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Agenda item 6

Addressing social and economic burden of malnutrition through nutrition-sensitive agricultural and food policies in the region of Europe and Central Asia

Executive summary

- Despite countries in the region of Europe and Central Asia (EuCA) making progress in meeting the Millennium Development Goal 1c (Hunger target),^{1,2} various forms of malnutrition still persist. In 48 out of 53 EuCA countries, the combined overweight (OW) and obesity prevalence in the adult population exceeds 55 percent and obesity levels are over 20 percent. Child malnutrition continues to be a problem in both rich and poor countries with stunting in children under five ranging from 1.1 to 26.7 percent and wasting – from 0.2 to 10.0 percent across the region.
- Differences in the prevalence of malnutrition are caused by socio-economic conditions, political commitment, and strategic and operational nutrition capacity in different countries.
- Many EuCA countries have taken action to improve nutrition by addressing unhealthy diets and have confirmed their commitment to addressing malnutrition in all its forms by endorsing the two outcome documents of the Second FAO/WHO International Conference on Nutrition (ICN2); namely, (i) Rome Declaration on Nutrition and (ii) Framework for Action (FfA).
- Due to the complex nature and multiple causes of malnutrition, improving nutrition requires the collaboration of multiple sectors, including agriculture, health, education, trade, environment, and social protection. And because of the global spread of malnutrition, actions should align with international frameworks, such as ICN2, post-2015 development agenda and Scaling Up Nutrition (SUN) movement. The ICN2 FfA provides a set of policy and programme options in the area of sustainable food systems that countries may implement to promote healthy diets, including: (i) integrating nutrition objectives into food and agriculture, (ii) strengthening local food production and processing and (iii) promoting the diversification of agricultural production. Policy options for reducing malnutrition by increasing nutrition

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sensitivity of food systems should be assessed in a holistic way, taking into consideration the interactions and effects of measures applied in various related domains of food systems, such as (i) agricultural production, (ii) market and trade system, (iii) food transformation and consumer demand, and (iv) consumer purchasing power.

- This paper provides an updated overview of the social and economic burden of malnutrition across EuCA sub-regions and countries, and recommendations to strengthen ongoing and future work. The paper also seeks to provide ways in which governments can effectively address malnutrition and meet the ICN2 commitments, as well as broader countries' nutrition agendas.

Guidance sought

- Member countries are invited to take note of the magnitude of malnutrition and how to effectively address it from the perspective of food and agriculture systems.
- The 39th session of the ECA may wish to provide guidance on policy recommendations and priority actions that countries can follow to create enabling food systems that contribute to sustainable and healthy diets for improved nutritional outcomes in the region.

I. Introduction

1. Malnutrition, in all its forms, and diet-related NCDs affect people's health and wellbeing, reduce learning capacity and productivity, lead to increased morbidity, disabilities and mortality, which pose high social and economic burdens on individuals, families, communities and countries.³ Moreover, malnutrition is often poorly measured and reported.

2. Malnutrition compromises people's right to adequate food and is an intolerable economic burden. Its annual cumulative cost reached US\$3.5 trillion for the global economy in 2010 (equivalent to 4-5 percent of global GDP, or US\$400-500 per person). This includes the costs of undernutrition (about US\$2.1 trillion) and overnutrition related noncommunicable diseases (NCDs) (about US\$1.4 trillion).

3. The ICN2, jointly organized by FAO and WHO, brought together a wide range of global participants. ICN2 resulted in a global consensus on the change urgently needed to improve nutrition, as reflected in the Rome Declaration on Nutrition and Framework for Action (FfA). ICN2 has emphasized the central role of food systems in eliminating all forms of malnutrition by increasing their nutrition sensitivity and promoting healthy and sustainable diets^{i, 4} for all.

4. The vision of the Rome Declaration on Nutrition is integrated into the post-2015 development agenda. It is acknowledged that, if not effectively addressed, malnutrition will impede the successful achievement of Sustainable Development Goals (SDGs) targets.⁵

5. Over recent decades the EuCA region has made remarkable improvements in food security. In 2015 only five countries saw undernourishment over the 5 percent threshold, three of which were below 10 percent.² The estimations indicate that in the EU as many as 20 million individuals are at risk for undernutrition, which could cost EUR 120 billion annually.⁶

ⁱ A *healthy* diet consists of a variety of safe foods that meet the specific nutritional requirements of various sub-groups of population (infants, young children, adolescent girls/boys, pregnant women, men, elderly, sick people, etc.). SOFA, FAO 2013, Rome.

6. Further improvements in nutrition at local, country and regional levels need to be aligned with existing international programmes and frameworks and their targets, including ICN2 outcomes and post-2015 SDGs.

7. While child malnutrition remains a problem in both rich and poor EuCA countries (Fig. A, Annex 1), the general trend is the rapid fall in the burden of undernutrition and a rapid raise of micronutrient deficiencies, OW and obesity and the associated diet-related NCDs that constitute the dominant nutrition challenge across EuCA countries.⁷

8. The purpose of this paper is to provide an updated overview on the prevalence and magnitude of the social and economic burden of malnutrition across the EuCA region. It also presents country specific experiences in nutrition-sensitive food policy actions and recommendations for strengthening the ongoing and future work in the region and supporting governments to identify priority areas to effectively address malnutrition in all its forms. The targeted problems in this paper are micronutrient deficiencies, OW and obesity, and diet-related NCDs, which are challenges for most countries.

II. The social and economic burden of malnutrition in the EuCA region and associated challenges

2.1. Micronutrient deficiencies in children and adults

9. Micronutrient deficiencies (or “hidden hunger”) are associated with many nutrition related health problems. Of special concern in the EuCA region is the inadequate intake of such micronutrients as vitamins A and D, iodine, iron, zinc, folate and thiamine⁸.

10. The highest risk of inadequacy is found for vitamin A, vitamin D, folic acid, iodine, and calcium in all age ranges⁹; zinc, iron, selenium, copper, vitamin B12 and vitamin C in adults, including the elderly¹⁰, and intakes exceeding reference standards in children for vitamins B6, vitamin C, selenium, magnesium and phosphate. Inadequate levels are most problematic in Central and Eastern Europe (CEE), the Western Balkans and Central Asian sub-regions, and among low-income and disadvantaged groups.

11. The main risk factors for micronutrient deficiencies are both food and health related, including monotonous diets, seasonal variations in food availability, food shortages, low prevalence of breastfeeding, low education, poor economic status and poverty¹¹, illness and infections.

12. Anaemia – in children under five and in adults – is a public health problem across the region (Fig.1) with various levels of severity: mild in Western, Northern and Southern Europe and moderate in Eastern Europe and Central Asia. Two EuCA countries face severe levels of anaemia – Kyrgyzstan (42.6 percent) and Uzbekistan where almost half of all children under five (49.4 percent) are affected by iron deficiency (Table 1, Annex 1).

