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February 2014

منظمة الأغذية والزراعة للأمم المتحدة	联合国粮食及农业组织	Food and Agriculture Organization of the United Nations	Organisation des Nations Unies pour l'alimentation et l'agriculture	Продовольственная и сельскохозяйственная организация Объединенных Наций	Organización de las Naciones Unidas para la Alimentación y la Agricultura	

Regional Conference for Europe

TWENTY-NINTH SESSION

Bucharest, Romania, 2 - 4 April 2014

Agenda Item 6

State of Food and Agriculture in the Region, Including Future Prospects and Emerging Issues

Executive Summary

This paper provides an overview of the current state of food security and poverty in selected countries of the Europe and Central Asia (ECA) region[1] and compares this with the overall global situation. An array of economic and policy factors, which have been shaping food security in these countries, are also explored.

It concludes that caloric intake as a measure of undernourishment is currently not the major problem for the countries in question (except Uzbekistan and Tajikistan). Rather, challenges related to food access, stability, and utilization are more pressing, and will likely remain so in the future. Poverty has been seen as the key constraint to the improvement of household food security, primarily in the Caucasus and Central Asia (CCA) sub-region.

As a result, it is suggested that governments develop and implement a comprehensive approach to the revival and development of their agricultural and rural sectors. If properly carried out, this should result in a sustainable increase in incomes of the rural populace, which is the group that is most vulnerable to food insecurity.

Guidance Sought

Member countries may review and comment on the policy directions in support of food security in the region as outlined in paragraph 27-35.

[1] The overview covers non-EU countries of Eastern Europe and Balkans, Central Asia and Caucasus and Turkey

I. Introduction: Food security in the Europe and Central Asia (ECA) Region

1. The purpose of this paper is to provide an overview of the current state of food and agriculture in the Region, with an emphasis on food security and poverty in the non-EU countries of Eastern Europe and Balkans, Central Asia and Caucasus, and Turkey, while comparing this with the overall global situation. This paper looks at three sub-regions. The CCA sub-region includes Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. Eastern European countries that belong to the Commonwealth of Independent States (CIS), such as Belarus, Republic of Moldova, Russian Federation and Ukraine, are included in the European CIS sub-region. Finally, the Southeastern Europe (SEE[2]) sub-region covers Albania, Bosnia and Herzegovina, Montenegro, Serbia, The former Yugoslav Republic of Macedonia(FYROM), and Turkey. An array of economic and policy factors that have been shaping food security in these sub-regions are also explored.

2. Overall, since the early 1990s, the countries in all three sub-regions have shown significant progress with regards to alleviating food insecurity and extreme poverty; even though it is important to remember that for many of these countries these improvements have only been recoveries after the collapse of the Soviet Union. Nevertheless, out of 19 countries that the paper focuses on, only Tajikistan and Uzbekistan have not reached the 2001 Millennium Development Goal (MDG) hunger target or World Food Summit (WFS) target[3] as of 2013. If the current trend persists, they will not be able to do so by the deadline in 2015 either. However, considering the multidimensionality of food security, which goes beyond prevalence of undernourishment captured in the international hunger targets, there are a number of problems and risk factors that all of the countries in these sub-regions face to some extent. These factors either negatively affect the current state of food security, or could contribute to its deterioration in the longer run if they are not addressed.

II. Food security in the ECA region compared with other regions: Malnutrition and poverty indicators

3. There is quite a bit of diversity among the countries of the CCA, European CIS and SEE sub-regions. Table 1 provides an overview of some food security and income indicators in the countries in question, which are compared to similar estimates in different regions around the world. Overall, it can be seen that hunger is a more pressing issue in the Caucasus and Central Asia. The countries in the Eastern CIS and SEE sub-regions are generally better off and food insecurity is less problematic for them.

4. Kyrgyzstan, Tajikistan and Uzbekistan are three countries where prevalence of undernourishment is still higher than 5 percent. Analysis of the relationship between income and food insecurity suggests that poverty is the major cause for undernourishment and malnutrition in all three sub-regions. The four poorest countries (Kyrgyzstan, Moldova, Tajikistan, and Uzbekistan) also ranked low with regards to the average dietary energy supply adequacy indicator.

