnutrition in Europe and Central Asia. pp. 1–44. Budapest, Hungary, FAO. <https://doi.org/10.4060/cc3907en> Chapter 1*

Symposium on Sustainable Food Systems for Healthy Diets in Central and Southeastern Europe (CSEE) countries, with integrated training on food consumption data collection and strengthening the thematic regional networking, 15-17 October 2018, Belgrade Serbia

Agenda & gallery: <https://www.capnutra.org/events/> Video: <https://www.youtube.com/watch?v=zEG0cOiOIDY&t=11s>





Symposium on Sustainable Food Systems for Healthy Diets in Central and Southeastern Europe (CSEE) countries, with integrated training on food consumption data collection and strengthening the thematic regional networking,

15-17 October 2018, Belgrade Serbia

Agenda & gallery <https://www.capnutra.org/events/> Video: <https://www.youtube.com/watch?v=zEG0cOjOIDY&t=11s>



Symposium on Sustainable Food Systems for Healthy Diets in Central and Southeastern Europe (CSEE) countries, with integrated training on food consumption data collection and strengthening the thematic regional networking,
15-17 October 2018, Belgrade Serbia

Agenda & gallery <https://www.capnutra.org/events/> Video: <https://www.youtube.com/watch?v=zEG0cOiOIDY&t=11s>



Symposium on Sustainable Food Systems for Healthy Diets in Central and Southeastern Europe (CSEE) countries, with integrated training on food consumption data collection and strengthening the thematic regional networking, 15-17 October 2018, Belgrade Serbia

Agenda & gallery <https://www.capnutra.org/events/>
Video: <https://www.youtube.com/watch?v=zEG0cOiOLDY&t=11s>



Symposium on Sustainable Food Systems for Healthy Diets in Central and Southeastern Europe (CSEE) countries, with integrated training on food consumption data collection and strengthening the thematic regional networking,
15-17 October 2018, Belgrade Serbia

Agenda & gallery <https://www.capnutra.org/events/> Video: <https://www.youtube.com/watch?v=zEG0cOjOIDY&t=11s>



Recipe calculation of traditional dishes using DAP platform





BELGRADE DECLARATION FOR STRENGTHENING REGIONAL CAPACITIES ON SUSTAINABLE FOOD SYSTEMS FOR HEALTHY DIETS AND NUTRITION IN CENTRAL AND SOUTHEASTERN EUROPEAN REGION

With respect to development of policies and research:

In line with International frameworks, the ICN2, the 2030 Agenda for Sustainable Development and the UN Decade on Nutrition and the Key messages from the FAO/WHO Regional Symposium on Sustainable Food Systems for Healthy Diets in Europe and Central Asia, held on 4-5 December 2017 in Budapest, the **experts adopt the concept of the food systems approach, envisioning consumers' dietary patterns** as the linking pin between public health and the food environment.

SPECIFIC ACTIONS POINT TO IMPROVE POLICIES AND CAPACITY BUILDING IN FOOD AND NUTRITION IN THE CENTRAL AND SOUTHEASTERN EUROPEAN REGION

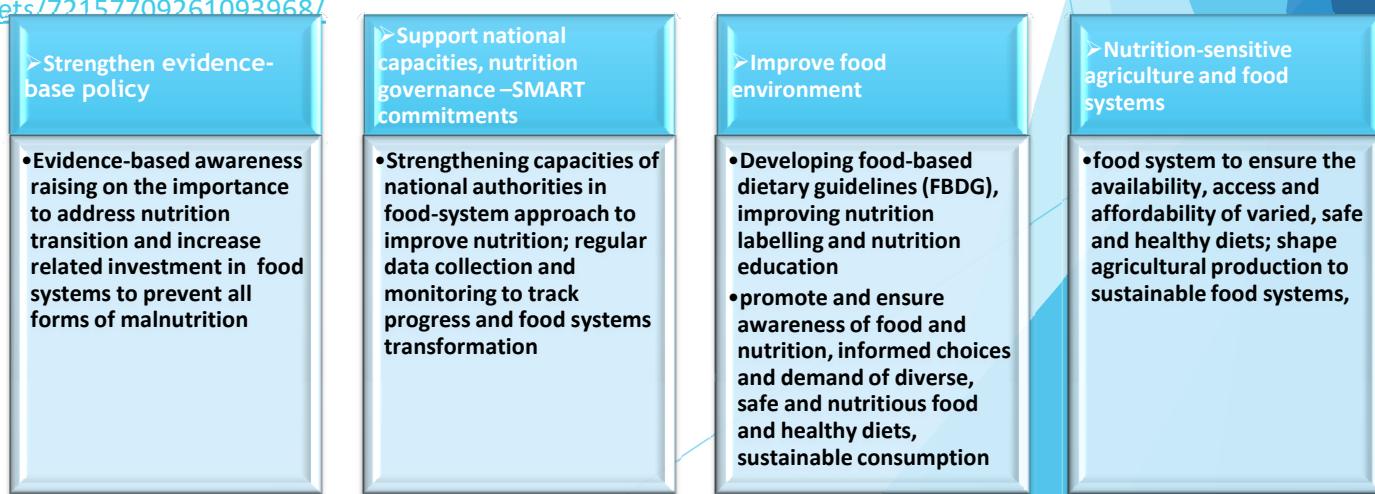
In line with the agreed vision of a consumer-centered food systems approach, the experts also proposed several specific actions with respect to:

- A - Governance and Public Health Nutrition;**
- B - The food supply chain and food environment;**
- C - Consumer behavior;**
- D - Research, education and training of (future) professionals;**
- E - Networking, sharing knowledge, experiences for establishing the collaboration between capacity development networks**

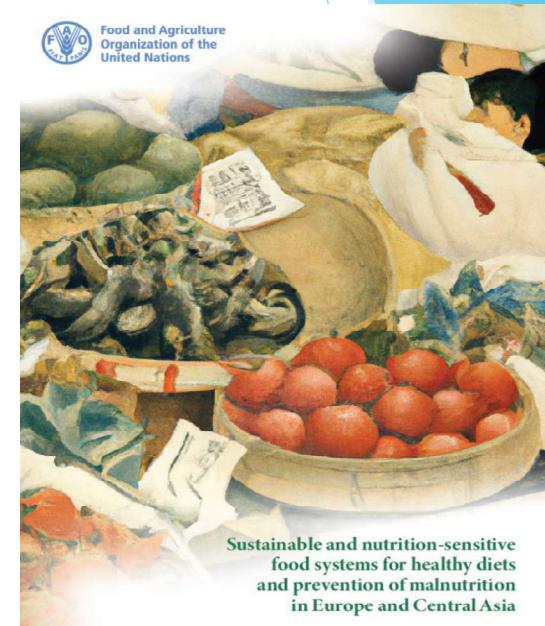
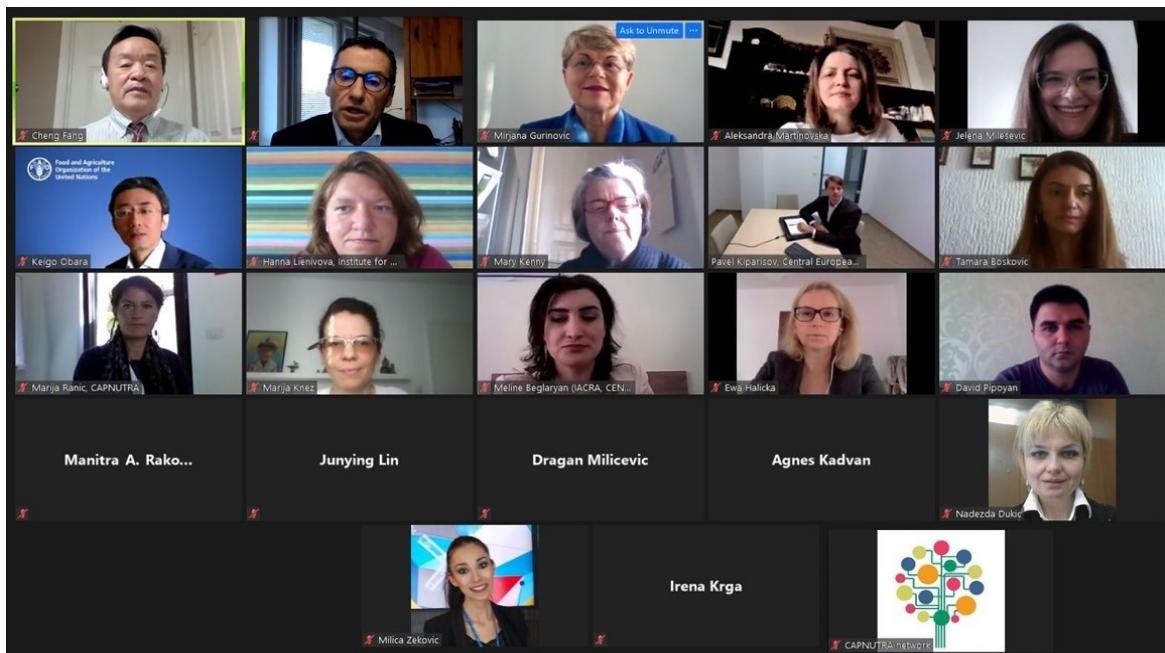
*Gurinović, M., Milešević, J., et al. 2022. Challenges and opportunities to support food systems transformations for healthy and sustainable diets in central and southeastern Europe. In: F. Cheng & M. Gurinović, eds. Sustainable and nutrition-sensitive food systems for healthy diets and prevention of malnutrition in Europe and Central Asia. pp. 1–44. Budapest, Hungary, FAO. <https://doi.org/10.4060/cc3907en> Chapter 1

