

AVAILABILITY OF RICE IN ROMANIAN INTERNATIONAL CONTEXT (2009 – 2011)

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Key words: available totally, available annually, available caloric, the available protein, the available lipid

ABSTRACT

The paper aims to present the level of indicators that highlight the available rice food (total food available, annual food available, daily available food, daily caloric intake, daily protein availability and daily lipid availability).

The analysis period was 2009-2011, so that the situation of the food supply is sequentially captured.

In the case of total available food, Asia (90.85% of total), annual food available in kg / pers. is predominant. (g / pers.) was 287.64 g / pers., the available daily caloric food (kcal / pers.) has fairly wide range of variations (from 29, 33 to 1060.67 kcal / pers. in Romania and Asia respectively, the average being of 711.67 kcal / pers. - the evolution of the global level of the indicator was an ascending one), the daily available protein (g / pers.) evolved ascending to and the daily available lipid (g / pers.) has a world average of 2.18 g / person, which is only 1.55 times higher in Asia.

INTRODUCTION

Consumer attitudes about high levels of saturated fat, sugar and salt in food, and awareness of the risks of food additives and pesticide residues, stimulated healthy food demand and led to significant changes in the food sector in terms of active food promotion free of additives and agrochemical residues.

Food security does not mean food uniformity. The food safety system is common to all EU countries, but it allows for the diversity of production methods and national specifics.

Production of rice, are important for food, industrial and agricultural technology and technological.

The mature rice beans, as used in human food, have a higher content of non-added extractive substances and a lower protein, fat and cellulose content compared to other cereals.

As rice is a cereal, it is considered necessary to present how this product appears as part of the cereal market. One of the basic functions of the cereal grain market is that it is the basis for the production of meat, milk, eggs, etc. and at the same time constitute raw material for the food industry. The physio-chemical properties of cereal grains allow long-distance transport and long-term transport. That is why in all countries the method of setting up the reserve fund for cereals, meant to provide food for humans and animals in special cases.

Consumption demand for cereal products is a form of materialization of the consumption needs of the population, given the existence on the market of a certain offer from sellers and the purchasing power of consumers.

The relationship between demand and supply of grain for grain is considered a fundamental part of the grain market functionality.

Factors influencing supply and demand for cereal grain tend to deviate from the equilibrium point, which is why price regulation is always taking place.

The demand for grain cereal consumption is generally characterized by its invariability.

Under the conditions of the free market, by confronting the internal factors belonging to the demand and supply, plus the external factors, the price of a certain good is formed.

Analyzed over time, demand is the main factor influencing price levels, and in the long run, the main factor is the supply.

METHOD AND MATERIAL

A system of indicators specific to the assessment of the availability of agricultural products, a system used and recommended (internationally) by FAO (United Nations Food and Agriculture Organization).

The indicators used were: total food available (thousand tons), annual food available (kg / pers.), daily available food (g / pers), daily available calorie kcal / pers, and available lipid daily (g / pers.) - 2009-2011.

The situation in Romania is highlighted in an international context based on a comparative analysis of the world situation, that of the European Union and continental units - Africa, America (North, South, Central, Caribbean), Asia, Europe and Oceania (Australia, New Zealand, Polynesia, etc.).

A comparison was used as a working method in space. The temporal sequences included in the analysis were completed with their average.

RESULTS AND DISCUSSIONS

Table 1 shows the coordinates of the total available rice for the 2009-2011 period.

Table 1.

Specification	Available food total (thousand tonnes)							
	2009		2010		2011		Average**	
	Effective*	Str. %**	Effective*	Str. %**	Effective*	Str. %**	Effective	Str. %
Africa	31211479,52	4,45	32581425,08	4,59	34471363,90	4,77	32754756,16	4,61
America	26399424,21	3,77	26188744,55	3,69	26799535,72	3,70	26462568,17	3,72
Asia	637039740,76	90,95	644953855,42	90,90	655377176,08	90,69	645790257,42	90,85
Europe	5148208,94	0,74	5156203,48	0,73	5467971,17	0,76	5257461,19	0,74
Oceania	597729,51	0,09	618025,20	0,09	569293,02	0,08	595015,91	0,08
Mondial	700396582,94	100	709498253,73	100	722685339,89	100	710860058,85	100
U.E.	3598104,72	0,51	3656202,24	0,52	3959465,17	0,55	3737924,04	0,53
Romania	107557,47	0,02	61950,17	0,01	127686,98	0,02	99064,87	0,02

<http://faostat3.fao.org/download/FB/CC/F> (12.12.2016)

** own calculation

In 2009, the global indicator was 700396582,94 t, of which the contribution at the continental level was the following: 597729,51 t Oceania (0,09%), 5148208,94 t Europe (0,74%), 26399424,21 t America (3,77%), 31211479,52 t Africa (4,45%), and 637039740,76 t Asia (90,95%). For the European Union and Romania there were levels of 3598104,72 and 107557,47 t respectively (0.51% and 0.02% of the world total).

