SUSTAINABLE DEVELOPMENT OF THE EUROPEAN FOOD SYSTEM

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Abstract

This report focuses on food and food security in the context of sustainable development. The trend of food waste is constantly increasing. The focus is on prevention activities, protection measures, food safety and other factors. It is necessary to provide sustenance for the increasing number of inhabitants of the planet. In the conditions of membership in the European Union, the achievement of the set goals in the period after 2020 is of essential importance for the applied policy in the agricultural sector of Bulgaria, and more specifically: ensuring food security for the population, manifested in viable food production; maintaining and creating employment; achieving balanced territorial development; introduction of innovative agricultural technologies; protection of the environment and organization of environmentally friendly animal breeding activity; reducing the impact of climate change and adapting to it and others.

Key words: sustainable development, agricultural sector, food security, food safety.

JEL: Q18, O13

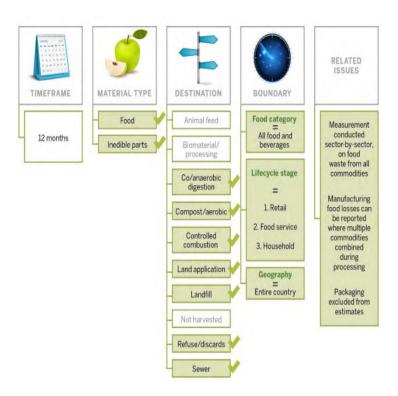
Introduction

Food production guarantees the food security of over 400 million European citizens. However, the problem boils down to the entrenched food model. On the one hand, over 50% of Europeans are overweight. On the other hand, it is necessary to reduce food loss and waste. The solution is sought in the reformation of the common European agricultural policy - through the development of sustainable agricultural practices. In this direction, attention is directed to the implementation of the goals set in the "from the farm to the table" strategy. The limitations are in terms of indicators for measuring sustainability from production to consumption. There is a need to find ways to reduce food loss and food waste. The expected result is the achievement of a sustainable European food system - a modernized food chain, ensuring safe food and protection of people and nature.

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Exhibition

The food system can be represented as a system that supplies food to the population and is committed to their safe consumption. The requirements are reduced to the following three aspects: social aspect; economic aspect and environmental aspect. An index known as the Food Waste Index – Figure 1 – is used to measure the amount of food waste.



Source: UNEP Food Waste Index Report 2021

Figure 1: Definitions of food waste used for the Food Waste Index

The "from farm to table" strategy presented on May 20, 2020 sets the ambitious goal of changing the European food system and turning it into a sustainable model (European Council, Council of the European Union, 2023). The stated strategy aims at a change in the ways of production, purchase and consumption of food. The aim is to reduce the negative effect on the climate. At the European level, the amounts of food waste are presented in Table 1.

able 1: Food waste quantity by sectors, 2020-2021

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(tones/fresh mass)

						Indicators	tors					
Country	Total for	Total food waste	Primary production	roduction	Processing and	ing and	Retail and other	nd other	Restaurants and food	s and food	Households	olds
					manufacturing	cturing	distribution of food	poof jo u	services	ices		
	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021
EU ⁽¹⁾	58 512 559	58 400 000	6 067 377	5 100 000	11 806 452	12 400 000	4 079 709	4 200 000	5 275 265	5 400 000	31 283 755	31 300 000
Belgium	2 881 897	3 034 977	38 699	34 610	1 862 177	2 022 535	73 591	89 2 68	88 333	69 3 9 6	819 097	811 895
Bulgaria	596 844	711 844	228 472	60 081	156 435	131 495	15 708	41 211	14 375	117 016	181 854	362 041
Czechia ⁽¹⁾	972 445	972 445	27 022	27 022	100 339	100 339	64 394	64 394	37 941	37 941	742 749	742 749
Denmark	1 286 488	1 344550	66 452	57 985	596 599	607 639	99 500	167 66	62 544	72 081	461 392	507 000
Germany ⁽¹⁾	10 922 321	10 922 321	190 203	190 203	1 612 505	1 612 505	762 352	762 352	1 860 980	1 860 980	6 496 282	6 496 282
Estonia	166 513	170 501	23 612	18 638	31 622	41 302	19 976	13 113	10 739	12 474	80 564	84 975
Ireland	770 316	753 081	70 413	52 691	219 453	215 601	60 894	75 019	178 507	188 955	241 048	220 816
Greece ⁽¹⁾⁽²⁾	2 048 189	2 048 189	372 204	372 204	375 158	375 158	150 472	150 472	220 032	220 032	930 323	930 323
Spain(1)(2)	4 260 845	4 260 845	845 620	845 620	1 419 257	1 419 257	348 219	348 219	213 023	213 023	1 434 726	1 434 726
France	000 000 6	8 764 000	1 059 000	1 244 000	1 926 000	1 720 000	800 000	633 000	1 096 000	1 084 000	4 119 000	4 083 000
Croatia	286 379	280 008	40 916	39 248	998 6	9 464	4 180	4 103	15 072	14 797	216 345	212 396
Italy ⁽²⁾	8 650 456	8 291 265	1 270 638	672 971	510 018	542 409	343 535	474 252	193 915	263 013	6 332 349	6 338 620
$Cyprus^{(1)(2)}$	354 021	354 021	43 564	43 564	169 706	169 706	50 268	50 268	27 145	27 145	63 338	63 338
Latvia ⁽²⁾	275 304	245 442	32 487	30 592	36 107	32 518	14 765	16 765	35 436	28 617	156 509	136 950
Lithuania	382 665	390 645	81 202	81 202	28 057	29 271	27 342	33 951	4 495	4 651	241 570	241 570
Luxemburg	92 580	83 622	7 384	7 235	10 692	11 333	8 525	8 861	8 739	9 4 6 6	57 240	46 727
Hungary	890 506	883 486	16 587	12 963	187 391	159 309	41 952	57 278	19 331	19 337	908 689	634 598
Malta ⁽¹⁾	79 589	79 589	759	759	4 668	4 668	3 910	3 910	23 016	23 016	47 235	47 235
Netherlands	2 811 000	2 586 744	463 045	315 150	1 031 407	1 131 100	209 805	209 805	83 035	83 035	1 023 708	847 654
Austria	1 211 534	1 201 165	13 879	9 555	173 734	187 425	84 326	84 286	201 956	178 428	737 639	741 472
Poland	4 002 099	4 281 212	670 547	639 352	544 942	809 287	320 396	345 514	190 293	186 433	2 275 921	2 300 626
Portugal	1 890 712	1874832	101 384	126 392	61 719	75 257	214 233	224 838	237 486	162 903	1 275 891	1 285 442
Romania												
Slovenia	143 570	143 254	93	71	10 757	13 428	15 290	14 465	42 666	39 923	74 764	75 368
Slovakia	455 587	537 486	71 889	23 764	4 113	125 013	15 825	17 630	7 110	8 8 8 8	356 650	362 091
Finland	641 258	693 662	48 011	49 950	162 278	158 334	57 555	57 460	77 914	80 991	295 500	346 927
Sweden	905 000	000 006	22 000	22 000	53 000	53 000	97 000	108 000	000 86	000 86	635 000	619 000
Norway	196 691	777 404	162 158	177 958	29 088	28 338	61 281	69 221	97 547	94 556	419 893	407 331
Source: Eurostat	tat											