- Key messages from the [*FAO/WHO Regional Symposium on Sustainable Food Systems for Healthy Diets in Europe and Central Asia, December 2017*](https://www.fao.org/europe/events/detail/Regional-Symposium-Sustainable-Food-Systems-for-Healthy-Diets-in-Europe-and-Central-Asia/en)
<https://www.fao.org/europe/events/detail/Regional-Symposium-Sustainable-Food-Systems-for-Healthy-Diets-in-Europe-and-Central-Asia/en> ;
<http://www.fao.org/3/mw166en/mw166en.pdf>
- **Symposium on Sustainable Food Systems for Healthy Diets in countries of Central and Southeastern Europe (CSEE) countries**, Belgrade Declaration for strengthening regional capacities on sustainable food systems for healthy diets and nutrition in Central and Southeastern European region 2018, <https://www.capnutra.org/events/> Video: <https://www.capnutra.org/video> ; <https://www.youtube.com/watch?v=zEG0cOjOIDY&t=11s>
- Fang, C. & Gurinović, M., eds. FAO, 2023. Sustainable and nutrition-sensitive food systems for healthy diets and prevention of malnutrition in Europe and Central Asia. Budapest. <https://doi.org/10.4060/cc3907en>
- [Chapter 1](#) Gurinović, Milešević et al, Challenges and opportunities to support food systems transformations for healthy and sustainable diets in central and southeastern Europe page 51-95
- **41st FAO Conference Zero Hunger Side Event**, FAO-HQ, 26th June, 2019 Rome, Italy Progress and Strategies on food security and nutrition stagnates in Europe and Central Asia-https://www.fao.org/fileadmin/user_upload/bodies/Conference_2019/C2019_SideEvents/ZeroHunger-EuropeCentralAsia.pdf
photos: <https://www.flickr.com/photos/faonews/sets/72157709261092968/>

Priority areas of actions identified by joint effort of UN agencies, ministries, civil society and academia in ECA region for Sustainable food systems for healthy diets and improved nutrition



FAO Regional project on food system analysis: “Programme support for the role of food systems in the transition of diets and prevention of malnutrition in the ECA region” (FAO REU LoA 2019-2020)



Workshop on “Awareness raising on the food system approach to address malnutrition” (FAO ISC Project) 27th October 2020, Belgrade, Serbia, www.capnutra.org/events/ <https://www.capnutra.org/fao-capnutra-loa/>

Fang, C. & Gurinović, M., eds. 2023. Sustainable and nutrition-sensitive food systems for healthy diets and prevention of malnutrition in Europe and Central Asia. Budapest, FAO. <https://doi.org/10.4018/978-1-7907en>

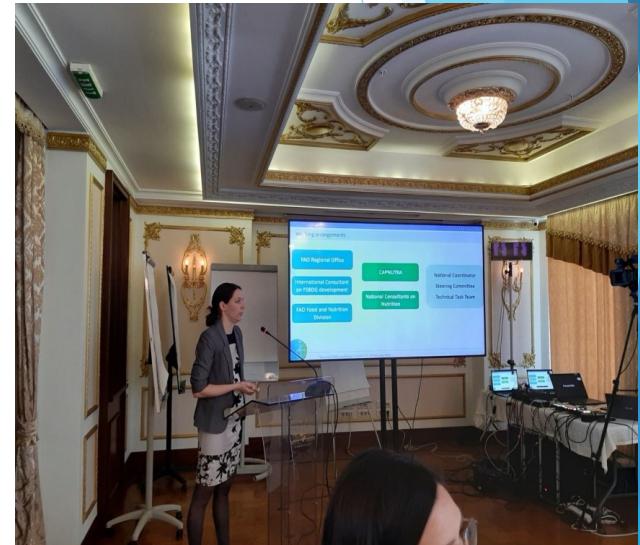
FAO-LoA (2021-2023)-“Food system analysis and capacity development on food based dietary guidelines in five selected countries in Europe and Central Asia” under the framework of the regional project FAO Regional Technical Cooperation Programme (TCP) TCP/RER/3805 – “Enhancing analytical evidence on diet and nutrition challenges from food systems perspectives in response to COVID-19”



**FAO&CAPNUTRA- 1st National Workshop –
The road towards national Food System
Based Dietary Guidelines for Serbia, 21st –
22nd February 2023, Belgrade, Serbia**

<https://www.capnutra.org/fao-capnutra-loa/>
<https://www.capnutra.org/events/>

FAO&CAPNUTRA- 1st National Workshop – *The road towards national Food System Based Dietary Guidelines for Serbia, 21st – 22nd February 2023, Belgrade, Serbia*



<https://www.capnutra.org/fao-capnutra-loa/>
<https://www.capnutra.org/events/>

FAO&CAPNUTRA-
2nd Workshop – The road
towards National Food
System Based Dietary
Guidelines for Serbia
21st – 22nd September
2023, Belgrade, Serbia

<https://www.capnutra.org/fao-capnutra-loa/>
<https://www.capnutra.org/events/>



FAO&CAPNUTRA- 2nd Workshop – The road towards National Food System Based Dietary Guidelines for Serbia
21st – 22nd September 2023, Belgrade, Serbia



<https://www.capnutra.org/fao-capnutra-loa/>

<https://www.capnutra.org/events/>

FAO&CAPNUTRA- 2nd Workshop – The road towards National Food System Based Dietary Guidelines for Serbia
21st – 22nd September 2023 , Belgrade, Serbia



<https://www.capnutra.org/fao-capnutra-2nd/>
<https://www.capnutra.org/events/>

FAO&CAPNUTRA- Regional technical meeting on food system based dietary guidelines (FSBDG) development, 7th – 9th November 2023 Belgrade, Serbia



Regional technical meeting on food systems
based dietary guidelines development

<https://www.capnutra.org/fafo-capnutra-los/>
<https://www.capnutra.org/events/>

**FAO&CAPNUTRA- Regional technical meeting on food system based dietary guidelines (FSBDG) development,
7th – 9th November 2023 Belgrade, Serbia**



<https://www.capnutra.org/fao-capnutra-loa/>
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FAO&CAPNUTRA- Regional technical meeting on food system based dietary guidelines (FSBDG) development, 7th – 9th November 2023 Belgrade, Serbia



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<https://www.capnutra.org/events/>

FAO&CAPNUTRA- Regional technical meeting on food system based dietary guidelines (FSBDG) development, 7th – 9th November 2023 Belgrade, Serbia



<https://www.capnutra.org/fao-capnutra-loa/>
<https://www.capnutra.org/events/>

BIOVALUE M36 GA MEETING
*Fork-to-farm agent-based simulation tool augmenting BIODiversity
in the agri-food VALUE chain,
3rd – 4th October 2024, Belgrade, Serbia*



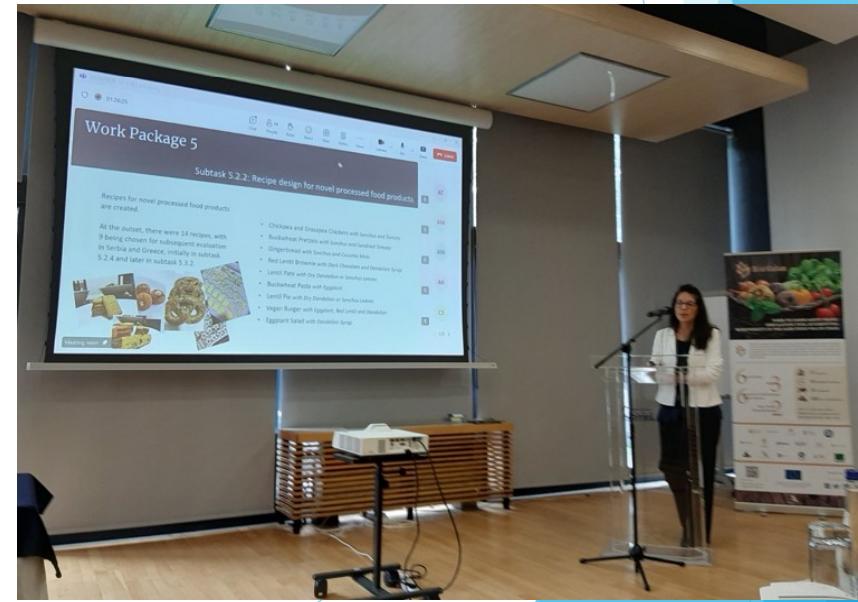
<https://www.biovalue-project.eu/tr/ana-savci>
<https://www.capnutra.org/events/>

