

Book Chapter

Some Empirical Considerations on the Food Security of Children in Rural Area Schools

Alina Simona Tecau, Cristina Dimitriu, Nicolae Marinescu*, Bianca Tescasiu and Gheorghe Epuran

MTSAI Department, Faculty of Economic Sciences and Business Administration, Transilvania University of Brasov, Romania

***Corresponding Author:** Nicolae Marinescu, MTSAI Department, Faculty of Economic Sciences and Business Administration, Transilvania University of Brasov, 500036 Brasov, Romania

Published **March 26, 2021**

This Book Chapter is a republication of an article published by Nicolae Marinescu, et al. at Sustainability in October 2020. (Tecau, A.S.; Dimitriu, C.; Marinescu, N.; Tescasiu, B.; Epuran, G. A Qualitative Research on the Food Security of School Children in the Rural Area. Sustainability 2020, 12, 9024. <https://doi.org/10.3390/su12219024>)

How to cite this book chapter: Alina Simona Tecau, Cristina Dimitriu, Nicolae Marinescu, Bianca Tescasiu, Gheorghe Epuran. Some Empirical Considerations on the Food Security of Children in Rural Area Schools. In: Maria Helena Henriques, editor. Prime Archives in Sustainability. Hyderabad, India: Vide Leaf. 2021.

© The Author(s) 2021. This article is distributed under the terms of the Creative Commons Attribution 4.0 International License(<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Funding: This research received no external funding.

Acknowledgments: This research is based on results obtained from project POCU No. 74/6/18/108023 “I learn, I play, I am happy at school,” co-financed by European Union funding.

Conflicts of Interest: The authors declare no conflict of interest.

Abstract

The subject of food security is a complex issue that determines multiple concerns and initiatives worldwide. The research included in this paper aims to analyze the food security of children in rural areas, following a project funded by the European Union (EU). The main objective of the study is to investigate the opportunity to implement sustainable programs to ensure hot meals for children in schools located in rural areas of Romania. No similar academic studies were conducted in Romania focused on food security from an economic perspective. An exploratory qualitative research methodology was chosen based on in-depth nondirective interviews among experts. The research results highlight the necessity of optimizing the relationship between the needs of children in rural areas and the food resources available to them within families and schools. The results also suggest that serving hot meals in primary schools in needy areas is appropriate, as poor nutrition among children has negative effects on the educational process and on their long-term development. The conclusions of this paper lead to managerial implications for policymakers wishing to assess the impact of such projects developed in schools financed by the European Union or by national funding.

Keywords

Food Security; Rural Area; Programs in Schools; Nutrition; Education

Introduction

The concept of food security has a dual acceptance at global level. The first one focuses on social aspects and is strongly interconnected to sustainable development, while the second approach analyzes the causes and effects and suggests measurement indicators. Specific initiatives to solve local problems generated by the food insecurity of various population categories are rising. Given the large development gap between rural and the urban areas in many countries, the topic of food security at the level of poor communities represents an issue worth researching.

Different national and international factors play a crucial role and influence the level of food availability, access to food, health services, and hygienic conditions, which directly affects communities. Food intake and health status are closely related to each other [1]. The International Food Policy Research Institute (IFPRI) developed a vision of a world where every person has access to sufficient food to sustain a healthy and productive life, where malnutrition is absent, and where food originates from effective food and agricultural systems, compatible with the sustainable use of natural resources [2].

The rising awareness about food security was led by factors such as population growth, changes in consumer habits, deficit of natural resources, and the impact of climate change [3]. To address these global premises, the European Union (EU) became more concerned with ensuring sustainable growth in food production. Besides supply security, the EU has also engaged to ensure a healthy diet together with training programs regarding healthy eating habits and health-promoting foods. Balanced nutrition has become an expression pegged to the rising living standards of European citizens.

Disorderly eating habits might have significant consequences such as obesity. In recent years, the increase in the EU's overweight population has reached an alarming quota. The main causes of this situation are unhealthy diets and inappropriate lifestyle, so the idea of some coordinated action in this matter

arose. The European platform for action on diet, physical activity, and health was launched in 2005, with a view to establishing joint actions in the fight against obesity and promoting health in the context of European policies by integrating it into the framework of other policies (social, agricultural, consumer, etc.). It was followed by the Action Programme in the field of public health, with the aim of providing specific information and support to promote physical exercise, healthy eating habits, and balanced nutrition.

As such, the issue of food security became a major concern for the EU in recent years. In order to address this problem, it designed and implemented various programs and schemes at different levels, some of them being directed towards children enrolled in schools. Within EU member states, 12.2 million children from over 79,000 schools have benefitted from the distribution of fruit and vegetables and about 18 million children had access to the distribution of milk during the 2016–2017 school year [4].

The EU legal initial base concerning the consumption of food products in schools, called “The Programme for Schools,” streamlined and unified previous programs. The new scheme is focused on fresh products supplied from local and regional sources, a specific budget allocated for the two categories (fruits and milk), the possibility of transferring up to 20% of funds from one category to the other, and educational measures [5]. The program is destined to form healthy dietary habits for children over the long term by encouraging the consumption of local products.

Such programs of designing sustainable institutional food systems in public schools have brought remarkable results all over the world, e.g., in Canada [6], Italy, Brazil, Colombia, Japan [7], and also in the United States, where the initiative started in the 1990s under the farm-to-school concept [8]. Oostindjer et al. (2017) make a comprehensive cross-national review of school food programs and stress the need for a long-term approach, considering school meals an integrative platform for sustainable and healthy food behavior [9].

Considering the abovementioned aspects, food security becomes an essential component for both nutrition and public health concerns at the EU level. While the production protocol, the geographical origin of food, and the impact of distribution are obvious elements, a proper policy should also include a sustainability component for assessing the environmental impact [10].

