DOI: 10.55643/fcaptp.2.49.2023.4019

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Received: 20/03/2023
Accepted: 16/04/2023
Published: 30/04/2023



# ENSURING FOOD SECURITY AT THE HOUSEHOLD LEVEL: SOCIO-ECONOMIC DIAGNOSTICS

## ABSTRACT

The purpose of this scientific article is to research the important issues of food supply in Ukraine at the regional level by diagnosing the current state of food ensuring based on a survey of relevant respondents with the purpose to improve the level of socio-economic development of the country in the long run.

In research have been interviewed households from Kyiv of Ukraine according to the following main criteria: physical and economic conditions, food availability, supply and access to food consumption to evaluate household food security status by calculating the sample size, a few details about the target population, its size, variance, margin of error and desired level of confidence in empirical estimates of important variables.

In this research, the Minimum Dietary Energy Requirement (MDER) and a threshold that shows the minimum amount of energy needed by a hypothetical average person in the population to be healthy and engage in socially acceptable levels of activity have been examined. The state of nutritional food security in terms of protein, carbohydrate, and fat consumption has been investigated.

The main aspect of the results approved that almost half of the respondents are showing conditions of life for them as "just adequate and few people seem not to be satisfied showing «less than adequate». These results are important from the viewpoint of food security as adequate food intake; availability and sustainability are the main components of food security and show the quality-of-life status.

It is proved that at the present stage of national economic status human development plays an important role in achieving long-term food security goals. It has been established that in order to attain sustainable food safety at the national level, it is important to improve the population's health condition and to change the existing food consumption models in the country, in households in particular the food basket containing imported foodstuff. This can be achieved through promoting safe and healthy eating habits, education improving in the field of food systems and technologies, and facilitating access to information for consumers and producers.

**Keywords:** national food security, agricultural sector, household food security, food security level, survey data, food consumption

**JEL Classification:** C83, D10, D13, F52, F63, Q18

## INTRODUCTION

Food security research should be expanded to include and cover major areas of concern and importance to the food security of Ukraine. In addition to food availability, there should specifically be a systematic focus on food diversity and quality, with primary importance on household food security. Food security studies should assess the critical role that agriculture plays in the intra-household distribution of food (e.g., to vulnerable groups of rural households like children and women).

Although food availability offers possibilities for short-term food security ensuring through accessible, nutritious foods like fruits and vegetables, the current research unveils that existing evidence in Ukraine has widely concentrated on only food availability

and disregarded the other aspects of food security such as access, affordability, utilization, and stability. Moreover, the results imply that the upcoming food security research should also magnify the focus, more specifically, from food availability to food diversity and quality, with a prime emphasis on household and individual food security.

Effective management of agriculture contributes to the increase of the national food security level, but prospects for the agricultural sector remain disappointing. If past trends are maintained, the growth of food and agriculture would be static or slow, resulting in unfavourably affecting the per capita food availability. The agricultural sector needs to pay more attention to food security policies for sustainable solutions. A number of factors determine the sustainability of a country's developmental goals for its citizens towards actualizing increasing food security levels [7].

At present, «household and individual food security are vulnerable due to climate change, exchange rate instability, and international price volatility, which entails urgent attention from both domestic and international participants. In Ukraine, at a household level, there is a need for an inclusive household food security policy to achieve sustainable development plans that consider Ukrainian household characteristics and specificities and address both the food accessibility and utilization dimensions of the country's food security. Household food security strategies have to include short- and long-term policies that decrease food inflation and benefit both demand and supply-side sectors. The synthesis of research on food security studies suggests diverse factors that may influence the status of food security. The best-performing nations in terms of food security are those with high research and development (R&D). R & D improves the potential of domestic agriculture's food supply to meet national household and individual needs. The structure of social safety nets can mitigate the impact of food inflation on most vulnerable populations» [9].

## LITERATURE REVIEW

Ensuring the food security of the country determines the general trends of the domestic and foreign policy of the state, social stability in society, solving the demographic problem and improving the quality of life of the population. Food security occurs when all members of a household at all times have reliable access to food in sufficient quantity and quality to support an active and healthy life. Even when food availability is increasing, evidence shows that widespread hunger still exists. This caused the main reasons to understand food security in household and individual levels. Even though households may have access to food supplies, individual food security requires an appropriate environment & distribution. Food insecurity is a sad reality for millions of people across the world.

Domestic and foreign scientific opinion has accumulated considerable experience in dealing with the problems of the food supply of the population of the country both at the expense of its own production and by increasing the import potential. A large number of scientific papers in the public domain on the research of problems of food security ensuring on household and national levels. However, only a few authors have analyzed most of food security ensuring at the household level. Other authors, namely Kotykova, I. Hryshova, Poltorak, G. Penchuk, O. Kochetkov, R. Markov [11-12], O. Zgurska, Y. Larina, R. Dymenko, S. Kubiv, A. Tarasiuk, Y. [15; 21].

The issue of food security occupies an important place in the concepts of national security of most advanced countries, and significant development in the study of mechanisms for ensuring food security at the household level has been considered by well-known foreign scientists, such as Berti, P.R., Krasevec, J., M.T.Gamian [1], Boqvist, S., Söderqvist, K., and Vågsholm, I.. [2], Calicioglu, O., Flammini, A., Bracco, S., Bellù, L., & Sims, R. [3], Ghani, M., Cozzolino, C. A., Castelli, G., and Farris, S. [5], Gill, O. N., Spencer, Y., Richard-Loendt, A., Kelly, C., Dabaghian, R., Boyes, L [6], Godfray, H. C. J., Beddington, J. R., Crute, I. R., Haddad, L., Lawrence, D., Muir. [7], Gounden, C., Irvine, J. M., and Wood, R. J. [8], Huseynov, R. [9, 18], Mary, S. [13], Rockström, J., Williams, J., Daily, G., Noble, A., Matthews, N., Gordon, L. [16], Stevens, G.A., Bennett, J.E., Hennocq, Q., Lu, Y., De-Regil, L.M., Rogers, L., Danaei, G., Li, G., White, R.A., And Flaxman, S.R. [17], Warren, E., Hawkesworth, S. [19], Watson, D. [20] etc.

Recognizing the significant contribution of domestic and foreign scientists, we note that the intensification of the global economic crisis, as well as the instability of the political situation both in Ukraine and at the global level and the impact of these important factors on the transformation processes in the national agro-industrial complex, define the issue of a thorough study of national food security indicators. Accordingly, nowadays, it is very important to review food security at the household level, as well as the key reasons for household food insecurity, indicators of household food insecurity, including methods of assessing household food security by a survey of respondents.


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## AIMS AND OBJECTIVES

The purpose of this scientific article is to research the important issues of food supply in Ukraine at the regional level by diagnosing the current state of food ensuring based on a survey of relevant respondents with the purpose to improve the level of socio-economic development of the country in the long run.

## METHODS

In the research, a wide range of research methods has been used, the main of which were the methods of generalization and synthesis, scientific abstraction, analytical diagnostics, descriptive statistics. The dialectical method of cognition of socio-economic processes, the formal logical method and the method of system analysis have been applied to better understand the processes of providing the region with food consumption. The method of generalization and synthesis has made it possible to accumulate the entire range of scientific results into a single concept that reflects the relevance of the topic, to identify key areas of development, goals, objectives and features of adaptation of methods for developing and improving the level of household food security and, as a result - national food security.

The research uses primary survey data to understand the food security situation in the Kyiv region, which includes districts as follows: Bilotserkiv district, Boryspil district, Brovary district, Vyshgorod district, Obukhiv district, Fastiv district and Buchan district. Boryspil district is the most developed district in the Kyiv region. The rural population of the district covers almost 53% of the population, while the urban population - 47%.

This research makes use of a well-structured questionnaire that was designed on the basis of an extensive literature review. In this context, principal data have been collected using the method of simple random sampling.

