

ANALYSIS OF FOOD SECURITY IN ROMANIA USING SWOT - ANALYSIS

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Abstract: *The analysis of food security in Romania was carried out in view of the four dimensions of food security, respectively: (i) availability of agricultural production; (ii) access to food; (iii) supply stability and (iv) food safety and quality, adapted to the macroeconomic (national) and microeconomic (individual) situation. SWOT analysis is based on a combination of indicators found in the literature including those used by national and international bodies to assess the state of food and nutritional security of the population in various regions. A first aspect particularly important concerns the high degree of agricultural production instability and its high dependence on meteorological factors, with negative consequences in ensuring food safety of the population from its own production. To this fact it also competes a low level of self-sufficiency in a group of important products, such as meat, fruits, vegetables, sugar and fish, where systematic deficits are covered by imports. The inability of the Romanian agri-food system to provide a stable agricultural supply, both quantitatively and qualitatively, ensuring as much as possible the self-sufficiency and stability of supply, affects the productivity of production factors, the efficiency of agricultural holdings and, therefore, the competitiveness of Romanian agricultural products on the market.*

Key words: *food security, SWOT analysis, Romania*

INTRODUCTION

The article has as its central point the concept of food security. Currently, food security precedes beyond the sectoral level of agriculture and food processing, being an important component of macroeconomic policies related to incomes, standard of living, of policies to combat poverty and regional and national convergence between states.

The concept of food security is a multidimensional concept encompassing, at the same time, several aspects related to the need for economic access to adequate nutrition, the stability of agri-food supply, the use of food at individual level and the stability of food supply [16].

Over the decades, the growth of the world's population has led to serious problems related to food security. According to data provided by FAO (The Food and Agriculture Organization) over 820 million people in the world suffer from hunger, while about two billion people suffer from moderate or severe food insecurity [17]. Although within the United Nations Sustainable Development Goals [19] on the horizon of 2030, to end hunger and to establish food security occupy an important place, the number of malnourished people around the world is on an increasing trend. The number of malnourished persons is expected to exceed 840 million by 2030 [17].

Food security is both an agricultural, economic and social problem. Since the beginning of 2020, when the Sars-Cov-2 pandemic was triggered, the stability of food supply chains has suffered due to lockouts, food trade restrictions, rising food inflation and economic decline [4].

The future of food security in the medium and long term is increasingly a topical issue and is on the agenda of international and European bodies. The effects of climate change, the limited nature of natural resources, population growth, increased market instability, the likelihood of new epidemics, deepening poverty, are also factors that endanger global food security [3, 4, 14].

MATERIALS AND METHODS

The aim of this article is an analysis of the food security of the Romanian population, study which shows a series of vulnerabilities in this field. In this end, with the help of data provided by national institutions (National Institute of Statistics) and international (FAOSTAT), it was possible to analyze the evolution of certain indicators related to the four dimensions of food security, respectively: (i) availability of agricultural production; (ii) access to food; (iii) supply stability and (iv) food safety and quality [1, 2, 15].

The method used in the paper is the SWOT analysis. Strength, weakness, opportunity, and threat (SWOT) analysis has been in use since the 1960s as a tool to assist strategic planning in various types of enterprises [12]. SWOT analysis is widely used to develop systematic strategies and support approaches to project and program decision making [7]. Used correctly, SWOT can provide a good foundation for successful strategy formulation [12].

RESEARCH RESULTS

The analysis of food security in Romania was carried out in view of the four dimensions of food security, respectively: (i) availability of agricultural production; (ii) access to food; (iii) supply stability and (iv) food safety and quality, adapted to the macroeconomic (national) and microeconomic (individual) situation (Figure 1).