5. Malnutrition, measured by caloric intake, is, however, only one aspect of food insecurity. For many countries in the European CIS, SEE and CCA sub-regions, a more significant problem is a lack of adequate micronutrient intake and the sub-optimal qualities of diets. This is where these countries often rank lower than other regions in the world (see Table 1 for details). Stunting among children under five is alarmingly high in Azerbaijan and Tajikistan. Overall, the average percentage of stunted children (under five years old) in the CCA sub-region is more than three times higher than in the European CIS sub-region (average of 6 percent). Among the SEE countries, Albania and Turkey exhibit comparatively high levels of stunting among children at 19 and 12 percent, respectively.

[2] Kosovo (references in the context of UN Security Council resolution 1244 as of 1999) was not included in our analysis due to the lack of data

[3] Millennium Development Goal hunger target is to halve the proportion of hungry people in the total population between 1990 and 2015; World Food Summit target is to halve the number of hungry people in the same period (FAO, 2013c).

6. Furthermore, in a number of the CCA and SEE countries, diets remain rather monotonous. In Azerbaijan and Tajikistan people obtain more than 60 percent of their energy from starchy foods. In contrast, the share of energy derived from animal products is rather low at 16 and 10 percent respectively (2009 estimate). However, it is important to bear in mind that these are only averages. As such, the poorest income groups tend to have even less diverse diets (Swinnen and Van Herck, 2011). In Uzbekistan, for example, the poorest income group obtains 73 percent of its daily caloric intake from cereals and only 10 percent from dairy and meat. The richest group, in contrast, enjoys a more balanced diet; 48 percent of daily caloric intake comes from cereals and 29 percent from animal products.

7. One other facet of malnutrition that is relevant to most countries in all three sub-regions is the increasing number of overweight people. The percentage of overweight and obese people[4] in all three sub-regions greatly exceeds the world's average, which is 34.1 percent (Table 1). As such, almost 48 percent of people in the CCA countries and more than 50 percent in both European CIS and SEE countries are considered overweight or obese. In Bosnia and Herzegovina, and Turkey this figure exceeds 60 percent. FAO projections (Bruinsma, 2012) suggest that less-developed countries in the ECA region are expected to have some of the highest rates of obesity in the world by 2050. This would increase the risk of diet-related, non-communicable diseases in all three sub-regions and would put increased pressure on healthcare facilities, especially in the poorer countries that have fewer financial resources at their disposal.

[4] Measured by the World Health Organization. PePeople whose Body Mass Index (BMI), which is a measurement obtained by dividing a person's weight by the square of the person's height, exceeds 25, are considered overweight. Person with a BMI of 30 or more is generally considered obese.

Table 1. Selected food security indicators and income measures

	Per capita GDP, current USD	Average dietary energy supply adequacy, %	Prevalence of undernourishment, %	Average value of food production, 1USD/ caput	Share of dietary energy supply derived from cereals, roots and tubers, %	Proportion of overweight and obese people in total population, %	Children under 5 y.o. who are stunted, %
	2012	2011-13	2011-13	2009-11	2008-10[5]	2008	2007-11[6]
Armenia	3 351	123	<5	297	46	55.5	19
Azerbaijan	7 164	132	<5	245	63	56.1	25
Georgia	3 490	n/a	n/a	153	n/a	54.2	11
Kazakhstan	12 116	146	<5	449	47	55.6	17
Kyrgyzstan	1 160	123	5.9	283	55	43.8	18
Tajikistan	871	102	30.2	149	63	30.9	39
Turkmenistan	6 798	132	<5	377	59	41.5	19
Uzbekistan	1 717	117	5.7	299	58	44.2	19
CCA		125	7.0	281.5	56	47.7	20.9
Belarus	6 685	141	<5	539	37	57.4	4
Republic of Moldova	2 038	97	<5	357	46	50.0	10
Russian Federation	14 037	128	<5	287	43	59.8	5
Ukraine	3 867	133	<5	411	41	53.5	5
European CIS	-	125	<5	399	42	55.2	6
Albania	4 000	121	<5	344	40	54.4	19
Bosnia and Herzegovina	4 558	122	<5	241	49	60.7	10
FYROM	4 565	117	<5	353	37	54.0	5
Montenegro	7 041	122	<5	284	24	55.6	7
Serbia	5 190	116	<5	391	38	58.6	7
Turkey	10 666	158	<5	454	50	61.9	12
SEE	-	126	<5	345	40	57.5	10
Least developed countries	-	105	29.0	154	68	n/a	n/a