In 2010, variable levels of the indicator are discussed, from 618025,20 tons in the case of Oceania to 644953855,42 tons for Asia (extreme weights of 0,09 and 90,90%) and the overall global indicator showed a share of 709498253,73 tons. Europe added 5156203,48 t (0.73%), America with 26188744.55 t (3.69%) and Africa with 32581425.08 t (4.59%). The weight of Romania and the European Union at the world level was 0.01 and 0.52% respectively (61950,17 and 3656202,24 tons).

If we refer to the specific situation of 2011, there is a global situation characterized by a total available of 722685339,89 t, constituted by percentage contributions as follows: 90,69% Asia (65577176,08 t), 4,77% Africa 34471363.90 t), 3,70% America (26799535.72 t), 0,76% Europe (5467971.17 t), and 0,08% Oceania (569293.02 t). The situation of the

European Union and Romania is reflected by weighting of 0.55 and 0.02% worldwide (3959465,17 and 127686.98 t respectively).

On the basis of the data presented above, the average of the period resulted in the following structural aspects: 710860058,85 t available worldwide; 595015.91 t Oceania (0.08%); 5257461,19 t Europe (0.74%); 26462568,17 t America (3.72%); 32754756,16 t Africa (4.61%); 645790257,42 t Asia (90,85%) - Figure 1.