BIOVALUE M36 GA MEETING

*Fork-to-farm agent-based simulation tool augmenting BIODiversity
in the agri-food VALUE chain,
3rd – 4th October 2024, Belgrade, Serbia*

<https://www.biovalue-project.eu/tr/ana-sayfa/>

<https://www.capnutra.org/events/>

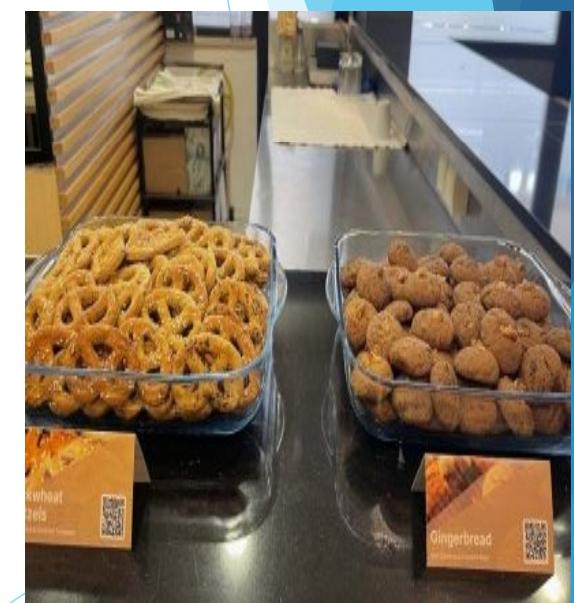


BIOVALUE M36 GA MEETING

*Fork-to-farm agent-based simulation tool augmenting BIODiversity
in the agri-food VALUE chain,
3rd – 4th October 2024, Belgrade, Serbia*

<https://www.biovalue-project.eu/tr/ana-sayfa/>

<https://www.capnutra.org/events/>



PROJECTS

<https://www.capnutra.org/projects/>

CAPNUTRA team members are involved in the projects in capacity development, dissemination and spreading of excellence, IT support and advisory for Balkan countries.

Ongoing projects:

- **EFSA** project- Preparatory activities for EU MENU 2, SMART EU Menu-Specifications and Modernization of Dietary Assessment and Reporting Tools, EFSA /2024/OP/0014, (2025-2026)
- **EIT food project-AMPLE- Velika Plana** project- Osnaživanje kroz hranu u Velikoj Plani (2025-2025)
- **ZERO HIDDEN HUNGER EU** Tackling Micronutrient Malnutrition and Hidden Hunger to Improve Health in the EU, 2024-2028 <https://www.zerohiddenhunger.eu/>
- **EFSA** project-Creation of Open Access EU Food Composition Database (EU FCDB) EFSA Technical Tender: Reference: NP/EFSA/IDATA/2022/01, 2022-2026
- **GIANT LEAPS-Gap** resolution in sAfety, NuTritional, alLergenicity and Environmental assessments to promote Alternative Protein utilization and the dietary Shift, 2022-2026
- **BIOVALUE**, Fork-to-farm agent-based simulation tool augmenting BIOdiversity in the agri-food VALUE chain, 2021-2025, H2020

PROJECTS

<https://www.capnutra.org/projects/>

Past projects:

- **CEI : SUP-DIE** Sustainability of the platforms for monitoring population food consumption habits and pilot study on web- and computer-based 24-h dietary recall tools (SUP-DIE) 2021-2021 <https://www.capnutra.org/projects/>
- **EFSA project-RPC** (Raw Primary Commodity) model update, contract number OC/EFSA/DATA/2020/01 – CT1(2021)
- **FAO-LoA** Food system analysis and capacity development on food based dietary guidelines n five selected countries in Europe and Central Asia” under the framework of the regional project FAO Regional Technical Cooperation Programme (TCP) TCP/RER/3805 – “Enhancing analytical evidence on diet and nutrition challenges from food systems perspectives in response to COVID-19” coordinator” 2021-2023)

<https://www.capnutra.org/fao-capnutra-loa/>

- **FNS-Cloud** Food Nutrition Security Cloud, (2019-2022) - Horizon 2020
- **FAO-CAPNUTRA** “Awareness raising on the food system approach to address malnutrition ”FAO ISC Project “Programme support for the role of food systems in the transition of diets and prevention of malnutrition in the ECA region“ (2019-2020) <https://www.capnutra.org/fao-capnutra-loa/>
- **CEI: TRAIN – DIE** Training in dietary assessment and sharing platforms for monitoring population food consumption habits in a long – term perspective (surveillance and continuous training) (2019 – 2020)
- **FAO REU LoA 2018** Sustainable food systems for healthy diets in countries of Central and South Eastern Europe (CSEE) with integrated training on food consumption data collection and strengthening the thematic regional networking <https://www.capnutra.org/fao-capnutra-loa/>

PROJECTS

<https://www.capnutra.org/projects/>

Past projects:

- **EFSA projects** "Support to National Dietary Surveys in Compliance with the EU Menu methodology – children and adults survey in Serbia" (2017 – 2023)
- **FP7 ODIN** – Food – based solutions for Optimal vitamin D Nutrition and health through the life cycle, 2013 – 2017
- **Euro DISH** - "Study on the need for food and health research infrastructures in Europe", (2012-2015) PAB member
- **FP7 CHANCE** – Low Cost technologies and traditional ingredients for the production of Affordable, Nutritionally correct, Convenient foods enhancing health in population groups at risk of poverty, 2011 – 2014
- **FP7 EuroFIR – Nexus**, Food platform for further integration, refinement and exploitation for its long – term self – sustainability, 2011 – 2013
- **FP6 EURRECA** – Harmonizing nutrient recommendations across Europe with special focus on vulnerable groups and consumer understanding, Network of excellence 2007 – 2012
- **FP6 NoE EuroFIR** – European Food Information Resource Network, Network of excellence 2006 – 2011

CAPACITY DEVELOPMENT IN FOOD AND NUTRITION RESEARCH INFRASTRUCTURE – NUTRITIONAL TOOLS IN SERBIA AND BALKAN REGION



Accurate dietary intake assessment at individual and population level, dietary surveys and nutrition surveillance systems requires harmonized methodology and validated nutritional tools.

Research infrastructure (RI) and Capacity Development (CD) are prerequisite for harmonized public health nutrition (PHN) research and nutrition epidemiology (NE).

In CEE/Balkan countries lack of RI and CD in PHN&NE were identified, particularly Food Composition Data Bases (FCDB), data base management, dietary assessment tools and lack of standardized dietary intake data.

Institute for Medical Research (IMR)-CENM, Serbia & CAPNUTRA through several EU projects (EuroFIR & EuroFIR–Nexus, EURRECA & EFSA projects) worked on development of food and health RI and CD in Europe and CEE/Balkan countries.

Specific focus was on the development of harmonized food composition database (FCDB) and dietary assessment tools and their multilateral linkages, following European standards and recommendations.

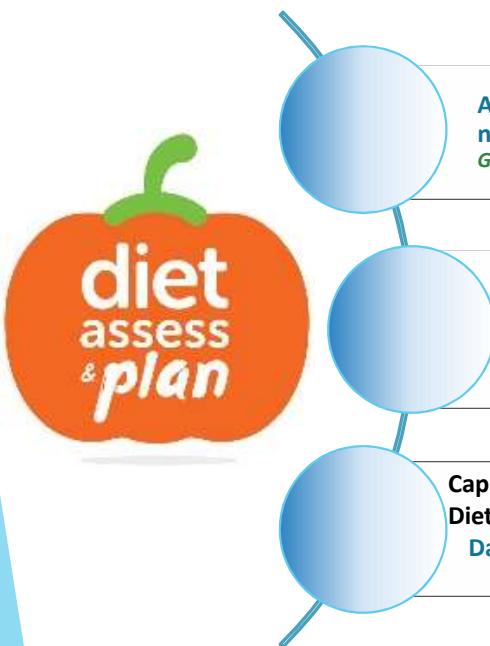
Gurinović, M., *Nutrition Epidemiology and Public Health Nutrition. Reference Module in Food Sciences*. Elsevier, 2016. doi: <http://dx.doi.org/10.1016/B978-0-08-100596-5.00001-1>

Gurinović, M., et al, Improving nutrition surveillance and public health research in Central and Eastern Europe/Balkan Countries using the Balkan Food Platform and dietary tools. Food Chemistry, 2016
<https://doi.org/10.1016/j.foodchem.2015.03.103>

Gurinović, M., Witthöft, C., Tepšić, J. et al. Capacity development in food composition database management and nutritional research and education in Central and Eastern European, Middle Eastern and North African countries. *Eur J Clin Nutr* 64 (Suppl 3), S134–S138 (2010). <https://doi.org/10.1038/ejcn.2010.224>