[5] Provisional
[6] Moderate and severe stunting

Developing countries	-	118	14.3	263	56	n/a	n/a
Developed countries	-	135	<5	480	32	n/a	n/a
World	-	122	12.0	302	51	34.1	n/a

Source: World Bank (2013), FAO (2012, 2013a), WHO (2013), UNICEF (2013), UN Data (2013)

III. Focus on the most food insecure sub-region: Caucasus and Central Asia

8. The CCA sub-region is sparsely populated, with at least 40 percent of the population living in rural areas (for Kyrgyzstan, Tajikistan and Uzbekistan this share is more than 60 percent). Agriculture plays an important economic role in the Caucasus and Central Asia (Table 2), though in some countries this role has been decreasing over time.

Table 2. Population, wealth, and livelihood indicators in the CCA sub-region

	Population, mln.	Average GDP growth, annual %	Gini index	Agriculture value added, % of GDP	Rural population, % of total population
	2012	2000-12	2008-12[7]	2012	2012
Armenia	3.0	4.7	31.3	22	36
Azerbaijan	9.3	2.4	33.7	5	46
Georgia	4.5	6.0	42.1	9	47
Kazakhstan	16.8	6.6	29.0	5	46
Kyrgyzstan	5.6	1.5	33.4	20	65
Tajikistan	8.0	7.1	30.8	26	73
Turkmenistan	5.2	11.7	40.0	15	51
Uzbekistan	29.8	8.3	36.7[8]	19	64

Source: World Bank (2013)

9. The overall macroeconomic situation in CCA countries has improved since 2000. Growth rates in this period ranged from 1.5 percent for Kyrgyzstan to an impressive 11.7 percent for Turkmenistan and were not significantly interrupted by the global economic crisis in 2009.

10. Unfortunately, regardless of rather consistent economic growth, all societies in the sub-region remain highly unequal. According to the Gini index estimates (Table 2), the benefits of improved economic stability in the CCA sub-region are not necessarily evenly distributed. As a result, in Uzbekistan 77 percent of the population has an income below USD 2 per day. Likewise, 51 percent of people in Tajikistan and 32 percent of people in Georgia live below the poverty line (Swinnen and Van Herck, 2011). Consequently, poverty still remains the main cause of food insecurity in the sub-region (Sedik et al., 2011).

[7] Latest available
[8] 2003 estimate

11. When it comes to the state of food security, all countries in the CCA sub-region, with the exception of Tajikistan and Uzbekistan, have already met the MDG and WFS goals, halving food insecurity in both absolute and relative terms (Table 3).

Table 3.Progress towards achieving MDG and WFS hunger targets in the CCA sub-region[9]

Number of undernourished (millions) and prevalence of undernourished (%)							
		1990-92[10]	2000-02	2005-07	2008-10	2011-13	Progress
Armenia	mln.	0.8	0.6	0.2	ns	ns	+
	%	24.0	20.2	5.3	<5	<5	+
Azerbaijan	mln.	1.8	0.8	ns	ns	ns	+
	%	23.8	10.1	<5	<5	<5	+
Kazakhstan	mln.	Ns	1.2	ns	ns	ns	+
	%	<5	8.4	<5	<5	<5	+
Kyrgyzstan	mln.	0.8	0.9	0.5	0.5	0.3	+
	%	17.7	17.6	9.7	9.3	5.9	+
Tajikistan	mln.	1.7	2.6	2.3	2.5	2.1	-
	%	30.3	42.1	34.9	37.1	30.2	-
Turkmenistan	mln.	0.4	0.4	0.3	ns	ns	+
	%	9.2	8.4	5.7	<5	<5	+
Uzbekistan	mln.	Ns	3.9	2.5	2.2	1.6	-
	%	<5	15.7	9.7	8.1	5.7	-
Central Asia and Caucasus	mln.	9.7	11.6	7.3	7.0	5.5	+
	%	14.4	16.2	9.8	9.2	7.0	-
Low income economies	mln.	193.0	241.0	236.6	240.8	235.4	-
	%	37.5	36.6	32.2	30.9	28.3	-
Developing regions	mln.	995.5	938.9	892.9	863.0	826.6	-
	%	23.6	18.8	16.7	15.5	14.3	-
World	mln.	1015.3	957.3	906.6	878.2	842.3	-
	%	18.9	15.5	13.8	12.9	12.0	-