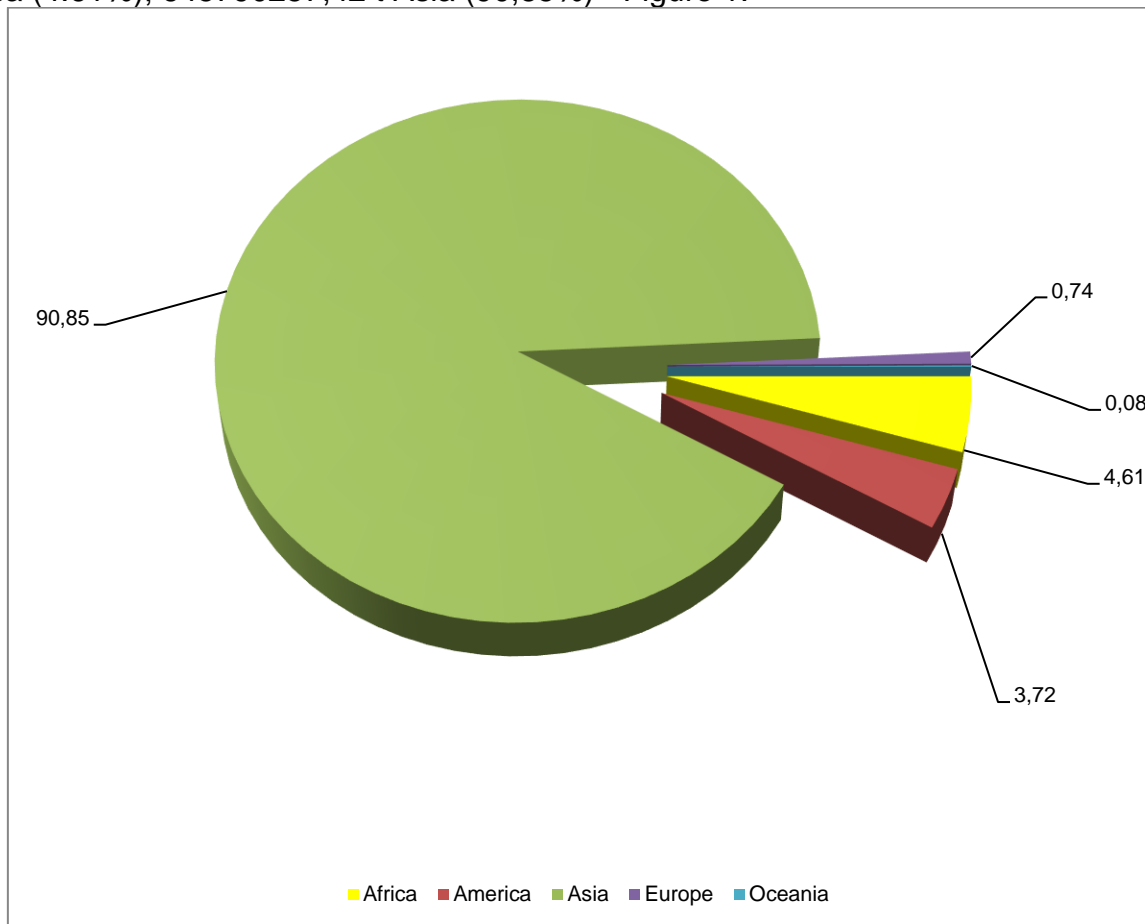


Fig. 1. Structure of the total world food supply (%) - the average of the period

For the European Union and Romania, the average availability was 3737924,04 and 99064,87 t, respectively, weights of 0,53 and 0,02% worldwide.

Table 2 shows the annual food availability situation, expressed in kilograms per person.

Table 2.

Annual food availability (kg/pers.)

Specific.	2009		2010		2011		Average**	
	Effective*	% compared to the average**	Effective*	% compared to the average**	Effective*	% compared to the average**	Effective	% compared to the average
Africa	34,27	32,75	34,92	33,32	36,09	34,20	35,09	33,42
America	28,64	27,37	27,94	26,66	28,30	26,82	28,29	26,95
Asia	155,85	148,94	156,12	148,98	156,98	148,75	156,32	148,89
Europe	6,97	6,66	6,97	6,65	7,38	6,99	7,11	6,77
Oceania	20,79	19,87	21,17	20,20	19,23	18,22	20,40	19,43
World	104,64	100	104,79	100	105,53	100	104,99	100
U.E.	7,13	6,81	7,23	6,90	7,80	7,39	7,39	7,04
Romania	4,91	4,69	2,83	2,70	5,85	5,54	4,53	4,31

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** own calculation

Regarding the specific situation of 2009, there is a world-wide available food supply of 104.64 kg / person, compared with only higher levels in Asia (155.85 kg / person - 148.94%). and subunit levels for Africa, America, Oceania and Europe (34.27, 28.64, 20.79 and 6.97 kg / person - 32.75, 27.37, 19.87 and 6.66% respectively).

In 2010, the indicator ranged from 6.97 kg / person. in Europe up to 156.12 kg / person. at Asia level (6.65 and 148.98%, respectively), thus - in conjunction with the other continental situations (21.17, 27.94 and 34.92 kg / pers. for Oceania, America and Africa - positions at 20, 20, 26.66 and 33.32%, respectively) - the world indicator was 104.79 kg / pers.

If we analyze the specific situation for 2011, there is a global indicator level of 105.53 kg / person, with limits of 7.38 kg / person. in Europe (6.99%) and 156.98 kg / person. in Asia (148.75%). The rest of the continents recorded: 19.23 kg / person. Oceania (18.22%), 28.30 kg / pers. America (26.82%) and 36.092 kg / person. Africa (34,20%).

For the European Union, there are sequential levels of annual feed availability of: 7,13, 7,23, 7,80 and 7,39 kg / person. (2011, 2010, 2009 and the average of the period respectively), while the national situation was the following: 4.91, 2.83, 5.85 and 4.53 kg / pers. (2011, 2010, 2009 and the average of the period).

The average of the period reached 104.99 kg / person, with the continental situation as follows: -95.69% Romania (4.53 kg / pers.); -93.23% Europe (7.11 kg / pers.); -92.96% European Union (7.39 kg / pers.); -80.57% Oceania (20.40 kg / pers.); -73.05% America (28.29 kg / pers.); -66.58% Africa (35.09 kg / pers.); + 48.89% Asia (156.32 kg / pers.).

Table 3 shows the specific situation of the daily available food of which (g / pers.) Worldwide and for the entities under analysis.

Regarding the situation in 2009, there is a global level of the indicator of 286.69 g / pers., compared to which are found subunit levels (4.69, 6.66, 6.82, 19.87, 27, 20 and 32.75% respectively 13.45, 19.09, 19.54, 56.97, 77.97 and 93.90 g / pers. for Romania, Europe, the European Union, Oceania, America and Africa). and supra-unit values (148.93% - 426.98 g / pers. for Asia).