The Boryspil district region's town councils have been chosen at random, and data of all villages, communities, and sub-villages have been created, including the names of heads of families, their wives, and their children. A total of 300 houses were chosen randomly. However, for the survey activity, this study interviewed relevant respondents such as the female head of the household who often prepares food, which was considered the best to answer the food security question. Primary data have been collected with the help of experienced enumerators. They imparted social and professional ethics in a two-day training to collect primary data on socioeconomic variables. A pilot survey was conducted to get early access to the results of our study. The main survey has been conducted from November 1 to November 10, 2022. The data was cleaned and put in the SPSS program (Statistical Package for the Social Sciences) for the purpose of analysis and report writing. This study used a variety of proxies to calculate the regional multidimensional food security index proxy. These proxies include average food supply, the average value of food production, the average supply of protein, road density, consumer price index, access to clean water, the prevalence of anemia among pregnant women, food imports as a percentage of total merchandise exports, and consumer price index (CPI) variability.

The use of the survey method targets instruments or procedures that ask one or more questions that may or may not be answered. Researchers carry out statistical surveys with a view towards making statistical inferences about the population being studied; such inferences depend strongly on the survey questions used. A recent survey of respondents regarding the food security of the region determined the relationship between indicators of socio-demographic and economic development of the Kyiv region in particular and at the national level - in general.

## RESULTS

Nowadays, hard economic and political conditions are causes and corollaries of food insecurity in Ukraine which needs to be sorted out national food security crisis. Although a number of studies look into the status of food security at the national, household, and individual levels, different models have been developed in different countries to analyze the food security status. This is because each country has its unique topographies, social and economic conditions, so a number of indicators such as availability, access, usage, and stability of food security, have been put to use in different models to define the level of food security in different countries. These dynamic contrasts have significant control over a country's food security setting and status. The unavailability of food that kicks up a rumpus price shock is one of the key causes of food insecurity. In spite of massive investment in macroeconomic programs and progresses in gross domestic product and trade between 2010 and 2020, food insecurity stays on as a major concern among rural families and individuals in Ukraine [13].

Ukrainian agriculture is a very important sector of the country's economy as agricultural activities engage the majority of the nation's land and labour force. Almost, 78% of Ukrainian land has been used to cultivate diverse crops and breed a

number of animals, but still, environmental, structural, political, social, and economic policy problems are one of the key reasons for rural food insecurity in Ukraine. Food availability and food stability component of food security reflect economic aspects related to international trade and macroeconomic output levels on the supply side of the economy. Food availability and food consumption, on the other hand, refer to the demand sides of the economy, such as income and price levels. Accordingly, macroeconomic variables have a significant impact on food security at the national, family, and individual levels. It is necessary to examine the influence of various aspects to better understand the dynamics of national food security. That is, one of the primary goals of social and economic policymaking is to achieve long-term food security. A well-targeted strategy might close the gap in food insecurity caused by a variety of social and economic factors.

Many national and international agencies devote pronounced importance to food security issues. Ukraine is confronted with two colossal issues: food security and climate change. Nonetheless, in view of the fact that it is a key component in maintaining regional stability, it should be governed by international cooperation. Meanwhile, Ukraine stands facing many additional issues, including severe environmental conditions and sluggish agricultural production growth [96 c. 610].

However, achieving food sustainability at the regional level remains a significant problem. Although the government have proposed social development programs and policy reforms, none of these endeavors has resulted in the effective expected outcomes. Food security in our country, in particular, has not improved sufficiently to fulfil regional demand. The difference between national food production and demand has resulted in an increase in food imports. In addition, Ukraine lacks comprehensive research and data on regional and national food security, setting a barrier to long-term policies and implementation. Policymakers and implementers of regional food security programs have been looking for measures, to determine food security, that is reliable, simple to use, and assist in interpreting food security dynamics. In these economic conditions, food imports have been considered the main successful strategy that strengthened and forced national and regional food security. However, to attain long-term food security objectives, trade liberalization and intensification of economic integration processes are necessary and advantageous for trading parties. Liberalized and open trade policies make a huge number of advantages in national and regional food security.

As a result, analyzing regional and national food security determinants and their status is valuable not only for policymakers but also for national food security development. Accordingly, it is advised that major locations and variables that have directly had an effect on food security at the household level be experimentally investigated. In accordance with the literature review, no research has recently exercised micro-level data to forecast regional dynamics of food security and its primary drivers. While examining the foundations of food security, studies with a target population or a micro viewpoint might not only mislead policymakers but also propose a contrived situation analysis of the nations under consideration [10].

The major cause of food insecurity might be attributed to social and economic inequality, with the poor population suffering from various diseases because of scantly available economically appropriate food. Nowadays human development is an important issue but it may not be the utmost measure of food security. In recent years, regional food security has emerged as a key concern and the focus of sustainable development objectives [11, c. 145]. When all citizens have ample economic and physical access to nutritive, nourishing, healthy, and safe food to satiate their dietary needs to support their active and healthy lifestyle, the country is considered food secure.

According to the purpose of the research, the primary household survey data have been used in the direction of determining food security and nutritional status. A survey database has been used in the research to assess the dietary intake method to estimate the optimal level of food and nutritional security in the household in Ukraine. A seven-day recall approach has been used to calculate household and food consumption per capita. Furthermore, food consumption per adult equivalent unit is used to accommodate gender and different age groups. Numerous threshold levels have been applied to evaluate food and nutritional security in this study. This study used a comparison of results with previous findings while taking 2450 and 2350 kcal/per person/per day as a measure for food security ensuring. A number of macro and micronutrient thresholds have also been used, such as protein (70 gm), fats (80 gm), carbs (180 gm), zinc (15 mg), calcium (1000 mg), and phosphorus (1000 mg) to assess nutritional security level [2].

In general, about 300 households have been interviewed from Kyiv of Ukraine to evaluate household food security status. Before calculating the sample size, a few details about the target population, its size, variance, the margin of error and desired level of confidence in empirical estimates of important variables are required. A key constraint in arriving at the ideal sample size is the lack of adequate information and data regarding the standard deviation of the study variables/indicators. In the absence of such information, budget and time constraints. This study used the optimal sample size which generates enough generalization of results at the region or community level. At the large and unknown population level survey with a single domain of cluster, 384 sample size generate the representative results at the 5% margin of error and 95% confidence level.


DOI: 10.55643/fcaptp.2.49.2023.4019

The principal characteristics of the respondent household have been described in Table 1.

**Table 1. Descriptive statistics of sampled data.**

| Variables | Mean | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|
| Age (years) | 51.7 | 12.8 | 23.0 | 92.0 |
| Height (cm) | 169.7 | 7.6 | 150.0 | 190.0 |
| Weight (kgs) | 74.8 | 11.6 | 48.0 | 120.0 |
| Children (no.) | 2.7 | 1.1 | 1.0 | 8.0 |
| Number of people live together | 4.4 | 1.4 | 1.0 | 11.0 |
| Number of household dependent | 4.4 | 1.4 | 1.0 | 11.0 |
| Number of persons employed in the household | 1.3 | 0.6 | 0.0 | 4.0 |
| Number of people who shared the food | 4.4 | 1.4 | 1.0 | 11 |
| Income other than agriculture (UAN) | 820.4 | 276.8 | 1200.0 | 3200.0 |
| Minimum monthly household income (UAN) | 1074.5 | 757.2 | 3000.0 | 7000.0 |

The descriptive statistics show «that the average age of respondents was about 51.7 years, with a standard deviation of 12.8 and a minimum to a maximum range of 23-92 years. The average height was 169.7 cm, with a standard deviation of 7.6 and a minimum to maximum range of 150 to 190 cm. The average weights have been observed at 74.8 kgs with a standard deviation of 11.6 in the range of 48 to 120 kgs.