Source: FAO (2013a)

12. Kyrgyzstan in particular has shown a significant improvement in achieving global hunger targets since 2000, and especially since 2010. However, 5.7 percent of the Kyrgyz populace is undernourished

[9] Data for Georgia is missing for the majority of food security indicators in the 2013 FAO database; however, according to the study done by the Eurasia Center for Food Security (2012) as of 2012 Georgia met both the MDG and WFS goals.

[10] Estimates of food security indicators for 1990-92 are missing for the CCA countries from FAO (2013); thus, 1992-94 estimates are used instead as we do not anticipate much change between the two periods.

and the country ranks lower in dietary energy supply adequacy than the regional average. Besides, recent improvements in food security statistics are not necessarily the result of significant changes in food or agricultural policy in Kyrgyzstan. Rather, they are attributable to the help provided to the country's poorest families by the United Nations World Food Program, which began in 2010, as well as lower food and gasoline prices (World Food Program, 2012).

13. The situation in Tajikistan and Uzbekistan is cause for even greater concern. About 2 million people in Tajikistan and 1.6 million people in Uzbekistan remain undernourished.

Food availability: much improved, while some concerns still remain

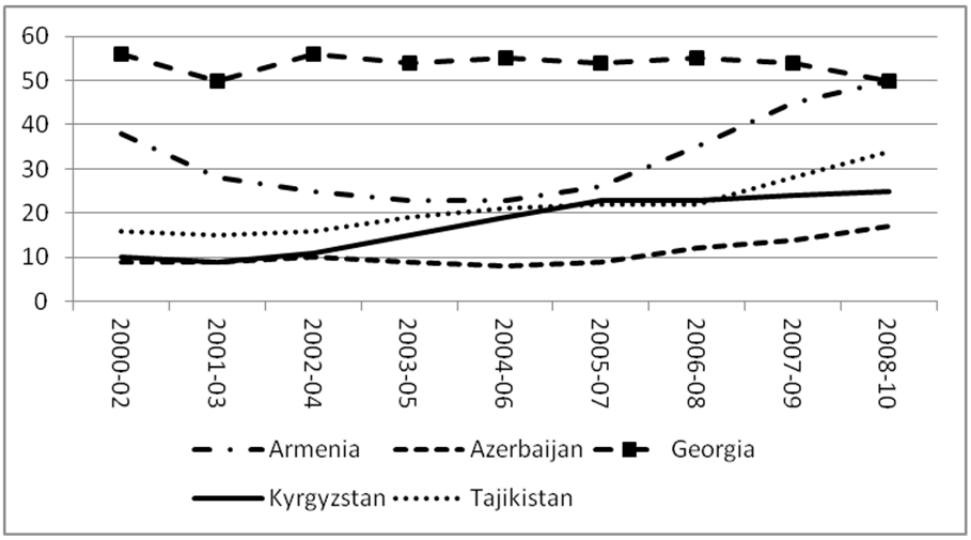
14. The availability of food resources largely depends on the ability of the agricultural sector to supply food products. In all countries in the sub-region the average value of food production has been steadily increasing over time. Specifically, between 2000-02 and 2009-11, the value of agricultural production per capita in the Caucasus and Central Asia increased by 32 percent (FAO, 2013). This represented more than double the rate of global growth. Protein supply has also been progressively increasing since 2000 with a growth rate of 16 percent (twice as high as that of the European CIS and SEE sub-regions).

15. Despite such improvements in agricultural production across the sub-region, Tajikistan still remains a major concern when it comes to food availability indicators. Even though the country is showing positive dynamics in food production, its absolute value remains rather low. In 2009-2011, the average annual value of food production stood at 149 international dollars per capita, lower than the average estimate of 154 international dollars for the least developed countries(Table 1). The country also scored alarmingly low on "depth of food deficit" indicator, which is used to measure the number of calories needed to lift the undernourished from their status, assuming ceteris paribus. Tajikistan's average in 2011-12 was equal to 249 kcal per person per day. Again, this is higher than the average of 215 for the least developed countries.