If we relate to 2010, there are levels of variation of the indicator of 7.76 and 427.73 g / person. in the case of Romania and Asia respectively, limitations that corroborate with the other situations of the analyzed territorial units, led to a global indicator of 287.08 g / pers. Romania, Europe, European Union, Oceania and Africa and have levels (2.70, 6.65, 6.90, 20.20, 26.66 and 33.32% respectively - effective levels of 7.76, 19.09, 19.80, 58.0, 76.54 and 95.66 g / pers.), Asia has a supra-unitary level (148.99% and 427.73 g / pers. respectively).

Table 3.

Available daily food quantity (g/pers.)

Specific.	2009		2010		2011		Average**	
	Eff*	% compared to the average**	Eff*	% compared to the average**	Eff*	% compared to the average**	Eff.	% compared to the average
Africa	93,90	32,75	95,66	33,32	98,87	34,19	96,14	33,42
America	77,97	27,20	76,54	26,66	77,53	26,81	77,35	26,89
Asia	426,98	148,93	427,73	148,99	430,08	148,74	428,26	148,89
Europe	19,09	6,66	19,09	6,65	20,22	6,99	19,47	6,77
Oceania	56,97	19,87	58,00	20,20	52,68	18,22	55,88	19,43
World	286,69	100	287,08	100	289,14	100	287,64	100
U.E.	19,54	6,82	19,80	6,90	21,38	7,39	20,24	7,04
Romania	13,45	4,69	7,76	2,70	16,04	5,55	12,42	4,32

<http://faostat3.fao.org/download/FB/CC/F> (12.12.2016)

** own calculation

Regarding the state of affairs in 2011, it is noted that at the global level, the indicator reached 289.14 g / pers., with less favorable situations for Romania, Europe, the European Union, Oceania, America and Africa (16,04, 20,22, 21,38, 52,68, 77,53 and 98,87 g / pers., respectively decreases compared to the comparison level of 94,45, 93,01, 92,61, 81,78, 73.19 and 65.81%) and a favorable situation in Asia (430.08 g / pers. - 148.74% relative to the world average).

The average of the period is characterized by an actual world level of the indicator of 287.64 g / pers., against which the following positions are found: -95.68% Romania (12.42 g / pers.); -93.23% Europe (19.47 g / pers.); -92.96% European Union (20.24 g / person); -80.57% Oceania (55.88 g / pers.); -73.11% America (77.35 g / person); -66.58% Africa (96.14 g / pers.); + 48.89% Asia (428.26 g / pers.).

Daily data on rice available in kcal / person are shown in the table.

Table 4.

Available daily caloric food (kcal/pers.)

Specific.	2009		2010		2011		Average**	
	Eff*	% compared to the average**	Eff*	% compared to the average**	Eff*	% compared to the average**	Eff	% compared to the average
Africa	229	32,25	232	32,63	240	33,61	233,67	32,83
America	193	27,18	190	26,72	193	27,03	192,00	26,98
Asia	1059	149,15	1060	149,09	1063	148,88	1060,67	149,04
Europe	47	6,62	47	6,61	50	7,01	48,00	6,74
Oceania	132	18,59	134	18,85	121	16,95	129,00	18,13
World	710	100	711	100	714	100	711,67	100
U.E.	49	6,90	50	7,03	54	7,56	51,00	7,17
Romania	32	4,51	18	2,53	38	5,32	29,33	4,12

<http://faostat3.fao.org/download/FB/CC/F> (12.12.2016)

** own calculation

Analyzing the 2009 specific situation, indicators of variation of the indicator from 32 kcal / pers. are found. for Romania (-95.49% compared to the world situation), up to 1059 kcal / pers. in the case of Asia (1.49 times the world situation) and the general level of the indicator reached 710 kcal / pers. Compared to this level, there are only subunit values (Europe, European Union, Oceania, America and Africa - 47, 49, 132, 193, and 229 kcal / pers., respectively -93.38, -93.10, -81.41, -73.82 and -67.75% relative to the world level).

The year 2010 is characterized by a world level of the indicator of 711 kcal / person, which is based on specific situations of: 18 kcal / pers. Romania (-97,47%), 47 kcal / pers. Europe (-93.39%), 50 kcal / pers. European Union (-92.97%), 134 kcal / pers. Oceania (-81.15%), 190 kcal / pers. America (-73.28%), 232 kcal / pers. Africa (67.37%) and 1060 kcal / pers. Asia (+ 49.09%).

