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ARMENIA COST OF THE DIET (COTD)

BACKGROUND

Recent studies have found that Armenia has a high prevalence of malnutrition and micronutrient deficiencies. Among children under 5, 21 percent were stunted and 17 percent were overweight in 2015. Child stunting is clearly associated with household poverty and poor consumption, but also with poor care and feeding practices, and mother's low level of education. On the other hand, the prevalence of overweight was the same across poor and rich households, indicating the need for greater awareness of healthy eating and lifestyle across the population.[1] The growing burden of non-communicable diseases (NCDs) and their significant economic and social impact has placed them high on the political agenda in Armenia and fostered the Government's commitment to address the issue.[2]

The promotion of healthy nutrition is listed as one of the priority areas that the Armenian Government is planning to emphasize in order to overcome NCDs in the country[3]. Nevertheless, food availability, the dietary structure and local nutritional habits are key elements in determining the nutritional status of the population.

Thus, the United Nations World Food Programme Armenia Country Office, with the support of the Headquarters and Regional Bureau of North Africa, Middle East, Central Asia and Eastern Europe, has initiated an analysis on "Cost of the Diet" (CotD). The study was undertaken in close collaboration with the National Statistical Service of the Republic of Armenia and was based on the 2015 Integrated Living Conditions Survey (ILCS) results.

An in-depth analysis of underlying factors of undernutrition will inform the Government's plans and strategies aimed at decreasing the rate of disabilities and premature deaths in the country. Furthermore, an analysis is needed to inform the design of food-based nutrition interventions in the country.

The Cost of Diet approach helps to examine the key underlying causes of malnutrition by determining the extent to which a lack of availability and unaffordability of nutritious food inhibits adequate nutrition.

NUTRITION SITUATION IN ARMENIA

Armenia is a lower-middle income country and a net importer of food. Despite economic progress and structural reforms implemented during the last decade, growth has been weak and non-inclusive. Nearly one third (29.8 percent) of the population was living below the poverty line in 2015[4], and 15 percent of all households were food insecure in 2014, almost twice the amount of 2008.[5]

In general, food-insecure households are poorer, with higher reliance on remittances or pensions. They tend to have less educated members and household heads, and they allocate less of their overall income to education-related expenses, implying that the main drivers of the nutrient gap are likely to be affordability and dietary habits.

Nutrition levels of the population are being assessed through health standards, such as anthropometric indicators and the prevalence of NCDs. The current level of malnutrition and micronutrient deficiency in Armenia portrays a public health risk. Table 1 summarizes the nutritional situation in the country[6], highlighting the high prevalence of stunting and overweight among children under 5, as well as the high prevalence of adult overweight and obesity.

Table 1: Country nutrition status

Nutrition indicators	Percentage	Rank	№ of countries	Progress status	Ranking order
Stunting prevalence	20.8	60	132	Off course, no progress	lowest to highest
Wasting prevalence	4.2	59	130	On course	lowest to highest
Under-5 overweight prevalence	16.8	119	126	Off course, no progress	lowest to highest
Prevalence of anemia in women of reproductive age	25.9	101	185	Off course	lowest to highest
Exclusive breastfeeding (EBF) rate	34.6	72	141	Off course, no progress	highest to lowest
Adult overweight and obesity prevalence	55.5	101	190	Off course	lowest to highest
Adult obesity prevalence	19.5	88	190	Off course	lowest to highest
Adult diabetes prevalence	11.5	132	190	Off course	lowest to highest

Source: Global Nutrition Report, 2016

Malnutrition and poor nutrition resulting in overweight and obesity can lead to more serious problems, such as NCDs. The burden of NCDs on public health has significantly increased in Armenia in recent years. According to 2015 data, NCDs were the leading causes of premature deaths in Armenia. Moreover, among 15 risk factors that account for the most disease burden in Armenia expressed as percentage of disability-adjusted life years (DALYs), dietary risks were the leading factor in 2015.[7]

FOOD AVAILABILITY, ACCESSIBILITY AND LOCAL NUTRITIONAL HABITS

Armenia is a net food importing country, and the prices of commodities are highly dependent on international prices. According to statistics published by the National Statistical Service of the Republic of Armenia (NSS RA), the country is self-sufficient in commodities such as potatoes, fruits and vegetables, close to self-sufficient[8] for milk, and deficient for wheat, poultry, vegetable oil and rice.[9] The prices of fruits and vegetables are highly volatile in Armenia, as they are both affected by extreme weather conditions and seasonality.

According to a recent study commissioned by OXFAM Armenia, accessibility to food in rural, border and mountainous/high mountainous communities is lower, especially during off-season periods (winter or spring depending on specific food products).[10] The analysis of per capita monthly food consumption in Armenia for 2000 and 2004-2012 indicated that the consumption of baked goods, potatoes, milk, yogurt, butter, ghee and fish products tended to decrease over this period, whereas vegetables, fruits (including dried fruits), meat and meat products, cheese, eggs, sugar, vegetable and other oils were consumed more.[11]

Yet, many household diets are dominated by cheaper staple foods such as potatoes and bread, and there is a clear link between poverty level and daily caloric intake and nutrition levels.[12]

1. NSS RA, UNICEF and WFP (2016). Comprehensive Food Security, Vulnerability and Nutrition Analysis (CFSVNA). Yerevan
2. Government of Armenia. (2016). Medium-term Public Expenditure Framework of the Republic of Armenia for 2017-2019. Retrived from: http://www.gov.am/files/docs/2015.pdf (p. 229)
3. Ibid
4. NSS RA and the World Bank. (2016). Social Snapshot and Poverty in Armenia. Yerevan.
5. WFP (2016). Comprehensive Food Security, Vulnerability and Nutrition Analysis (CFSVNA). Yerevan
6. IFPRI. (2016). Global Nutrition Report: From Promise to Impact: Ending Malnutrition by 2030
7. Institute for Health Metrics and Evaluation. (2016). Global Burden of Disease Study. Retrived from: http://www.healthdata.org/armenia
8. The self-sufficiency, indicating the degree of country's demand satisfaction regarding a certain product at the expense of its own means, is calculated based in the following formula: Production / (Production + Imports – Exports)
9. NSS RA (2016). Food Security and Poverty, January-December 2016. Retrived from: http://armstat.am/file/article/f_sec_4_2016_3.pdf
10. OXFAM. (2015). Report on the Research Regarding the Nutritional Status of the RA Population.
11. Competitive Society NGO. (2014). Nutritional Aspects of Food Security in Armenia. Yerevan.
12. ibid

In particular, over half of the households living below the poverty line relied on food energy that comes mainly from staple foods. The same is true only for 15 percent of the households living above the poverty line. In addition, very high consumption of staples is most prevalent in rural areas where households depend more on their own production and on local market availability.[13] Although these households can achieve the daily recommended calorie intake, the nutrient requirements might not be met, leading to malnutrition and long-term health implications.

Moreover, the Armenian diet is rich in carbohydrates; potatoes are the most consumed product after bread. The average salt consumption in Armenia is higher than the nutritional requirement.[14] The population of Yerevan and other relatively large cities demonstrate low levels of physical activity. The Comprehensive Food Security, Vulnerability and Nutrition Analysis conducted in 2016 also showed that food-insecure households consume a significantly lower level of iron-rich foods, leading to a higher risk of iron-deficiency.[15]

As for widespread dietary practices, the irregular meal intake and omission of breakfast is a common behavior. According to the health behavior in school-aged children study conducted in Armenia in 2013-2014, on average 13 percent of school-aged children reported to skip their breakfast, a number much higher than that of school-aged children from other countries.[16] For instance, in Ukraine 65 percent of 13-year-old girls and 68 percent of boys of the same age eat breakfast every school day, while in Armenia these numbers are 46 and 55 percent respectively.[17]

WHAT IS THE COST OF THE DIET?

