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**Food Security and Safety - as Crucial
Elements in Shaping the Future of a Nation**

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Abstract: It is common knowledge that almost 20% of Earth's population is using about 80% of its resources (Brown L. , 2000, pp. 57-58). The current populace number does exceed 7 billion, and despite all extant crises, it can reach nearly 9 billion in 2050 - a number which might stabilise at approximately 10 billion in the prospect of the year 2300. It is already known that food is insufficiently well distributed among people, more than 2/3 of World's population running into difficulties regarding that matter. Provided the current course of soil fertility degradation is maintained – corroborated with population growth, food deficit will dramatically boost in future. The situation may aggravate when the financial crisis shatters the fragility of economies in the poorest countries (Nations, 2004, pp. 52-55). The standard of living and that of well-being of population are two different notions that do also interfere, they being interconnected. The concept of well-being implies a decent standard of living, both at the individual level and at the ceiling of the whole society. Reaching a decent living standard is about achieving a standard of living compatible with human dignity, and is measured by the quantities and types of goods and services by which entire populations might benefit, as well as the rock bottom conditions of living (Bogdan, 2014, pp. 94-99). Ensuring high levels of food security and safety stands for certifying a good standard of living, with offering the possibilities and assurances for national development.

Keywords: food security; poverty; daily basket; standard of living; poverty; relative poverty; absolute poverty; extreme poverty; strategy

1. Food Security

In human beings, sustenance is referred to as foodstuff or food products, in animals it is called fodder, and in plants, it is nutrients that are in use. Foodstuff is presented in the form preparations, processed foods or deli products, with a composition of over 95% organic matter of either vegetable or animal nature and a maximum of 5% inorganic materials, mainly various salts (Brown, et al., 1992, pp. 13-16). Regarding food security, it must be acknowledged that a healthy person is in direct connection with healthy food systems. In other words, we, as human beings, are exactly what we are eating in terms of living energy (nourishment).

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1.1. General Determinations

In 1996, the participants in the World Food Summit considered that *food security consists in ensuring the physical and economic access of the entire population -at all times- to food, in conditions of sufficiency and without constraints - with foods having a high nutritional content, so as to ensure the compliance with mandatory requirements and extant preferences, in view of attaining active and healthy living condition goals* (Brown, et al., 1992, pp. 27-35).

Food security prioritizes the ensuring of food needs for the entire population. More broadly, it refers to the capacity of each state to plan, provide, distribute, protect, process and use food resources for the consumption needs of the internal population, while maintaining free access to economic resources from outside the country (Bogdan, 2014, pp. 99-105). Security is responsible for ensuring the necessary food resources in the required assortments, for the total or partial industrialization in optimal sanitary conditions, for assisting and controlling the distribution of food in the territory, the storage and marketing of existing assortments, as well as the protection of complex alternative solutions of internal circuits. The availability of resources –ones to be exploited under the necessary conditions- stands for the binding condition for achieving human energy security (Berca, 2004, pp. 2-3).

Food security does mainly contain aspects of a predominantly quantitative nature, referring to the food products or commodities needed by a person at a relatively common level of human metabolism. According to some statistics, achieving food security is possible for only a contingent of up to 25-30% of the world's population. The harsh reality in which -out of various reasons- the access to food resources is not guaranteed for the entire world's population is nothing but common knowledge (Brown, 2000, pp. 61-68).

From the geopolitical viewpoint of analysis, food security can be analysed by levels of interest. *Global food security* analyses the food needs of the world's population, the facilitating of food production and of mutual exchanges of food and energy materials to supporting it, according to the possibilities of each country, the achieving its own goals regarding food security, with amicably resolving possible disputes. Globally, the goal of providing the world's food is particularly difficult to attain. The main task of that effort may lie with the specialized agencies of the United Nations Organization (Bogdan, 2014, pp. 102-107).