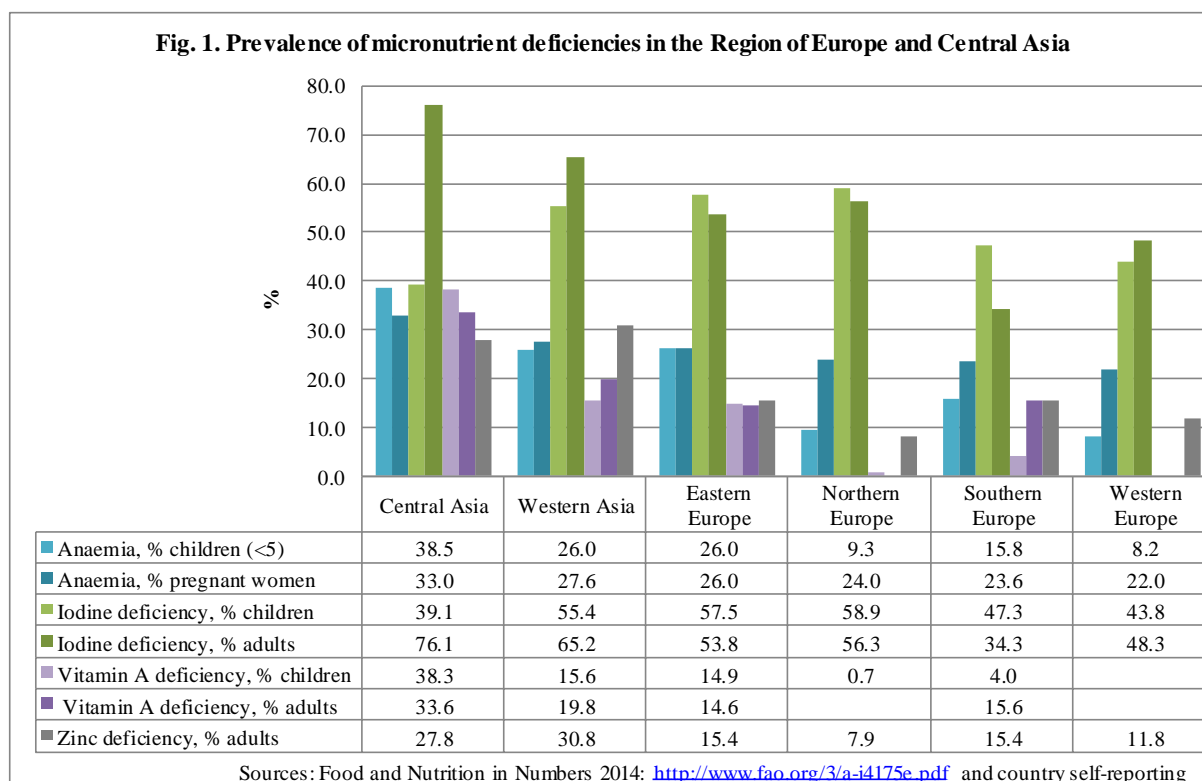
13. Moderate anaemia in pregnant women is registered in all EuCA countries and represents an important public health nutritional problem¹² (Table 2, Annex 1).

14. The prevalence of iodine deficiency is high in children, ranging from 39.1 percent in Central Asia to 58.9 percent in Northern Europe with higher levels in the adult population in three sub-regions (Fig.1). The top 15 EuCA countries deficient for iodine in children and in adult population are in tables 3, 4, Annex 1). Different policies on fortification (mandatory/voluntary, different levels) lead to different results in addressing iodine deficiency, which requires further actions.

15. In Central Asia 38.3 percent of people are affected by severe vitamin A deficiency. Related moderate public health problems are found in Western Balkan and Eastern Europe (Fig.1). Country level deficiencies in vitamin A are shown in Tables 5 and 6, Annex 1.

16. The estimated regional average zinc deficiency is 16.5 percent with the highest prevalence¹³ in the adult population in Western and Central Asia (Fig.1). Country level deficiencies are in Table 7, Annex 1.

17. National nutrition surveys in most EuCA countries mainly measure anthropometric indicators and dietary intake, and only to a lesser extent, micronutrient status indicators (only 2-9 percent of the surveys cover folic acid, vitamins A and D, iodine status).¹⁴ This hinders the elaboration of evidence-based food and nutrition policies and programmes to tackle malnutrition. Moreover, countries issue recommendations for micronutrient intake using different age range stratifications, approaches to sampling and data collection, and cut-off/reference values for adequate nutrient intake.¹⁵ Lack of harmonized methodologies makes difficult the comparison of nutritional status across countries.



18. Generally, food security strategies and policies focus on major staples. The skewed concentration of agricultural production on a limited number of staple crops leads to monotonous diets and widespread micronutrient deficiencies.¹⁶

19. A narrow agricultural production system also results in a loss of biodiversity, which is critical for healthy, nutritious and diverse diets. The Framework for Action of ICN2 recommends diversifying crops and animal-source products as one of actions towards sustainable food systems and healthy diets (Recommendation #10).

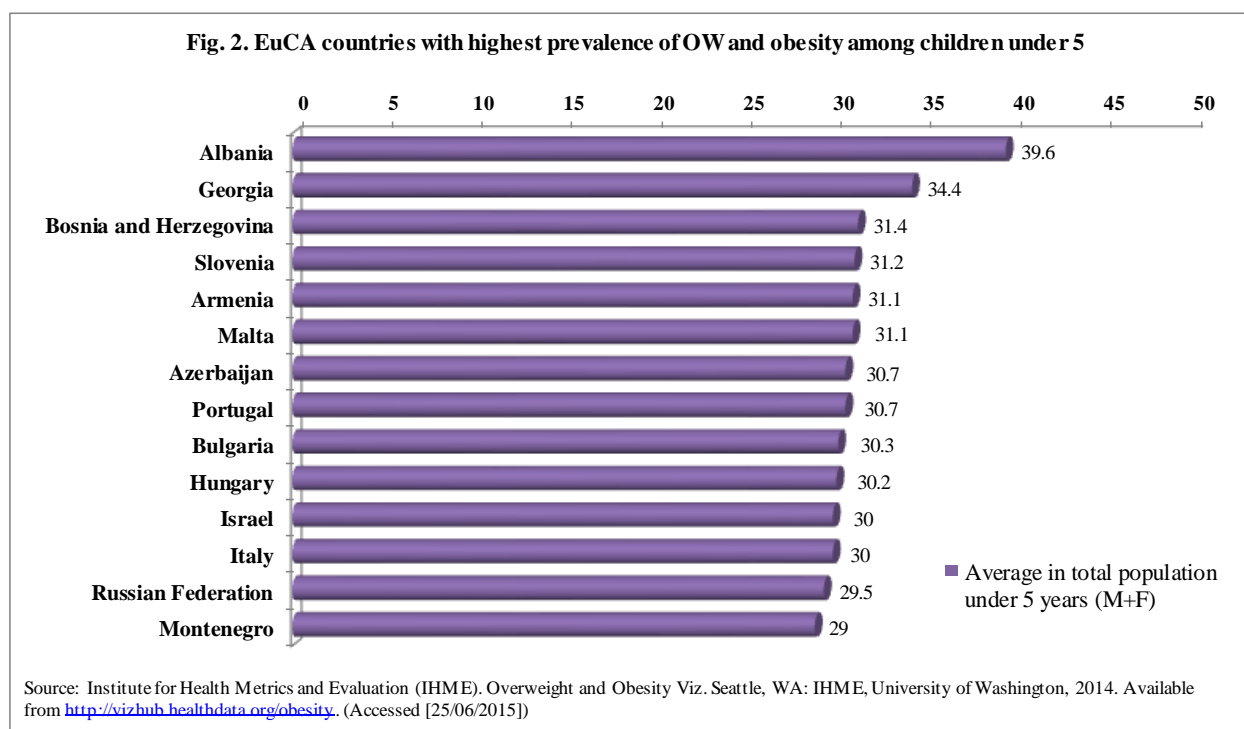
2.1.1. Policy options to address micronutrient deficiencies

20. Food-based strategies promoting the production and consumption of diverse, safe and nutritious foods of both plant and animal sources, such as fruits, vegetables, pulses, nuts, seeds, small livestock, poultry, fish, non-wood forest products, etc. are long-term sustainable solutions to micronutrient deficiencies.¹⁷