The CotD is a tool developed by the Non-governmental Organization Save the Children that estimates the amount and combination of local foods needed to provide a typical family with a diet that meets their average need for energy and recommended balanced intake of protein, fat, and micronutrients. More specifically, it calculates the minimum cost of a theoretical food basket that meets the nutrient requirement of a given household, based on the availability, price, and nutrient content of local foods. It can be used for individuals or households representing the study population. Any other food basket at the same price will be less nutritious, and any other food basket of the same nutrient value will be more expensive.[18] The CotD tool can answer the following questions:

1. What is the minimum cost of diet that meets the nutrient needs of a typical household?
2. Can a nutritious diet be achieved using locally available foods?
3. Is this diet affordable? If not, what could be done?
4. What is the percentage of households that cannot afford this nutritious diet?

When the cost of a nutritious diet is compared to household food expenditure data, it can be used to estimate the proportion of households in a province that cannot afford a nutritious diet, as well as find the gap between current expenditure and the amount of money needed to meet the needs of a household. As such, the CotD is a tool that links nutrient availability with economic constraints. It provides a unique perspective on seasonal changes in food and nutrition security and can be used to highlight which vitamins and minerals are lacking in the diets of poor families.

TYPE OF FOOD BASKETS

The CotD tool allows for the calculation of different types of diets, where the cheapest basket only covers the energy requirement of the household, while the most expensive will fulfill all the recommended nutrient requirements of a household and reflect the local food habits. For this study, we calculated the following 2 hypothetical diets:

1. Energy Only (EO): The lowest cost diet that meets the average energy requirements;
2. Staple-adjusted Nutritious (SNUT): The lowest cost diet that meets the average energy and the recommended nutrient requirements of the household, with a minimum constraint of one serving per person per day on the commonly eaten staple foods such as bread and potato.[19]

The model calculates the minimum costs of the diets that meet the requirements above, while not exceeding the recommended daily caloric intake. While the energy only diet does not meet requirements for nutrients other than energy, the nutritious diet is considered acceptable for an individual when it covers also the micro- and macronutrient requirements.

In addition to the cost of the cheapest possible nutritious diet based on locally available food items, the tool also provides an overview of the composition of that diet, which nutrient requirements are hardest to meet, and which foods are the main contributors for these nutrients.

INPUT TO THE MODEL

The model calculates the cheapest adequate diet using two standard databases and three sets of locally specific data. The food composition databases built into the software were published by the Food and Agriculture Organization (FAO), the United States Department of Agriculture and the University of Dhaka while individual nutrient requirements were based on World Health Organization (WHO) and FAO recommendations. Guided by these standards, the software is able to determine the cheapest adequate diet when provided with:

- A list of locally available foods and prices per 100g by season;
- The household composition in terms of number and characteristics of household members for whom the diet is required;
- The maximum amount of each food item that various household members can consume in order for the amounts recommended by the software to remain realistic.

13. NSS RA, UNICEF and WFP (2016). Comprehensive Food Security, Vulnerability and Nutrition Analysis (CFSVNA). Yerevan
14. Ministry of Health of the Republic of Armenia/MoH. (2010). Adult's Diet Guide. Aproved by the N 191-A order on 16.02.2010. Retrived from: http://moh.am/?section=static_pages/index&id=651
15. NSS RA, UNICEF and WFP (2016). Comprehensive Food Security, Vulnerability and Nutrition Analysis (CFSVNA). Yerevan
16. Arabkir Medical Center. (2016). Health Behavior of School-aged Children of Armenia 2013/2014
17. WHO. (2012). Social determinants of health and well-being among young people.
18. Baldi et al. (2013). Cost of the Diet (CotD) tool.
19. The analysis of the ILCS consumption database revealed that bread and potatoes are the most often consumed staple foods in Armenia. In addition, selection of these two commodities has been discussed and agreed on with the local experts.

For Armenia, the Integrated Living Conditions Survey 2015 was used to determine:

- Local prices for 83 food commodities, over six seasons, in 11 provinces;
- Household composition, and per capita food expenditure;
- A standard household of 4 members was used in all provinces:
  - Man, 30-59y, 50 kg, moderately active;
  - Woman, 30-59y, 45 kg, moderately active – 1 x lactation, 7-12 months;
  - Child (either sex), 12-23 months;
  - Child (either sex), 6-7 years;
- Identify staple foods, which should be included in the SNUT diet, with minimum thresholds.

CAN A NUTRITIOUS DIET BE ACHIEVED BY PEOPLE USING LOCALLY AVAILABLE FOODS?

The first question when using the CotD tool is whether a household can access a nutritious diet based on locally available food. This will not always be the case, and the CotD software will then identify which nutrient requirements were not met and for which household member. A diet that is the closest to meeting all requirements will be calculated. This can be used to identify the nutrient gap. The tool also shows how much of the daily requirement is met for each nutrient, indicating the nutrient-requirement, which is most expensive and difficult to meet in the local market. Identifying the limiting nutrients allows for better and more targeted interventions for vulnerable age groups.

IS THE DIET AFFORDABLE?

As a second step, comparing the cost of the nutritious diet with the household food expenditure data will allow for establishing the share of households that can afford the nutritious basket. Households that spend less on food will not be able to meet their nutrient requirement. These households are more likely to be malnourished. The information can be used for nutrition advocacy and to influence the design of social protection programmes. In addition, the software allows exploring how new and existing nutrition interventions, such as cash transfers, food vouchers, supplementation, nutrition education or behavioral change communication can impact the affordability of a nutritious diet.

For the purpose of this analysis, the energy- only diet was also calculated. As a much cheaper diet, most households would be able to afford it. This diet, however, consists of mainly wheat, sugar and oil. Satisfying energy needs is considerably cheaper than the nutrient requirements, but it is insufficient to provide a healthy life and would have long-term health implications.

IF THE DIET IS NOT AFFORDABLE, WHAT COULD BE DONE?

The analysis and results provide guidance to the design of alternative interventions and strategies aiming to improve access to and/or availability of a nutritious diet. The software allows for modelling both food and cash-based interventions, enabling to estimate the cost of the diet with fortified food or supplements, or estimate the prevalence of affordability when cash transfers or vouchers are introduced. Comparing the different models helps to identify the most cost-effective approach and can be used to start a discussion about the food-based nutrition interventions which are suitable in the local context.

COST OF THE DIET - ARMENIA AT A GLANCE

The main two objectives of the CotD were to:

1. Evaluate whether the food items available in local markets can meet the micro and macronutrient needs of households.
2. Assess the proportion of households with a sufficient income to purchase a locally available balanced diet.

FOOD AVAILABILITY AND THE COST OF THE DIETS

Overall, a large variety of food items are available across Armenia, while the type of food available changes seasonally. There is a strong tradition of consuming mainly seasonal fruits and vegetables and relying much less on imports and greenhouses. This is reflected in the cost of the diet. When the price falls in the harvesting seasons because larger amounts of nutritious food items are available, the SNUT basket becomes more affordable. For all provinces, the CotD software was able to find a diet that meets the nutrient requirement for the standard household of 4 members in all seasons. This indicates that in general, the nutritious diet is available for all provinces in all seasons.