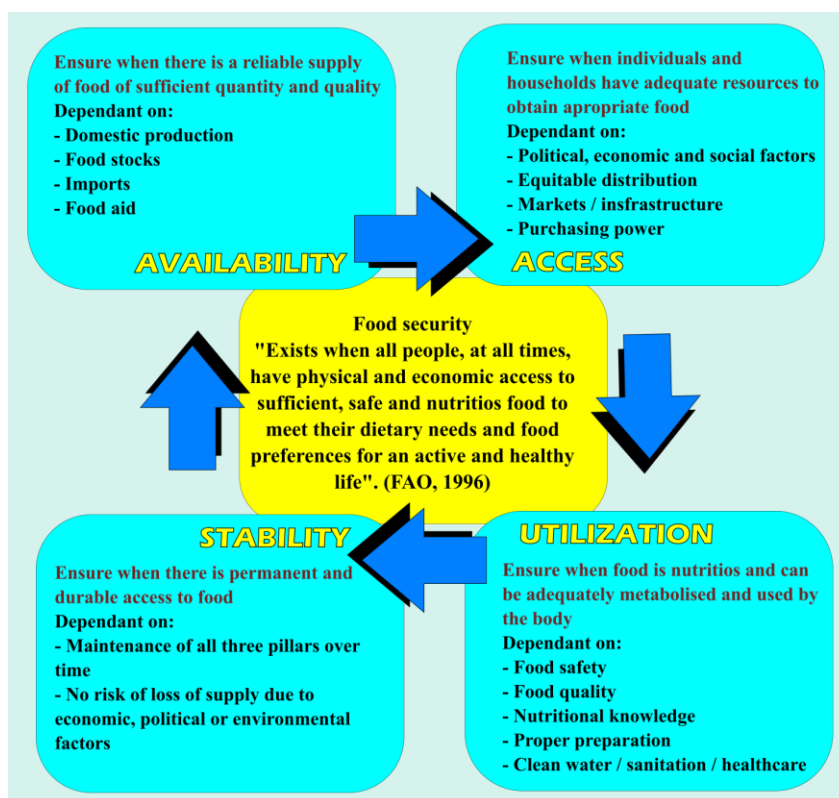


Figure 1. Dimensions of food security and its determinants

SWOT analysis (Table 1) is based on a combination of indicators found in the literature [8, 11] including those used by national and international bodies to assess the state of food and nutritional security of the population in various regions.

Table 1.

SWOT Analysis of food security in Romania - STRENGTH

STRENGTH
I. AVAILABILITY OF FOOD
<p>-Important agricultural resources for vegetable and animal agri-production: arable land 9,395 thousand ha (64.22%), pastures 3,272 thousand ha (22.36%), meadow 1,556 thousand ha (10.64%), vineyards 209.4 thousand ha (1.43%), orchards 187.8 thousand ha (1.35%) [18];</p> <p>-Progresses recorded in ensuring the consumption needs of population from domestic production: self-sufficiency ratio at cereals 223.9%, potatoes 90.8%, vegetables 84.3%, fruits 65.8%, sugar 54.8%, pork meat 72.7%, poultry meat 92.2%, beef meat 85.0%, sheep and goat meat 126.1%, milk 86.8% eggs 97.5% [18];</p> <p>-Opportunities for the development of food industry from European funds;</p> <p>-Progresses in the food retail segment due to increased income and lifestyle;</p> <p>-From a caloric point of view food availability per person (3550 kcal/day/person) is higher than the caloric requirement assessed by nutritionists (approximately 2900 kcal/day/ person) [18].</p>
II. ACCES TO FOOD
<p>-Increase in population incomes: from 180.85 lei (equivalent to 69.5 euro) in 2001, to 2,067.51 lei (equivalent to 427.4 euro) in the third quarter of 2020, an increase that has remained on a constant upward trending (except 2009-2010) [18] ;</p> <p>-Improvement of diet in Romania, in the sense of increasing the share of animal products consumption (40.4% in 2019) in the total average of daily net consumption/inhabitant [18];</p> <p>-Increased food consumption in some nutritionally superior products (meat, fruits, fish) while decreasing consumption of products considered nutritionally inferiors, such as potatoes, roots and even some cereals.</p> <p>-Poor transport infrastructure.</p>
III. FOOD SUPPLY STABILITY
<p>-Growth in productions. Average yields in recent years have increased as follows: for wheat from 2,656 kg/ha average for the period 1990-1995, to 4,431 kg/ha in the period 2015-2019; in maize from 2,966 kg/ha to 4,005 kg/ha; in sunflower from 1,290 kg/ha to 2,492 kg/ha; rape from 944 kg/ha to 2,588 kg/ha; in potatoes from 11,610 kg/ha to 15,932 kg/ha; in tomatoes from 14,943 kg/ha to 16,649 kg/ha; in onions from 9,399 kg/ha to 11,362 kg/ha) [18];</p> <p>-A certain stability in food prices for consumers, however, with a trend towards rising prices as a result of the pandemic, the consumer price index for food commodities being of 103.81% in November 2020 compared to the corresponding month of the previous year.</p>
IV. FOOD USE (SAFETY AND QUALITY OF FOOD)
<p>-Introduction of integrated systems for quality management;</p> <p>-Diversification of food diet.</p>