The average number of children in the selected sample was about 2.7, with a standard deviation of 1.1 and in the range of 1 to 8 children. The average number of people living jointly has been reported at 4.4 people, with a standard deviation of 1.4, and a minimum to a maximum of 1–11 people who are living in single households. The average number of households that are dependent on the income on the income of sampled respondents has been observed as 4.4, with a standard deviation of 1.4 and a minimum to maximum range of 1 to 11. At the same time, the average number of people employed in the household has been observed as 1.3, with a standard deviation of 0.6 and a minimum to maximum range of 0 to 4» [18].

Similarly, averages of 4.4 «people who shared food have been observed with a standard deviation of 1.4 in the range of 1 to 11. The average income from other than agriculture resources has been reported as 820.4, with a standard deviation of 276.8 and a minimum to maximum range of 1200 to 3200 UAH. The average minimum monthly household incomes of respondents have been found as 1074.5 with a standard deviation of 757.2 and a minimum to a maximum range of 3000 to 7000 UAH» [18].

The survey of respondents proceeded according to the following main criteria:

- physical and economic conditions;
- food availability;
- supply and access to food consumption.

### *Physical and economic conditions*

The household's physical and economic state has critical importance in the context of food procurement and consumption. Furthermore, the response data has testified that contentment with their current financial status has been found to be 45% happy and 42.7% less satisfied (Figure 1). The financial status of respondents in the past 12 months has been reported with the number as 46.3% unchanged, trailed by somewhat improved (25.3%), somewhat worsened (19.3%), deteriorated a lot (6.2%), and quite improved lot (2%), (Figure 2). While the succeeding 12 months' financial status has been envisioned by respondents, the response shows that many respondents were hesitant to disclose their future financial situation as almost 67% reported that they have no idea about their future financial state of affairs (Figure 3).

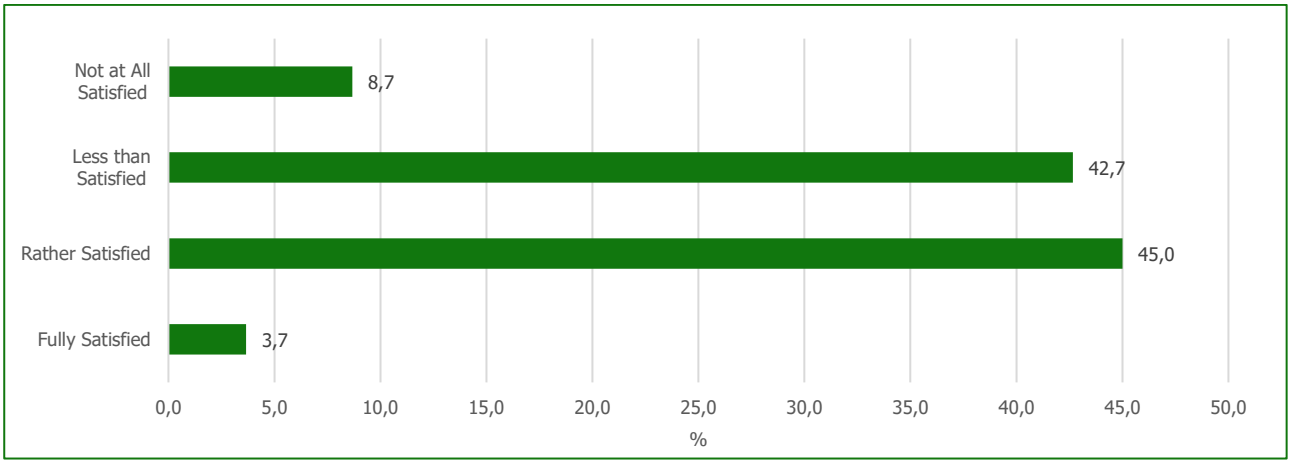


**Figure 1. How satisfied are you with your current financial situation?**

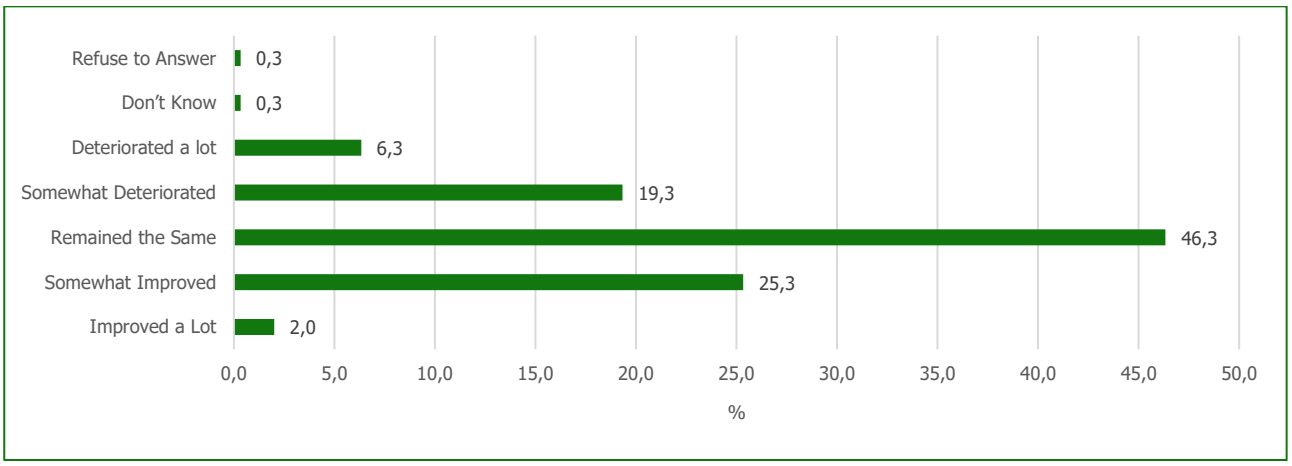


**Figure 2. Do you feel that your financial situation in the past 12 months has changed?**

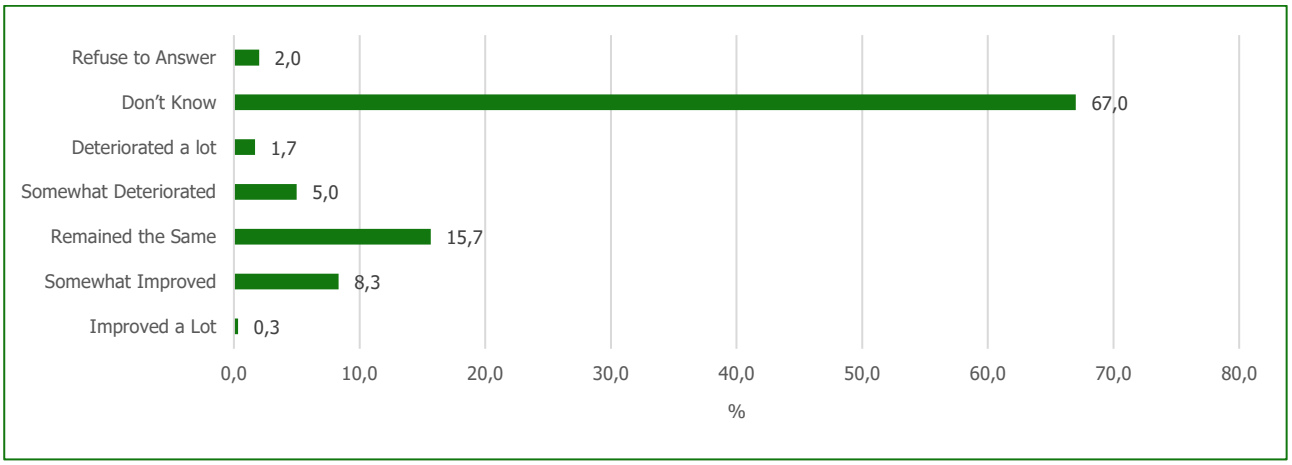


**Figure 3: Do you think that in the next 12 months, your financial situation will have changed?**

The normal quantities of household food consumption have been found on the level 54.7% less than the sufficient and adequate intake. The data indicates that almost 42.3% of respondents are getting merely acceptable or adequate intake, while 2% turn down to answer the question (Figure 4).


