

Sustainable Food Security in Romania and Neighboring Countries: Trends, Challenges, and Solutions

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INTRODUCTION & AIM

This study analyzes the current state of food security in Romania, Bulgaria, Hungary, Serbia, Ukraine, and Moldova, focusing on four key pillars: food availability, accessibility, quality and safety, and stability. By identifying the specific challenges each country faces, this study proposes sustainable, regionally-coordinated solutions to enhance food security and resilience in the face of climate change, economic disparities, and political instability.

MATERIAL & METHOD

Analyzing data from second- and third-party external sources, such as government reports and international organizations, as well as original data, this study evaluates the pillars of food security in Romania and neighboring states. The comparative analysis identifies regional disparities and explores the impact of climate change, economic inequalities, and agricultural practices.

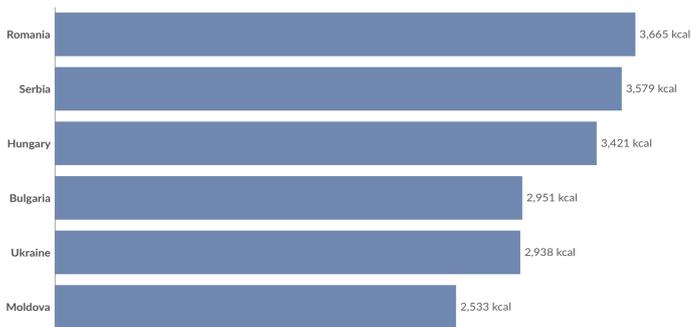
RESULTS & DISCUSSION

Availability - Diverse agricultural outputs face challenges like climate change, infrastructure, and import dependency. Romania's growth is offset by crop diversity and import reliance issues. Moldova and Ukraine suffer from political instability and poor infrastructure.

Daily supply of calories per person, 2021

Measured in kilocalories per person per day. This indicates the calories that are available for consumption, but does not necessarily measure the number of calories actually consumed, since it doesn't factor in consumer waste.

Our World In Data



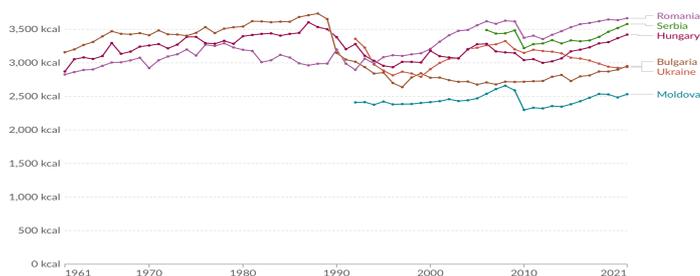
Data source: Food and Agriculture Organization of the United Nations (2023) and other sources
OurWorldInData.org/food-supply | CC BY

Accessibility - Economic disparities affect food access, with rural poverty prominent in Romania and Bulgaria. Moldova and Ukraine's economic instability hinders food affordability. Hungary and Serbia have regional inequalities.

Per capita kilocalorie supply from all foods per day, 1961 to 2021

This measures the quantity that is available for consumption at the end of the supply chain. It does not account for consumer waste, so the quantity that is actually consumed may be lower than this value.

Our World In Data



Data source: UN Food and Agriculture Organization (FAO)
Note: This is the total of all agricultural produce – both crops and livestock.
The FAO apply a methodological change from the year 2010 onwards

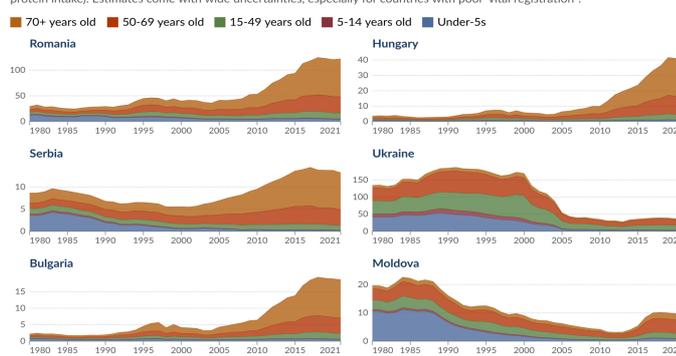
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Quality and Safety - Food safety regulations vary; Hungary is strong, while Moldova and Ukraine need improvement. Ensuring food safety and nutrition is crucial to prevent diet-related health issues.

Deaths from protein-energy malnutrition, by age

Estimated annual number of deaths from protein-energy malnutrition (which results from insufficient caloric and protein intake). Estimates come with wide uncertainties, especially for countries with poor vital registration¹.

Our World In Data



Data source: IHME, Global Burden of Disease (2024)

OurWorldInData.org/causes-of-death | CC BY

¹ Civil Registration and Vital Statistics system: A Civil Registration and Vital Statistics system (CRVS) is an administrative system in a country that manages information on births, marriages, deaths and divorces. It generates and stores 'vital records' and legal documents such as birth certificates and death certificates. You can read more about how deaths are registered around the world in our article: How are causes of death registered around the world?

Stability - Climate change threatens agricultural stability. Hungary has initiated adaptation strategies; Moldova and Bulgaria are developing theirs, while Serbia and Hungary are in early implementation stages. Ukraine's conflict complicates stability efforts.

CONCLUSIONS

- **Regional collaboration** - Collaborative regional efforts are essential to ensure food security in a sustainable manner.
- **Diversification of agriculture** - Diversification of agriculture is a key aspect to increase resilience to climate change and reduce dependence on imports.
- **Infrastructure improvement** - Infrastructure improvement is essential to ensure efficient access to markets and to minimize food losses.
- **Strengthening food safety** - Strengthening food safety regulations is necessary to protect public health and ensure consistent food quality.
- **Adaptation to climate change** - Developing strategies to adapt to climate change will contribute to the stability of agricultural production in the long term.
- **Coordinated approaches among states** - Coordinated approaches among states can improve sustainable food security, contributing to regional stability and the well-being of populations.
- **Reference framework for other regions** - This model provides a reference framework for other regions interested in developing sustainable and resilient food systems, emphasizing the importance of solidarity and collective action for a food-secure future.

FUTURE WORK

In the future, research should focus on in-depth exploration of specific solutions for each pillar of food security, with a particular focus on adapting strategies to local conditions in each country. A more detailed study of the effects of climate change on different types of agricultural crops in the region is needed to identify opportunities for sustainable diversification. Also, the collaboration between the states in the region should be analyzed from the perspective of the efficiency of the implementation of common policies. Future studies could also include a focus on the involvement of local communities and food education, to stimulate the active participation of the population in ensuring sustainable food security.