A key factor is the payment possibility of the population. A third of Europeans consume organic food (32%). For comparison: in Bulgaria this share is 12%.

Note: (*) not available. Some dates are estimates. 0) 2021 data not reported, 2020 data presented $^{\Omega}$ Definition differs in some figures.

Meat consumption in the European Union is 31%, compared to 15% in Bulgaria. (European Parliament, 2021). The payment possibility of the population is also related to the generation of the amount of food waste – table 2.

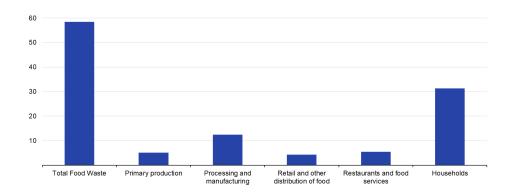
Table 2: Food waste quantity by sector for the period 2020-2021

	Food waste				
	2020		2021		
Sector	Quantity (kg per inhabitant)	Share (%)	Quantity (kg per inhabitant)	Share (%)	
Households	70	53	70	54	
Retail and other distribution of food			9	7	
Restaurants and food services	12	9	12	9	
Primary production	14	11	11	8	
Processing and manufacturing	26	20	28	22	
Total	131	100	130*	100	

Source: Autor

Note: A certain discrepancy with the publicly disclosed data was found (ec. europa.eu/eurostat /statistics-explained/index.php?title=Food_waste_and_food_waste_prevention_-_estimates)

From the data in the table, it is clear that more than 50% of the amount of food waste is generated in households, followed by the processing sector, etc. Schematically, the data for the year 2021 of the estimated amounts of food waste (tones/fresh mass) are presented in Figure 2.



Source: Eurostat

Figure 2: Food waste estimations in the European Union (million tones/fresh mass), 2021

The amounts of food waste from selected sectors and the amounts of food offered on the European market remain relatively constant - table 3.

Table 3: Food waste quantity (kg per inhabitant)

Food waste a selected		Estimated consumed food		Food supply quantity, FAO		
2020	2021	2020	2021	2019	2020	
91	92	788	784	879	876	

Source: Autor

Note: selected sectors for food waste: "Retail and other distribution of food", "Restaurants and food services" and "Households"

Data: Eurostat and FAO

According to data from the United Nations, 10% of the world's population is hungry - about 800 million people worldwide. An estimated 735 million people faced hunger in 2022. This represents an increase of 122 million people from 2019.

Conclusion

To prevent food insecurity at the European level, efforts are needed to reduce the amount of food waste, and more specifically:

First. It is necessary to increase the level of awareness after the public and private sector and civil society.

Second. Correct interpretation of waste measurement definitions between sectors.

Third. Development of guidelines for the utilization of surplus amounts of food, to prevent the formation of food waste, including of unused and underutilized ones.

Fourth. Revision of the common European agricultural policy in its part of subsidizing production in the agrarian sector.

References

- 1. European Council, Council of the European Union. (2023) From farm to fork [Online]. Available at: www.consilium.europa.eu/en/policies/fromfarm-to-fork/ (Accessed: 27 September 2023)
- 2. European Parliament. (2021) Creating a sustainable food system: the EU's strategy. [Online]. Available at: www.europarl.europa.eu/news/en/headlines/society/20200519STO79425/creating-a-sustainable-food-system-the-eu-s-strategy (Accessed: 27 September 2023)
- 3. Eurostat. (2023) Food waste and food waste prevention estimates [Online]. Available at: ec.europa.eu/eurostat/statistics-explained/

- index.php?title=Food_waste_and_food_waste_prevention_-_estimates (Accessed: 29 September 2023)
- 4. UNEP Food Waste Index Report 2021. (2021) [Online]. Available at: wed-ocs.unep.org/ bitstream/handle/20.500.11822/35356/FWA.pdf (Accessed: 29 September 2023)