The SNUT basket was found to be the cheapest possible food basket that meets the minimum nutrient requirements, taking into account staple foods. It is much more affordable to cover only the energy needs of a person. The Energy Only (EO) diet consists of mainly wheat flour, oil and sugar. In Armenia the monthly cost of the SNUT basket for the standard household of 4 members varies from 62,760 to 86,718 Armenian Dram (USD 131-181)[20], while the cost of the Energy Only diet varies from 17,447 to 19,706 AMD (USD 36-42).

20. The average exchange rate for 2015 is 478AMD/1USD, retrieved from https://www.cba.am/EN/SitePages/ExchangeArchive.aspx

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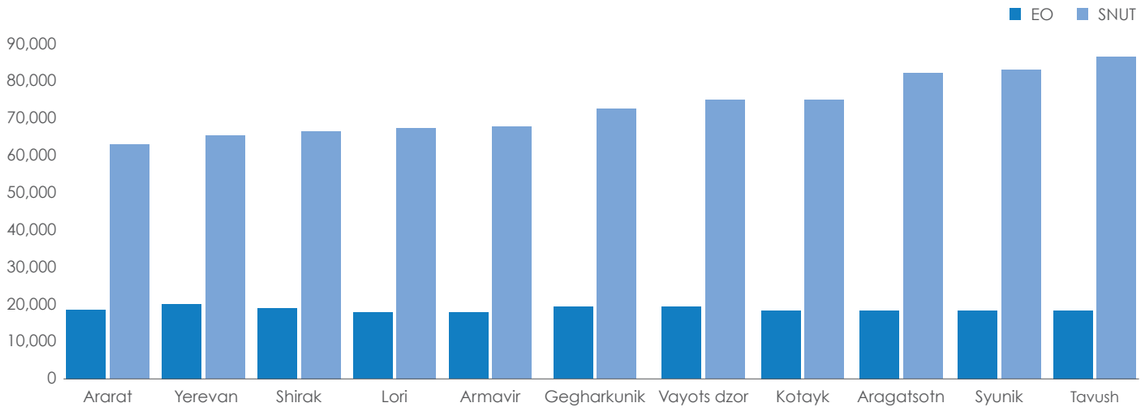
MONTHLY COST OF THE EO AND SNUT DIETS BY PROVINCE



It should be noted that currently there is no RA Government-approved minimum consumer basket in Armenia. However, the NSS RA calculates and on a quarterly basis publishes the actual consumer basket according to the World Bank's methodology. According to their calculations, the monthly cost of the minimum per capita food basket based on the average current prices of the fourth quarter of 2015 was 27,369 AMD (USD 57).[21] However, it should be mentioned that this basket is determined through ILCS, is based on the actual consumption patterns of the relatively poorer shares of population and is used for the estimation of the food poverty line, hence the micro- and macronutrient requirements are not considered.

Figures 1 illustrates the cost of the SNUT basket and the average food expenditures for 11 provinces. Tavush has the highest cost of the SNUT basket and the second lowest cost of the food expenditure for a standard household of 4 members, in contrast to Ararat, where the contrary pattern is observed.

MONTHLY HOUSEHOLD COST OF THE SNUT AND FOOD EXPENDITURES IN AMD

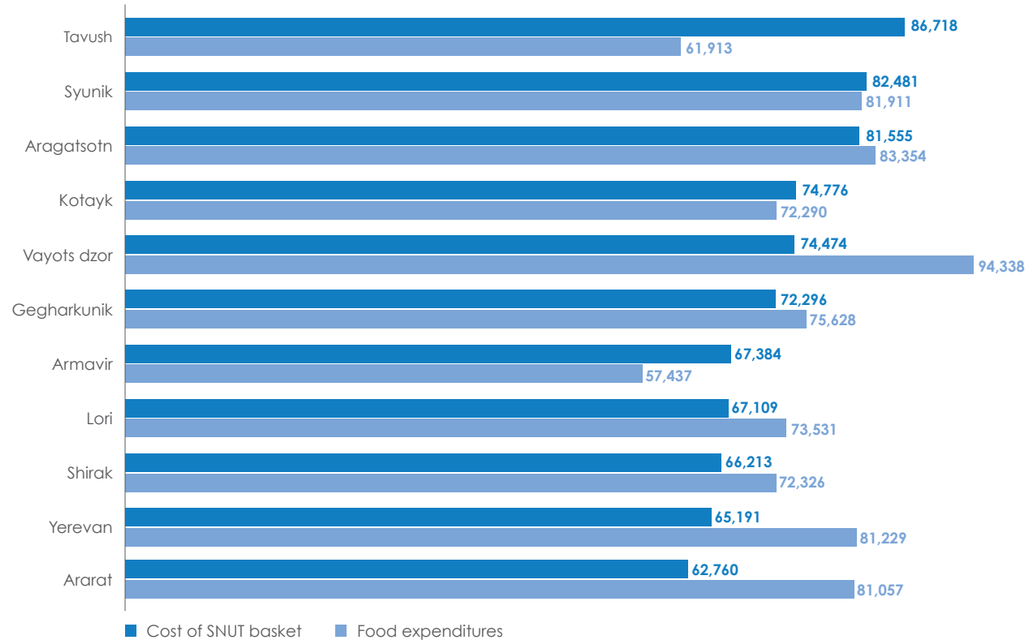


Figure 1: Monthly household cost of SNUT basket and food expenditures in AMD by province[22]

In addition, as showed in Figure 2, Tavush has the cheapest EO diet. This implies that although staple foods are affordable, healthier and nutrient rich foods are considerably more expensive or unavailable in this region. There may be a number of reasons for this: the agricultural products in Tavush province are mainly cultivated for the own consumption rather than for sale in the market and cultivation of diverse commodities is limited. In addition, around 8,000 hectares of land remains uncultivated due to their bordering location. Furthermore, the monthly salary of employees of Tavush province is lower than the national average.[23]

The cost of the SNUT and EO diets differ significantly across regions. While the difference between the cheapest and most expensive EO diet is only 2,000 AMD per month, the difference between cheapest and the most expensive SNUT diets is more than 20,000 AMD. Furthermore, while the EO basket is most expensive in Yerevan, the share of food expenditures from the total household expenditures are the lowest in the capital. This can be explained by concentration of economic development in Yerevan and by significant social, demographic and cultural differences and uneven development of territorial units in Armenia.