16. One more common characteristic of the CCA sub-region is that despite an impressive increase in agricultural production, all the countries except Uzbekistan[11] are net importers of agricultural products. The overall value of food imports relative to total merchandise exports is no longer as high as it was during the 1990s, but recent trends suggest that the share of food imports is on the rise again. Since 2000 it has significantly increased for Tajikistan, Armenia, and Kyrgyzstan (Figure 1). Such high reliance on imports makes these countries more vulnerable to fluctuations in foreign supply or to the level of their export earnings.

[11] In Uzbekistan 62 percent of agricultural exports came from cotton lint (2010 est.)

Figure 1: Value of food imports over total merchandise exports in the selected CCA countries, %



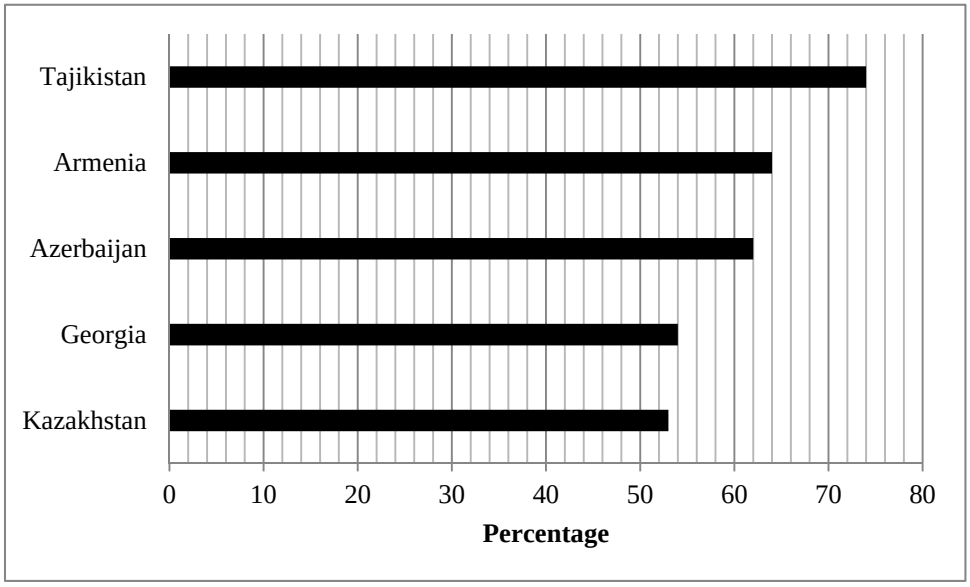
Source: FAO (2013a)

Access to food: uneven progress across the sub-region

17. Central Asia and the Caucasus are comprised of a mix of low- and middle-income economies. Kazakhstan is the sub-region's wealthiest country. Kyrgyzstan and Tajikistan are at the other end of the spectrum. Both countries have seen very poor improvements in their per capita incomes since 2000 and are largely economically dependent on remittances, mainly from Russia. Specifically, remittances in Kyrgyzstan account for 31 percent of that country's GDP. In Tajikistan this share stands at 48 percent, which is the highest in the world (World Bank, 2013). In general, poverty is more prevalent in rural areas than in urban areas throughout the sub-region. It is also closely related to the presence of children in a household with the risk of poverty increasing with each additional child (Gassmann, 2011).

18. Another way to measure poverty is by analyzing the share of household income spent on food. Data provided by the U.S. Department of Agriculture (USDA) (2012) suggests that in most CCA countries, household final consumption expenditure on food consumed at home accounted for more than 30 percent of total household expenditure in 2012 (Figure 2). In comparison, the average German consumer spends about 10 percent, and the average Czech spends 13 percent. However, as is with many indicators that measure food security, these are only average shares. The poorest segments of the population tend to spend a much higher percentage of their incomes on food, as is highlighted in Figure 2.