At the level of 2011, indicators of the indicator range are 38 kcal / pers. in the case of Romania up to 1063 kcal / pers. in the case of Asia, to which, by adding the specific values of the other analyzed entities, a world level of 714 kcal / pers. was reached. The relative values of the sequential indicators were only subunit for Europe (7.01% - 50 kcal / pers.), The European Union (7.56% - 54 kcal / pers.), Oceania (16.95% - 121 kcal / pers.), America (27.03% - 193 kcal / - 240 kcal / pers.). Asia is the only continent that exceeds the world level by 48.88%.

If we refer to the average of the period, there is a world level of the indicator of 711.67 kcal / person, to which the analyzed territorial units were placed as follows: - 95.88% Romania (29.33 kcal / pers.); -93.26% Europe (48 kcal / pers.), - 92.83% European Union (51 kcal / pers.); -81.87% Oceania (129 kcal / pers.); -73.02% America (192 kcal / pers.); - 66.17% Africa (233.67 kcal / pers.); + 49.04% Asia (1060.67 kcal / pers.).

Table 5 shows the data on daily protein availability, expressed in grams per person.

Table 5.

Available protein daily (g/pers.)

Specific.	2009		2010		2011		Media**	
	Eff*	% compared to the average **	Eff*	% compared to the average **	Eff*	% compared to the average **	Eff	% compared to the average
Africa	4,54	34,06	4,61	34,56	4,76	35,68	4,64	34,78
America	3,77	28,28	3,71	27,81	3,77	28,26	3,75	28,11
Asia	19,78	148,38	19,80	148,43	19,75	148,05	19,78	148,28
Europe	0,89	6,68	0,89	6,67	0,95	7,12	0,91	6,82
Oceania	2,49	18,68	2,53	18,97	2,29	17,17	2,44	18,29
World	13,33	100	13,34	100	13,34	100	13,34	100
U.E.	0,94	7,05	0,95	7,12	1,03	7,72	0,97	7,27
Romania	0,63	0,45	0,36	2,70	0,73	5,47	0,57	4,27

<http://faostat3.fao.org/download/FB/CC/F> (12.12.2016)

** own calculation

At the level of 2009, there is a 13.33 g / pers. indicator worldwide, ranging from 0.63 to 19.78 g / pers. in the case of Romania and Asia respectively (-99.55 and +48.38% compared to the world average). The other analyzed components show the following situation: 0.89 g / pers. Europe (-93.32%), 0.94 g / pers. European Union (-92.95%), 2.49 g / pers. Oceania (-81.32%), 3.77 g / pers. America (-71.72%), 4.54 g / pers. Africa (-65.94%).

In the case of 2010, variation limits of the indicator were recorded, from 0.36 g / person. Romania (2.70% compared to the world indicator level) up to 19.80 g / pers. Asia (148.43%), and the world situation was 13.34 g / pers. The rest of the analyzed territorial units recorded levels of: 0.89 g / pers. Europe (6.67%), 0.95 g / pers. European Union (7.12%), 2.53 g / pers. Oceania (18.97%). 3.71 g / pers. America (27.81%) and 4.61 g / person. Africa (34,56%).

Compared to 2011, the world indicator reached 13.34 g / person, compared to both subunit levels (Romania - 0.73 g / pers. and 5.47% respectively, Europe - 0.95 g / person respectively 7,12%, the European Union - 1,03 g / person respectively 7,72%, Oceania - 2,29 g / pers. respectively 17,17%, America - 3,77 g / pers. respectively 28, 26%, Africa - 4.76 g / pers. and 35.68% respectively), as well as higher levels (Asia - 19.75 g / pers. and 148.05% respectively).

If we refer to the average of the period, there is a global level of 13.34 g / pers., against which the analyzed territorial units were placed as follows: -95.73% Romania (0.57 g / pers.) -93.18% Europe (0.91 g / person) - 92.73% European Union (0.97 g / person); - 81.71% Oceania (2.44 g / pers.); -71.89% America (3.75 g / pers.); -65.22% Africa (4.64 g / pers.); + 48.28% Asia (19.78 g / pers.).

Table 6 shows the daily lipid availability data, expressed in grams per person.

Table 6.

Available lipid daily (g/pers.)