21. NSS RA. (2016). Socio-Economic Situation of RA, January-December 2015. Retrived from: http://www.armstat.am/file/article/sv_12_15a_6200.pdf

22. Average food expenditure are calculated for a standard household of 4 members for insuring comparability with the SNUT basket.
23. Government of Armenia. (2017). Tavush Province Development Strategy for 2017-2025

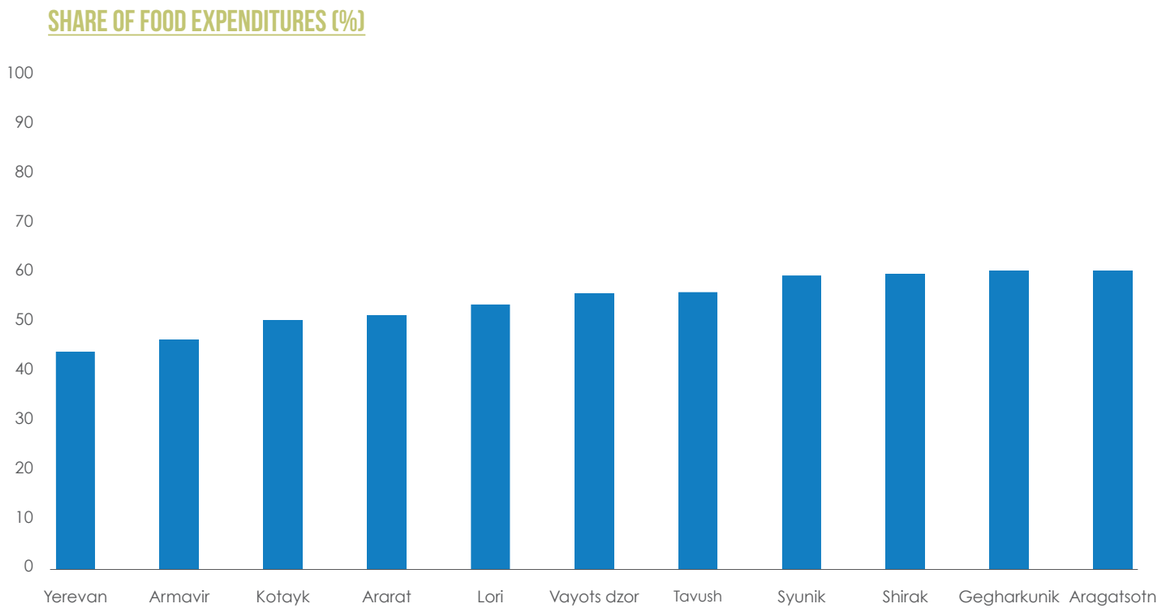


Figure 2: Share of food expenditures by province

The seasonality dimension of the analysis shows a similar pattern for all provinces with slight variations. The cost of the diet is most expensive in January - February, while it is cheapest from July - October, during the harvesting period for local fruits and vegetables. Detailed information is presented in Annex 1.

However, it should be noted that the comparison between the average daily cost of SNUT basket and average daily food expenditure showed that these two indicators have similar patterns for almost all provinces for the period of March-October. Because it is a common practice to prepare for the winter and Christmas celebrations, household expenditures remain high compared to the nutritious basket at the end of the year and have a reverse pattern for the beginning of the year.

AFFORDABILITY

The cost of the SNUT diet can be compared with the household's food expenditure to indicate if the household can afford the diet. Data on food expenditure per capita from the ILCS 2015 is used to run the affordability analysis. In some regions the average share of expenditure on food over total expenditure is very high.

There is a big difference between the regions. In Tavush, 74 percent of households cannot afford the SNUT diet, while a significantly lower proportion (28 percent) of households in Ararat cannot afford it. This analysis confirms the clearly articulated differences in population wellbeing and human development across regions of Armenia. It should be noted here that the RA Government has emphasized the importance of overcoming regional development disparities, ensuring even regional development and implementation of a targeted policy as a priority for the country's development.[24]

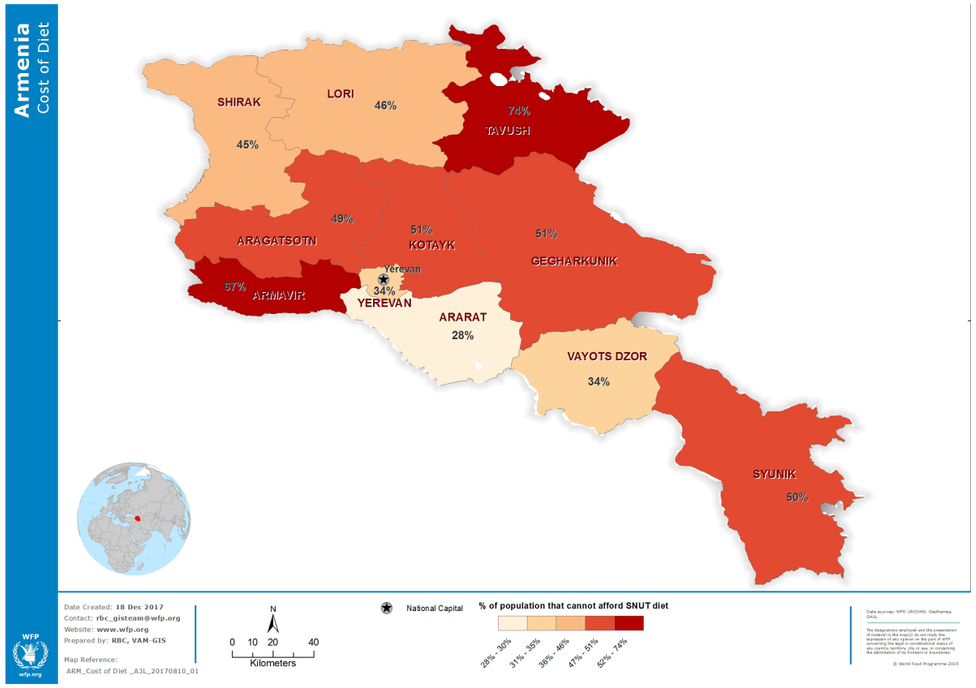


Figure 3: Affordability of the SNUT diet by province

Overall, the high share of households that cannot afford the SNUT diet suggests that many households are not able to meet their nutrient requirement based on the available food items and related prices in the local market. The composition of the nutritious diet varies across provinces. There are, however, several commodities, such as yellow chickpeas, spelt[25], spinach, and milk that are almost always part of the basket[26].

LIMITING NUTRIENTS AND FOOD SELECTED BY THE SOFTWARE

For the 4-member household, iron was found as the limiting nutrient for all the provinces, as well as calcium for all provinces except Ararat. In Shirak, Kotayk and Gegharkunik, in addition to iron and calcium, the limiting nutrient is Vitamin C and in Ararat and Yerevan, the limiting nutrient is Vitamin B12. In the majority of cases, the most important contributors to these nutrients are spinach, yellow chickpeas, spelt, cow milk and potato.

Nutritional needs vary for different age groups. For 12-23 months old children, the limiting nutrients are mainly iron and calcium. However, for Yerevan and Ararat, in addition to iron and calcium, Vitamin B12 is also a limiting nutrient. The most important contributor to these four nutrients for this age-group are milk, spelt, spinach and yellow chickpea.

24. Government of Armenia. (2014). Armenia Development Strategy for 2014-2025.

25. Locally grown very common staple food
26. More detailed information on the basket composition and limiting nutrients for each province is presented in Annex 1.

It is important to note, that 6-7 years old children, which corresponds theoretically to first and second grades of primary-school-aged children, were found to have more limiting nutrients compared to other household members. In addition to iron and calcium, which are limiting nutrients for this age- group in all provinces, other limiting nutrients in some provinces are Vitamin A, Vitamin C and Vitamin B12. Among the largest contributors to these five nutrients for this age group are cow milk, spinach, spelt, yellow chickpeas, carrot and potato.

CONCLUSIONS AND RECOMMENDATIONS

The analysis revealed that local food items available across Armenia allow for a diet that meets the nutrient requirements in all seasons, both for the standard household and individual household members. The type of available food items and cost of the nutritious diet change seasonally, with the price falling during harvesting seasons when larger amounts of nutritious food items become available in the market or from own production.