Despite the efforts of the EU to reach economic convergence through its multiannual structural funding policy, regional disparities persist. This is valid not only between member states, but also at the intraregional level. In Romania, most people at risk of poverty live in rural areas. The differences that characterize the urban/rural divide in Romanian society show that while only 11% of people living in densely populated areas are at risk of poverty, 38% of those living in thinly populated areas face such a risk [11]. However, rural poverty manifests itself in different ways, from the poverty of small villages and those with aging populations to deprived communities characterized by low skills, low employment, and inadequate housing.

Within the EU, Romania ranks fifth according to the agricultural arable area. Fiscal measures intended to reduce the burden for local food processors along with support for agricultural producers could improve Romania's food security in the coming years. Technological upgrading in low-income rural areas of Romania can work well if coupled with market opportunities. An association of small farmers is bound to succeed if there is a guaranteed and stable demand from the institutional side (such as schools and hospitals) with prices kept stable and decent. This way, household food insecurity could be diminished for the most impoverished rural areas in Romania.

In Romania, the concept of food security, its characteristics, and its consequences from an economic perspective are insufficiently explored in the literature. This paper tries to fill this gap with a theoretical and applied study on food security for children in rural areas. This subject carries major importance for the sustainable development of the country, considering the large

development gap between the urban the rural environment. The need to improve the poor living conditions in rural areas may start with efficient policies applied towards implementing basic healthy eating behavior for children. The novelty of this paper comes from the fact that there are no other applied papers focused strictly on investigating the matter of food security in detail and formulating managerial implications for policymakers.

The research presented in this paper is of a qualitative type and its goal is twofold: to investigate the manner in which food security is ensured for school children in rural areas, and to determine the opportunity of implementing sustainable programs by which a hot meal is served in schools. The specific objectives of the research focus on the opinions of teachers working in the rural area towards ensuring food security for pupils, the influence of nutrition on the educational process, the causes that contribute to food insecurity for children in rural areas, and the opinion of experts about the programs implemented to improve food security for children.

The implementation of the research was done by closely following the development of a project co-financed by the European Social Fund of the European Union, called “I learn, I play, I am happy at school.” The objective of the project is to reduce the number of students who drop out of school and to promote equal access to quality primary education.

The research is structured as follows: in the next section, the literature review highlights important propositions regarding food security, the third section describes the methodology used for the research, and the results of the research linked to the abovementioned project are presented in detail in the fourth section. These are followed by a discussion concerning the contribution of this paper to the scientific literature and potential application of the results. The concluding section also emphasizes the role several institutions might play in implementing such projects of ensuring food security and indicates future directions for research.

Literature Review

The concept of food security emerged in the 1970s. The essential elements in the definition coined by the Food and Agriculture Organization (FAO) are food availability for rising consumption, avoidance of production fluctuations, and stability of prices [12]. The same organization focused later on food access, considering the balance between supply and demand as being essential for food security [13].

The definition of food security was revised in 1996 to include the significance of each of the so-called four pillars: food availability, access to food, use of food for a healthy life, and long-term stability of food production [14]. These pillars are influenced by various factors at the global and national level, such as agricultural production, infrastructure, international policy, education, and gender issues [15–17].

Moreover, food security is closely connected to sustainable development, implying a wide range of strategies from agriculture to food hygiene in cultural, environmental, geographic, and socio-economic contexts, which are extremely complex [18–20]. As some authors point out, even if food insecurity manifests itself in individuals, households, and local communities, its causes may have wider origins, reflecting political and economic decisions as well as configurations of food systems. This is why the level of analysis and action needs to be larger [21].

Practical research highlights different experiences regarding the achievement of food security in various countries and periods. In Europe, for example, total food supply is not the only factor to be considered, but also the purchasing power of individuals and the nutritional quality of foods [22]. As such, half a million people in Europe do not have access to sufficient foodstuffs and around 20 million families cannot afford meals of a high quality on a regular basis [23]. In the United Kingdom, starting with the Industrial Revolution, the country became more and more dependent on imports of food, and over time the government initiated several policies regarding food security. In the 21st

century, these policies need to take into consideration the emerging constraints of global food supplies, climate change, and access to various natural resources such as land resources, water availability, and fossil fuels [24].

Food security might seem like a problem specific to developing countries, considering the fact that insufficient resources may determine difficulties and shortcomings related to possible food insecurity issues. Nevertheless, as researchers point out, some aspects of food security can be seen in developed countries as well as a consequence of different economic factors such as inaccessibility of prices, debt, financial obligations, eating habits, hectic lifestyles, and so on [22]. For instance, studies have shown that for people in Ireland coming from low-income households and living on minimum wage, it is almost impossible to afford a healthy diet. The same is true for the United Kingdom, where people on welfare benefits or state pensions find it nearly impossible for their income to meet the basic needs of healthy living [25]. Thus, the issue of food security is approached in economically developed countries also in connection to the human rights perspective, to ensure the right of an individual to food and health.

In the current period, there are two extreme aspects associated with bad nutrition: insufficient calorie or protein intake and poor nutrition on the one hand, and excess nourishment as a result of high calorie intake (and the associated increased risk of many diseases, including obesity, diabetes, and some types of cancer) on the other [26]. In this context, the focus on the food system needs to take into account, as does the recent nutrition transition whereby diets traditionally dominated by regional staples are widely replaced by highly processed products high in fats, salt, and sweeteners [27]. The nutritional side is integral to the concept of food security and is achieved when secure access to food is coupled with a sanitary environment, adequate health services, and knowledgeable care to ensure a healthy life free from malnutrition for all household members [28,29].