The *regional food security* involves the establishment of a system of cooperation and understanding among the states located on a distinct geopolitical area, leading to the assumption and observance of those particular rules of conduct applicable to mutual food exchanges – depending on the potential and practices of each state, in view of achieving its own food security objectives, in compliance with the domestic and foreign policy principles. In the European context, Romania must achieve its production, processing and consumption at European Union standards, according to expressly formulated requirements (Berca, 2004, pp. 4-5). The *national food security* is the ultimate expression of the national interest. It takes shape in the establishment, implementation and maintenance of food policies at the state level, regarding food security, with maintaining the health and the harmonious development of the population. The *local food security* considers the food resources, their processing, marketing and use at a local scale. The level is analysed separately, for each administrative structure of reference (county, local action group, commune, village). The *individual food security* can be analysed for each personal household (Bogdan, 2014, pp. 102-107).

Not so long ago, over 800 million people - or over 13% of the world's population- appeared in statistics as being malnourished, approximately 200 million children under the age of 5 having acute protein deficiencies and lacking energy (Brown, et al., 1992, pp. 128-131). Then, President Barack

Obama's statements during his visit to Germany in June 2013 put the number of undernourished people at no less than one billion. We do, yet consider that the real figure could be considerably higher.

Among the current top priorities, there must be considered the following: reducing poverty and improving the access to food, stimulating food exchanges to increasing food security, promoting rural development, assisting states in achieving international food standards, expanding the poor population's access to resources, ensuring access for children and other vulnerable groups to food, emergency and disaster preparedness, carrying out agricultural research and development activities (Berca, 2004, pp. 4-6).

Clearly, food security must be directly linked to the security of air, water and the surrounding natural environment. On the national territory we are witnessing an intertwining of the involvement of different forms of human, environmental, economic, institutional, cultural, social (and other types of) capital. Those connections, activated in positive terms, can provide guarantees for the realistic development of states in the coming decades, sheltered from massive slippages of the conditions of national affirmation and existence.

1.2. The Dimensions of Poverty

In this approach, we will be using the terms that settle the dimensions of poverty in the previous statement. The reason for carrying out this analysis is derived from a fundamental truth: almost all subsidies in poverty situations go to securing the food necessary to survive, the other needs falling into derision. Insecurity is directly proportional to poverty, to the helplessness and difficulties of living, in subsistence terms. As no official statistics on the cost of living are published, there can be used the available pieces of information on poverty (Centrul Național pentru Dezvoltarea Durabila/National Center for Sustainable Development, 2008, pp. 21-23).

The destitute individual must be primarily analysed in subsistence agricultural households and supported as such. The behaviour of the pauper individual differs from that of the large mass of citizens by the lack of money, as well as by the absence of those aspirations specific to the common individual. The shift in mentality of the poor will not be possible without the convergent effort towards developing the local economy, the social services, the qualification services, the retraining of staff – pointing out at their professional reintegration. Efforts must be combined at the three levels of major interest: political, economic and professional (Bogdan, 2014, pp. 102-105).

The *political level* must establish viable strategies for homogenizing the social development, by increasing the possibilities to supporting poor social categories. The political class must eliminate discriminations based on territorial, ethnic, gender or religious criteria. Emphasis must be placed on the inclusion of citizens of belonging to poor categories in the effort to overcome the economic crisis. The *economic level* identifies and supports the local possibilities for the implementation and operation of viable small and medium enterprises at the local level. The *professional level* creates continuous training programs, corresponding to the direction of future economic efforts and oriented to providing services in poor areas. The connection must be made with professional reconversion programs, adapted to the local economic spectrum (Centrul Național pentru Dezvoltarea Durabila/National Center for Sustainable Development, 2008, pp. 2-3).

In analysing different destitution elements within poor countries, the extant states of affairs are directly associated with several terms of reference such as *underdevelopment*, *illiteracy*, *malnutrition*,

mortality, delinquency, disorder, lack of interest. The issue itself along with the very eradication of poverty must be addressed to within the framework of integrative strategies liable to unifying the effort to solve the major economic and social problems. If society intends to provide the necessary social protection to its members, an appropriate system for measuring the level of poverty must be established, and there can be many possibilities for assessing the level of poverty. The distress of impoverished classes refers to lacking the possibility to ensuring the “daily basket”, complemented by the quasi-general deprivation from benefitting by main elements regarding the immediate habitat, the necessary clothing or food. The decisive factor that generates the extent of poverty is originated in the low income level of citizens and the decrease in revenue. There can be analysed three levels of poverty: relative, absolute and extreme.