Figure 2. Share of food expenditure for the lowest income quintile of the population in selected CCA countries, 2005-09[12]



Source: FAO (2013a)

Food utilization: nutrient-deficient and unbalanced diets are universal problems for the sub-region

19. While food availability in the countries of the CCA sub-region does not seem to be a major concern when it comes to food security, the nutritional value and diversity of regional diets is a pressing problem. All the countries in the sub-region have a rather high percentage of under-fives who have stunted growth (highlighted in Table 1). The highest percentages are observed in Tajikistan (39 percent) and Azerbaijan (25 percent). These two countries also have the highest percentage of infants with low birth weight, at 10 percent for each country (UNICEF, 2013). Since indicators of undernourishment measured by caloric intake are low in Azerbaijan (highlighted in Table 1), the high level of stunting among children suggests that nutrition-enhancing interventions should take priority among the policy measures in order to improve the nutritional aspects of food security in the country.

20. Moreover, according to calculations provided by the Economic Intelligence Unit, in 2013 Azerbaijan, Tajikistan, and Uzbekistan lagged behind the world average in animal iron availability (the sum of iron derived from animal products), as well as overall protein quality, which measures the presence of nine essential amino acids in the average national diet. For example, an average Tajik consumes less than 0.9 milligrams of animal iron each day, as opposed to an average of 3.8 mg in Kazakhstan and 4.1 mg in Russia. One of the contributing factors to malnutrition across the sub-region is the overall lack of knowledge about proper nutritional practices and the absence of relevant educational programs.

21. On the positive side, in the last two decades the countries of the CCA sub-region have seen increases in fruit and vegetable production, which is important for improving diets. For example, between 1991 and 2010, vegetable production in the Central Asian countries increased by 72 percent, with the highest per annum growth levels seen in Tajikistan and Uzbekistan (FAO, 2013b). With regards to fruits, Central Asian production increased by 60 percent. Similar positive trends were also observed in Armenia and Azerbaijan.

22. Despite a positive growth in food production in Tajikistan, including meat production, a recent study shows that the nutritional value of an average Tajik's diet falls below the level necessary to maintain physiological health in all nutrient categories except for fats (Asadov, 2013). It is especially deficient in nutrients derived from fish and seafood products; in 2011 the actual consumption of such

[12] Latest available

products constituted only 1.3 percent of the physiological norm requirement. This example further reinforces the important role that incomes play in safeguarding household food security.

Food Stability: increased fluctuations in food supply are a rapidly growing concern

23. One of the key factors that negatively affects the stability of food supply in the Caucasus and Central Asia is related to climate change processes (Sedik et al., 2011, Meyers et al., 2011). The sub-region is facing warmer temperatures and a changing hydrology, and has already seen an increase in extreme weather events, such as droughts and floods. This trend is expected to persist. According to the World Bank report, "Adapting to Climate Change in Europe and Central Asia" (2009), all countries in the CCA sub-region (with the exception of Kazakhstan) are ranked as the most exposed in the ECA region to climate change according to the index of vulnerability to climate change[13]. Armenia, Tajikistan, Georgia, and Kyrgyzstan are among the top ten countries in the ECA region that are likely to experience the greatest changes in climate extremes by the end of this century. The environmental legacy of central planning further exacerbates the potential consequences of climate change. Poor management of soil erosion, water resources, pest control, and nutrient conservation are already constraining agricultural productivity and threatening the food security of poor rural communities. For example, about 48 percent of the irrigated area in Central Asian countries is affected by salinization, ranging from 12 percent in Kyrgyzstan to 96 percent in Turkmenistan (Bucknall et al., 2003).

24. Supply shocks caused by extreme weather conditions lead to shortages of food and spikes in food prices, increasing poverty and compromising nutrition. The negative consequences are especially marked in the sub-region's poorest households. For example, the 2000-2001 drought in the CCA sub-region cut the availability of drinking and irrigation water in Tajikistan and Uzbekistan. It also led to increased levels of malnutrition, as households eliminated animal products from their diet. The same drought was estimated to have cost Georgia and Tajikistan 6 percent and 5 percent of their GDPs, respectively (World Bank, 2006).

25. Another risk related to the food stability in CCA sub-region countries is their dependency on food imports and oil exports, which makes them susceptible to price fluctuations on world commodity markets. This was demonstrated during the price spikes in 2007-08 and 2010-11. As a result of both the sharp increases of global commodity prices and wheat export restrictions implemented by Russia, Ukraine and Kazakhstan – which are the key exporters of wheat to the sub-region – a number of countries experienced significant increases in domestic prices. For example, some estimates indicate that during the summer of 2010, prices of wheat flour increased by 35 percent in Kyrgyzstan and 37 percent in Tajikistan. In 2007, Georgia's indicators of poverty incidence, depth and severity among rural dwellers reversed a previous contraction trend and surged upward (FAO, 2009). Consequently, the poorest households, which spent large shares of their income on food, were disproportionately affected. Sharp increases in prices also negatively affect the ability of smallholder farmers to generate enough income. While higher commodity prices can be an incentive to smallholder farmers to increase production, such farmers are often net food buyers and thus end up as net losers.