The analysis showed that there are significant differences across provinces of Armenia between household expenditures and the cost of the nutritious diet, which makes the population of some provinces more vulnerable compared to others. In provinces, such as Tavush and Armavir, three out of four households cannot afford the nutritious diet and meet their nutrient requirements.

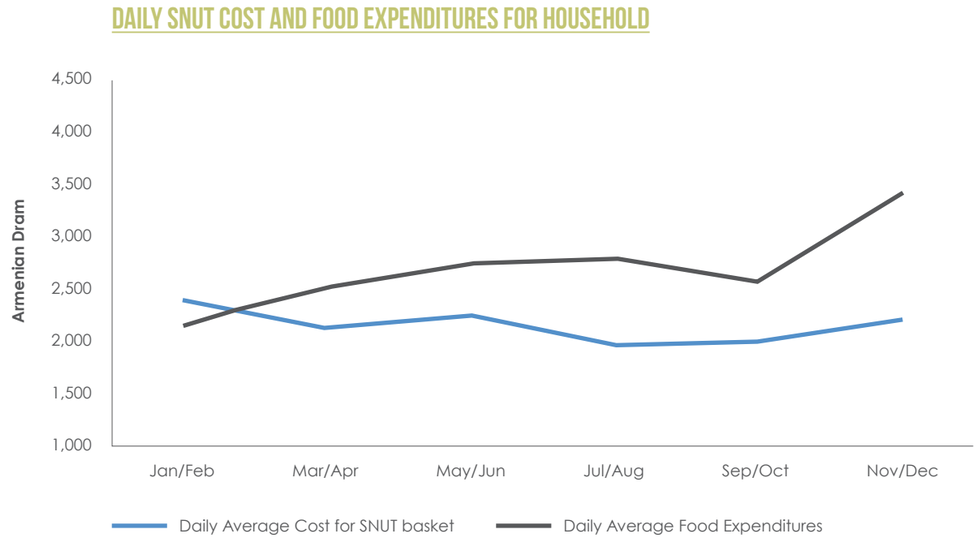
Iron and calcium are the nutrients that are most difficult to reach across Armenia. Iron and calcium rich foods available in Armenia include spinach and yellow chickpea. Another available iron-rich food is spelt. Even in Ararat, the province with the lowest unaffordability rate, iron is a limiting nutrient for all the standard household members and calcium is a limiting nutrient for children. Because nutritional needs vary for different age groups, depending on the province and the household member, other limiting nutrients are Vitamin A, Vitamin C, and Vitamin B12. Special attention should be given to the group of 6-7 years old children, who are more deprived in several important micro-nutrients.

The observed variation and disparities across provinces of Armenia suggests the need for implementation of targeted interventions tailored to such geographical differences. The provinces that have high "non-affordability rates" would benefit from interventions that provide nutrient-dense food and/or income assistance. Long-run solutions might be targeted social protection schemes, including conditional food assistance for asset-creation. The population in general would benefit from micronutrient interventions, keeping in mind that iron and calcium are the limiting nutrients across the country. Furthermore, interventions focused on nutrition education and behavior change assuring nutritious choices might be beneficial for all eligible population groups and can be implemented across the country, taking into account different needs, risks and vulnerabilities along the life-cycle.

The CotD analysis can be expanded further to suggest whether different fortified foods, specialized nutritious products, and various distribution strategies can be effective in Armenia for improving the affordability and ensuring that at least part of the nutrient needs of the vulnerable household are met. These interventions can be channeled both through government social protection systems and through market-based solutions. Moreover, CotD can be further enhanced to assess the role and potential impact of nutrition-specific interventions, targeting the first 1,000 days.

ANNEX 1: PROVINCE PROFILE

YEREVAN



Composition of the SNUT basket

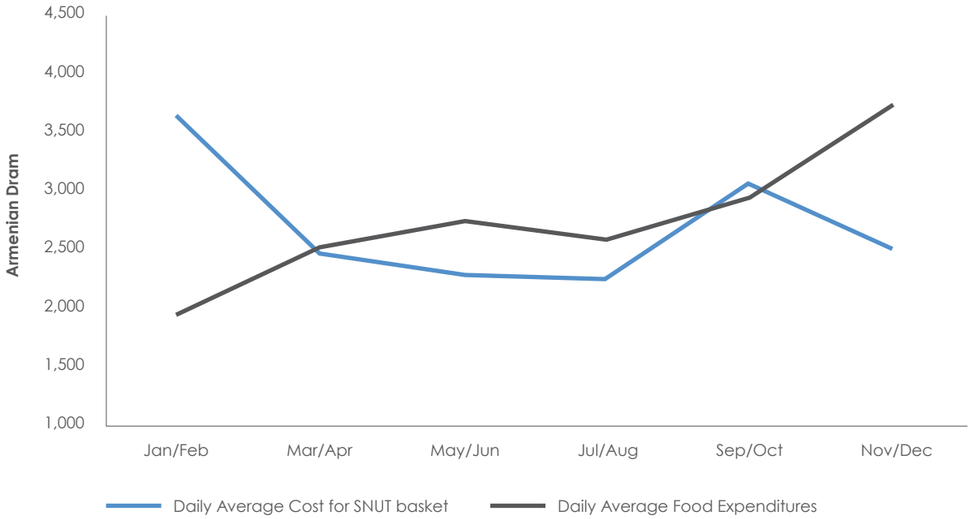
Grains, roots and tubers	Legumes, nuts and seeds	Meat, fish and eggs	Milk and milk products	Vegetables and vegetable products
Wheat, flour	Chickpea, yellow	Chicken, leg	Milk, cow, pasteurised	Spinach
Bread			Milk, cow, whole	
Potato				
Spelt				
Breast milk (free), oil and fats				

*only foods contributing more than 1% is included.

Yerevan	Household	Child 12-23 months	Child 6-7 years old
Monthly cost (AMD):	65,191	5,579	9,771
Limiting Nutrients:	Iron, Calcium, Vitamin B12	Iron, Calcium, Vitamin B12	Iron, Calcium, Vitamin C
Largest share of cost:	Spinach, yellow chickpeas and spelt	Spinach, spelt and yellow chickpeas	Cow milk, yellow chickpeas and bread
Largest share of quantity:	Spinach, milk and spelt	Breast milk, spinach and cow milk	Milk, bread and potato
Largest contributors to limiting Nutrients:	Vitamin B12 – cow milk, Calcium and iron – Spinach	Iron – spinach, Calcium –spinach, Vitamin B12 – breast milk	Iron –yellow chickpeas, Calcium – cow milk, Vitamin C – potato