DOI: 10.55643/fcaptp.2.49.2023.4019

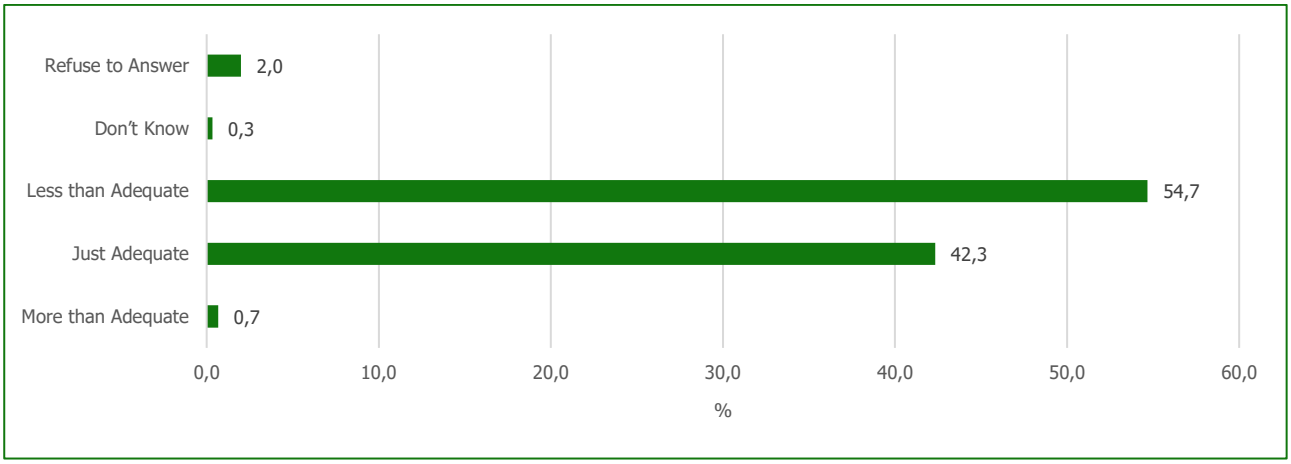


**Figure 4. How do you rate the current level of food consumption of your family?**

The current level of family expenditures for food and other needs such as clothes and shelter respondents have been found to be less than adequate in 88% of the sampled respondents and just adequate in 9% of cases (Figure 5).

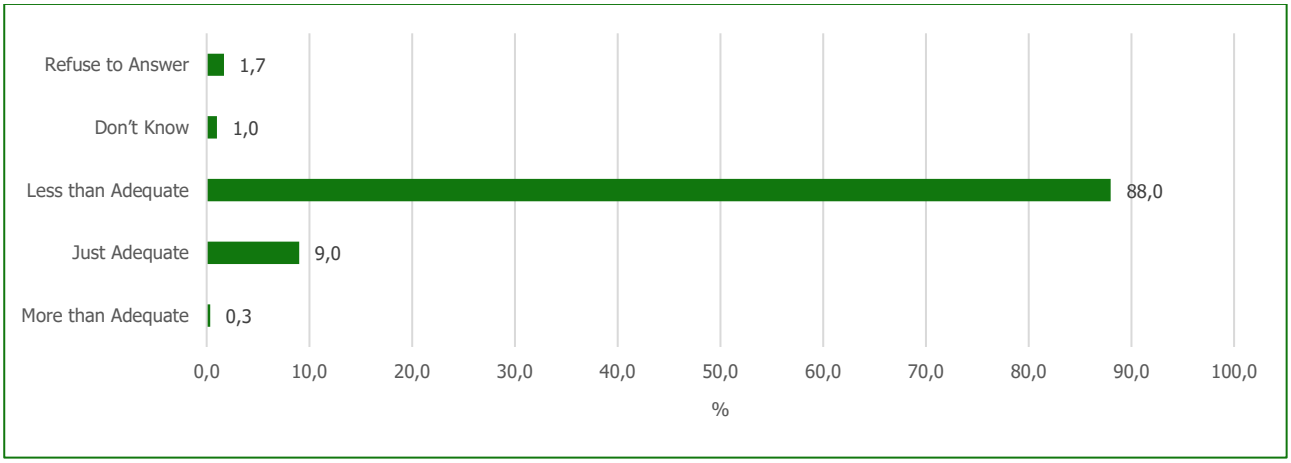


**Figure 5. The current level of expenditures of your family for food and other basic necessities.**

At the same time, the needs for the next 12 months were determined on the level 46%, which positions it as more than adequate and 45.7% as just acceptable or adequate, with 3.7% not knowing, 3.3% less than adequate, and 1.3% refused to respond to the question. Similarly, the same questions related to the change in living conditions, the result of it is presented in Figure 6.

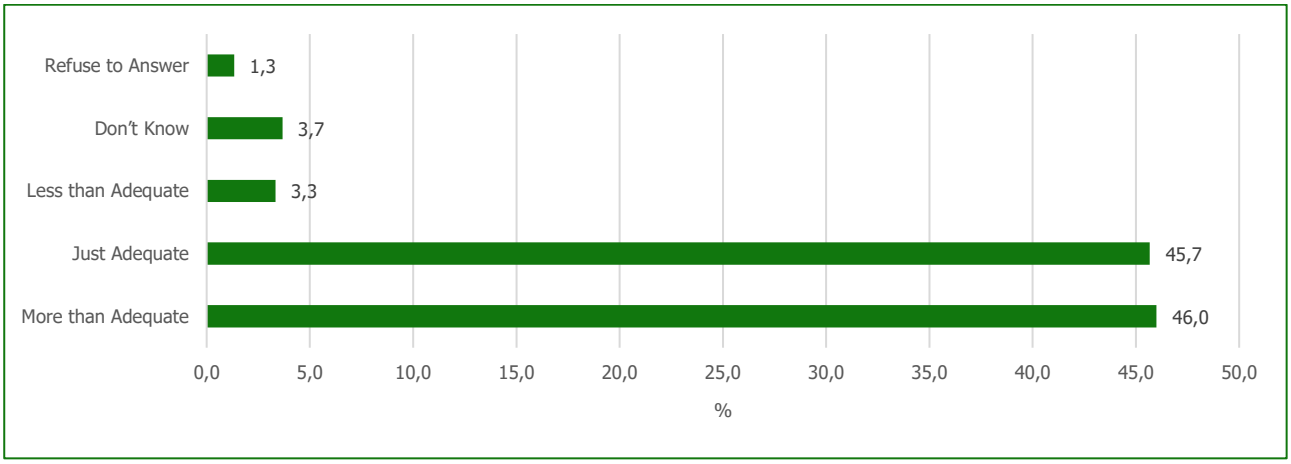


**Figure 6. Food and basic necessities (essential goods) in the next 12 months.**

The results show that almost half of the respondents (45.7 %) are showing conditions of life for them as "just adequate and few people seem not to be satisfied showing "less than adequate "just 3.3 %. These results are important from the viewpoint of food security as adequate food intake; availability and sustainability are the main components of food security and show the quality-of-life status.

In the past three years (2019-2022 years), 42.7% of people's living conditions remained the same, 27.7% have improved to a certain extent, 19% have worsened to some extent, 7.7% have deteriorated significantly, and 2% improved significantly (Figure 7); (57%), health (22%), and work (18.3%) are the three prominent aspects of life that concern and bother the majority of the respondents (Figure 8).