The food policy in Romania generally aims to provide the necessary quantity and quality of food for the entire population

at affordable prices, thus linking availability of food with purchasing power [30]. However, the governmental approach to policy in the food sector has not been unitary throughout the years. The absence of a long-term coherent development strategy in this field and the low efficiency of its agriculture have led to an overreliance on imports of processed food.

Recently, a number of legal acts with impact on food security were approved. After its accession to the European Union, Romania had to update specific legislation and create all the mechanisms for putting it in practice. EU legislation regards not only food security and safety, but also consumer rights and the agro-alimentary field. The legal acts—regulations, directives, and decisions—were integrated into Romanian legislation with the implication of specialized institutions such as The National Sanitary Veterinary and Food Safety Authority. Only in 2007 (the accession year of Romania to the EU), a total of 86 regulations, 25 directives, and 198 decisions were integrated into the Romanian legal framework [31]. Moreover, the importance of food security has been recognized recently by including it as a top priority in the Agri-Food Strategy of Romania for 2016–2035 [32].

In a recent paper, Alexandri and Luca (2016) assess Romania's situation concerning food security at national level, including access to food and the nutritional status of the population [33]. The proposed methodology is based on the four pillars of FAO's food security concept. The analysis reveals several weaknesses in Romania's case, such as unstable and insufficient food supply; difficult access due to low income, especially in rural areas; and deficient food consumption in quality terms, which generates nutritional risks.

The weakness of dietary habits of a significant part of the Romanian population can be attributed to factors such as subsistence farming, weak purchasing power, and lack of proper infrastructure. The low yields, existence of vast uncultivated farmland, and constant increase in food prices lead to difficulty for some segments of the population to cover the daily necessary amount of food with the available income [34]. In the case of the

Roma minority living in Romanian rural households, there is an even larger dietary gap towards the lower limit of the nutritional standard, as documented in a 2018 study by Ciaian et al. [35]. Economic, social, and institutional factors (low income, no social insurance, weak participation in the labor market, discrimination, traditions, etc.) are responsible for this.

The measurement of food security takes several indicators into account, such as the quantity, the quality, and the diversity of food [36,37]. Another relevant food security indicator is the share of food expenditure in the total consumption expenditure of the household. The higher the share, the more vulnerable the respective household is from a food security perspective. In Romania, this indicator registers at a high level, although it decreased from 52.2% in the year 2001 to 40% in 2014, leading to a slightly higher access for the population to procure food [38].

Food availability and food affordability are not evenly spread across the regions of Romania. Comparing consumption needs with the food availability regardless the source of origin, the food requirements are met at national level, as previous research shows [39,40]. However, food availability differs between urban and rural areas. According to several researchers, the most widespread cause of household food insecurity is poverty [41].

Household food insecurity has proven to be a powerful stressor with a direct impact on the emotional, social, behavioral, and intellectual development of children, including problem internalization (e.g., depression) and externalization (e.g., aggressive behavior) [42,43]. Thus, the government can take important steps by establishing sustainable policies that protect, promote, and support optimal feeding behavior of children [44].

In order to encourage healthy and balanced nutrition for Romanian children, the government initiated a national program in 2002 called “Milk and Roll,” following European models of distributing food in schools. It entailed the free distribution of milk or dairy products (200 ml units) without the addition of powdered milk, and bakery products (80 g units) in

kindergartens and schools. From 2009 onwards the program was joined by another one, whereby fruits were distributed to pupils for a maximum of 100 school days. This program also included visits to farms, gardening activities, and various educational measures.

In addition to the abovementioned scheme, the Romanian government initiated a pilot program in 2015 to supply a hot meal for children in 50 selected educational units. For the respective schools, the new program replaces the old fruit and milk scheme. Envisaged are schools in remote and low-income areas. The new program has brought results from a social perspective: The rate of students dropping out of school dropped from 6.1% in the 2015–2016 school year to 4.3% in the 2016–2017 school year and to 1.3% in the 2017–2018 school year [45]. It remains to be analyzed in what ways the program has contributed to the food security of children in rural areas.

At the same time, Romania is one of the major beneficiaries of European Union funding for the 2014–2020 programming period, with the aim of reducing disparities in economic and social development between member states. Therefore, various educational programs have been designed that involve investments in integrated measures that simultaneously target the school (children, teachers, infrastructure, the family, and the community) to increase the quality of education.

The main investment program is the Human Capital Operational Program (POCU). By means of 156 projects funded under so-called “School for all” and “Motivated teachers in disadvantaged schools,” the program aims to reduce school dropout through various forms of social support, from hot meals and supplies to grants and scholarships for more than 95,000 pupils, as well as teachers from disadvantaged schools. One such example is the project “I learn, I play, I am happy at school,” which is applied in the schools of the villages belonging to Voila Commune in Brasov County. This educational program is a “school after school” type, including pupils from rural areas among whom the assurance of food security was investigated.

Methodology of the Research

The aim of this research is to investigate the food security of children in rural areas by means of a project co-financed by the European Social Fund through the Human Capital Operational Program. The project, where 150 school children from rural areas are included as the target group, lasts for 36 months. It is called “I learn, I play, I am happy at school,” and is being implemented in the Voila Secondary School and its subordinate units from the villages belonging to Voila Commune in Brasov County (center region of Romania).

The general objective of the project is to contribute to the reduction of school dropouts and to promote equal access to quality primary education. One of the main activities undertaken by this project is to provide daily hot meals to school children in the target group, having thus provided appropriate nutrition according to their stage of development. The project also seeks to educate children and their parents in the target area through specific information and awareness actions on the importance of developing responsible behavior in terms of food security.