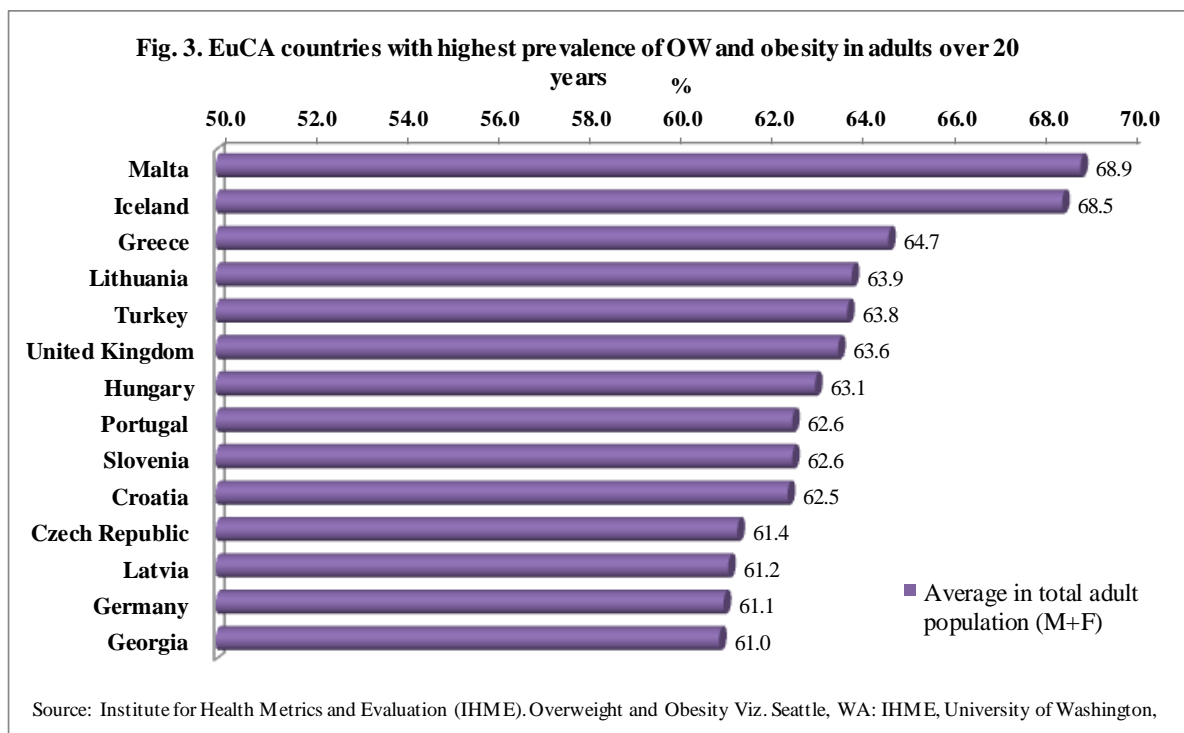
21. Effective policy to cope with micronutrient deficiencies should include the development of value chains for optimal and balanced nutrition, diversification of agricultural production and closing the micronutrient gap.
22. Governments are encouraged to use the *Voluntary Guidelines for Mainstreaming Biodiversity into Policies, Programmes and National and Regional Plans for Action on Nutrition* (examples in *CGRFA report 2015*, Appendix C).
23. Strengthened information systems for micronutrients are imperative. In light of this it is necessary to harmonize indicators and methodologies and increase the capacity for monitoring micronutrients status to prevent both insufficient and excessive intake in all population groups. Better targeting of the nutritionally vulnerable and adequate resource allocations are also needed.
24. Public nutrition information and education on health, social and economic consequences of micronutrient deficiencies and excesses (including from supplements), developing or/and improving food composition tables is necessary for updated food-based dietary guidelines, which are critical to better support and guide the sustained consumption of micronutrient-rich foods.

2.2. Overweight and obesity in the EuCA region

25. The proportion of population in the EuCA region which is OW or obese is high and continually rising. The prevalence of obesity has more than tripled in many European countries since the 1980s, affecting all age groups. It is also rapidly increasing in low- and middle income countries. The average regional prevalence¹⁸ of combined OW/obesity in children under 20 years is 21.6 percent. In children under five years, the prevalence of OW/obesity is even higher¹⁹ – over 30 percent in many countries (Fig.2). A recent study found higher prevalence of obesity in children below the age of 10 in families with lower education and income levels.²⁰ Disaggregated data by sex, OW and obesity are in Table 8, Annex 1.



26. The prevalence¹⁸ of combined OW/obesity (BMI > 25) in the adult population, males and females, is more than 55 percent in 48 out of 53 EuCA countries, with many countries having even higher levels (Fig.3).



27. The prevalence of obesity (BMI > 30) in the adult population has reached 23.3 percent in Northern Europe, 23.0 percent in Western Asia and 20.9 percent in Western Europe. Country specific data are in Table 9, Annex 1.

28. The significant levels of micronutrient deficiencies, OW and obesity in the EuCA region and substantial variability between countries, age groups and gender indicate the need for a country specific approach to address malnutrition, considering the most suitable policy options, including those recommended by ICN2 and based on country experiences.

2.2.1. Policy options for addressing OW and obesity

29. Effectively addressing the reduction of OW and obesity should consider the approach of joint responsibility of individuals, national governments and the private sector in the creation of conducive food environments that are well monitored and regulated. Current policies are fragmented and not strong enough to address the problems of OW and obesity and the resulting NCDs. This illustrates the need for food systems and cross-sectoral approaches and collaboration within and between governments, the private sector and civil society.

30. Additional policy options to consider:

- Promoting recognition of the right to adequate food through national constitutional and legislative provisions, including support to breastfeeding (FfA, # 29-33);
- Increasing the availability and affordability of nutrient-rich foods for all;
- Providing food labelling, nutrition education and consumer information to increase healthy food choices;
- Promoting changes in food systems, food environment and nutritional behaviour²¹ in order to reduce obesity and NCDs.

2.3. Risk factors of non-communicable diseases

31. This paper uses DALYⁱⁱ (disability-adjusted life years) to express the social and economic burden of malnutrition. Unhealthy dietary patterns are currently the leading driver of preventable NCDs in EuCA countries, accounting for over 30 percent of disease and disability.²² This is three times higher than the global average (Fig. 4). High blood pressure is the second risk factor followed by high BMI, both of which are linked to nutrition. DALY due to diet-related risk factors for NCDs is highest in Eastern Europe (close to 30 000 lost years per 100 000 population) and lowest in Western Europe (slightly over 10 000).

32. Dietary risks include high intake of sodium, industrial trans-fatty acids and saturated fats, sugar and lack or insufficient nutrient-rich foods in the diet. The estimated annual regional burden attributable to combined dietary risk factors, micronutrient deficiencies, physical inactivity, OW and obesity in EuCA accounted to nearly one million DALY in 2010.

33. In 2013 health expenditure (percent of GDP and per capita US\$) varied across the region, ranging from 6.8 percent in low income to 9.4 percent in high income countries (Table 1). Health expenditure correlates to life expectancy, which could be an indicator of government spending on nutrition. The lowest levels of health expenditure and life expectancy, below global average, are seen in Central Asia.

34. Populations in EuCA countries are aging. While the level of undernourishment in the EU is under 5 percent among the general population, in the population above 65 it is up to 10 percent and for 75-80 year olds living at home, it rises to 20 percent.⁶ Often with associated reduced both physical mobility and cooking capacities, elderly rely on convenience foods to a greater extent. They are more susceptible to chronic and degenerative NCDs, representing a nutritionally vulnerable group that requires special nutritional standards and care for adequate and balanced nutrition. The health sector should link with agriculture for a nutritious, diverse and safe food supply, meals planning and delivery for elderly.