The Relative Poverty. At the interstate level, there is set an international poverty line, which is agreed upon at the income of US \$ 2.15 per day per person, based on the parity of the exchange rate of the national currency (Brown L. , 2000, pp. 16-17). In practice, each state sets its own poverty line, in relation to economic and financial possibilities, primarily in relation to the level of the gross domestic product. The poverty threshold is analysed in relation to living expenses, corresponding to ensuring the minimum basket. The National Indexing Commission developed the methodology regarding the structure, components and value of the minimal monthly consumer basket (MMCB), approved by GEO 217/2000, subsequently by Law 554/2001. The minimum monthly consumer basket took into account a hypothetical consumption for the “family of 2.804 people”. The MMCB structure includes expenses for the purchase of ordinary living products. In a short time, the calculation of the MMCB was abandoned. Details are found in Table 1:

Contents of the Minimal Monthly Consumer Basket (Bogdan, 2014, p. 102)

Table 1. Contents of the Minimal Monthly Consumer Basket

Food Products	
- 3.08 kg of flour	- 5.8 kg of corn
- 31.9 kg of bread	- 1.4 kg of rice
- 0.5 kg of bakery products	- 0.7 kg of pasta
- 2.1 kg of beans	- 13.1 kg of potatoes
- 1.6 kg of roots	- 3.8 kg of sauerkraut and pickles
- 2.5 kg of dried onions	- 0.8 kg tomato paste
- 0.6 kg of canned vegetables	- 3 kg of apples
- 0.5 kg of citrus	- 0.7 kg of canned fruit
- 0.7 kg of beef	- 2.5 kg of pork
- 2.8 kg of poultry meat	- 0.4 kg of mutton
- 2.5 kg of deli meats	- 0.8 kg of fresh and frozen fish
- 14.8 liters of fresh milk	- 0.7 liters of whipped milk
- 1.1 kg de cow cheese	- 0.7 kg sheep cheese
- 0.9 kg of fresh cheese	- 42 eggs
- 2.8 liters of edible oil	- 0.7 kg of lard
- 0.561 kg margarine	- 2.8 kg sugar
- 0.1 kg chocolate and candy	- 2.3 liters of soft drinks
Non-Food Products	
- garments	- knitwear
- footwear	- books and school supplies
- medicines	- hygiene items etc
Miscellaneous	

- water	- tap water
- sanitation	- electricity (84.10 kwh)
- thermal energy (0.86 Gcal)	- gas (29.16 cubic meters)
- radio-TV subscription	- telephone
- public transport (42 trips)	- medical services
- taxes and fees	- other.

Relative poverty in subsistence households includes the socio-human sample which provides low incomes, but which still slightly exceed the “*daily basket*” (Yearbook, 2014).

The Absolute Poverty. The absolute size characterizes a minimum food consumption of 2,282 Kcals / day per person, as well as the securing of strictly necessary non-food items and related services. In daily living, in addition to food costs, families have to consider the cost of non-food services. They have to pay taxes, fees, medicine and also cope with other expenses. For the purchase of additional non-food components, there are reductions in the food basket (Bogdan, 2014, pp. 102-103).

The absolute poverty analyses the situation of the target group which is located within the limits of partially or minimally ensuring the “*monthly basket*” and a theoretically calculated threshold of life possibilities and access to resources - necessary to providing a minimum social comfort. In the medium term, absolute poverty causes the deterioration of psycho-social potential and in the long term irreversible biological degradation are imminent.