Given that the theme of the research concerns sensitive issues involving level of education, family spending, and implicitly the welfare and quality of life of these children, qualitative marketing research was considered the best method of approach, as it provides the necessary tools to investigate the human experience and to understand it thoroughly [46].

The selection of participants was based on the assumption that they are best placed to provide relevant information. Most of these people interact daily in the educational process with children enrolled in rural schools. They can appreciate how the educational path of children is influenced by the living environment, including aspects related to food. Moreover, the interviewees have gained an overall capacity to determine the impact and limits of the implementation of the program of feeding the pupils a hot meal in the schools from the target group.

Most of the individuals interviewed were teachers (nine kindergarten and primary school teachers) alongside experts such as a psychologist, a doctor, two nurses, a trainer, a school mediator, and a school manager. A panel of 16 people were interviewed. These experts provide health education, regular monitoring of children's health, and psychological counselling focused on raising self-esteem. They organize thematic workshops in the field of hygiene and personal care, conduct at mealtimes, and food recommended for children.

In order to accomplish this study, the researchers used an ethnographic approach [47] and spent several days in Voila Commune, which involved doing working visits; interacting with the locals and the children from the target group in various contexts; observing their behavior, eating habits, and the conditions they live in; and conversing with parents, teachers, and experts working with children. They explored the needs and problems of children in terms of food security, these issues being drawn from a family, educational, social, financial, and institutional point of view.

During this stage of the research, 150 children were observed as follows: Of the pupils enrolled in the kindergartens and schools included in the analyzed project, 69 were aged between 3 and 5 years and 81 were aged between 6 and 14 years. The location of the school units where the research took place is presented in Figure 1.

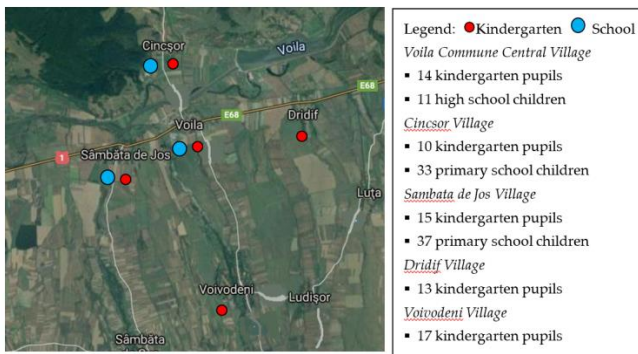
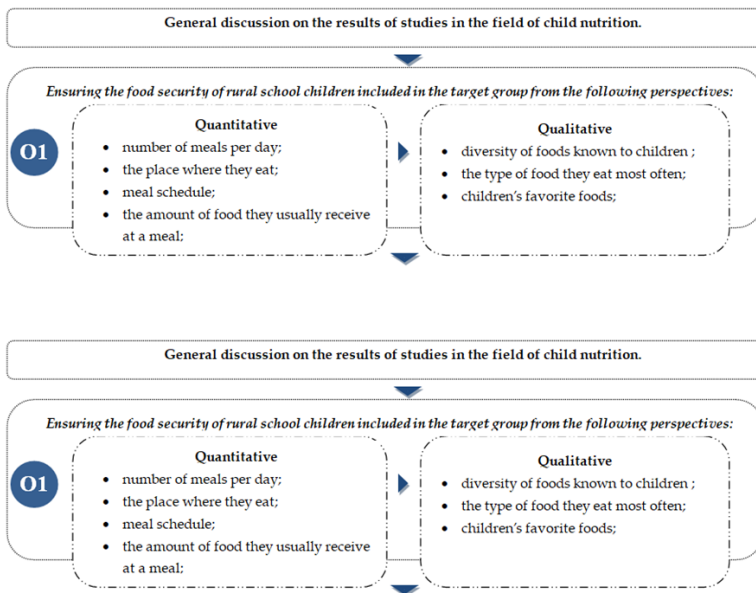


Figure 1: The location of the school units included in the research.

Using an in-depth nondirective interview [48], the authors sought detailed information on all aspects closely related to the investigated topic. The interviews were conducted in a face to face manner in November–December 2018, each lasting 60 to 90 minutes. Discussions continued until the researchers considered that all of the aspects had been considered and a thorough understanding of the topic was reached. Given the sensitive theme of the research, confidentiality was ensured and all the real names that appear throughout the study were replaced by pseudonyms.

The interviews were conducted based on a tool of open questions that came out of the study aim and objectives. In the process of designing the interview guide, the stair-climbing technique [49] was used, and a logical chain of questions was designed to gradually emphasize the opinions of teachers and experts on aspects regarding food security of rural school children and to identify proposals to improve their situation. The flowchart of the interviews and the most important variables used are presented in Figure 2.



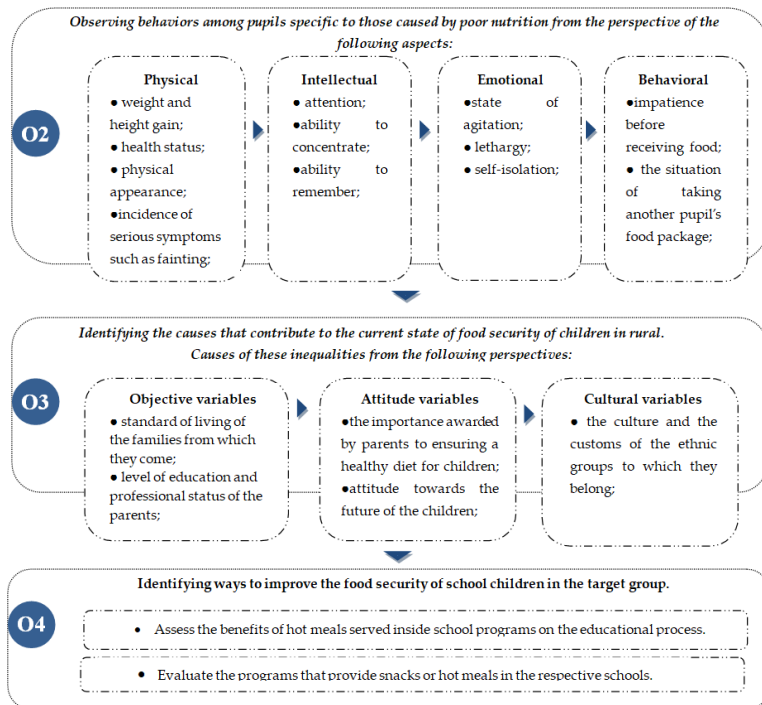


Figure 2: Flowchart of the interviews and the connection with the research objectives (O1–O4).