35. The prevalence of NCDs as a result of poor diets shows the urgent need to prioritise improving dietary quality to reduce malnutrition and prevent NCDs. Preventive strategies and measures should apply from pre-conception (1 000 days opportunity window), early childhood and throughout life.

ⁱⁱ DALY is a systematic, scientific approach to quantify the comparative magnitude of health loss due to diseases, injuries and risk factors. It represents the sum of years lost due to premature death; years lived with disability or total years of healthy life lost. DALY are usually expressed as the number of years lost per 100 000 population

Fig. 4: Disability Adjusted Life Years attributable to risk factors related to noncommunicable diseases

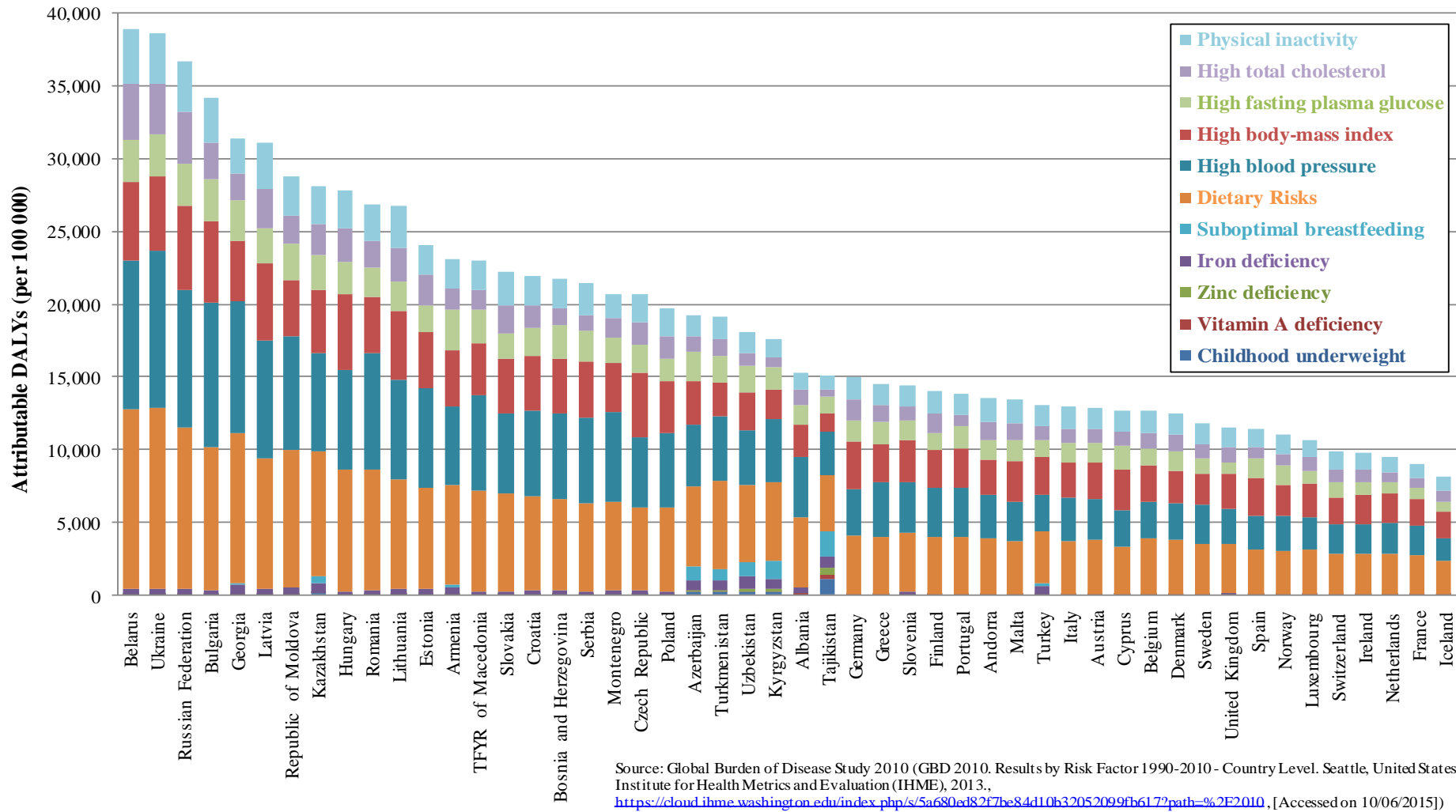


Table 1: Health expenditure and life expectancy, by EuCA sub-regionsⁱⁱⁱ (2013)

Region/Income group	Health expenditure, total (% of GDP) 2013	Health expenditure per capita, PPP (constant 2011 international 1000 \$) 2013	Life expectancy at birth, total (years) 2013
Global	6.8	1247.4	70.8
REU Region	7.7	2283.4	75.6
Central Asia	5.2	404.1	68.3
Western Asia	6.6	1265.2	76.1
Eastern Europe	7.5	1204.0	73.9
Southern Europe	8.3	2066.8	78.6
Northern Europe	8.4	3387.2	75.2
Western Europe	10.1	5373.0	81.4
Low income	6.8	169.6	67.4
Lower middle income	7.7	473.3	71.2
Upper middle income	6.4	967	73.6
High income: non-OECD	6.7	2799.3	76.1
High income: OECD	9.4	3727.3	80.6

Source: World Bank Database: <http://data.worldbank.org/indicator>

2.3.1. Policy options for reducing and preventing NCDs

36. Various policy options to address obesity and NCDs have been applied in the EuCA region. The applied policies have resulted in useful and transferrable lessons and practices. Examples of regional and country initiatives include:

- The European Union's mandatory nutrition labelling and the scheme for promoting fruit in schools;
- The development of national food and nutrition action plans in most EuCA countries;
- The promotion of exclusive breastfeeding, salt iodization, flour fortification;
- Comprehensive school food standards and voluntary salt reduction targets in the UK;
- The school nutrition law in Slovenia;
- School fruit and vegetable programmes in the Netherlands and Norway;
- The joint food labelling system (keyhole food symbol) in five Nordic countries to help the public make healthier choices;
- The public health-related food tax on salt, sugar, caffeine content and a programme promoting water consumption in schools in Hungary;
- A comprehensive nutrition and health programme in France;
- Trans fats regulation laws in Austria and Denmark;

ⁱⁱⁱ Composition of sub-regions is based on the UN country classifications (M49)

- Efforts by many countries to address the marketing pressure of high salt, energy-dense, micronutrient-poor foods and beverages towards children;
- 1 000 Days campaign in Ireland.

37. The UN Conference on Sustainable Development (Rio+20) emphasized that addressing NCDs is a priority for social development and investment in people. Setting targets to reduce NCDs should be considered by all sectors, including food and agriculture, which can make effective contributions to transforming diets, making nutritious foods more available, affordable, acceptable, and of higher quality.

38. Standards, regulatory measures and control should be geared towards positively supporting healthy diets and ensuring that production and marketing practices do not harm to consumers' health.

39. Governments, private sector and civil society should work together for the design and implementation of public health and nutrition campaigns towards preventing NCDs.