The Extreme Poverty. The extreme poverty line or pauperism refers to a family consumption which lies way beneath the level of the average basket with basic products the threshold of 2,280 kcals/ day. In such cases, families can survive with great efforts, food consumption being extremely poor and very low in nourishment terms, without abiding by any nutrition-oriented imperative whatsoever. It becomes, therefore, utterly significant to simply survive from one day to the next, without any goals, standards or possibilities. Unfortunately, this scenario points out at the very day-to-day reality for quite a number of citizens, and statistical data have not always been conclusive.

At the level of the subsistence households that are extremely poor and in which demoralization and the distrust in the future are common phenomena, a first step to take is improving the material base. Material shortages are limiting the individual’s possibilities of socialization, education and social integration. Poverty is thus reflecting the state of deprivation from decent living resources at the level of a community. The economic component does conspicuously remain the most important dimension of poverty (Centrul Național pentru Dezvoltarea Durabila/National Center for Sustainable Development, 2008, pp. 5-8).

2. Food Safety

Food safety is the state of balance through which citizens are protected from the dangers induced by the production, preparation, processing and consumption of food, cultivating the feeling of trust, peace and comfort induced at the macro-social level yet also at the individual’s level. It basically summarizes the efforts and measures to protect the community and the individual against a wide range of disarrays, including the use of toxic foods, biological constituents harmful to health, fertilizers or pesticides. It is related to the biological qualities of agricultural, vegetable or animal production. Macroelements and microelements do always compete to achieving a healthy and balanced life (Berca, 2004, pp. 3-4).

Found in close connection with food security, two relevant indicators in the field need to be considered: food sovereignty and food independence (Brown, et al., 1992, pp. 113-121).

Food sovereignty should be maintained as the right of a nation to decide in unrestricted terms on ensuring for citizens a diverse range of foods, with having the necessary quality and the capacity to satisfy, from an energy-input point of view, the human personality's need for harmonious development and self-actualization. Food sovereignty has an integrative meaning and refers to the right of states to create their own food and agricultural policy, without discriminatory economic practices.

Food independence may be considered as the real, practical reflection of the capacity of any state to benefit or not by the quantity and quality of human-use energy (food) necessary for the decent living of its citizens and the satisfying their need to prove themselves in restriction-free terms within the boundaries of its own living space (Centrul Național pentru Dezvoltarea Durabila/National Center for Sustainable Development, 2008, pp. 15-16).

The issue of food safety will also be addressed through initial and lifelong training of the young generation. Professionals within interfering areas (agronomists, veterinarians, pedologists, biologists, geneticists, hydrologists, meteorologists, etc.) will consider climate changes, the desired standard of living and future options. Obviously, the balance between the rural and urban environments will be set in terms of reconsidering the option of being a food producer and a food consumer, respectively. The rural environment must be capable of returning to the traditional possibilities of owning, producing, processing and marketing different foodstuffs.

3. Supporting Food Security and Safety in Considering the Future of a Nation. Conclusions and Proposals

3.1. Conclusions

Food security and safety are found in similarity relations. The terms refer to quantitative and qualitative levels, necessary for the existence of citizens and supporting their need for expression. It refers to foodstuff of both plant and animal origins. The two terms are far from synonymous, being rather complementary instead. Food security has a chief quantitative role, analysing the amount of food necessary for human existence and the activity of citizens in their social environment. Food safety regards the qualitative aspects of foodstuff, including that of ensuring the proper and well-balanced development the individuals themselves (Centrul Național pentru Dezvoltarea Durabila/National Center for Sustainable Development, 2008, pp. 11-13). Details are found in Table 2:

Comparative Elements between Food Security and Food Safety (Bogdan, 2014, p. 110)

Table 2. Comparison between Food Security and Food Safety

	Food Security	Food Safety
Role	The physical existence (survival) of the individual	The proper development of citizens
Implications	<i>Internally:</i> - Social tensions -The affecting of the individual's physical and mental health - Economic and socio-political instability <i>Externally:</i>	<i>Internally:</i> - the status of the individual - the health status

	-diplomatic, economic and political pressures	
General Characterization	Quantitative relation	Qualitative relation
Impact	It endangers the survival of the individual / family	It affects the proper development