Capacity Development in Nutrition Research in Balkans in last decade initiated creation of contemporary RI compliant to European standards-One of the fundamentals of this RI is an innovative new technology tool

Diet Assess & Plan -DAP



Gurinović, M., Milešević, J., Kadvan, A, et al., Establishment and advances in the online Serbian food and recipe data base harmonized with EuroFIR™ standards. *Food Chemistry*, 2016 <https://doi.org/10.1016/j.foodchem.2015.01.107>

Gurinović M, Milešević J, Kadvan A, et al, Development, features and application of DIET ASSESS & PLAN (DAP) software in supporting public health nutrition research in Central Eastern European Countries (CEEC). *Food Chemistry*, 2018 <https://doi.org/10.1016/j.foodchem.2016.09.114>

Gurinovic, M., Milesevic, J., Zekovic, M., Kadvan, A., Ranic, M.. Capacity development in food and nutrition in central and Eastern Europe: A decade of achievements, *Food Policy* 96 (2020) 101850 <https://doi.org/10.1016/j.foodpol.2020.101850>

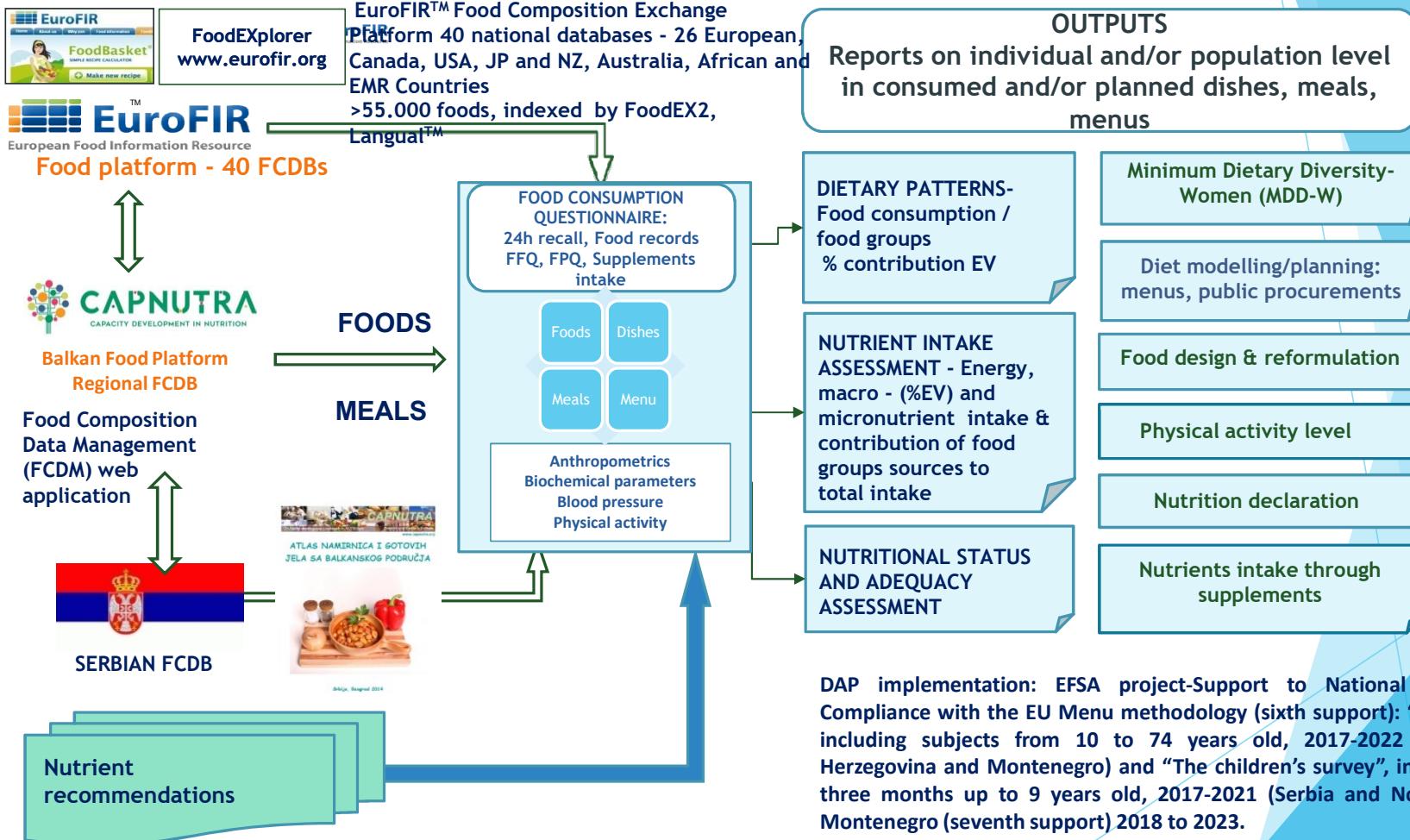
Research infrastructure

Food Policy 96 (2020) 101850
Contents lists available at ScienceDirect
 **Food Policy**
journal homepage: www.elsevier.com/locate/foodpol 

Capacity development in food and nutrition in central and Eastern Europe: A decade of achievements
Mirjana Gurinovic^{a,b,*}, Jelena Milesevic^{a,b}, Milica Zekovic^{a,b}, Agnes Kadvan^b, Maria Ranic^{a,b},
Maria Glibetic^{a,b}

^a Centre of Research Excellence in Nutrition and Metabolism, Institute for Medical Research, National Institute of Republic of Serbia, University of Belgrade, Serbia¹
^b Capacity Development Network in Nutrition in Central and Eastern Europe, (CENMCEE/CAPNUTRA), Serbia²

DIET ASSESS & PLAN (DAP) PLATFORM



DAP implementation: EFSA project-Support to National Dietary Surveys in Compliance with the EU Menu methodology (sixth support): "The adult's survey", including subjects from 10 to 74 years old, 2017-2022 (Serbia, Bosnia and Herzegovina and Montenegro) and "The children's survey", including subjects from three months up to 9 years old, 2017-2021 (Serbia and Northern Macedonia & Montenegro (seventh support) 2018 to 2023.



University of Belgrade
INSTITUTE
FOR MEDICAL
RESEARCH
National Institute
of the Republic of Serbia



DIET ASSESS & PLAN (DAP) PLATFORM

The DAP software has been evaluated in EFSA Ring Trial, the project that identified and evaluated available data collection protocols and tools for capturing food consumption information for risk assessment purposes in Europe.



EFSA supporting publication 2014 EN-607

EXTERNAL SCIENTIFIC REPORT

Dietary Monitoring Tools for Risk Assessment¹

Gavrieli A, Naska A, Konstantinidi Ch, Berry R, Roe M, Harvey L, Finglas P, Glibetic M, Gurinovic M and Trichopoulou A²

On behalf of the project consortium:

The Hellenic Health Foundation, Athens, Greece; Institute of Food Research, Norwich, UK; Institute for Medical Research, Centre of Research Excellence in Nutrition and Metabolism, University of Belgrade, Serbia



- DAP's concept and structure make it a reliable infrastructure to perform harmonized nutritional studies on population level
- Furthermore, DAP has option for personalized nutritional counselling with possibility for longitudinal monitoring and various prediction studies

Contents lists available at ScienceDirect
Food Chemistry
journal homepage: www.elsevier.com/locate/foodchem

Development, features and application of DIET ASSESS & PLAN (DAP) software in supporting public health nutrition research in Central Eastern European Countries (CEEC)

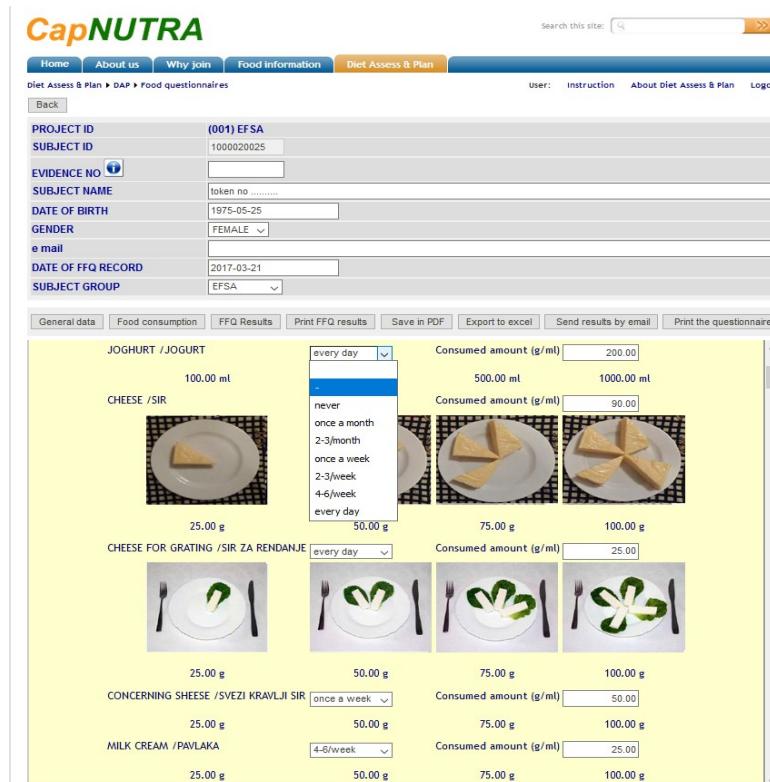
Mirjana Gurinović ^{a,b,*}, Jelena Milešević ^{a,b}, Agnes Kadvar ^b, Marina Nikolić ^{a,b}, Milica Zeković ^a, Marija Djekić-Ivković ^b, Eleonora Dupouy ^c, Paul Finglas ^d, Maria Glibetic ^{a,b}