From the complex answers of the interviewees, the authors extracted the relevant experiences, processes, relationships, and interactions related to the investigated topic.

Findings and Results

Considering the main research objective, namely to determine the opportunity to implement programs to ensure hot meals in schools in rural areas, and based on the analysis of the literature, four specific objectives were formulated to better target the approach. The results of the research are presented in the form of clustered qualitative assessments for each of the four specific research objectives so as to obtain relevant and structured data.

- *Objective 1–Identifying experts’ opinions on ensuring food security for school children in the rural area included in the target group.*

In order to achieve the first objective, the interviews were oriented to address the two interrelated dimensions of analysis (quantitative and qualitative) that define the concept of food security. The quantitative aspect refers to ensuring the necessary amount of food to meet the physiological needs of school children in rural areas and the qualitative aspect refers to the food they consume from a nutritional point of view, so that the pupils' health and school performance in rural areas are not affected or put at risk.

Conclusions inevitably developed around the idea that many of the children in the target group certainly do not have the benefit of minimum food comfort. The amount of food they receive in the family is either small or of poor quality. In each class, the "Milk and Roll" program is essential for nearly half of the children, even if the quality of the products is not the best available.

Most teachers participating in the research reported cases of pupils who came to school severely affected by the poor nutrition received at home. Some children even fainted at school, as they had not eaten anything during the whole weekend. All they ate during the day was the roll and milk provided during school hours.

One of the interviewed teachers stated: *"We had children who ate just the roll and milk for the day and had not eaten at all from Friday to Monday when they came back to school. They've fainted and so I learned that all they had eaten in a day was the roll and milk."* Another teacher complemented: *"We were just rehearsing for a contest of Christmas carols that would take place tomorrow, and it seemed to me that someone didn't sing well. I passed by Ana, and I could not believe she sang so badly because she was the best in the choir group. Ana no longer had the strength to sing. She tripped and fell over a child who caught her. I asked her: Ana did you eat something today? The answer was: No, madam."*

With the start of the project in which children are offered a hot meal at school, teachers derived from the behavior of the children that they are very hungry. Pupils were interested in the day's menu and asked multiple questions about its content. When serving a meal, some of them ate eagerly and in haste by holding on tightly to their casserole, as if they were afraid someone would take it away from them.

The parents of these children, due to lack of time, or, most often, out of convenience, do not cook. Some buy sweets that they offer to their children, a choice that is far from providing balanced nutrition. Teachers discussed situations of families who regularly urged children to eat sunflower or pumpkin seeds, including the shells, to fill their bellies.

There are children in the target group that tasted cooked food for the first time at school, starting with the abovementioned project. As they had not previously experienced prepared food with their family, some had a hard time getting used to cooked and diversified dishes. Some of the experts involved in the research declared that the children were not receiving enough food at home, neither in the necessary quantity nor quality. Unfortunately, these cases are not a few exceptions, but are typical for a part of the community that represented the target group in this research.

One of the experts involved in the study expressed the view that: *"The children do not even know how to eat or appreciate all kinds of food (...) I can tell by the way they eat, by the craving with which they put food in their little mouth. This is how I realized that what they get from home is not enough. I think they have neither quantity nor quality, nothing."*

➤ *Objective 2. Determining how diet affects the educational process and the development of children in the target group.*

In the opinion of the interviewed experts, the educational process and the development of skills are severely affected by the way children are fed. Poor nutrition influences them physically, intellectually, emotionally, and behaviorally. They often get

toothaches, bellyaches, and headaches. The state of fainting is proof of the poor state of their health. The pupils' performance is significantly affected by diet, according to most interviewees.

Psychologists participating in the research highlighted two aspects that work together in children's well-being: eating and meal schedule. The regularity with which the children are fed a meal is as important as the food offered because it gives them psychological comfort. The better the schedule is, the better the child will feel, the calmer he/she will feel, able to concentrate on the tasks, as adults at the schools can focus on development and cover higher motivational needs, having learned that the basic needs of children are fulfilled.

When asked to show how the diet affected the children in the target group, doctors stated that some of them were not well developed in terms of weight and height, and many suffer from anemia or indigestion. In the same context, the danger to which they are exposed due to poor hygiene and inadequate eating behavior is always present. Their taste is poorly developed and in the long run they will desire only certain foods they are accustomed to that are far from providing the necessary nutrients for a healthy and harmonious growth.

In consensus, the teachers interviewed believe that school performance is directly influenced by diet. A balanced nutrition ensures calmness and psychological stability. As long as children are hungry, communication with them is inefficient. They are disobedient and restless, and cannot pay attention. Hunger even generates violence, but children become patient after eating.