2.4. Dietary quality and socio-economic status

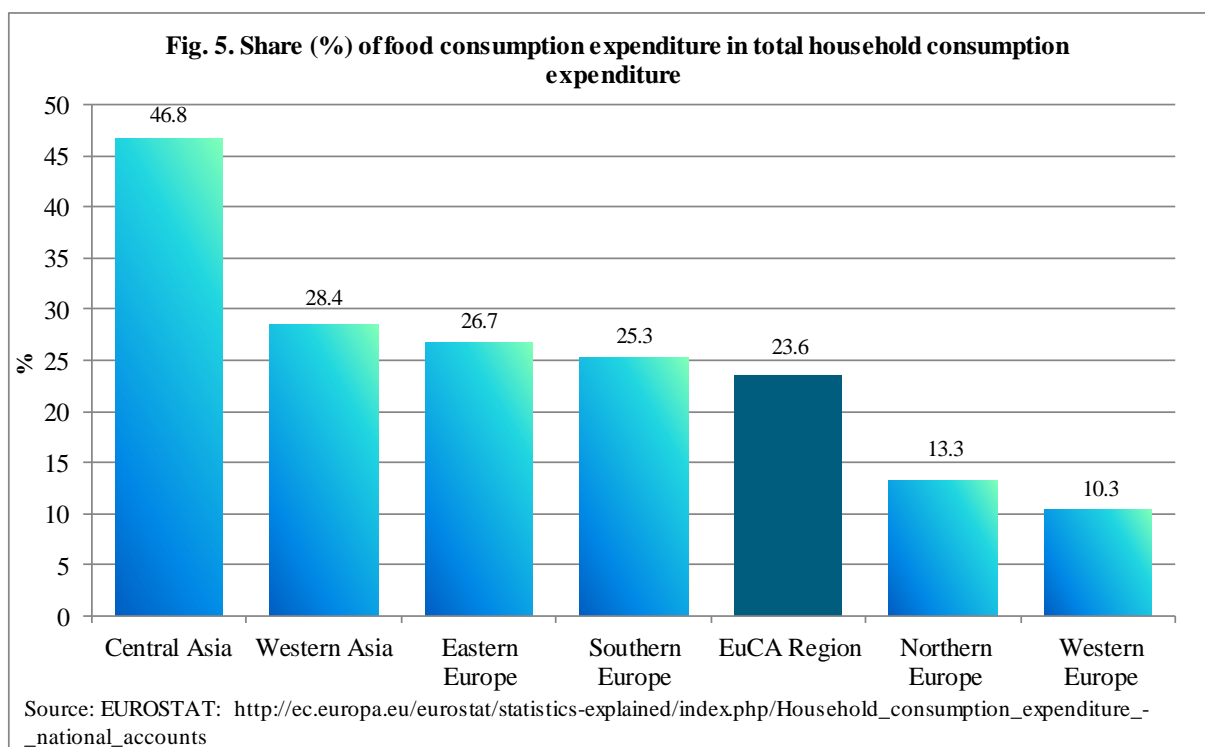
40. Poverty causes malnutrition and NCDs and malnutrition cause increasing poverty, especially among low-income population groups. Disadvantaged groups' access to food is mostly determined by income, food prices and access to social support. Various social protection instruments should be mobilized to ensure that nutrition-sensitive objectives are integrated^{iv}.

41. The indicators of socio-economic status (education, occupation, income) correlate with diet quality and micronutrient intake.²³ Although food insecurity in Europe is less of a problem, food insecurity vulnerable groups and the poor are still at risk. About 116 million people in the EU were at risk of poverty in 2010, and over 120 million in 2013²⁴, with reduced access to adequate quantity and quality of food.

42. There is a strong link between socio-economic status and diet quality. Socio-economic status is a factor in determining purchasing power, consumption patterns and choices. The evidence for dietary quality in EuCA countries indicates that nutrient-rich foods such as fruits and vegetables, whole grain and low-fat animal food products, nuts, fish are often beyond reach and underrepresented in the diets of low-income families. Low-income groups are more exposed to poor quality diets, which may include white bread, starchy foods, processed meat with high sodium content, which puts these population groups at risk of micronutrient malnutrition²⁵ and obesity.

43. The diverse socio-economic status of the population translates into the share of food costs in the household budget varying from about 7 to 66 percent across EuCA countries. Higher food spending may negatively affect how much people can spend on other essentials such as education and health, increasing their vulnerability for food and nutrition insecurity (Fig. 5).

^{iv} Nutrition and Social Protection. FAO, Rome, 2015.



2.4.1. Policy options for improving nutrition of disadvantaged people

44. The increased availability and affordability of nutritious and safe food for poor people in both rural and urban areas are key to ending malnutrition in all its forms. The context of healthy food environments need to be considered closely. Therefore some policy options will include the four broad areas outlined below:

- Food prices and other market-based instruments are policy areas that can have a significant impact on diets and associated opportunities for regulating food availability and affordability. Joint inter-sectoral collaboration and partnership in applying the adequate mix of policies to protect the vulnerable to food insecurity is necessary, involving agriculture, trade, health, social protection and finance.
- Farmers' local markets should be developed in underserved areas along with the development of roads, adequate transport infrastructure and a cold chain to connect smallholders and family farmers to consumers.²⁶ Local markets may include institutional programmes, such as school food and nutrition and other public procurements.
- Promote urban and peri-urban agriculture. Local authorities can promote small-scale agriculture by opening access to land and building capacity in land cultivation, while optimizing land planning for agricultural purposes. A comprehensive initiative to consider is the Milan Urban Food Policy Pact.^v Agricultural cooperatives might be an essential partner in this process.²⁷
- Mainstreaming nutrition-sensitive elements in the design of longer-term and more resilient social protection systems can contribute to better nutrition of vulnerable individuals and households.²⁸

^v The Milan Urban Food Policy Pact

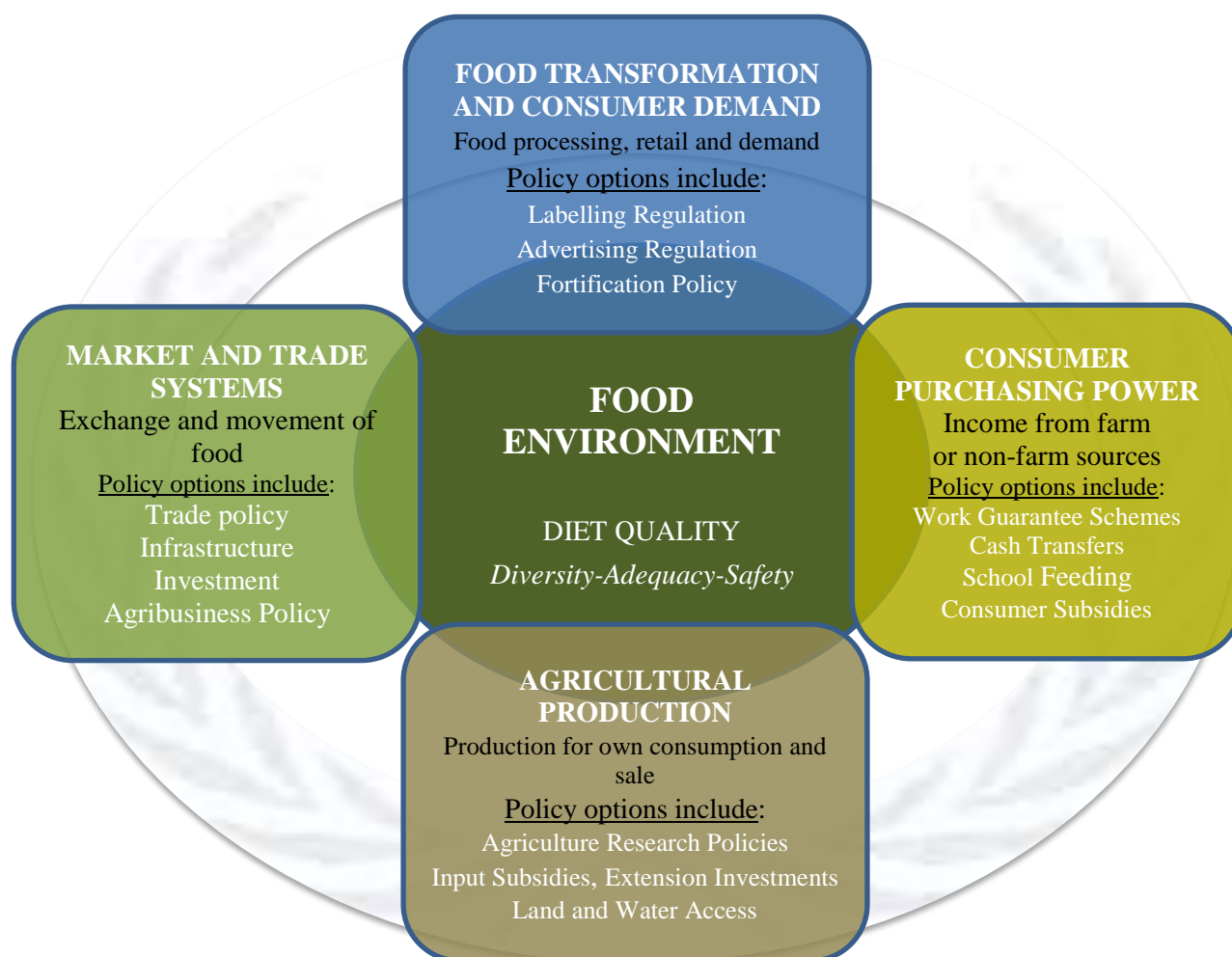
III. Enhancing nutrition sensitivity of food systems: an innovative way to address malnutrition