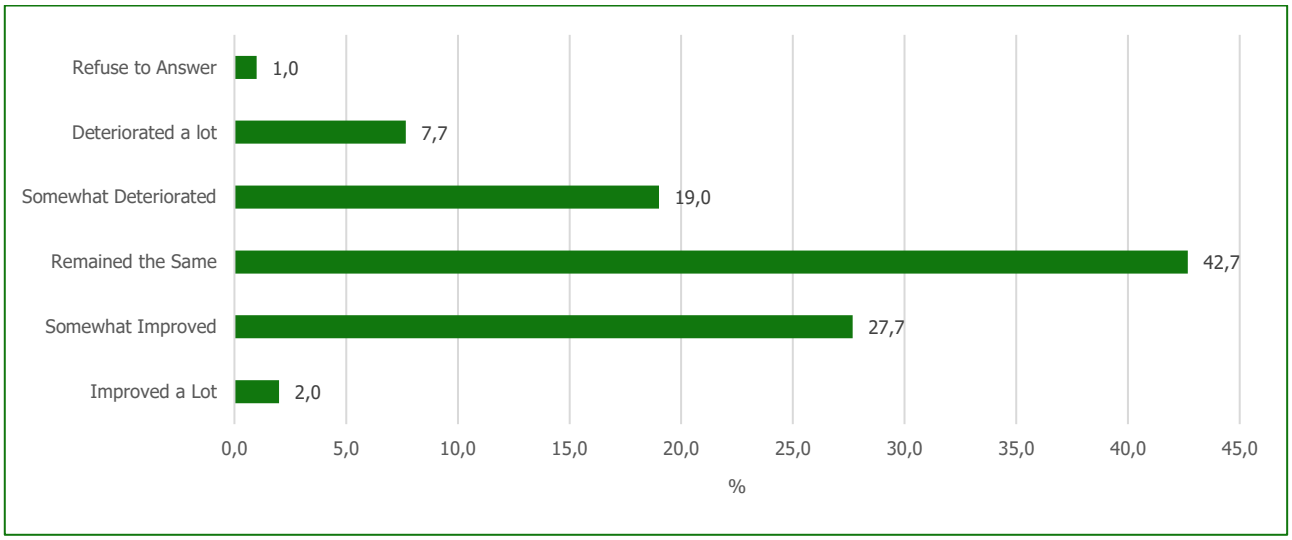


**Figure 7. Do you feel that your life has changed in general during the past 3 years?**

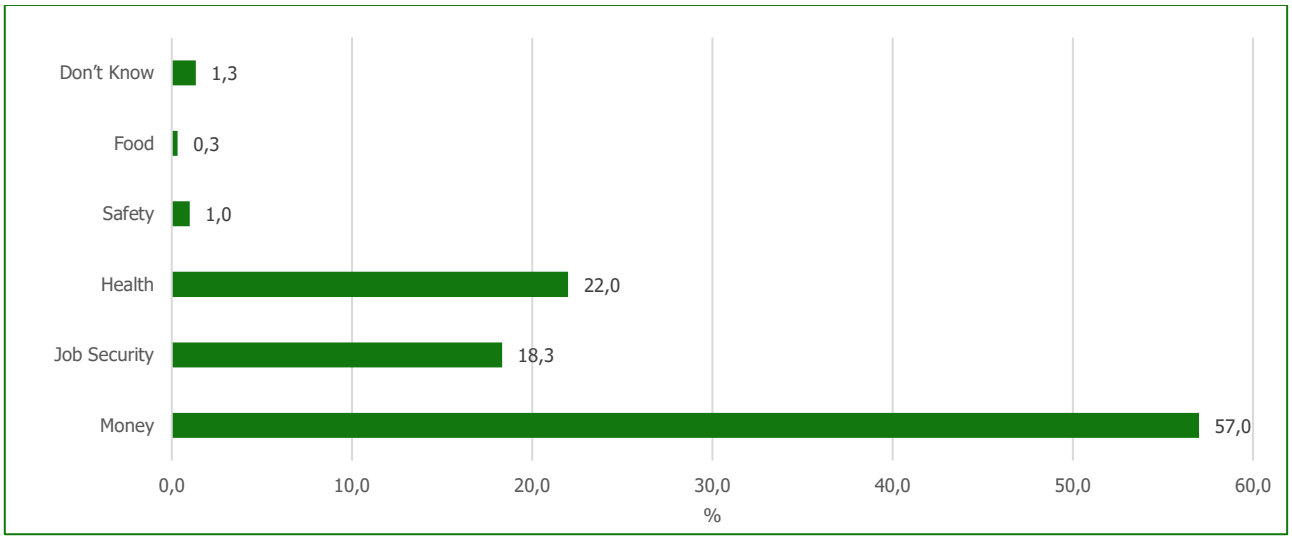


**Figure 8. What is the current aspect of your life that concerns you the most?**

### *Food Availability*

For the previous 12 months, 47.3% of respondents were slightly satisfied, 42.7% were less happy, 6.7% were absolutely dissatisfied, merely 3% were completely satisfied, and 0.3% did not know about their satisfaction with the current food availability in the household (Figure 9). In the past 12 months, 44.8% of respondents were slightly worried, 28.8% relentlessly worried, 21.4% not bothered, and 4.4% did not know if the food would run out/ finished before they could have the funds to buy it (Figure 10).


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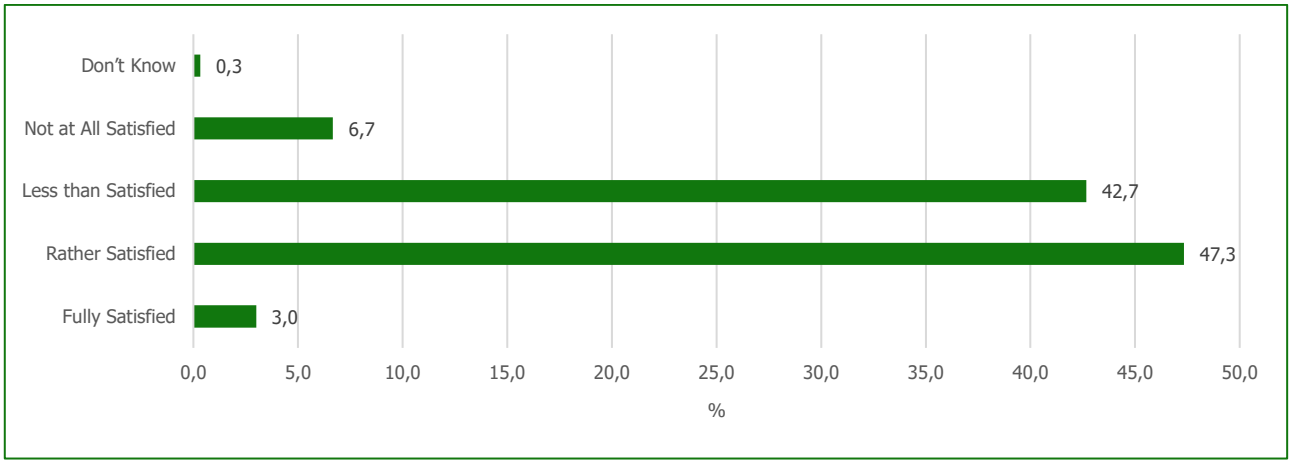