As one of the interviewees put it: *„School performance increases or decreases depending on the diet. Good nutrition provides an emotional stability, a natural tranquility. Those who do not eat are restless, they cannot pay attention. They are always hungry, and then they become recalcitrant and violent. Yes, even their violence springs from it. However, they calm down after eating.*

- *Objective 3. Identifying the factors that contribute to the current status of food security of children in rural areas.*

In the process of identifying the factors that contribute to food security of children in rural areas, experts involved in the research focused their explanations on real-life aspects. Inequality among children is a recognized fact when it comes to access to food, explained by differences in family budgets. But when delving deeper into the causes that lead to poor food security for children, interviewees concluded that there is a simplistic and incomplete explanation.

Objective variables alone such as living conditions, education level, or professional status of parents are not enough. Lack of food security for children is better explained by attitudinal variables such as the importance parents allocate to childcare and to the future development of children. These attitudes are deeply rooted in the culture of the social strata they are part of and lead to behaviors that can be harmful to children.

Many pupils arrive at school without eating breakfast, because parents have nothing to offer them or do not wake up in time to prepare their meals. A sandwich for lunch is often missing or is replaced with sweets bought from the store, even if this is forbidden by class regulations.

One of the teachers recognized with sadness that: *“The reasons why children do not have packed snack at school is because their mothers don't care, they don't wake up in the morning to make them a sandwich or they don't have the necessary food. I have pupils in class who come from families totaling 11 children. They simply don't have food to offer to all of them.”*

At home, many of the parents of these children are not used to cook. Family food is based on cold, inexpensive, purchased food. If these habits do not change, they will continue in the families the children establish, transferring them from one generation to the next.

From the discussions on nutrition with parents in the target group, it came out that they did not realize they were undernourishing their children or feeding them improperly. In many cases they argued that they had nothing to offer at home. The reasons why children did not bring a packed snack to school were sometimes simply that their mothers did not have the means, especially in the case of families with a high number of children. Thus, children looked forward to receiving lunch at school. This worrying fact is confirmed by the teachers participating in the research.

It can be concluded that access to food is characterized by a strong social and cultural selection. Explaining the lack of food security for children in the target group through economic inequalities is not enough. It is necessary to add the culture of the ethnic groups of families and parents' attitudes towards children's nutrition, their interest regarding of what and how much children consume, the perception of the importance of nutrition for child development, and even the importance they attach to the harmonious growth of their own children.

- *Objective 4. Identifying ways to improve food security for school children in the target group.*

Reducing the risks faced by children in the target group requires urgent action from all responsible institutions at the national level so that this social category has access to sufficient, quality-checked food. Experts participating in the research believe that persistent education and timely programs can contribute to developing a culture of consumption among the appropriate target group. This culture could lead in turn to overthrowing current trends that impose negative implications on inadequately fed rural children.

When considering the programs designed to improve food security for children, most interviewees agreed on the minimum support for pupils, while expressing disappointment about the quality of products offered inside the "Milk and Roll" program and the logistics organization as such. The products are transported weekly to a lengthy distance. Thus, even if shortly

after production their taste, their smell, their consistency are attractive, certainly until they arrive to the schools, their characteristics decrease severely for consumption. Some of the teachers remembered nostalgically that at the start of the program, the milk and rolls were delivered by a local vendor and reached the children in a fresh state. On festive days, the bakery products were sometimes glazed with honey and walnuts.

Concerning the hot meals provided as part of the project, all participants made positive assessments. They believe that it contributes to reducing inequality among children in terms of access to food, offering them a chance to develop normally and to focus on education.

A teacher expressed the opinion that: *“I see them now, since they are eating they completely change, they calm down. After eating, they are no longer fighting, they don't hurt each other, and they want to learn. This is a change for the better - eating a hot meal. And it is a good thing that the meal is well thought of, for children, with the necessary calories, with everything.”*

Children become more attentive after eating and more eager to learn. Eating a hot meal is a change for the better, as it comprises the necessary nutrients adapted to the age of the children. From the experience of the experts interviewed, food underpins behavior and mental performance.

At the same time, experts agreed that a sparse project, implemented temporarily, cannot generate a big impact. Success is inconceivable without persistence and long-term involvement of all factors, including parents, because tastes are formed over time through habit. If at school children learn to eat products that provide them with a minimum of security, in time, they may force parents to change their own habits. The implementation of sustainable, long-term programs in which hot meals are provided to children in all rural schools is, according to research participants, a solution to combat the phenomenon of food insecurity in its complexity.

Only by becoming institutionalized, with well-defined objectives and the allocation of consistent human, financial, and logistical resources, can the results of such projects bring long-term success to forming positive behavior towards sustainable food security for children and to overturning some of the negative features embedded in local communities. Removal of prejudice is the lifeblood that fuels motivation to address the needs of children suffering from hunger.

Connecting the experts and stakeholders in the field to the close reality to which they relate when issuing opinions, theories, interpretations, and programs is essential for the success of these projects and an opportunity for children in rural areas.

Discussion and Conclusions

The hotly debated topic of food security is increasingly analyzed in the literature, along with growing concerns worldwide regarding the eradication of hunger, and, at the EU level, regarding the assurance of healthy and balanced nutrition in a sustainable way.

Aside from food safety, food security per se is still an insufficiently explored field in Romania from an economic viewpoint. Most contributions belong to connected areas (commodity science, food chemistry, agriculture) or focus on fighting poverty when the theme of rural development is approached. This paper contributes to the literature in the field with a theoretical and applied research on food security of children in rural areas, a subject of major importance for Romania's long-term development. The study has a novel character, as no similar academic research has been conducted in Romania with the exception of ministerial assessments regarding the impact of programs for distributing food in schools.

According to the opinion of experts interviewed during the research, access to food for school children in the target group is deficient and has negative consequences. The increasing food insecurity of children in rural areas is generated by the emergence of multiple social and economic factors (purchasing

power, structure of the family, etc.) and cultural factors (traditions, habits of families, etc.).