IV. Diversity of policies to alleviate food insecurity in the Region

26. For all the governments in Central Asia and the Caucasus, food insecurity and poverty have been a high priority for a number of years. In light of this, almost every country in the sub-region has either a national program on food security and/or poverty alleviation. These programs aim to decrease poverty through a variety of economic and social policies that focus on dynamic economic growth, technological modernization, and overall improvements in living standards. Many programs also

[13] The index is comprised of three components. It measures the strength of future climate change relative to today's natural variability, a country's sensitivity to climate change (such as the state of infrastructure or availability of renewable water resources per capita), and a country's adaptive capacity, which is estimated by combining income inequality, economic well-being, and institutional measures.

recognize the importance of specifically focusing on alleviating rural poverty, which they rightfully view as the root cause of food insecurity in their countries. Unfortunately, such programs do not often result in any significant improvements, either due to a lack of financing, weak administrative implementation, or corruption.

27. In general, when it comes to food security, four major policy directions can be seen in the countries of the CCA sub-region:

1) Improvement of agricultural production with a corollary goal of achieving food self-sufficiency;
2) Trade interventions, which include either protecting a country from imports; or stimulating them;
3) Protection of domestic consumers through income transfers and/or food price controls;
4) Market interventions and management of commodity stocks.

28. A strong focus on agricultural production is, in general, a positive development, especially given the large share of agriculture value added in the countries of the sub-region. However, the main constraint to achieving food security goals in the sub-region is not production, but income and income distribution. Therefore, the contribution of agriculture to food security should be more through its role in increasing incomes of the rural population, which is often the lowest of income groups, rather than through increased production. Therefore, the focus of governments needs to be on developing and implementing a comprehensive approach to the revival and development of the agricultural and rural sectors. Delayed reforms, insecure property rights, lack of opportunities for income diversification and continued state interference in production decisions of the farmers remain (to varying degrees) major obstacles in improving agricultural productivity. Recent recommendations released by the “Improved Global Governance for Hunger Reduction Program (IGGHRP)” (2011) further reinforced the importance of the policy focus on smallholder producers in order to reduce rural poverty, increase agricultural output and improve agricultural competitiveness, among other things. While particularly pressing for the Caucasus and Central Asia, similar problems are also often relevant, albeit to varying degrees, for all of the states in both the European CIS and SEE sub-regions.

29. Unfortunately, the agricultural policy emphasis in many countries of the CCA sub-region is currently placed on the extensive methods of expanding production with a strong focus on one or two commodities. As such, between 1991 and 2006, Uzbekistan increased its area dedicated to wheat by 196 percent, (from 488,000 to 1.5 million hectares). This policy has enabled higher levels of production of wheat and flour. At the same time, extensive expansion of territories has resulted in marginal and less productive land being brought into production. This has led to the misuse of land, fertilizer, and water resources, while yields remain rather low in these parts of the country. Similarly, Kazakhstan increased its total planted area by almost 42 percent since 2001; however, wheat yields have declined by 30 percent over the last ten years and are among the lowest in the sub-region.

30. Furthermore, to deal with rising domestic food prices Uzbekistan and Turkmenistan have introduced consumer subsidies or price controls for the most necessary products. While either mechanism can stabilize and control the prices of food items, the economic costs of such programs are usually high, since such a general approach to subsidizing wheat or flour does not prioritize across the households based on income or financial need. In this situation, a significant proportion of subsidies may be provided where no food insecurity exists, thus increasing the subsidy cost to the government.

31. It is important to mention that despite the rather aggressive policy of self-sufficiency that Uzbekistan is pursuing, it is one of the two countries in the sub-region with the most critical food security situation in terms of the MDG and WFS goals. This suggests that while a focus on improving agricultural production is, without a doubt, important and necessary, it should be done in an economically efficient manner and in combination with other policy tools.