ARAGATSOTN

DAILY SNUT COST AND FOOD EXPENDITURES FOR HOUSEHOLD



Composition of the SNUT basket

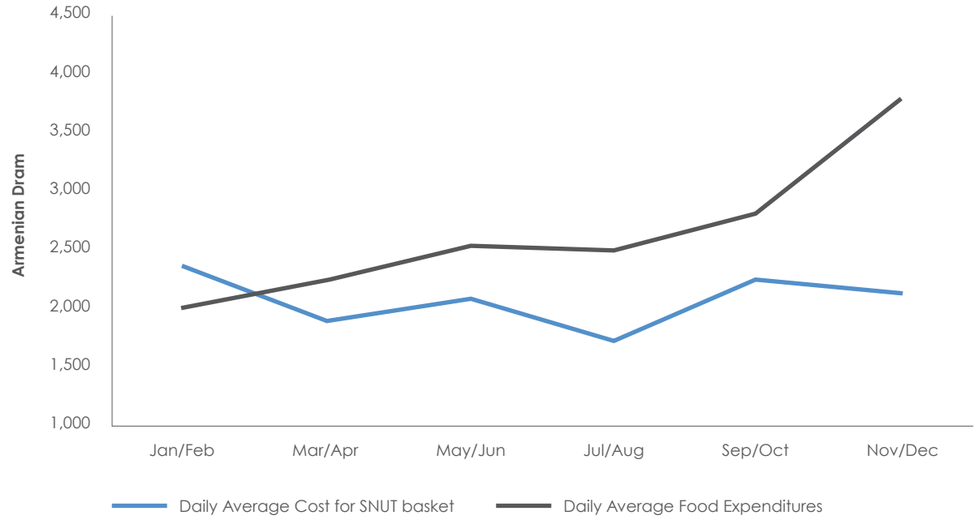
Grains, roots and tubers	Legumes, nuts and seeds	Meat, fish and eggs	Milk and milk products	Vegetables and vegetable products
Wheat, flour	Bean	Egg, chicken	Yogurt (Matsuni)	Cabbage
Bread	Lentils	Chicken, leg	Milk, cow, whole	Squash, zucchini
Potato				Spinach
Spelt				Cauliflower
Breast milk (free), oil and fats				

*only foods contributing more than 1% is included.

Aragatsotn	Household	Child 12-23 months	Child 6-7 years old
Monthly cost (AMD):	81,555	8,066	10,463
Limiting Nutrients:	Iron, Calcium	Iron, Calcium	Vitamin A, Calcium, Iron
Largest share of cost:	Spinach, egg, chicken leg	Spinach, egg, chicken leg	Cow milk, spelt, bread
Largest share of quantity:	Cow milk, spelt, breast milk	Breast milk, spelt, cow milk	Cow milk, spelt, bread/potato
Largest contributors to limiting Nutrients:	Iron – spelt, Calcium — cow milk	Iron – spelt, Calcium – breast milk	Vitamin A – cow milk, Calcium – cow milk, Iron – spelt

ARARAT

DAILY SNUT COST AND FOOD EXPENDITURES FOR HOUSEHOLD



Composition of the SNUT basket

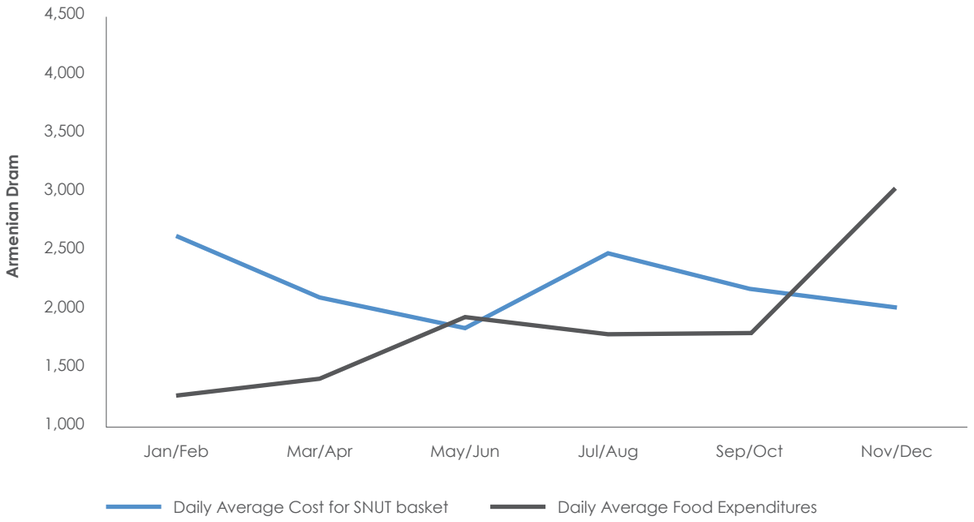
Grains, roots and tubers	Legumes, nuts and seeds	Meat, fish and eggs	Milk and milk products	Vegetables and vegetable products
Wheat, flour	Chickpea	Beef, mince	Milk, cow	Spinach
Bread				
Potato				
Spelt				
Breast milk (free), oil and fats				

*only foods contributing more than 1% is included.

Ararat	Household	Child 12-23 months	Child 6-7 years old
Monthly cost (AMD):	62,760	5,255	9,595
Limiting Nutrients:	Vitamin B12, Iron	Vitamin B12, Calcium, Iron	Vitamin B12, Calcium, Iron
Largest share of cost:	Spinach, spelt, cow milk	Spinach, spelt, cow milk	Cow milk, spinach, bread
Largest share of quantity:	Spinach, spelt, cow milk	Breast milk, spinach, spelt	Cow milk, spinach, potato/bread
Largest contributors to limiting Nutrients:	Vitamin B12 – cow milk, Iron – spinach	Vitamin B12 – breast milk, Calcium – spinach, Iron – spinach and spelt	Vitamin B12 – cow milk, Calcium – cow milk, Iron –spinach

ARMAVIR

DAILY SNUT COST AND FOOD EXPENDITURES FOR HOUSEHOLD



Composition of the SNUT basket

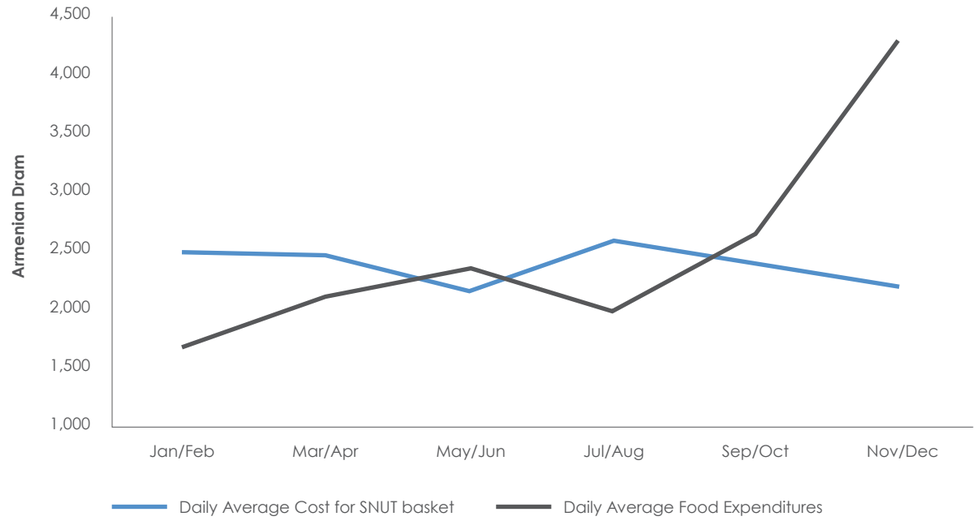
Grains, roots and tubers	Legumes, nuts and seeds	Meat, fish and eggs	Milk and milk products	Vegetables and vegetable products
Wheat, flour	Bean, green	Chicken leg	Milk, cow	Squash, zucchini
Bread	Chickpea, yellow	Egg, chicken		Cauliflower
Potato		Beef, mince		Spinach
Spelt				
Breast milk (free), oil and fats				

*only foods contributing more than 1% is included.