The results of the research form important recommendations for public bodies at the national and local level, such as the Ministry of Education and Research, the Ministry of Health, the Ministry of Agriculture and Rural Development, and City Halls. These can support the sustainable improvement of food security in rural areas. The research undertaken highlights the urgent need to implement a national program of minimum support by offering hot meals in schools for rural communities affected by persistent poverty, which will have positive and sustainable effects on the balanced development of children.

Romania is committed to implementing the Sustainable Development Goals set out in the United Nations 2030 Agenda, which promotes actions aimed at ensuring the balance between the three dimensions of sustainable development: economic, social, and environmental. Romania's policy stipulates that programs that meet the objectives of the 2030 Agenda should be implemented by local institutions and included in regional development strategies. Thus, by implementing local and regional educational programs for children, intervention activities can be provided to contribute to achieving goal number 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, and goal number 2: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture by ensuring access for all children, especially the poor and vulnerable, to safe, nutritious, and sufficient food throughout the year.

The development of the program of providing food support for school children is part of the actions of the Romanian Ministry of Education and Research under an integrated intervention mechanism to reduce absenteeism, risk of exclusion, and school dropout. Compliance with the principles of healthy eating and teaching children about the topic of dietary habits, is problematic with school children from geographically, economically, or socially disadvantaged backgrounds. Such actions are meant to contribute to the achievement of the major objective of the

educational policy and to ensure equitable and non-discriminatory access to quality education for all children and young people in Romania.

However, particular importance should be awarded to assessing the results obtained from the implementation of educational programs and analyzing how each action will be completed, as well as the effectiveness of the measures taken. In the absence of an overview, educational strategies can be designed to meet certain objectives, but without correlating them with the specific needs of the target groups, they will prove inefficient in the long run. To respond more effectively to the challenges of the current context, the authors recommend that Romanian policymakers implement complementary programs to the compulsory school curriculum, such as “school after school” schemes, especially in disadvantaged rural areas. These schemes could offer learning opportunities through non-formal educational activities aimed at the personal development of children regarding lifestyle, nutrition, dietary habits, personal security and safety, etc.

The main limit of the present research is generated by the impossibility of extending the obtained results, a limit imposed first of all by the specific character of the research method used. In addition, only the views of experts involved in the education of children in rural areas in the villages of Brasov County were identified in this research. Despite these limits, the authors consider that the paper brings valuable empirical contributions to studying the issue of food security. Starting with these considerations, future research could be extended in order to assess the views of experts working in other rural areas as well as interested parties, such as parents, nutritionists, teachers in urban education, central and local authorities. The authors of this research aim to measure the influence of various factors on the inequality of access to food through quantitative marketing research methods that will allow for the extension of the results in a further study.

References

1. UNICEF. *The State of the World's Children, Focus on Nutrition*. Oxford: Oxford University Press. 1998.
2. International Food Policy Research Institute. *A 2020 Vision for Food, Agriculture, and the Environment: The Vision, Challenge, and Recommended Action*. Washington: IFPRI. 1995.
3. Havas K, Salman M. Food security: Its components and challenges. *Int. J. Food Safety, Nutr. Public Heal.* 2011; 4: 4.
4. European Commission. *Millions of European Schoolchildren Benefit from Healthy Food Thanks to EU Programme*. Brussels: European Commission. 2018.
5. European Parliament. *Regulation (EU) 2016/791 of the European Parliament and of the Council*. Official Journal of the European Parliament. Brussels: European Parliament. 2016.
6. Rojas A, Valley W, Mansfield B, Orrego E, Chapman GE, E TAL. Toward food system sustainability through school food system change: Think&EatGreen@School and the making of a community-university research alliance. *Sustainability*. 2011; 3: 763–788.
7. Ashe L, Sonnino R. At the crossroads: New paradigms of food security, public health nutrition and school food. *Public Heal. Nutr.* 2012; 16: 1020–1027.
8. Vallianatos M, Gottlieb R, Haase MA. Farm-to-School. *J. Plan. Educ. Res.* 2004; 23: 414–423.
9. Oostindjer M, Aschemann-Witzel J, Wang Q, Skuland SE, Egelanddal B, et al. Are school meals a viable and sustainable tool to improve the healthiness and sustainability of children's diet and food consumption? A cross-national comparative perspective. *Crit. Rev. Food Sci. Nutr.* 2016; 57: 3942–3958.
10. Cerutti AK, Contu S, Ardente F, Donno D, Beccaro GL. Carbon footprint in green public procurement: Policy evaluation from a case study in the food sector. *Food Policy.* 2016; 58: 82–93.
11. Tesliuc E, Grigoras V, Stanculescu M. *Background Study for the National Strategy on Social Inclusion and Poverty Reduction, 2015-2020*. Bucharest: RePEc. 2015.