^aCentre of Research Excellence in Nutrition and Metabolism, Institute for Medical Research, University of Belgrade, Serbia
^bCapacity Development Network in Nutrition in Central and Eastern Europe, CAPNUTRA, Serbia
^cFAO Regional Office for Europe and Central Asia (REU), Budapest, Hungary
^dEuroFIR AISBL, Brussels, Belgium

Gavrieli, A., Naska, A., Konstantinidi, C., Berry, R., Roe, M., Harvey, L., Finglas, P., Glibetic, M., Gurinovic, M., Trichopoulou, A. (2014). Dietary Monitoring Tools for Risk Assessment. EFSA Supporting Publications. <http://www.efsa.europa.eu/en/supporting/pub/607e>

DETERMINATION OF PORTION SIZES

Food picture book developed and validated for Balkan region is integrated in DAP- country specific portion size measurement aid (PMSA)



The screenshot shows a portion of the CapNUTRA software interface for diet assessment. It displays a list of food items with their recommended portion sizes and consumption frequency. For example, for 'JOGHURT / JOGURT', the recommended portion is 100.00 ml, and the consumption frequency is 'every day'. Below this, there are images of different portion sizes: 25.00 g, 50.00 g, 75.00 g, and 100.00 g. The software also includes a search bar and various navigation buttons.



Food picture book for portion size estimation developed for Balkan region



Serbia, Beograd 2014



ORIGINAL RESEARCH ARTICLE
Front. Nutr., 13 September 2018 | https://doi.org/10.3389/fnut.2018.00078

The Development and Validation of Food Atlas for Portion Size Estimation in the Balkan Region

Marina Nikolic^{1,2*}, Jelena Milesevic^{1,2}, Milica Zekovic^{1,2}, Mirjana Gurinovic^{1,2} and Marija Glibetic^{1,2}

¹Center of Research Excellence in Nutrition and Metabolism, Institute for Medical Research, University of Belgrade, Belgrade, Serbia

²Capacity Development Network in Nutrition in Central and Eastern Europe (CAPNUTRA), Belgrade, Serbia

Nikolic M, Mileševic J, Zeković M, Gurinović M (2018) The Development and Validation of Food Atlas for Portion Size Estimation in the Balkan Region. *Front. Nutr.* 5:78.
doi: 10.3389/fnut.2018.00078 ; Food atlas with dishes from Balkan region 2018, CAPNUTRA [Food Atlas CAPNUTRA](http://www.capnutra.org)

SUPPORT TO NATIONAL DIETARY SURVEYS IN COMPLIANCE WITH THE EU MENU METHODOLOGY (SIXTH & SEVENTH SUPPORT)-DAP* IMPLEMENTATION PLATFORM FOR SUCCESSFUL REGIONAL COOPERATION IN BALKAN COUNTRIES

Food consumption data collection and processing



“The adult’s survey”, including subjects from 10 to 74 years old, 2017-2021
(Serbia, Bosnia and Herzegovina and Montenegro)

“The children’s survey”, including subjects from three months up to 9 years old, 2017-2021
(Serbia and North Macedonia) & Montenegro (seventh support) 2018 to 2023.

Harmonized methodology developed in compliance with EU
Menu guidance

Unique platform for food consumption data collection

Regional capacity development i.e. transfer of knowledge
and technical expertise

Continual and synchronized update of Regional FCDB

- Standard terminology - FoodEX2

*Gurinovic' M, Nikolic' M, Zekovic' M, Milešević' J, Kadjan A, et al,
Implementation of Harmonized Food Consumption Data Collection in the
Balkan Region According to the EFSA EU Menu Methodology Standards. *Front. Nutr.* 2022 <https://doi.org/10.3389/fnut.2021.809328>

CAPACITY DEVELOPMENT TIMELINE- RESEARCH INFRASTRUCTURE (RI): FOOD COMPOSITION DATA BASE (FCDB) &FOOD & NUTRITIONAL TOOLS/ SOFTWARE

1995-2005

- First electronic version of the FCDB in Serbia 1995
- First version of DAP -Diet Assess & Plan software 1998
- Implementation in National survey: Yugoslav study of atherosclerosis precursors in school children –YUSAD 1998/2003/2008 (7-day household food consumption survey combining Estimated and Weighed Food Records (EFR, WFR) [JUSAD METHODOLOGY](#)

2006-13

- EuroFIR project European Food Information Resource Network, Network of excellence, European Commission FP6, 2006 to 2010
- EuroFIR Nexus FP7- EuroFIR Food Platform: Further integration, refinement and exploitation for its long-term self-sustainability (2011-13)
- EFSA project: “Updated food composition database for nutrient intake” 2012
- EFSA “Dietary monitoring tools for risk assessment” 2012-2013

2010-18

- Diet Assess & Plan -DAP –further development and improvement
- First Serbian online FCDB
- Regional Balkan Food platform and FCDB initiated

2017-23

- EFSA project-Support to National Dietary Surveys in Compliance with the EU Menu methodology (sixth support) - “The adults’ survey”, including subjects from 10 to 74 years old. 2017-2022 (Serbia, Bosnia and Herzegovina and Montenegro)
- EFSA project-Support to National Dietary Surveys in Compliance with the EU Menu methodology (sixth support) “The children’s survey”, including subjects from 3 months up to 9 years old, 2017-2021 ((Serbia and North Macedonia) & Montenegro (seventh support) 2018 to 2023.

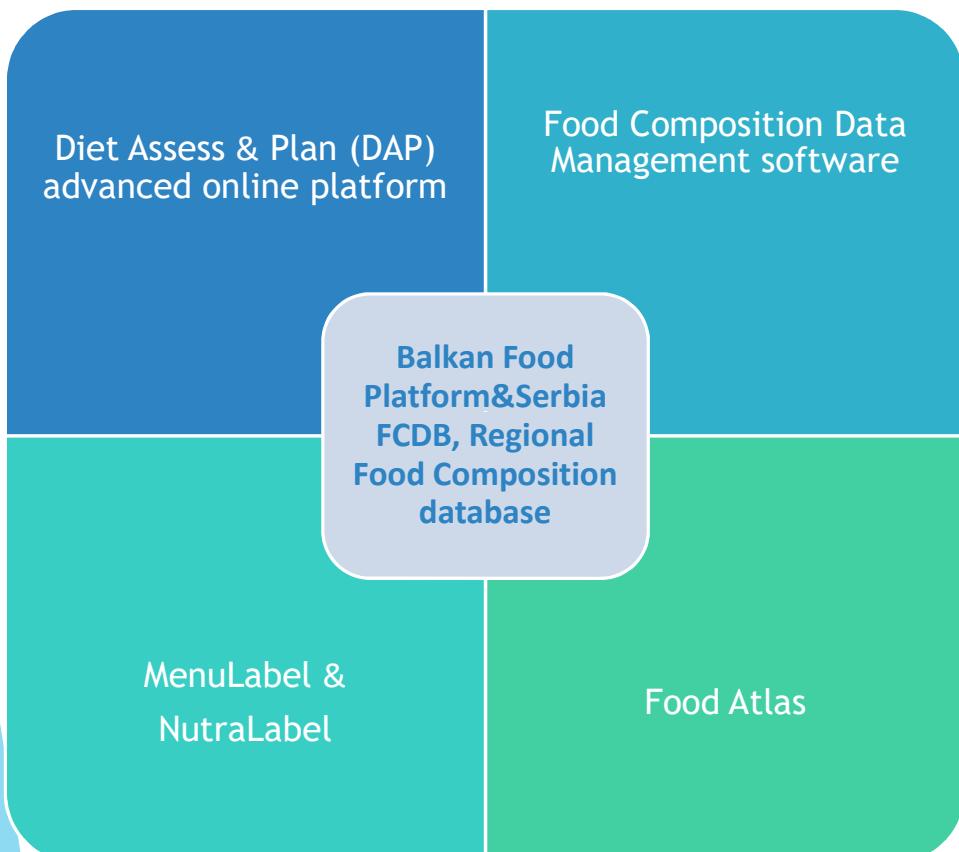
2022-2026

- Regional FCDB for Balkan Region
- Diet Assess & Plan (DAP) advanced online software platform (registered 2023/9640 A-0185/2023 in IPO Serbia)
- EFSA project-Creation of Open Access EU Food Composition Database (EU FCDB) EFSA 2022-2026