ARMAVIR	Household	Child 12-23 months	Child 6-7 years old
Monthly cost (AMD):	67,384	6,228	9,776
Limiting Nutrients:	Calcium, Iron	Calcium, Iron	Calcium, Iron
Largest share of cost:	Spinach, spelt, beef	Spinach, spelt, beef	Cow milk, spinach, bread
Largest share of quantity:	Spinach, cow milk breast milk	Breast milk, spinach, spelt	Cow milk, potato, bread
Largest contributors to limiting Nutrients:	Calcium – Spinach, Iron – spinach	Calcium – spinach, Iron – spinach	Calcium – cow milk, Iron – spinach

GEGHARKUNIK

DAILY SNUT COST AND FOOD EXPENDITURES FOR HOUSEHOLD



Composition of the SNUT basket

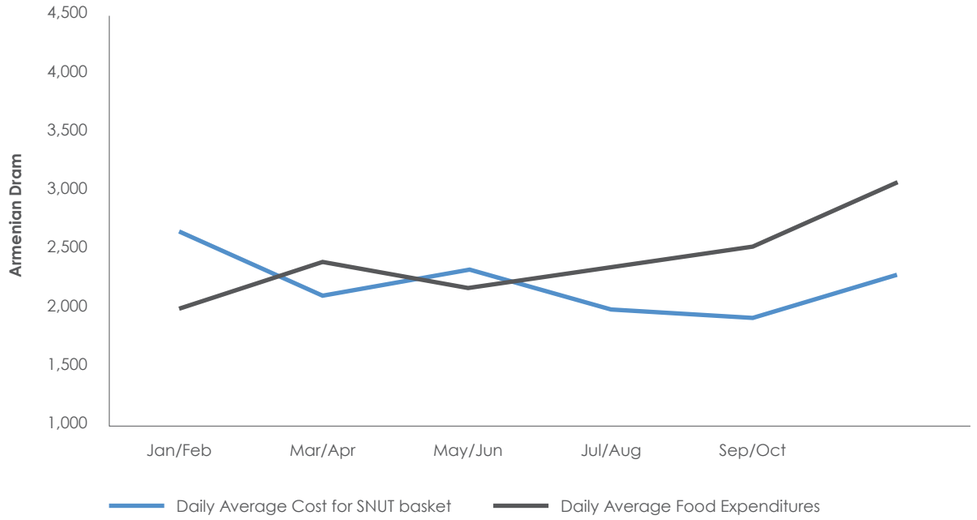
Grains, roots and tubers	Legumes, nuts and seeds	Meat, fish and eggs	Milk and milk products	Vegetables and vegetable products
Spelt	Bean. green	Beef, mince	Milk, cow	Carrot
Bread	Lentil	Pork		Cabbage
Potato	Chickpea, yellow	Chicken, leg		Spinach
		Egg, chicken		Squash, zucchini
Breast milk (free), oil and fats				

*only foods contributing more than 1% is included.

Gegharkinik	Household	Child 12-23 months	Child 6-7 years old
Monthly cost (AMD):	72,296	6,673	8,945
Limiting Nutrients:	Vitamin C, Calcium, and Iron	Calcium, iron	Vitamin A, Vitamin C, Calcium, Iron
Largest share of cost:	Yellow chickpea, cow milk, pork	Yellow chickpea, pork, cow milk	Yellow chickpea, cow milk, bread
Largest share of quantity:	Milk, yellow chickpea, breast milk	Breast milk, cow milk, yellow chickpea	Cow milk, potato, bread
Largest contributors to limiting Nutrients:	Vitamin C – Potato Calcium – Cow milk Iron – yellow chickpea	Calcium – cow milk, Iron – yellow chickpea	Vitamin A – carrot, Vitamin C – potato, Calcium – cow milk, Iron – yellow chickpea

LORI

DAILY SNUT COST AND FOOD EXPENDITURES FOR HOUSEHOLD



Composition of the SNUT basket

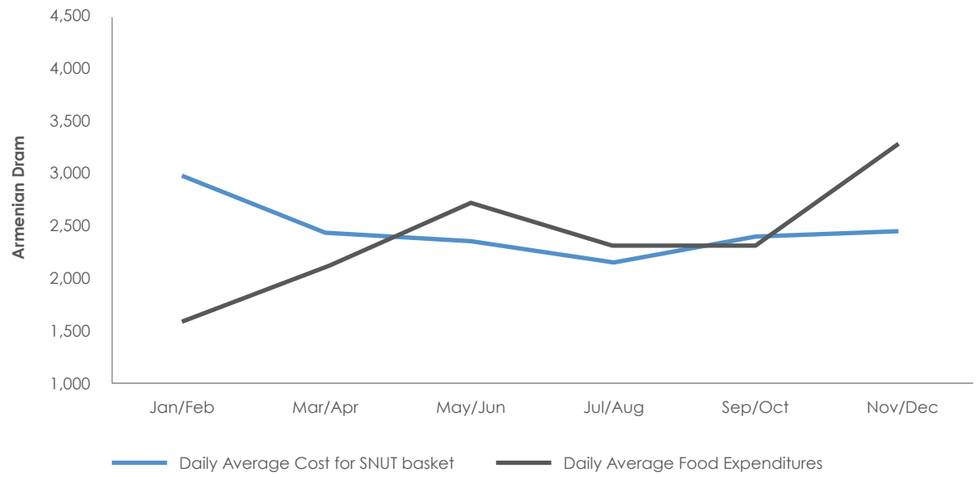
Grains, roots and tubers	Legumes, nuts and seeds	Meat, fish and eggs	Milk and milk products	Vegetables and vegetable products
Bread	Chickpea, yellow	Chicken leg	Milk, cow	Cauliflower
Potato		Egg, chicken		Spinach
Spelt		Beef, mince		
Breast milk (free), oil and fats				

*only foods contributing more than 1% is included.

Lori	Household	Child 12-23 months	Child 6-7 years old
Monthly cost (AMD):	67,109	6,286	9,065
Limiting Nutrients:	Calcium, Iron	Iron, Calcium	Vitamin A, Vitamin C, Calcium, Iron
Largest share of cost:	Spinach, spelt, cow milk	Spinach, spelt, beef	Milk, spelt, bread
Largest share of quantity:	Cow milk, spelt, spinach	Breast milk, spinach, cow milk	Spelt, Potato/ bread, milk
Largest contributors to limiting Nutrients:	Calcium – cow milk Iron – spelt	Calcium – breast milk, Iron – spelt	Vitamin A – cow milk, Vitamin C – potato, Calcium – cow milk, Iron – spelt