Other particular concepts may also be used in supporting the needs for scientific analysis as considered in relation to a desired impact on the national security. Obviously, the quantitative aspects mark the survival of the citizen, the qualitative dimensions bringing to our attention those aspects related to health and the ability to meet the mandatory requirements in relation to the social environment. Both forms are found in connection with the possibilities offered by the natural environment, requiring the maintenance of the prospect to regenerating natural resources in a sustainable range of the ratio: **consumption for the needs of human civilization / regenerating capacity of resources**. These elements are contributing to enhancing Romania's national security, and in order to strengthen national security, the competent actors must consider ensuring national security and safety as foundations for optimal national development.

Priorities regarding the involvement of food security and safety must be emphasized in the content of Romania's Bioeconomy Strategy - a document that needs to be adopted and implemented as a matter of maximum urgency.

The need for this adoption derives from the increasing demand for vital human energy resources (food) on a global scale, where climate change and natural disasters are amplified by the destabilizing effect induced by human activity. In a world marked by social and political turmoils, we are witnessing uncontrolled growth in population, a situation in which food resources are declining dramatically, requiring their evaluation, conservation, control and saving (Brown, 2000, pp. 47-48).

3.2. Proposals

It is necessary to include the priorities of food security and demographic security in the National Bioeconomy Strategy - with considering its distinct responsibilities and in terms of maximum celerity. The launch and implementation of large-scale projects on the inclusion of the two concepts in ensuring the national security stand for major goals of tomorrow's National Security of Romania.

Undoubtedly, the political level must accept this particular prerequisite as Romania's *zero priority* - considered in ensuring the well-balanced and viable development in relation to the environment and the achieving of food security, corresponding to a viable national security, a to healthy and prosperous nation (Bogdan, 2014, pp. 101-105).

Achieving high levels of food security and safety are guarantees of stabilizing the local population on their own living spaces with stopping the unbeneficial migration worldwide aimed at finding jobs, which would lead a decent life of family members left at home.

Thus, the fulfilment of the two concepts does point out at the values to be preserved by the National Bioeconomy Strategy in terms of integrating them into the major national directions of effort aimed at building the future, in accordance with the principles and standards of our society. As an indisputable guarantee of value, it is necessary to elaborate the National Bioeconomy Strategy under the aegis and close coordination of the Romanian Academy. Yet, any valuable strategic document should have robust, rapid and balanced implications within the boundaries of the national territory, and must be implemented in the very spirit and letter of the document itself.

References

*** (2014). *Statistical Yearbook of Romania 2014*. Bucharest: Ed. INS.

*** United Nations (2004). *World Population to 2300*. New York.

***National Center for Sustainable Development. (May 20 2008). *National Strategy for the sustainable development of Romania. Horizons 2013-2020-2030*. Project. Version V, Rev. 2.

Berca, Mihai (2004). *Food security in the context of Community agricultural policies (tolerance "0" of the European Union)*. CERA University Foundation for Agricultural and Rural Development. - InWent Seminar – Feldafing.

Bhat, R. & Gomez – Lopez, V. M. (Eds.) (2014). *Practical Food Safety: Contemporary Issues and Future Directions*. Chichester, U.K.

Bogdan, Vasile (2014). *Sustainable development of Romania*. Bucharest: UNAP Carol I.

Brown, Lester R. (coord.); Renner, M. Flavian; Heise Chr.; Postel, L. S.; Young, J.; Jakobson, J. & French, H. (1992). *Global Problems of Mankind*. Bucharest: Ed. Technical.

Brown R., Lester (2000). *Eco-economy. Creating an economy for our planet*. Bucharest: Ed. Technical.

Brown R., Lester; Larsen, Janet & Fischlowitz-Robert, Bernie (2002). *The ecological policy of the planet*. Bucharest: Technical.

Motarjemi, Yasmine & Lelieveld, Huub (2018). *Food Safety Management: A Practical Guide for the Food Industry*. Elsevier Science. Academic Press Inc. Elsevier Science Publishing Co Inc Academic Press Inc, San Diego, US.