32. When it comes to dealing with poverty and malnutrition, overall economic growth seems to be one of the most efficient remedies. Countries in the SEE and European CIS countries testify to this, as do Kazakhstan and Turkmenistan. Since 2000 both of these countries has experienced rather high levels

of GDP growth (6.6 percent in Kazakhstan and 11.7 percent in Turkmenistan). As a result, both countries have shown positive developments in many food security indicators.

33. Income redistribution and social safety net programs that target vulnerable populations are also efficient ways of addressing malnutrition. The precise targeting of needy groups in Armenia, Georgia, Kyrgyzstan and Kazakhstan proved to be successful in improving their access to food and nutritional intake. For example, in Kazakhstan, more than half of the poorest 20 percent people received social assistance in 2007. In Kyrgyzstan, 38 percent of the beneficiaries of the monthly benefit program belonged to the poorest twenty percent of the populace (2008 estimate), which resulted in a 13 percent decrease in extreme poverty in the country that year (Gassmann, 2011). However, in Tajikistan only 1 percent of the households in the poorest quintile receive social benefits (Swinnen and Van Herck, 2011).

34. The importance of facilitating trade and international cooperation should not be underestimated. A recent positive development that is expected to improve agricultural production and rural development in some countries of the CCA sub-region is the implementation of the European Neighborhood Program for Agriculture and Rural Development (European Commission, 2013a). This has been introduced by the EU Commission in a number of its Eastern Partnership countries, such as Azerbaijan, Armenia, and Georgia. The goal of such programs is to spread the EU's best practices to developing agricultural sectors and rural areas, to provide grants to farmers, and further spur reforms in agriculture and rural development in the recipient countries. Similar partnerships have also been developed with the countries of the SEE sub-region under the Instrument for Pre-Accession Assistance for Rural Development (IPARD) programs, which have already yielded significant results (European Commission, 2013b). Further positive impacts on economic development and the potential for subsequent increases in incomes can also be achieved by governments actively and consistently participating in inter-regional and international trade organizations, such as the Eurasian Economic Community and the World Trade Organization.

35. A strong science and technology system contributes to innovation for equitable agricultural development and food security. Throughout history, public agricultural research and the adoption of technology adoption have enabled a growing populace to avoid mass starvation. If properly focused, agricultural innovations can also enhance the nutritional value of our food. Therefore, policy options for boosting research and innovations in agriculture should be an intrinsic part of national or regional food security strategies. This is especially valid for many countries in Eastern Europe, the Caucasus and Central Asia, where agricultural innovation systems are still weak, fragmented, and poorly linked with farmers, civil society organizations and the private sector, thus dramatically limiting their capacities to meet the challenges of food security, poverty reduction and malnutrition.

V. Conclusion: Future prospects and emerging issues

36. FAO forecasts suggest that as we approach 2050, the prevalence of undernourishment in the countries of the ECA will eventually fall to less than 1 percent (Bruinsma, 2012). However, the level of caloric intake is currently not the major problem for countries in all three sub-regions. Challenges related to food access, stability, and utilization are more pressing, and will likely remain so in the future.

37. Unless comprehensively addressed, underinvestment in agricultural and rural sectors, land fragmentation, and weak property rights will continue to inhibit agricultural growth in many countries of the CCA and European CIS sub-regions. Land degradation, limited water supplies, and extensive agriculture are already taking their toll on regional agricultural productivity, particularly in the Caucasus and Central Asia. This problem is further exacerbated by the increasing frequency and severity of weather damage to crops caused by climate change processes. Furthermore, analysts around the globe project that agricultural commodity and oil prices are likely to remain volatile and are not likely to decrease to levels seen in the early 2000s. This brings even more uncertainty and volatility to agricultural markets. At the same time, income inequality has been growing in many countries of the ECA region, exposing the poorest households to the risk of food insecurity. Last, but

not least, the prevalence of overweight and obese people is rapidly becoming a major risk factor across all the sub-regions.

38. All these issues will shape agricultural production and the state of food security in the years to come. However, the magnitude of their contribution will largely depend on policy priorities and their subsequent implementations by the governments. The main challenge will be to devise policy strategies and principles that are sustainable in the unpredictable environment of the coming years and, at the same time, to take advantage of the opportunities that may emerge.

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