SWOT Analysis of food security in Romania - WEAKNESSES

WEAKNESSES
I. AVAILABILITY OF FOOD
<p>-Non-convergence of the performance in Romanian agri-food sector with that of the developed countries of EU: the average area of holding: RO=3.7 ha, EU-15=27.8 ha; economic size unit/farm: RO=€3.5 thousand , EU-15=€67.5 thousand; agricultural output/ha: RO=€1,405, EU=€2,468, FR=€2,685, DE=€3,344; gross value added/ha: RO=€703 euro, EU=€1,110, FR=€1,148, DE=€1,321; intermediated consumption/ha: RO=€693, EU=€1,376, FR=€1,511, DE=€2,081 [19];</p> <p>-The polarized agrarian structure with a large number of small farms: 72.5% are farms with less than 2 ha, which make difficult for agricultural products to cross the lines (especially in the vegetable, fruit and dairy sectors) [19];</p> <p>-The lack of a massive representation of farmers in associations, with a negative effect in ensuring a continuous offer;</p> <p>-Domestic agricultural production does not cover the consumption needs of population, in a significant group of products, the self-sufficiency ratio being subunit: meat (72.7%), fruits (65.8%), vegetables (84.3%), milk (86.8%), fish (15.8%) [18];</p> <p>-The high share of plant origin calories (72.6%), based mainly on cereals and cereal products (36.7%), to the detriment of animal calories (27.4%) in the structure of food consumption of population [18].</p>
II. ACCES TO FOOD
<p>-The very low level of real GDP per capita in Romania (real GDP/capita), which is of 7,800 euros (average 2014-2018) in Romania, compared to the Czech Republic €16,580, Germany €34,820, Denmark €46,300, Norway €68,400 [5];</p> <p>-Significant territorial disparities in population income: Bucharest-Ilfov Region with 2,748 lei/person, equivalent to €568.1, and North-East Region with 1,480 lei/person equivalent to €306, in the second quarter of 2020 [18];</p> <p>-The high share of agri-food expenditure in the consumption expenditure of Romanian population (36.4% in 2019), compared to 12.1% of the EU average [19];</p> <p>-Very high poverty rate in Romania (23.8% in 2019), located mainly in rural areas (9.1% in urban areas and 38.6% in rural areas) [9];</p> <p>-Poor transport infrastructure.</p>
III. FOOD SUPPLY STABILITY
<p>-Very high volatility of crop production (especially in cereals), the annual fluctuations in production being very high due to dependence on weather conditions;</p> <p>-Subunit degree of supply and high dependence on imports for soybeans, sugar, meat, fish, fruits;</p> <p>-Low share of irrigated areas in Romania (620,000 ha) in 2018, i.e. less than 10% of arable land area [18];</p> <p>-Supporting for research-development-innovation expenditures from public funds is extremely low: in Romania a total of about 0.48% of GDP for CDI, of which agriculture benefits from about 0.1% [5];</p> <p>-The low level of bank lending for agriculture (in Romania the level of bank credit relative to 1 ha is €269, in Germany it is €3,002, Italy €3,405, Czech Republic €651, Hungary €225) [6];</p> <p>-The problem of guarantees in bank lending process makes very difficult for small and medium-sized farmers to obtain the needed funds to support investment activities;</p> <p>Low liquidity in the agricultural sector.</p>