45. Reforming efforts to increase sustainability and nutrition sensitivity of food systems should be oriented towards sustainable production and consumption patterns. Developing nutrition-sensitive value chains should be raised at policy level. This would include linking smallholders and family farmers to food supply chains, enhancing agricultural research and extension, raising public awareness on the environmental cost of various dietary patterns for informed food demand and purchasing behaviors and much more.

46. Governments are encouraged to use *The Right to Food Guidelines* and *Principles for Responsible Investment in Agriculture and Food Systems* as instruments to sustainably improve nutrition.

47. A conceptual framework²⁹ focusing on four major domains of food systems that have an impact on the food environment and dietary quality (Fig. 6) can be used to help plan the entry points for policy options, analysis and actions. Policy options and measures to increase nutrition sensitivity of food systems, which apply to the four indicated domains of food systems, should be assessed in a holistic way. This approach allows for optimal diet quality that is diverse, adequate and safe.

Fig. 6: Policy options for raising diet quality and enhancing nutrition sensitivity of food systems



Source: www.glopan.org/sites/default/files/Global%20Panel%20Summary%20Brief%20web.pdf

3.1. Overarching policy considerations

48. ICN2 Rome Declaration on Nutrition and the FfA are the expression of global consensus on a number of overarching policies, including:

- **Strengthening nutrition governance while improving consistency, coordination, policy coherence and multidisciplinary, inter-sectoral and multi-stakeholder collaboration.** (FfA Recommendation #3). The challenge to deliver better nutrition is the result of nutrition programming fragmentation across sectors with little or inconsistent accountability. To this end there is a need for clearly defined sectoral mandates, roles and responsibilities.
- **Strategic and operational capacities for nutrition, the political commitment and engagement of food and agriculture sector** should be addressed as a matter of priority in many EuCA countries.
- Improving nutrition increasingly requires **agricultural innovations** to meet the challenges related to growing population and urbanization, climate change and a shrinking natural resource base. Governments are encouraged to play a more active role in initiating opportunities for public-private partnerships for rapid translation of research into action, marketable products and delivering through enhanced capacities.³⁰
- **Responsible and adequate budgetary allocations**^{vi} commensurate with the magnitude of problem are essential to address malnutrition.
- **Monitoring nutritional status and policy implementation.** Robust systems to measure progress towards achieving nutrition goals at local, national and regional levels are necessary to build on evidence and surveillance data for micro-nutrient deficiencies, OW, obesity, NCDs and geographic mapping of malnutrition in order to support better targeted interventions and investments. Monitoring and evaluation of the overall nutrition programming should also include effectiveness of policy implementation.

IV. Recommendations for governments on priority areas of work

49. The 39th Session of the ECA may wish to recommend the following policies and actions:

- 1) Strengthen nutrition governance and accountability while fostering inter-sectoral coordination, collaboration, networking and partnerships:
 - Establish or strengthen existing national mechanisms for inter-sectoral collaboration on improving food and nutrition security;
 - Engage in effective multi-sectoral actions and partnerships with the private sector and civil society;
 - Increase food and nutrition literacy of staff in the agri-food sector, including extension services on nutrition and food systems;
 - Review research priorities and promote innovation for nutrition-sensitive and climate-smart agriculture, as well as value chains for nutrition and food formulation;
 - Streamline nutrition objectives in food security, agriculture and rural development strategies;
 - Involve relevant sectors (health, social protection, education, environment and trade) in the FAO CPF process to ensure coherence in policy and actions for nutrition;
 - Review budget allocations for nutrition and attract investments to adequately address malnutrition in all its forms.

^{vi} Percentage of national budget allocated to nutrition is proposed as a nutrition indicator for SDG2

- 2) Promote diet diversity, quality and safety, and healthy nutritional habits considering local traditions, biodiversity for nutrition and environmental impact:
 - Increase food safety capacities, improve good practices along the food chain and monitor the total diet composition and NCDs;
 - Develop local food composition databases and dietary guidelines for climate-smart nutrition and sustainable food consumption;
 - Promote and apply science-based nutritional standards and sustainable consumption in foodservice for public institutions;
 - Provide support to school food and nutrition programmes, including through South-South and triangular cooperation.
- 3) Support small-scale and family farming^{vii} for increased food diversity and resilience:
 - Support the production and nutritional use of micronutrient-rich local foods while continuing to develop the FAO Hortivar database;^{viii}
 - Support capacity development for production and protection of high value traditional, geographic indication and other premium schemes;
 - Increase the capacity of small-scale farmers to comply with food safety standards, requirements and regulations.
- 4) Measure progress toward achieving nutrition goals and implementation of ICN2 commitments at local, national and regional levels:
 - Adopt WHA and SDGs nutrition indicators and targets and establish robust monitoring and evaluation systems based on harmonized indicators to measure progress toward achieving nutrition goals and implementation of ICN2 commitments;
 - Strengthen capacity for data generation, analysis and information use related to all types of malnutrition and NCDs;
 - Develop integrated surveillance systems for food, nutrition and health for timely response to a particular situation of risk for malnutrition.