**Figure 9. How satisfied are you with your current food availability in your household in the last 12 months?**

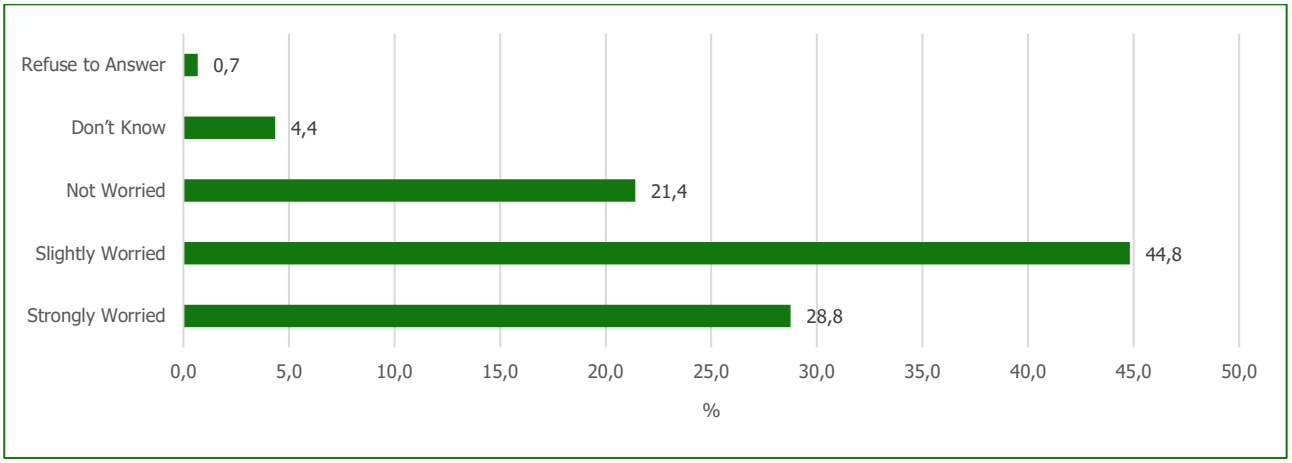


**Figure 10. Your level of anxiety about running out of food before receiving money for buying products in the last 12 months?**

It has been ascertained that 52.3% of selected respondents' households could not afford a regular balanced diet, 28.3% rarely, 9.7% never, only 4% continually, and 4.3 % – refused to answer the question (Figure 11).

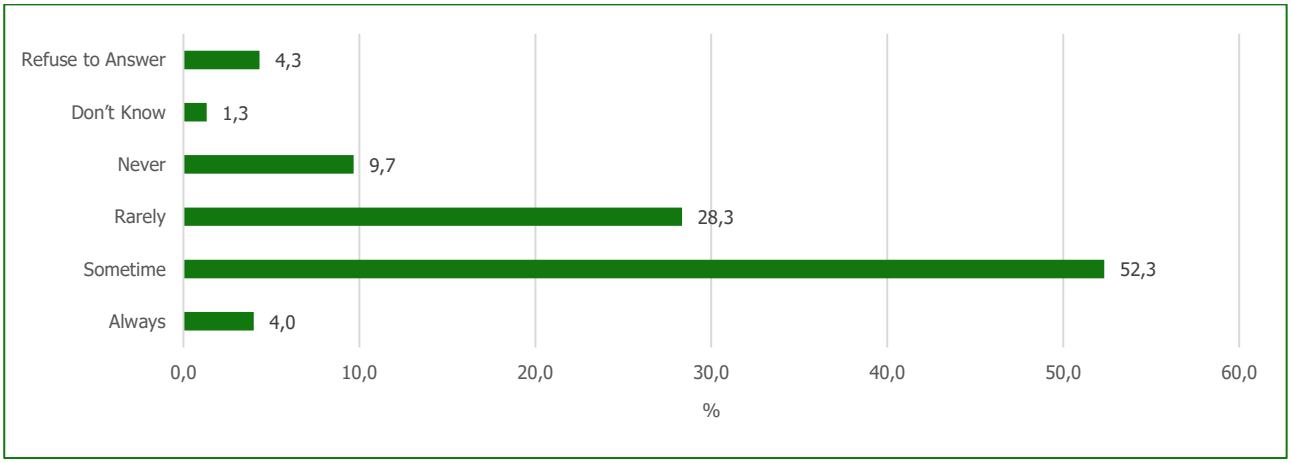


**Figure 11. How often couldn't afford a regular balanced diet in your household in the last 12 months?**

### *Supply and access to food consumption*

It has been observed that 59.3% of survey respondents reported in agreement, 39% strongly in agreement, and 1.7% to some extent in agreement (Figure 12).

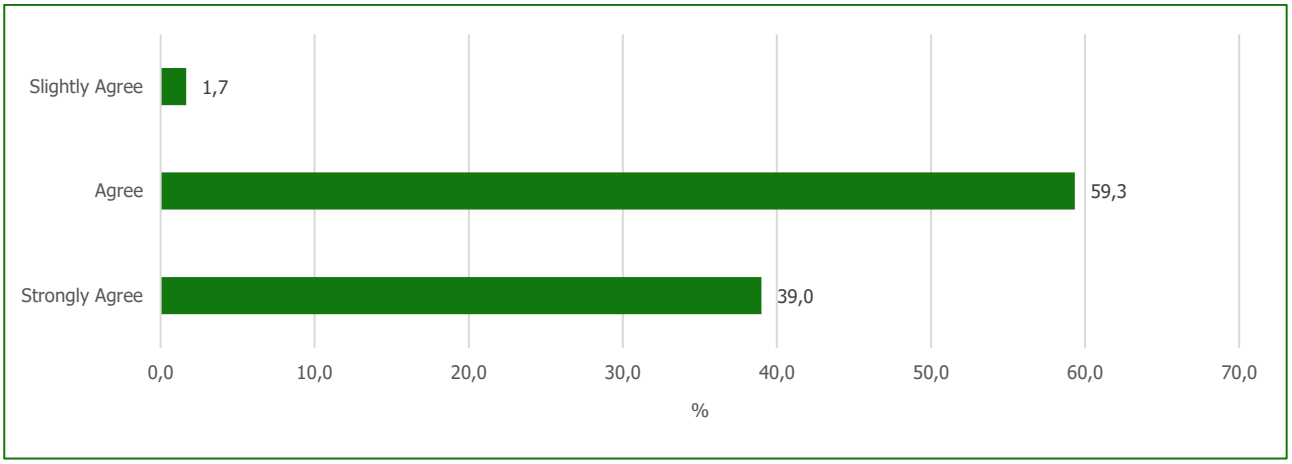


**Figure 12. Do you feel easy access to the variability of food-related commodities?**

The price variability of food directly influences household food consumption. It has been noted that 62.3% agree, 23.3% somewhat agree, 13.3% strongly agree, 0.7% slightly disagree, and 0.3% disagree that food price variations have an effect on household food consumption (Figure 13).

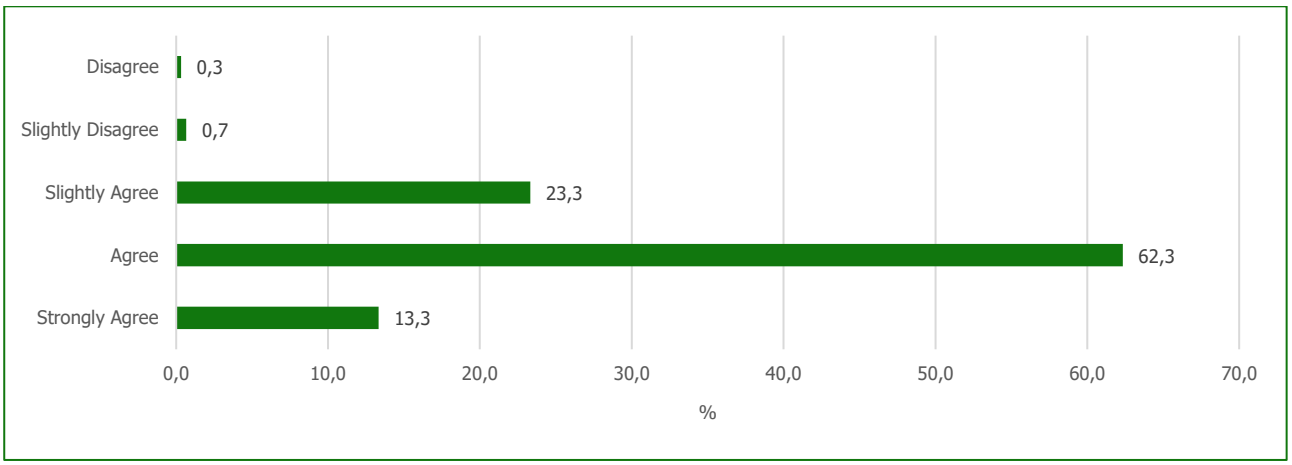


**Figure 13. The price fluctuations of food affect your household food consumption.**

The frequency with which respondents' food purchases have been determined to be 50.3% monthly, 30% weekly, and 19.7% daily (Figure 14). Local retail shops have been ascertained to be the desired/ preferred method of buying food in 67.3% of cases, 22.3% in central markets, 10% in farmer's markets, and 0.3% in mobile retail shops (Figure 15).