Specific.	2009		2010		2011		Media**	
	Eff*	% compared to the average **	Eff*	% compared to the average **	Eff*	% compared to the average **	Eff	% compared to the average **
Africa	0,47	21,17	0,47	21,27	0,48	22,64	0,47	21,56
America	0,32	14,41	0,32	14,48	0,32	15,09	0,32	14,68
Asia	3,44	154,95	3,43	155,20	3,27	154,25	3,38	155,05
Europe	0,10	4,50	0,09	4,07	0,10	4,72	0,10	4,59
Oceania	0,26	11,71	0,25	11,31	0,23	10,85	0,25	11,47
World	2,22	100	2,21	100	2,12	100	2,18	100
U.E.	0,10	4,50	0,10	4,52	0,11	5,19	0,10	4,59
Romania	0,06	2,70	0,04	1,81	0,06	2,83	0,05	2,29

<http://faostat3.fao.org/download/FB/CC/F> (12.12.2016)

** own calculation

The year 2009 shows a worldwide available daily lipid of 2.22g / pers., level based on sequential indicators, as follows: 0.06g / pers. Romania (2.70 compared to the world situation), 0.10 g / pers. Europe and the European Union (4.50%), 0.26 g / person. Oceania (11.71%), 0.32 g / pers. America (14.41%), 0.47 g / pers. Africa (21.17%), 3.44 g / pers. Asia (154.95%).

For 2010, the variation limits of the indicator of 0.04 g / pers. are distinguished. in the case of Romania (1.81% compared to the world level) and 3.43 g / pers. respectively. for Asia (155.20% compared to the global general situation), and the world level reached 2.21 g / person. There are inadequate situations in all other cases: Europe (0.09 g / pers. - 4.07%), The European Union (0.10 g / pers. - 4.52%), Oceania (0.25 g / pers. - 11.31%), America (0.32 g / pers. - 14.48%) and Africa (0.47 g / person - 21.27%).

If we analyze the situation of the daily lipid available for 2011, we can see a world level of the indicator of 2,12 g / pers., which is higher (Asia 3,27 g / pers. - + 54,25%), but also lower values (Romania, Europe, European Union, Oceania, America and Africa (0.06, 0.10, 0.11, 0.23, 0.32 and 0.48 g / person - positions at 2.83, 4.72, 5.19, 10.85, 15.09 and 22.64% compared to the situation worldwide).

The average of the period is characterized by a world level of the indicator of 2.18 g / person, to which the analyzed territorial units were placed as follows: -97.71% Romania (0.05 g / person); -95.41% for Europe and the European Union (0.10 g / person); -88.53% Oceania (0.25 g / pers.); -85.32% America (0.32 g / pers.), - 78.44% Africa (0.47 g / pers.), + 55.05% Asia (3.38 g / pers.).

CONCLUSIONS

In the case of total food available, Asia (90.85% of the total) prevails, followed by appreciable distances between Africa and America, while Oceania and Europe have a share of less than 1%. Indicator variation is an upward trend (a situation that is found for the vast majority of analyzed entities except America, Oceania and Romania).

The available annual food, expressed in kg / person, has a fairly large amplitude (149.21 kg), which highlights the different potentials of the continents, as we are talking about a rather large variation in the number of inhabitants. The evolution over time of the indicator has been an upward trend in the world (except for this trend made America, Oceania and Romania fluctuating).

The available daily dietary allowance (g / pers.) was 287.64 g / pers., compared to which only convenient conditions were found in Asia (428.26 g / person). Evolution of the indicator is an ascending one, a tendency towards which differentiations occur as follows: uniformly ascending evolution in Europe, uneven in America, Oceania and Romania.

The available daily caloric food (kcal / pers.) shows fairly wide variation ranges (from 29.33 to 1060.67 kcal / pers. in Romania and Asia respectively, with an average of 711.67 kcal / person). The evolution of the global level of the indicator was an ascending one (the same phenomenon appears for Africa, Asia and the European Union), with exceptions: uniform and ascending evolution for Europe, uneven evolution in America, Oceania and Romania.

The available daily protein (g / pers.) was rising globally, which was also reflected in Africa, Asia and the European Union, while Europe showed a steady upward evolution, and America, Oceania and Romania show developments fluctuating. The most favorable situation occurs in Asia (19.78 g / person), and for Europe, the European Union and Romania do not reach the threshold of 1 g / person.

The available daily lipid (g / pers.) has a world average of 2.18 g / person, only 1.55 times higher in Asia. The rest of the administrative territorial units presented do not reach the threshold of 0.50 g / person (closer levels in Africa and America - 0.47 and 0.32 g / person respectively).

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