V. The role of FAO

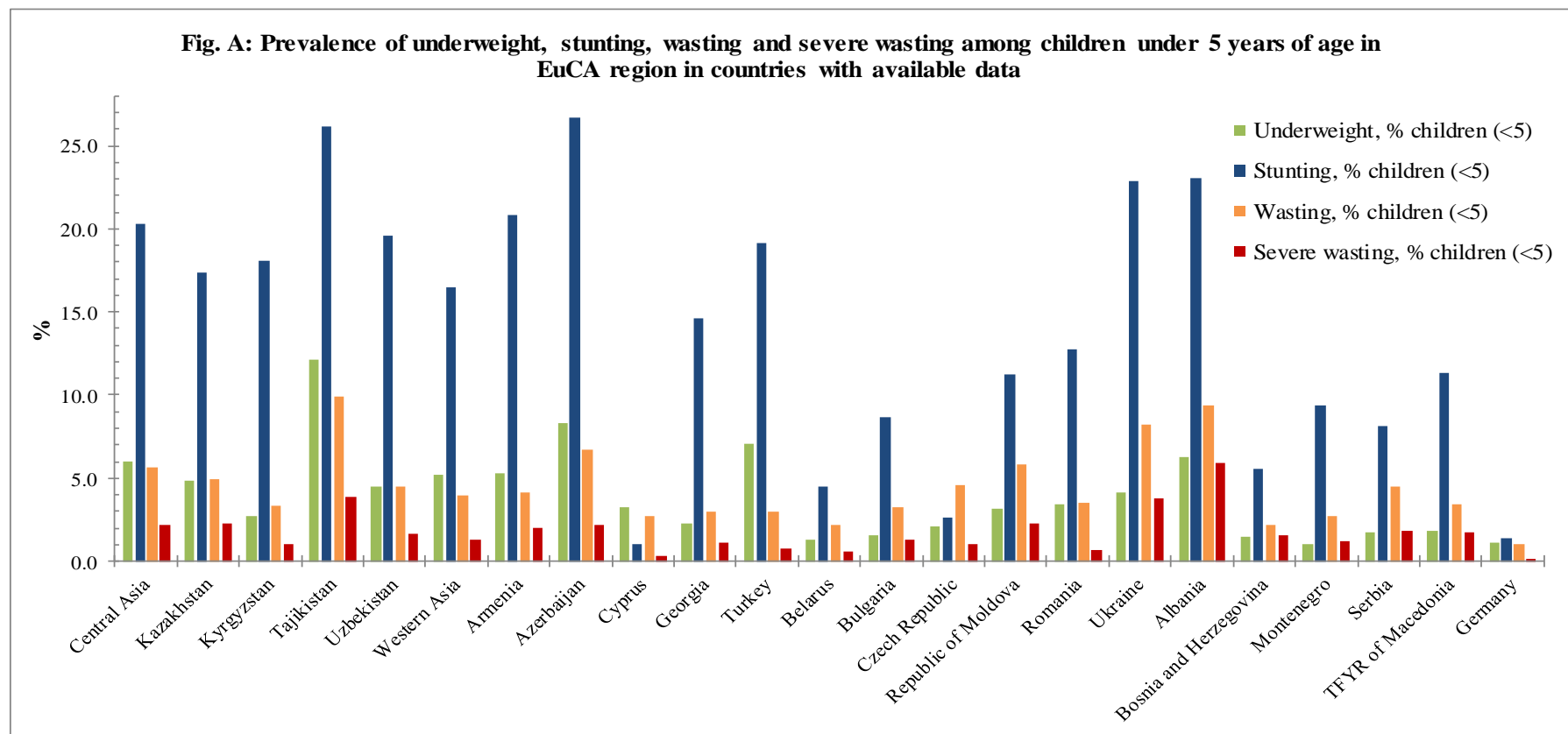
50. In line with its mandate, technical comparative advantage and in close collaboration, synergy and complementarity with other development partners, FAO is committed to support governments in achieving their objectives through:

- Implementing food-based strategies and leveraging the full potential that the food and agricultural systems have for improving diets and increasing levels of nutrition, as stated in the Strategy and Vision for FAO's Work in Nutrition (November 2012).³¹
- Acting as key partner in reducing the burden of NCDs with the unique role of bringing food and agriculture-based approaches that complement other actions from health, care, education, food assistance and gender perspectives.
- Assist member countries to improve nutrition through: (i) Global, regional and country public goods, including data and analysis on food and nutrition insecurity, agriculture, forestry, fisheries, 1^{32, 33} providing information on global and regional standards and best practices; (ii) A neutral forum for discussion; (iii) Technical and policy assistance to develop the capacities of governments, the private sector and civil society to address strategic, technical and related nutrition gaps; (iv) Field experience to demonstrate effective technical solutions to problems and facilitate policy and programme level attention.

^{vii} Regional Initiative 1 on Empowering Smallholders and Family Farms for Improved Rural Livelihoods and Poverty Reduction

^{viii} FAO's database and know-how exchange platform on horticultural cultivars (www.fao.org/hortivar)

Current nutrition situation in the EuCA region



Note: Underweight: percentage of children under age five whose weight for age is more than two standard deviations below the median for the international reference population ages 0-59 months; Stunting: percentage of children under age five whose height for age is more than two standard deviations below the median for the international reference population ages 0-59 months; Wasting: proportion of children under five whose weight for height is more than two standard deviations below the median for the international reference population ages 0-59 months. The data are based on the WHO's child growth standards released in 2006.; Sources: Food and Nutrition in Numbers 2014: <http://www.fao.org/3/a-i4175e.pdf>; International Food Policy Research Institute (IFPRI), 2014, "2014 Global Nutrition Report Dataset": <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/27857>

Anaemia in the population of EuCA countries

Table 1: Countries with the highest prevalence of anaemia in children under five years in ECA region

Country	Prevalence of anaemia, % (latest available data)	Severity of the public health problem
Uzbekistan	49.4	Severe
Kyrgyzstan	42.6	Severe
Azerbaijan	35.2	Moderate
Tajikistan	34.5	Moderate
Turkmenistan	33.1	Moderate
Republic of Moldova	31.2	Moderate
Armenia	31.0	Moderate
Kazakhstan	30.0	Moderate
Turkey	30.0	Moderate
Montenegro	29.4	Moderate
Bulgaria	27.5	Moderate
Slovenia	27.3	Moderate
Slovakia	27.1	Moderate
Ukraine	27.1	Moderate
Romania	26.9	Moderate

Note: * Proportion of children less than five years showing less than 110 g/l of haemoglobin at sea level; ** Haemoglobin cut-off values indicating anaemia have been defined for various population groups by WHO. Anaemia is considered a public health problem when the prevalence of low haemoglobin concentrations exceeds 5 percent in the population. Based on prevalence the severity of the public health problem of anaemia is classified as mild (5.0–19.9 percent), moderate (20.0–39.9) or severe (>40) (*Guidelines on food fortification with Micronutrients, WHO/FAO 2006*)

Table 2: Countries with the highest prevalence of anaemia in pregnant women in EuCA region

Country	Prevalence of anaemia, % (latest available data)	Severity of the public health problem
Uzbekistan	38.4	Moderate
Kyrgyzstan	37.8	Moderate
Tajikistan	31.3	Moderate
Cyprus	30.9	Moderate
Azerbaijan	30.7	Moderate
Turkmenistan	30.5	Moderate
Republic of Moldova	29.0	Moderate
Turkey	28.1	Moderate
Montenegro	27.9	Moderate
Bulgaria	27.3	Moderate
Kazakhstan	27.0	Moderate
Estonia	26.8	Moderate
Greece	26.8	Moderate
Serbia	26.8	Moderate
Romania	26.7	Moderate

Note: Percentage of pregnant women whose haemoglobin level is less than 110 grams per litre at sea level.; Sources for table 1 and 2: Food and Nutrition in Numbers 2014: <http://www.fao.org/3/a-i4175e.pdf> and country self-reporting

Iodine deficiency in the population of EuCA countries

Table 3: Countries with the highest prevalence of iodine deficiency *in children under five years* in ECA region

Country	Prevalence of iodine deficiency, % (latest available data)
Albania	91.0
Belarus	80.9
Georgia	80.0
Latvia	76.8
Azerbaijan	74.4
Denmark	70.8
Ukraine	70.1
Estonia	67.0
Belgium	66.9
Hungary	65.2
Poland	64.0
Tajikistan	63.9
Republic of Moldova	62.0
Lithuania	62.0
Turkey	60.9

Note: Median UI below 100 µg/L defines a population which has iodine deficiency.; Sources: Food and Nutrition in Numbers 2014: <http://www.fao.org/3/a-i4175e.pdf> and country self-reporting, WHO Global Database on Iodine Deficiency