<https://www.capnutra.org/wp-content/uploads/2024/12/Gurinovic-M-Capacity-development-in-CEE-Food-policy-2020-Final.pdf>



FOOD AND NUTRITIONAL TOOLS



- **DIET ASSESS&PLAN (DAP) advanced software online platform**, developed as comprehensive tool for food composition data base development, food consumption collection, dietary intake assessment and nutrition planning designed according to the EuroFIR and EFSA standards with integrated FCDB. It was implemented and validated in EFSA EU Menu methodology 6 surveys in the Balkan region (Serbia, Montenegro, Bosnia and Herzegovina, and North Macedonia). (2023/9640 A-0185/2023 IPO RS) Software tools for dietary assessment: to calculate nutrient intake estimations or to plan diets - YouTube
- **Food Composition Data Management (FCDM) tool**—present one part of the DAP as an online food data base management software harmonized to CEN Food Data Standard and EuroFIR guidelines; This web application is used for development of Serbian Food composition database/Regional FCDB and can be applied for creation of new FCDB
- **Serbian Food composition database** extended to Balkan FCDB including foods, recipes and dietary supplements. DAP embeds FCDB from Balkan countries <https://dap-app.org/>; <https://doi.org/10.1016/j.foodchem.2015.01.107>
- **Balkan Food Platform** – initiated during EuroFIR-Nexus project, consist of tools, members and it's activities on capacity development in food and nutrition research specific for the region of West Balkan and CEE countries
- **MenuLabel & NutraLabel** – cloud-based digital tools ,service - allows foods design/reformulation, nutritional claim and food labeling.
- **Food Atlas** – Tool for portion size estimation in food consumption surveys. It tool can be accessed [here](#). Considering the importance of this tool for the nutrition research community, CAPNUTRA grants a free access to the integral version of Food atlas (in Serbian) which can be downloaded [here](#).

<https://www.capnutra.org/food-and-nutritional-tools/>
www.capnutra.org/rs

DIET ASSESS & PLAN

Diet Assess & Plan

A web platform developed using a harmonized methodological approach and standardized indicators, essential for building a food database and for recording, monitoring, and evaluating nutritional intake at national and international levels.

FCDB – Food Composition database – designed and developed according to the standards and technical recommendations of EuroFIR: defined structure of the database, main entities and attributes of the database (food, nutritional and other parameters)

Dietary survey – according to EFSA EuMenu methodology standards

- 24h dietary recall,
- Food Frequency and Food Propensity Questionnaires

Food Atlas – A printed collection with pictures and portion sizes of frequently consumed foods and recipes

DIET PLANNING – for an individual and/or collective recipes
meals (breakfast, lunch, dinner, snack,...)
daily menu

[Video: <https://www.youtube.com/watch?v=GsW-ozz40xl&t=4s>](https://www.youtube.com/watch?v=GsW-ozz40xl&t=4s)
www.capnutra.org/video



[Diet Assess & Plan](#)



Contents lists available at [ScienceDirect](#)

 **Food Chemistry**
journal homepage: www.elsevier.com/locate/foodchem 

Development, features and application of DIET ASSESS & PLAN (DAP) software in supporting public health nutrition research in Central Eastern European Countries (CEEC)

Mirjana Gurinović ^{a,b,*}, Jelena Milešević ^{a,b}, Agnes Kadaván ^b, Marina Nikolić ^{a,b}, Milica Zeković ^a, Marija Djekić-Ivanković ^b, Eleonora Dupouy ^c, Paul Finglas ^d, Maria Glibetić ^{a,b}

^a Center of Research Excellence in Nutrition and Metabolism, Institute for Medical Research, University of Belgrade, Serbia
^b Capacity Development Network in Nutrition in Central and Eastern Europe, CAPNUTRA, Serbia
^c FAO Regional Office for Europe and Central Asia (REU), Budapest, Hungary
^d EuroFIR AISBL, Brussels, Belgium



Diet Assess & Plan Mobile app

<https://dap-app.org>

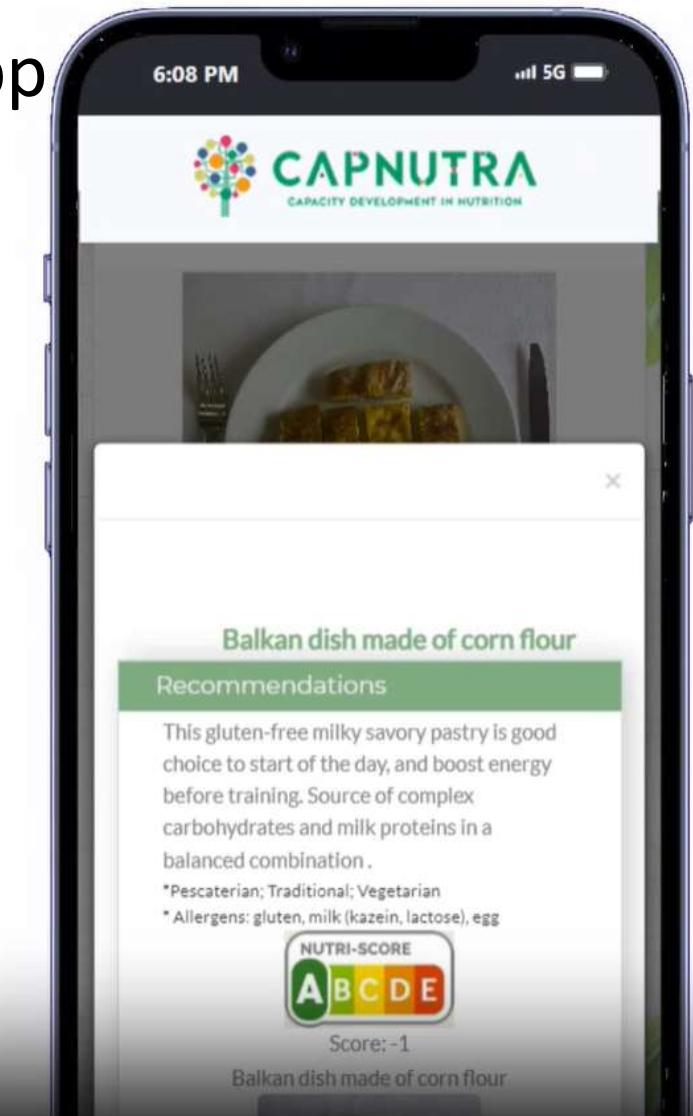
Real time nutritional information

You can get more information about the nutritional value of a dish, by scanning the QR code with the app on your phone.

The scanned code shows the basic nutritional composition of the food you have chosen, i.e. how much energy, protein, fat and carbohydrates it brings per serving.

You will also receive recommendations on when it is desirable to eat this food and what nutrients it provides to the human body

https://app.dap-app.org/dap/video/eng_video.mp4

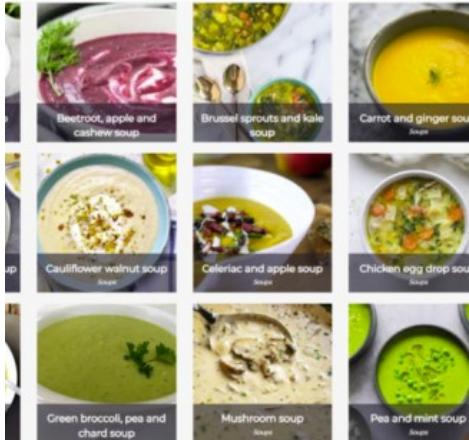


Who is the program for?

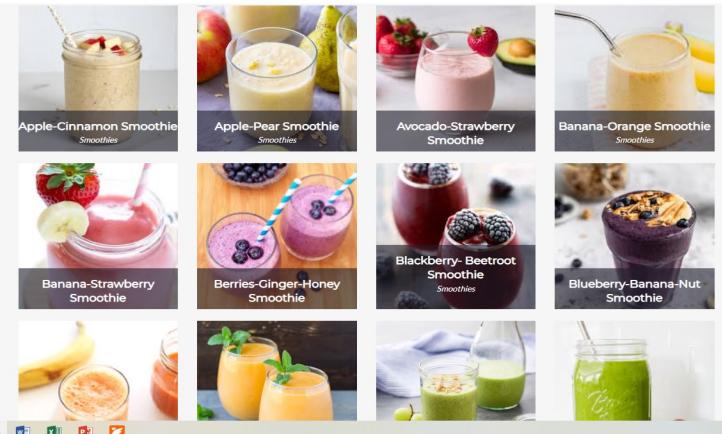
- Nutritionists in nutrition counseling centers
- Food producers (product development, nutrition declaration & claims)
- Restaurants, catering services...
- Public sector: hospitals, kindergartens, schools, student centers, gerontology centers...
- Individual users interested in healthy nutrition