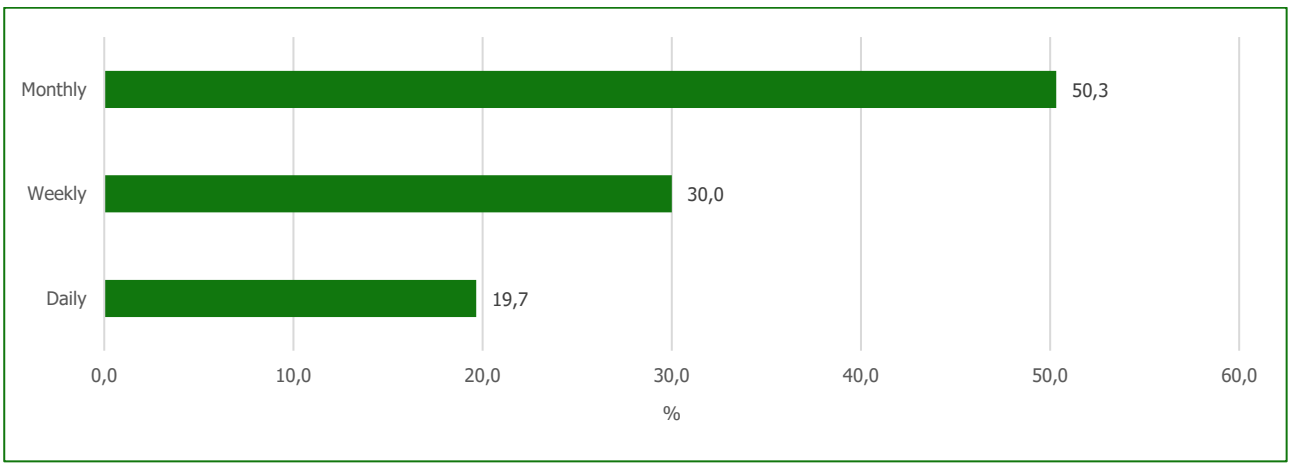


**Figure 14. How often do you buy the food commodity?**


DOI: 10.55643/fcaptp.2.49.2023.4019

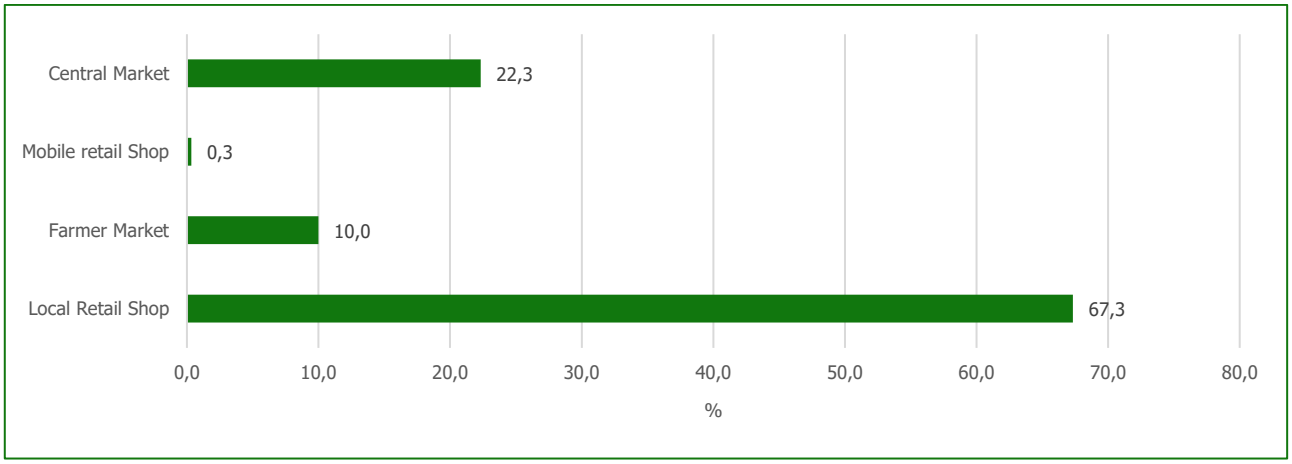


**Figure 15. Where do you usually the food commodity?**

The primary household survey data have been used in the direction of determining food security and nutritional status. Likewise, the study analyzed nutritional security by assessing micro and macronutrients in the Kyiv region. Almost 55% of households have been found nutritionally secure, while the remaining 45% were considered insecure according to the food «security situation of protein intake threshold 70gm/adult equivalents/day threshold level» [18]. In terms of fat intake nutritional security, 51% of Kyiv region area families have been found food secure at 80gm/adult equivalents/day threshold level, while the remaining 49% of households believe that fat consumption is dangerous.

## DISCUSSION

On the contrary, this study looked at the nutritional security of carbohydrate consumption. Approximately 60% of households have been revealed carbohydrate insecure based on the 180 gm/adult equivalents/day threshold level, whereas the remaining 40% have been found carbohydrate insecure. Of those, 56% of households have been revealed iron deficient. Iron deficiency existed as a leading cause of anemia in women and children under the age of five. In comparison, in the case of zinc security, almost the entire population was found to be facing the challenge of zinc deficiency.

We agree that consequently, maintaining a micronutrient balance is essential for achieving long-term «food and nutritional security in Ukraine. According to nutritional security of calcium based on 1000mg/adult equivalents/day threshold level, around 32% of families are calcium insecure. In the case of phosphorus security, using 1000mg/adult equivalents/day threshold level, roughly 28%» [9] of families in a particular region of Ukraine have been determined to be insecure.

## CONCLUSIONS

Consequently, healthy human capital has a favorable and considerable impact on long-term food security dynamics as a proxy for national human development. In Ukraine, a one per cent increase in the quality of human capital translates to an 18.71% improvement in long-term national food use. At the national level, the Human Development Index (HDI) determines food consumption in a country. The findings suggest that human development plays an important role in achieving long-term food security goals. Rural residents have less purchasing power under these conditions; therefore, it is difficult for them to access and afford food due to poverty. National food security is negatively related and connected to rapid urbanization and urban population growth.

Strengthening the potential of national food safety legislation, institutional mechanisms, and laboratories, and improving food safety management in important sectors of the economy will increase food product safety and help in combatting malpractices. To attain sustainable food safety, it is important to improve the population's health condition and to change the existing food consumption models in the country, in particular the food basket containing imported foodstuff. This can be achieved through promoting safe and healthy eating habits, education improving in the field of food systems, and facilitating access to information for consumers and producers, the organization of targeted awareness-raising campaigns will improve people’s health by preventing chronic diseases associated with various diets, and contribute to ensuring the sustainability of the national food system. Facilitating cooperation between stakeholders who are working in the field of food safety at the national and regional levels will also have a positive impact on ensuring food safety and healthy eating.