Table 4: Countries with the highest prevalence of iodine deficiency *in adults* in EuCA region

Country	Prevalence of iodine deficiency, % (latest available data)	Classification of iodine nutrition (degree of public health significance)
Uzbekistan	97.4	Moderate
Kyrgyzstan	88.1	Moderate
Belarus	80.9	Moderate
Georgia	80.0	Mild
Latvia	76.8	Mild
Turkey	74.6	Moderate
Azerbaijan	74.4	Mild
Denmark	70.8	Mild
Ukraine	70.1	Mild
Estonia	67.0	Mild
Belgium	66.9	Mild
Turkmenistan	65.6	Mild
Hungary	65.2	Mild
Romania	64.2	Mild
Poland	64.0	Mild

Note: Median UI less than 100 µg/L defines a population which has iodine deficiency.; Source: Iodine Status Worldwide

Vitamin A deficiency in the population of EuCA countries

Table 5: Countries with the highest prevalence of vitamin A deficiency *in children* in EuCA region

Country	Prevalence of vitamin A deficiency, % (latest available data)	Severity of the public health problem
Uzbekistan	53.1	Severe
Azerbaijan	32.1	Severe
Georgia	30.9	Severe
TFYR of Macedonia	29.7	Severe
Turkmenistan	28.0	Severe
Kazakhstan	27.1	Severe
Tajikistan	26.8	Severe
Kyrgyzstan	26.3	Severe
Republic of Moldova	25.6	Severe
Ukraine	23.8	Severe
Albania	18.6	Moderate
Bulgaria	18.3	Moderate
Belarus	17.4	Moderate
Montenegro	17.2	Moderate
Serbia	17.2	Moderate

Note: Country estimates of the prevalence of serum retinol <0.70 µmol/l in preschool-age children 1995–2005. WHO-recommended cut-off values for serum/plasma retinol is used to classify those at risk of vitamin A deficiency (retinol <0.70 µmol/L (<20 µg/dl)); *Source*: Global prevalence of vitamin A deficiency in populations at risk 1995–2005

Table 6: Countries with the highest prevalence of vitamin A deficiency *in adults* in EuCA region

Country	Prevalence of vitamin A deficiency, % (latest available data)
Uzbekistan	53.1
Kyrgyzstan	32.9
Azerbaijan	32.1
Georgia	30.9
TFYR of Macedonia	29.7
Turkmenistan	28.0
Kazakhstan	27.1
Republic of Moldova	25.6
Ukraine	23.8
Bulgaria	18.3
Belarus	17.4
Montenegro	17.2
Serbia	17.2
Romania	16.3
Turkey	15.6

Note: The proportion of total population with serum retinol equal or below 0.70 µmol/L.; *Sources*: Food and Nutrition in Numbers 2014: <http://www.fao.org/3/a-i4175e.pdf>, International Food Policy Research Institute (IFPRI), 2014, "2014 Global Nutrition Report Dataset"

Zinc deficiency in the adult population of EuCA countries

Table 7: Countries with the highest prevalence of zinc deficiency *in adults* in EuCA region

Country	Prevalence of zinc deficiency, % (latest available data)
Tajikistan	66.8
Armenia	49.4
Azerbaijan	47.5
Georgia	47.3
Croatia	37.0
Luxembourg	31.5
Republic of Moldova	30.8
Bosnia and Herzegovina	30.4
Uzbekistan	24.4
Turkmenistan	24.2
Turkey	22.2
Bulgaria	18.6
Romania	18.3
Slovakia	16.4
Ukraine	15.8

Note:

* Three indicators of population at risk of zinc deficiency have been recommended: (i) the percentage of the population with plasma (serum) zinc concentrations below an appropriate cut-off (ii) the prevalence of usual dietary zinc intakes below the Estimated Average Requirement (EAR), and (iii) the percentage of children less than five years of age with height-for-age Z scores less than -2SD with respect to the WHO child growth standards.

** Proportion of population at risk of inadequate intake of zinc – lower than the physiologic requirement for absorbed zinc of adult men (2.69 mg zinc/day) and women (1.86 mg zinc/day). Zinc deficiency prevalence was estimated (Hotz and Brown, 2004) based on availability data from the FAO Food Balance Sheets and estimated zinc content for each food).

Source: Mario Mazzocchi, Sara Capacci, Bhavani Shankar, Bruce Traill, Agri-Food Systems for Better Nutrition in Europe and Central Asia, FAO REU 2014

Overweight and obesity in the population of EuCA countries

Table 8: Countries with the highest prevalence of OW (BMI \geq 25) and obesity (BMI \geq 30) among children under five in EuCA region

Country	Combined OW + Obesity, %		Overweight, %		Obesity, %	
	males	females	males	females	males	females
Albania	39.6	39.5	16.6	14.8	23	24.7
Georgia	33.9	35.1	17.9	17.4	16	17.7
Bosnia and Herzegovina	30.9	31.9	17.3	17.4	13.6	14.5
Slovenia	38.8	23.3	29.7	16.8	9.1	6.5
Armenia	33.6	28.1	19.9	17.1	13.7	11
Malta	35.1	26.9	24	17.6	11.1	9.3
Azerbaijan	32.7	28.4	14.9	14.1	17.8	14.3
Portugal	34.5	26.6	22.8	13.9	11.7	12.7
Bulgaria	32.6	27.8	24.2	19.1	8.4	8.7
Hungary	35.7	24.3	26.1	17.1	9.6	7.2
Israel	34.9	24.8	19.3	12.7	15.6	12.1
Italy	34.2	25.6	24.8	18.5	9.4	7.1
Russian Federation	32.2	26.6	15.6	12.1	16.6	14.5
Montenegro	30.9	27	19.6	17.3	11.3	9.7

Note: OW in children under five is defined as the proportion over two standard deviations (+2SD) and obesity - as over three standard deviations (+3 SD) from the WHO weight-for-height international standards median.

Source: Institute for Health Metrics and Evaluation (IHME). OW and Obesity Viz. Seattle, WA: IHME, University of Washington, 2014. Available at <http://vizhub.healthdata.org/obesity/> (Accessed [25/06/2015])

Table 9: Countries with the highest prevalence of OW (BMI \geq 25) and obesity (BMI \geq 30) in adults in EuCA region

Country	Combined OW + Obesity, %		Overweight, %		Obesity, %	
	males	females	males	females	males	females
Malta	75.9	59.6	46.4	29.9	29.5	29.7
Iceland	74.9	62.4	47.5	33	27.4	29.4
Greece	73.8	55.9	53.9	34.6	19.9	21.3
Lithuania	65.4	62.8	46.2	33.5	19.2	29.3
Turkey	62.7	64.9	43.3	31.7	19.4	33.2
United Kingdom	68.4	59.2	42.9	33	25.5	26.2
Hungary	67.3	59.4	44.8	32.6	22.5	26.8
Portugal	66.4	59.2	44.5	33.7	21.9	25.5
Slovenia	67.8	57.6	46.9	33.3	20.9	24.3
Croatia	68.1	57.4	47.2	35.1	20.9	22.3
Czech Republic	67.7	55.3	48.9	32.3	18.8	23
Latvia	58.1	63.7	40	34.4	18.1	29.3
Germany	68	54.5	44.5	29.4	23.5	25.1
Georgia	59.3	62.5	37.9	33.6	21.4	28.9

Source: Institute for Health Metrics and Evaluation (IHME). OW and Obesity Viz. Seattle, WA: IHME, University of Washington, 2014. Available at <http://vizhub.healthdata.org/obesity/> (Accessed [25/06/2015])

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