SOUPS

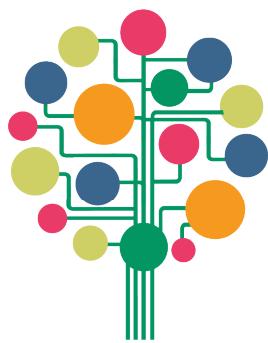


SMOOTHIES



- ✓ **MenuLabel and NutraLabel**—cloud-based digital tools—were developed to automate the calculation of nutrient content in composite dishes and processed foods, facilitating accurate nutrition labeling and dietary management.
- ✓ **MenuLabel** is tailored for [restaurants](#) and catering services, whereas **NutraLabel** targets food producers managing complex, multi-ingredient products.
- ✓ Creating nutritional tables for composite dishes/recipes using verified software recognised by the European Food Safety Authority
- ✓ Use of data from an officially recognised  European Food Information Resource
 - ✓ Preparation of nutrition declarations in accordance with legal regulations RS/EU
 - ✓ Development and verification of the fulfilment of the conditions for nutritional and health statements
 - ✓ Product classification by
 - ✓ Counseling and support





CAPNUTRA
CAPACITY DEVELOPMENT IN NUTRITION

International recognition

INFOODS SUCCESS STORY AWARD

- ▶ 14th International Food Data Conference
- ▶ Food composition databases – application for healthy diets and sustainable agrifood systems transformation
- ▶ 1-3 September 2025, Rome, Italy

<https://www.fao.org/nutrition/assessment/14th-international-food-data-conference/en/>



**Balkan-united Data Revolution:
Building the Evidence Base for Food System Transformation**

Agenda and Book of abstracts

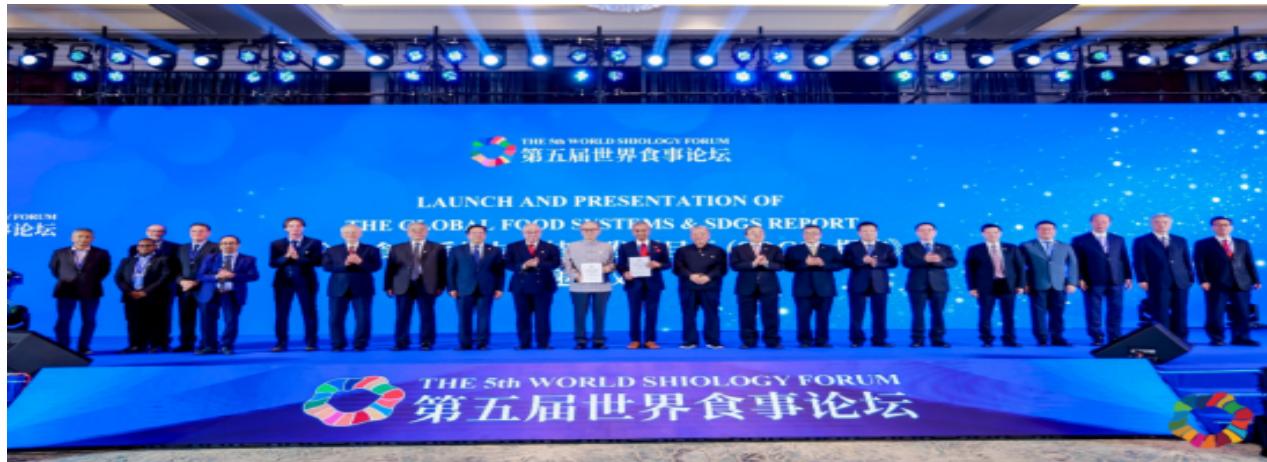
<https://openknowledge.fao.org/items/1b642b95-8f85-48d2-80ad-235734fb6e5a>





WORLD SHIOLGY FORUM

No solutions to food issues, no achievement of SDGs.



<http://www.shiology.world/> ; [Home | The World Shiology Forum](#)

CAPNUTRA established collaboration with the World Shiology Forum and contributed with its vast expertise to „The Global food system and SDGS Report 2025“ ([report.pdf](#)) which was successfully launched and presented to the United Nations at the 5th World Shiology Forum, held on October 29 2025 in Haikou, China. Co-Authors: [Home | The World Shiology Forum](#)



GLOBAL FOOD SYSTEMS & SDGs REPORT 2025

A Systematic Stocktake of Food-System Issues

Research Center for Shiology, Renmin University of China
Beijing Shiology Research Institute
Secretariat of the World Shiology Forum



European Commission (EC) High Level Expert Group (HLEG), whose mandate is to assess the needs, options, impacts and possible approach for an International Platform for Food Systems Science (IPFSS)
https://ec.europa.eu/info/news/new-high-level-expert-group-assess-need-international-platform-food-systems-science-2021-feb-17_en



Report (EN): Everyone at the Table: Transforming food systems by connecting science, policy and society <https://op.europa.eu/s/wR3w>
Policy Brief (EN,ES,FR,AR,CN): <https://op.europa.eu/s/wR3x>



Sustainable Food Systems Partnership for People, Planet and Climate

STRATEGIC RESEARCH AND INNOVATION AGENDA (SRIA)
JANUARY 2023



[Standing Committee on Agricultural Research \(SCAR\) FOOD SYSTEMS Strategic working Group \(SWG\) FOOD SYSTEMS PARTNERSHIP](#)
[Sustainable Food Systems Partnership for People, Planet and Climate](#)
[STRATEGIC RESEARCH AND INNOVATION AGENDA \(SRIA\) 2023](#)
[SUSTAINABLE FOOD SYSTEMS PARTNERSHIP PRESENTATIONS OF THE SRIA FINAL VERSION webinar](#)
[Narrative](#)
[European Partnership on Safe and Sustainable Food Systems for People, Planet & Climate 29-06-2021](#)

["EU Think Tank", FOOD 2030, the FIT4FOOD2030 project , European Commission's \(EC\) Directorate General for Research and Innovation to develop the FOOD 2030 policy framework -Towards FOOD 2030 - Future-proofing the European food systems through research & innovation, Policy Briefs](#)
[EU-Think Tank, F4F virtual final conference, 24 November 2020](#)



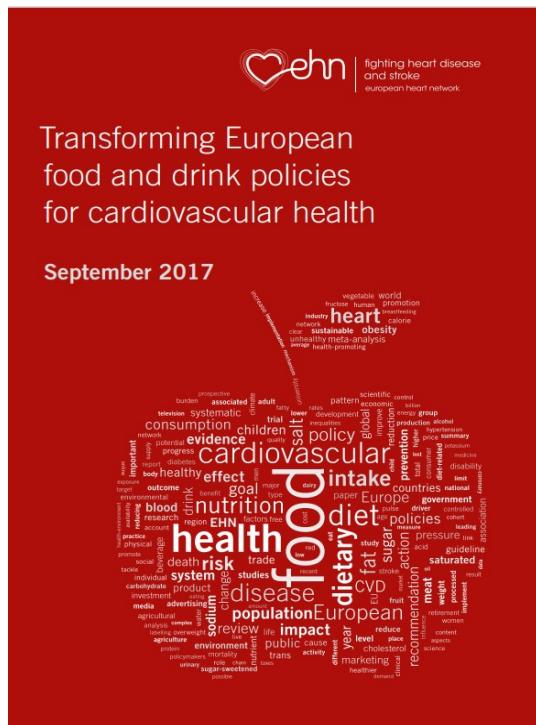
PROGRAMME



UNITED NATIONS DECADE OF
ACTION ON NUTRITION
2016-2025

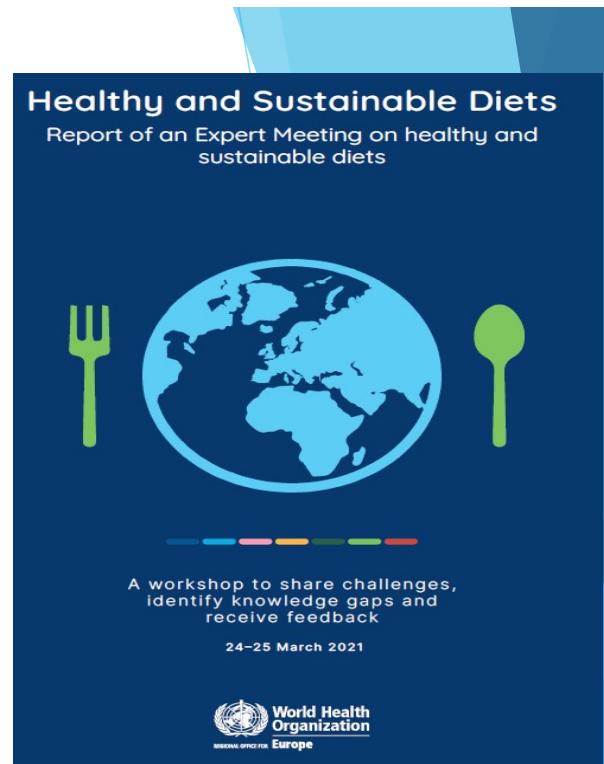


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Transforming European food and drink policies for cardiovascular health, 2017