12. FAO. Report of the World Food Conference. Rome: FAO. 1974.
13. FAO. World Food Security: A Reappraisal of the Concepts and Approaches. Rome: FAO. 1983.
14. The Rome declaration on world food security. *Popul. Dev. Rev.* 1996; 22: 807.
15. Clay E. Food Security: Concepts and Measurement. Paper for FAO Expert Consultation on Trade and Food Security: Conceptualizing the Linkages. Rome: FAO. 2002.
16. Lang T, Barling D. Food security and food sustainability: Reformulating the debate. *Geogr. J.* 2012; 178: 313–326.
17. Turan, Özlem, Gurluk S, Issi E. Global food security index's reflections to balkan countries. "Agric. Life, Life Agric." *Conf. Proc. Sciendo.* 2018; 1: 205–211.
18. Berry E, Dernini S, Burlingame B, Meybeck A, Conforti P. Food security and sustainability: can one exist without the other? *Public Heal. Nutr.* 2015; 18: 2293–2302.
19. Capone R, El Bilali H, Debs P, Cardone G, Driouech N. Food system sustainability and food security: Connecting the dots. *J. Food Secur.* 2014; 2: 13–22.
20. El Bilali H, Callenius C, Strassner C, Probst L. Food and nutrition security and sustainability transitions in food systems. *Food Energy Secur.* 2018; 8: e00154.
21. Allen P. Facing food security. *J. Rural. Stud.* 2013; 29: 135–138.
22. Fusco G, Coluccia B, De Leo F. Effect of trade openness on food security in the EU: A dynamic panel analysis. *Int. J. Environ. Res. Public Heal.* 2020; 17: 4311.
23. Eurostat. Income and Living Conditions in Europe (EU-SILC). Luxembourg: European Union. 2013.
24. Kirwan J, Maye D. Food security framings within the UK and the integration of local food systems. *J. Rural. Stud.* 2013; 29: 91–100.
25. Dowler EA, O'Connor D. Rights-based approaches to addressing food poverty and food insecurity in Ireland and UK. *Soc. Sci. Med.* 2012; 74: 44–51.
26. Friel S, Lichacz W. Unequal food systems, unhealthy diets. In: Lawrence G, Lyons K, Wallington T, editors. *Food Security, Nutrition and Sustainability.* London: Earthscan. 2010; 115–129.

27. Sage C. The interconnected challenges for food security from a food regimes perspective: Energy, climate and malconsumption. *J. Rural. Stud.* 2013; 29: 71–80.
28. Burdock R, Ampt P. Food sovereignty: The case and the space for Community led agricultural autonomy within the global strategic framework for food security and nutrition. *J. Agric. Sci.* 2017; 9: 1.
29. Kuzmin EA. Sustainable food security: floating balance of markets. *Int. J. Econ. Fin. Issues.* 2016; 6: 37–44.
30. Ene C, Matei M. New dimensions of food security in Romania from the European perspective. In *Proceedings of the 3rd International Symposium on Agrarian Economy and Rural Development*. Bucharest, Romania. 2012.
31. Bondoc I. European regulation in the veterinary sanitary and food safety area, a component of the European policies on the safety of food products and the protection of consumer interests: A 2007 retrospective. *Universul Jurid. Suplim.* 2016; 1: 12–27.
32. Otiman PI. The National Strategic Framework for the Sustainable Development of the Agro-Food Sector in Romania in the Period 2015–2020–2030. Bucharest: Romanian Academy. 2014.
33. Alexandri C, Luca L. Food and nutrition security in Romania in the post-accession period. *Food Nutr.* 2016; 16: 11–18.
34. Stanciu S. Food Security in Romania: Case Study. *SEA – Pract. Appl. Sci.* 2015; 3: 83–92.
35. Ciaian P, Cupák A, Pokrivčák J, Rizov M. Food consumption and diet quality choices of Roma in Romania: a counterfactual analysis. *Food Secur.* 2018; 10: 437–456.
36. Ahmed UI, Ying L, Bashir MK, Abid M, Zulfıqar F. Status and determinants of small farming households' food security and role of market access in enhancing food security in rural Pakistan. *PLoS ONE.* 2017; 12: e0185466.
37. Maitra C, Rao DP. An empirical investigation into measurement and determinants of food security. *J. Dev. Stud.* 2017; 54: 1060–1081.
38. Kruzslıcika M. Food Security and Population Welfare in Romania. *Agric. Econ. Rural Dev.* 2016; 13: 79–93.

39. Istudor N, Ion RA, Sponte M, Petrescu IE. Food security in Romania—A modern approach for developing sustainable agriculture. *Sustainability*. 2014; 6: 8796–8807.
40. Gavrilă V, Kruzslıćıka M, Chırıtescu V. Food consumption in Romania – quantitative and qualitative aspects of food security. *Bull. Univ. Agric. Sci. Vet. Medicine Cluj-Napoca. Agric.* 2014; 71: 57–64.
41. Saravia-Matus S, Gomez y Paloma S, Mary S. Economics of food security: Selected issues. *Bio-based Appl. Econ.* 2012; 1: 65–80.
42. Maxwell S, Smith M. Household Food security: A conceptual review. In: Maxwell S, Frankenberger T, editors. *Household Food Security: Concepts, Indicators, Measurements: A Technical Review*. New York: UNICEF and IFAD. 1992; 1–72.
43. Perez-Escamilla R, de Toledo Vianna RP. food insecurity and the behavioral and intellectual development of children: A review of the evidence. *J. Appl. Res. Child.* 2012; 3: 1–16.
44. Pérez-Escamilla R. Food security and the 2015–2030 sustainable development goals: From human to planetary health. *Curr. Dev. Nutr.* 2017; 1: e000513.
45. Pantazi R. Hot meals in schools. *HotNews.ro*: Bucharest, Romania, 2018. Available online at: <https://www.hotnews.ro/stiri-educatie-22684939-mas-cald-coli-guvernul-folose-oug-lanseze-pentru-treilea-consecutiv-acela-program-pilot-doar-50-coli.htm>
46. Carson D, Gilmore A, Perry C, Gronhaug K. *Qualitative Marketing Research*. London: SAGE Publications. 2001.
47. Moisander J, Valtonen A. *Qualitative Marketing Research*. London: SAGE Publications. 2006.
48. Boyce C, Neale P. *Conducting in-depth interviews: A Guide for Designing and Conducting In-Depth Interviews for Evaluation Input*. Watertown: Pathfinder International Tool Series. 2006.
49. Malhotra NK. *Marketing Research: An Applied Orientation*. New Jersey: Pearson Education International. 2004.