## REFERENCES


1. Berti, P.R., Krasevec, J., & Gamian, M.T. (2004). A Review of the Effectiveness of Agriculture Interventions in Improving Nutrition Outcomes. *Public Health Nutrition, 7*(5), 599–609. https://doi.org/10.1079/phn2003595
2. Boqvist, S., Söderqvist, K., and Vågsholm, I. (2018). Food safety challenges and one health within Europe. *Acta Vet. Scand.* 60:1. https://doi.org/10.1186/s13028-017-0355-3
3. Calicioglu, O., Flammini, A., Bracco, S., Bellù, L., & Sims, R. (2019). The Future Challenges of Food and Agriculture: An Integrated Analysis of Trends and Solutions. *Sustainability*, *11*(1), 222. https://doi.org/10.3390/su11010222
4. Clapp, Jennifer. (2015). Food Security and International Trade: Unpacking Disputed Narratives. Rome: FAO. Background Paper for the State of Agricultural Commodity Markets 2015-2016. http://www.fao.org/3/a-i5160e.pdf
5. Ghani, M., Cozzolino, C. A., Castelli, G., and Farris, S. (2016). An overview of the intelligent packaging technologies in the food sector. *Trends Food Sci. Technol,* 51, 1–11. https://doi.org/10.1016/j.tifs.2016.02.008
6. Gill, O. N., Spencer, Y., Richard-Loendt, A., Kelly, C., Dabaghian, R., Boyes, L., et al. (2013). Prevalent abnormal prion protein in human appendixes after bovine spongiform encephalopathy epizootic: large scale survey. *BMJ* 347: f5675. https://doi.org/10.1136/bmj.f5675
7. Godfray, H. C. J., Beddington, J. R., Crute, I. R., Haddad, L., Lawrence, D., Muir, J. F., ... & Toulmin, C. (2010). Food Security: The Challenge of Feeding 9 billion People. Science, 327(5967), 812-818. https://doi.org/10.1126/science.1185383
8. Gounden, C., Irvine, J. M., and Wood, R. J. (2015). Promoting food security through improved analytics. *Procedia Eng.,* 107, 335–336. https://doi.org/10.1016/j.proeng.2015.06.089
9. Huseynov, R. (2020). The regional aspects of food security: the case of Ganjagazakh region of Azerbaijan. Hungary. https://archive.szie.hu/sites/default/files/ragif_huseynov_thesis.pdf
10. Jurgilevich, A., Birge, T., Kentala-Lehtonen, J., Korhonen-Kurki, K., Pietikäinen, J., Saikku, L., et al. (2016). Transition towards circular economy in the food system. Sustainability, 8:69. https://doi.org/10.3390/su8010069
11. Kochetkov, O.V., & Markov, R.V. (2002). Formuvannia systemy pokaznykiv prodovolchoi bezpeky Ukrainy. Ekonomika APK, 9, pp. 142–158.
12. Kuznyetsova, A., Klipkova, O., & Maslov, V. (2022). Methodology of evaluation of performance of public-private partnership projects. *Financial and Credit Activity Problems of Theory and Practice, 6*(41), 339–349. https://doi.org/10.18371/fcaptp.v6i41.251466
13. Mary, S. (2019). Hungry for free trade? Food trade and extreme hunger in developing countries. *Food Sec.* 11, 461–477. https://doi.org/10.1007/s12571-019-00908-z
14. Mckay, F. H., Haines, B.C., & Dunn, M. (2019). Measuring and Understanding Food Insecurity in Australia: A Systematic Review. International Journal of Environmental Research and Public Health, 6;16(3), 476. https://doi.org/10.3390/ijerph16030476
15. Oksana Zghurska, Olena Korchynska, Karina Rubel, Stepan Kubiv, Andriy Tarasiuk, & Oksana Holovchenko (2022). Digitalization of the national agro-industrial complex: new challenges, realities and perspectives. *Financial and Credit Activity: Problems of Theory and Practice, 6*(47). 388–399. https://doi.org/10.55643/fcaptp.6.47.2022.3929
16. Rockström, J., Williams, J., Daily, G., Noble, A., Matthews, N., Gordon, L., et al. (2017). Sustainable intensification of agriculture for human prosperity and global sustainability. *Ambio* 46, 4–17. https://doi.org/10.1007/s13280-016-0793-6
17. Stevens, G.A., Bennett, J.E., Hennocq, Q., Lu, Y., De-Regil, L.M., Rogers, L., Danaei, G., Li, G., White, R.A., and Flaxman, S.R. (2015). Trends and Mortality Effects of Vitamin a De- Ficiency in Children in 138 Low-Income and Middle-Income Countries between 1991 and 2013: A Pooled Analysis of Population-Based Surveys. Lancet Glob Health 3, e528–e536. https://doi.org/10.1016/s2214-109x(15)00039-x
18. Huseynov, R. (2020). Estimation of food and nutritional security in Azerbaijan: a case study of the Ganja-Gazakh region. Studia Mundi – Economica, 7(1), 59-68. https://doi.org/10.18531/Studia.Mundi.2020.07.01.59-68
19. Warren, E., and Hawkesworth, S. (2015). Investigating the Association between Urban Agriculture and Food Security, Dietary Diversity and Nutritional Status: A Systematic Literature Review.



DOI: 10.55643/fcaptp.2.49.2023.4019

Food Policy, 53, 54–66. https://doi.org/10.1016/j.foodpol.2015.03.004

20. Watson, D (2017). The Political Economy of Food Price Policy during the Global Food Price Crisis Of 2006-2008. *Food security, 9*(3), 497–509. https://doi.org/10.1007/s12571-017-0685-z

21. Zghurska, O., Larina, Y., Dymenko, R., Kubiv, S., Tarasiuk, A., & Safonov, Y. (2022). Multi-agent model of the distribution channel management system of agro-industrial enterprises. *Financial and Credit Activity: Problems of Theory and Practice. 5*(46). 361–372. https://doi.org/10.55643/fcaptp.5.46.2022.3869

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## ЗАБЕЗПЕЧЕННЯ ПРОДОВОЛЬЧОЇ БЕЗПЕКИ НА РІВНІ ДОМОГОСПОДАРСТВ: СОЦІАЛЬНО-ЕКОНОМІЧНА ДІАГНОСТИКА

Метою цієї наукової статті є дослідження актуальних проблем продовольчого забезпечення України на регіональному рівні шляхом діагностики сучасного стану продовольчої безпеки на основі здійсненого опитування відповідних респондентів із метою підвищення рівня соціально-економічного розвитку країни в довгостроковій перспективі.

У ході дослідження були опитані домогосподарства Київської області за такими основними критеріями: фізичні та економічні умови, наявність їжі, пропозиція й доступ до споживання їжі для оцінки стану продовольчої безпеки домогосподарств шляхом розрахунку розміру вибірки, деталей про цільову сукупність, її розмір, дисперсію, допустиму похибку та бажаний рівень достовірності емпіричних оцінок важливих змінних.

Вивчено мінімальну дієтичну енергетичну потребу (МДЕП) і поріг, який показує мінімальну кількість енергії, необхідної гіпотетичній середній людині в популяційній групі для забезпечення здорового способу життя та активної участі в соціально прийнятних рівнях діяльності. Досліджено стан харчової безпеки харчових продуктів за споживанням білків, вуглеводів і жирів.

Основний аспект результатів дослідження засвідчив, що майже половина респондентів указують умови життя як «просто адекватні», у той час коли менша частина – «менш ніж адекватні». Ці результати важливі з точки зору продовольчої безпеки, як адекватне споживання їжі; доступність і сталість є основними компонентами продовольчої безпеки та вказують на стан та рівень якості життя.

Доведено, що на сучасному етапі розвитку національної економіки розвиток людського капіталу відіграє важливу роль у досягненні довгострокових цілей продовольчої безпеки. Установлено, що для досягнення сталої продовольчої безпеки на національному рівні важливо покращити стан здоров'я населення та змінити існуючі моделі споживання продуктів харчування в країні, зокрема в домогосподарствах. Цього можна досягти шляхом популяризації безпечних і здорових харчових звичок, підвищення рівня освіти в царині харчових систем і технологій, полегшення доступу до інформаційних ресурсів і для цільових споживачів, і для виробників продовольства.

**Ключові слова:** національна продовольча безпека, аграрний сектор, продовольча безпека домогосподарств, рівень продовольчої безпеки, дані опитувань, споживання продуктів харчування

**JEL Класифікація:** C83, D10, D13, F52, F63, Q18