Expert group in Nutrition in the EHN-European Heart Network



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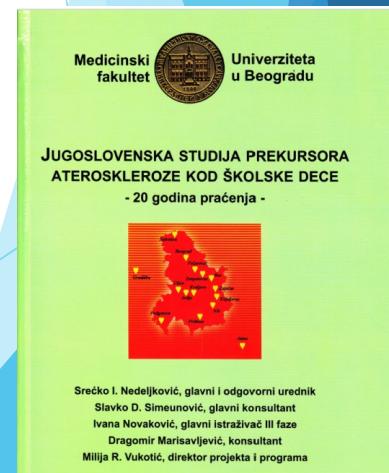
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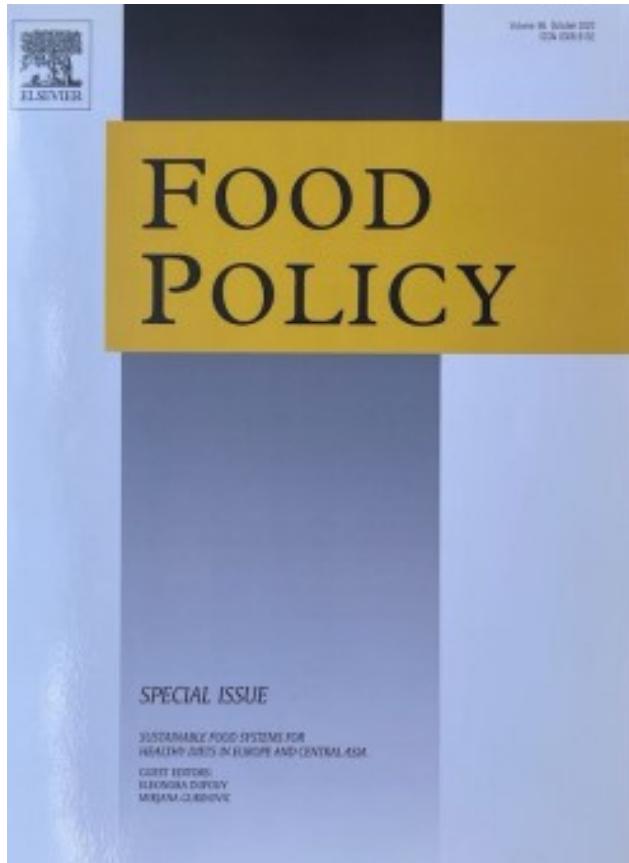
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BOOKS AND SPECIAL ISSUES



Guest Editor-

Special Issue Food Policy:

Sustainable Food Systems for

Healthy Diets in Europe and Central Asia,

Volume 96, 2020

<https://www.sciencedirect.com/journal/food-policy/vol/96/suppl/C>

Edited by

Eleonora Dupouy and Mirjana Gurinovic



BOOKS AND SPECIAL ISSUES

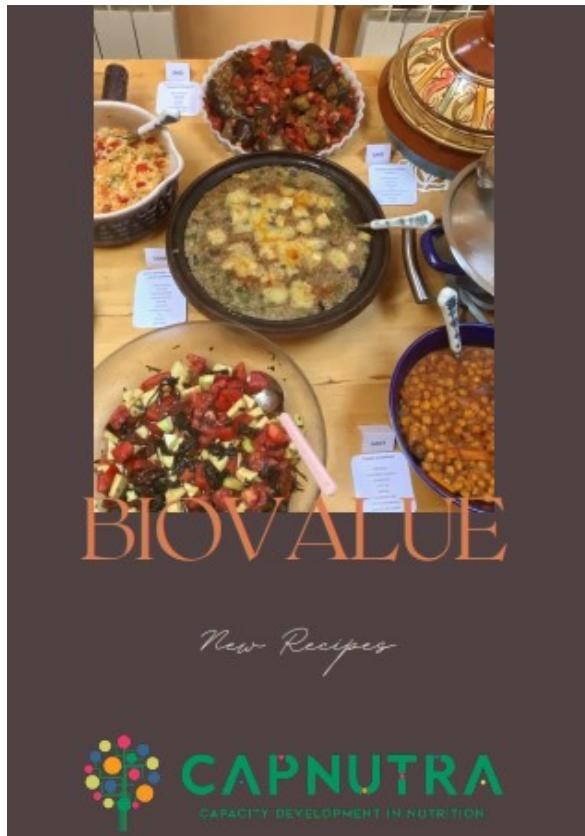
Editors: Fang, C. & Gurinović, M., eds. FAO , 2023.

**Sustainable and nutrition-sensitive food systems for
healthy diets and prevention of malnutrition in
Europe and Central Asia. Budapest.,**

<https://doi.org/10.4060/cc3907en>



BIOVALUE NEW DISHES BOOKLET



BOOKS AND SPECIAL ISSUES

BIOVALUE NEW PRODUCTS BOOKLET





VIDEOS

<https://www.capnutra.org/our-video>

[CAPNUTRA network - YouTube](#)

- **3rd UNU/SCN NCDNCEE Meeting 1st - 2nd November 2007, Belgrade, Serbia**
Network for Capacity Development in Nutrition for Central and Eastern Europe
<https://youtu.be/dY8Dx9H4Fq4>

- **6th UNU/SCN NCDNCEE Meeting, November 2011, Belgrade, Serbia**
Network for Capacity Development in Nutrition for Central and Eastern Europe
<https://youtu.be/OGAaVs3po-c>

- **CAPNUTRA, First Symposium 21st - 23rd January 2013, Belgrade, Serbia**
Capacity Development in Nutrition and Food Research in Central and Eastern Europe (CAPNUTRA): Balkan Food Platform – Regional Food Composition Data Base development <https://youtu.be/-8Dx9SkKsg0>

- **FAO and CAPNUTRA Symposium, 15th - 17th October 2018, Belgrade, Serbia**
Symposium on sustainable food systems for healthy diets in Central and South Eastern Europe (CSEE), with integrated training on food consumption data collection and strengthening the thematic regional networking <https://youtu.be/fdu8-HpZyJ4>

<https://www.capnutra.org/our-video>

VIDEOS

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- **24HDR (24 Hour Dietary Recall)** <https://capnutra.org/video/24hdr.mp4>
- **FoodAtlas** <https://www.capnutra.org/video/foodatlas.mp4>
- **FFQ/FPQ (Food Frequency and Food Propensity Questionnaires)** <https://www.capnutra.org/video/ffqfpq.mp4>
- **FCDB (Food Composition Data Management Tool)** <https://www.capnutra.org/video/fcdb.mp4>
- **DAP (Diet Assess & Plan)** <https://www.capnutra.org/video/dap.mp4>
- **Research capacity and infrastructure – tools and data from Balkan region for diet modeling in food systems-based dietary guidelines (FSBDG) development** https://www.capnutra.org/video/Capacity_building.mp4
- **BIOVALUE**, Fort-to-farm agent-based simulation tool augmenting BIodiversity in the agri-food VALUE chain, 2021-2025, H2020
 - https://www.capnutra.org/wp-content/uploads/2024/06/Biovalue-general-main.mp4?_=3
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 - https://www.capnutra.org/wp-content/uploads/2024/06/biovalue-part-3-subtitle.mp4?_=18
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 - https://www.capnutra.org/wp-content/uploads/2024/06/biovalue-beyond-biovalue-subtitle.mp4?_=20
- **Giant Leaps-Reshaping nutrition across Europe** <https://youtu.be/yKI6VJQ3uis>

[CAPNUTRA network - YouTube](#)

CONCLUSIONS I

- The network was a platform of new scientific knowledge exchange in nutrition and food research and application, a tool to foster regional involvement and identify needs and opportunities in regional capacity development (CD).
- During the last two decades, impressive food and nutrition CD results were achieved in the field of public health nutrition (PHN) research and food systems in Central and Eastern Europe and Balkan Countries (CEE/BC).
- Improved Research infrastructure (RI) in CEE/BC is a successful example of strengthening surveillance, monitoring, evaluation and research in the PHN, monitoring, evaluation and research in the PHN & Food systems and present successful regional harmonization in food and nutrition data collection and analysis for evidence-based nutrition policy Food systems transformation in Serbia and Western Balkans.
- CAPNUTRA stirred regional harmonization in food and nutrition data collection and enabled its aligned with international standards providing evidence base for nutrition policy in Serbia together with IMR-CENM and other representative organisations in Western Balkans.
- Cooperation with FAO, EuroFIR, EC, EFSA and other European networks and research & public health institutions and active participation in international research projects enhanced nutritional training, exchange of information and knowledge transfer in CEE and international recognition.
- Nowadays, CAPNUTRA network is a platform that fosters regional involvement and further developments in PHN & Food systems research.



Acknowledgements to all members and partners!!!



Founders of CAPNUTRA:



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MD PhD Nutrition Senior Research advisor International Expert for Sustainable Food systems and Healthy Diets



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IT project manager and web developer



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Dr sc. Marija Knez
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