IV. FOOD USE (SAFETY AND QUALITY OF FOOD)

- The low level of equipping the rural territory and housing with heating systems, drinking water, connection to natural gas and sewerage networks: approximately 5-6 times lower than the Romanian urban environment, which at its turn has a level of technical-editing equipment well below to EU average [9];
- The map of Romania's rural development is dominated by huge bags of severe poverty, covering about 30-35% of the country's rural area, bags characteristic of extreme underdevelopment [9];
- Low average length of life in Romania (76.5 years in 2020), compared to the EU average of around 80 years, of which Italy with 84 years, Spain 83.9 years and Bulgaria 75.4 years [22];
- Percentage of children under the age of five who died as a result of food problems (3.3% in 2002), stopped growing (12.8%) or which are below normal weight (3.5%), due to poor nutrition, is significantly higher in Romania than in most EU Member States, where there are no such problems [21].

SWOT Analysis of food security in Romania - OPPORTUNITIES

OPPORTUNITIES

- Increase of incomes as a mitigating factor in poverty and the risk of food insecurity;
- Growing demand for nutritionally superior products (fruits, meat, fish, dairy products);
- Very elastic food demand in response to income growth, with attention directed towards high quality food;
- Increased demand for sheep meat (Asia) may represent an opportunity for export;
- The development of transport infrastructure can facilitate external trade relations.

SWOT Analysis of food security in Romania - THREATS

THREATS

- Deepening social polarization;
- Negative effects due to climate change (desertification, unpredictable weather conditions, prolonged drought);
- The emergence of plant and animal diseases with negative effects on food production and quality;
- Health risks, epidemics that can lead to lockdowns in supply and foreign trade activities;
- Migration abroad of the workforce working in agriculture, which leads to serious internal problems of seasonal labor coverage;
- Abandonment of villages and migration of youth to other sectors of activity.

Source: Authors' development

CONCLUSIONS

SWOT's analysis of food security status of the Romanian population carried out on the four levels (availability of agricultural production; access to food; stability of supply; safety and quality of food) revealed a series of vulnerabilities.

A first aspect particularly important concerns the high degree of agricultural production instability and its high dependence on meteorological factors, with negative consequences in ensuring food safety of the population from its own production. To this fact it also competes a low level of self-sufficiency in a group of important products, such as meat, fruits, vegetables, sugar and fish, where systematic deficits are covered by imports. The inability of the Romanian agri-food system to provide a stable agricultural

supply, both quantitatively and qualitatively, ensuring as much as possible the self-sufficiency and stability of supply, affects the productivity of production factors, the efficiency of agricultural holdings and, therefore, the competitiveness of Romanian agricultural products on the market.

Taken from the point of view of population access to food, the SWOT analysis highlights that the incidence of food insecurity is mainly localized in poor households. In Romania there are large income gaps in both territorial and residential areas, so that in the low-income population or vulnerable groups, located in rural areas, food insecurity is more pronounced.

Although we are seeing in recent times an improvement of food diet in Romania, in the sense of increasing the consumption of animal products in total daily average net consumption and increasing food consumption in some nutritionally superior products (meat, fruits, fish), the vast majority of the population has an unbalanced diet that generates nutritional risks.

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