KOTAYK

DAILY SNUT COST AND FOOD EXPENDITURES FOR HOUSEHOLD



Composition of the SNUT basket

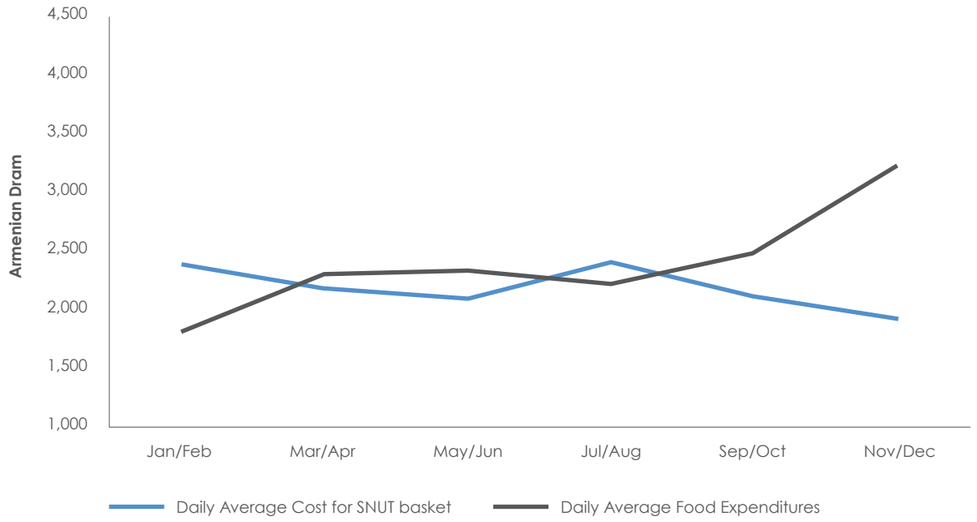
Grains, roots and tubers	Legumes, nuts and seeds	Meat, fish and eggs	Milk and milk products	Vegetables and vegetable products
Bread	Lentil	Chicken, leg	Cheese, hard	Carrot
Potato	Chickpea, yellow	Egg, Chicken	Cheese, cottage	Radish
Spelt		Beef, mince	Milk, cow	Cabbage
				Spinach
Breast milk (free), oil and fats				

*only foods contributing more than 1% is included.

Kotayk	Household	Child 12-23 months	Child 6-7 years old
Monthly cost (AMD):	74,776	7,160	10,060
Limiting Nutrients:	Vitamin C, Iron, Calcium	Calcium, Iron	Vitamin A, Vitamin C, Vitamin B12, Calcium, Iron
Largest share of cost:	Beef, spinach, spelt	Spinach, spelt, yellow chickpea	Cow milk, spelt, bread
Largest share of quantity:	Spelt, cow milk, breast milk	Breast milk, spelt, spinach	Cow milk, spelt bread/potato
Largest contributors to limiting Nutrients:	Vitamin C – potato, Iron – spelt, Calcium - cow milk	Calcium – breast milk, Iron– spelt	Vitamin A – carrot, Vitamin C – potato, Vitamin B12 – milk, Calcium – cow milk, Iron – spelt

SHIRAK

DAILY SNUT COST AND FOOD EXPENDITURES FOR HOUSEHOLD



Composition of the SNUT basket

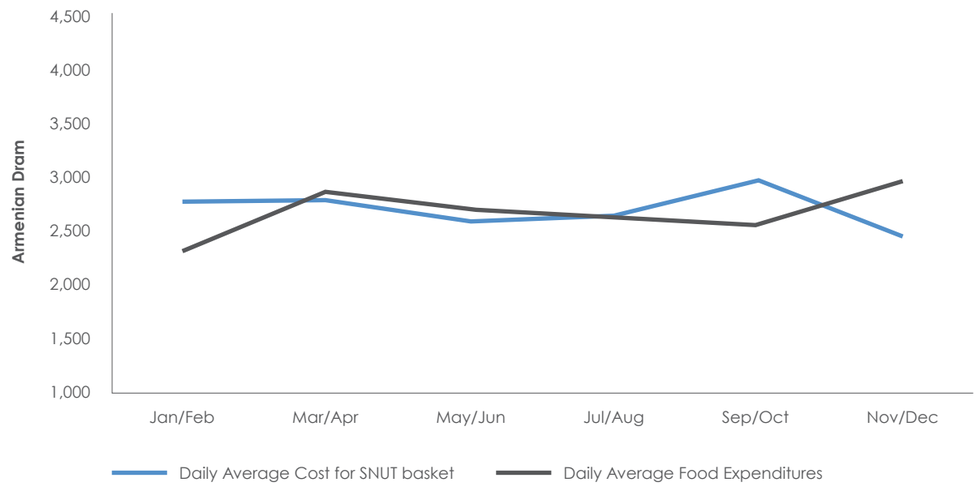
Grains, roots and tubers	Legumes, nuts and seeds	Meat, fish and eggs	Milk and milk products	Vegetables and vegetable products
Spaghetti	Lentil	Chicken leg	Milk, cow	Carrot
Wheat, flour	Chickpea, yellow	Egg, chicken		Squash, zucchini
Spelt				Spinach
Bread				
Potato				
Breast milk (free), oil and fats				

*only foods contributing more than 1% is included.

SHIRAK	Household	Child 12-23 months	Child 6-7 years old
Monthly cost (AMD):	66,213	6,103	8,218
Limiting Nutrients:	Vitamin C, Calcium, Iron	Iron, calcium	Vitamin A, Vitamin C, Calcium, Iron
Largest share of cost:	Yellow chickpea, spinach, egg	Spinach, yellow chickpea, cow milk	Chickpea, milk, bread
Largest share of quantity:	Cow milk, yellow chickpea, breast milk	Breast milk, yellow chickpea, cow milk	Cow milk, potato/ bread,
Largest contributors to limiting Nutrients:	Vitamin C – potato, Calcium – Cow milk, Iron –yellow chickpea	Iron – yellow chickpea, Calcium – cow milk	Vitamin A – carrot, Vitamin C – potato, Calcium – cow milk, Iron – yellow chickpea

SYUNIK

DAILY SNUT COST AND FOOD EXPENDITURES FOR HOUSEHOLD



Composition of the SNUT basket

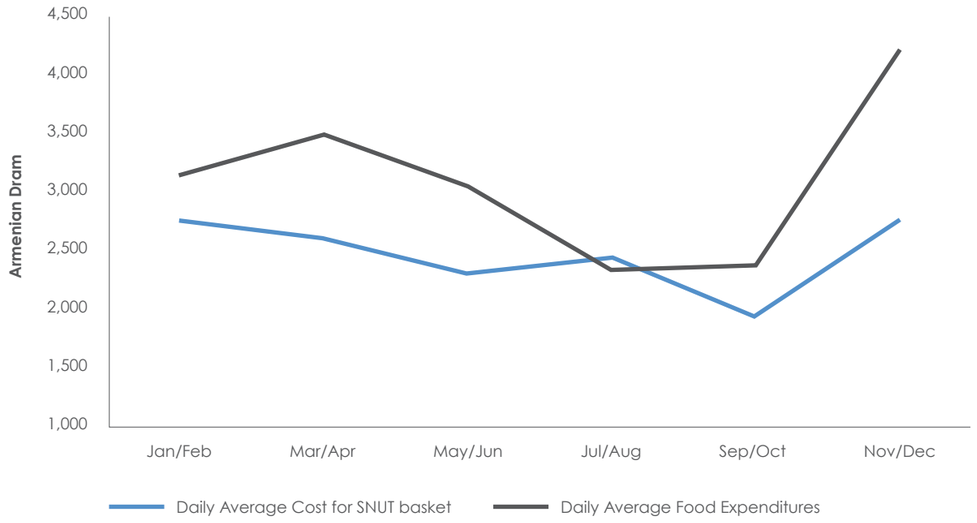
Grains, roots and tubers	Legumes, nuts and seeds	Meat, fish and eggs	Milk and milk products	Vegetables and vegetable products
Spaghetti	Lentil	Egg, chicken	Milk, cow	Cauliflower
Wheat, flour		Chicken, leg		Spinach
Bread				
Potato				
Spelt				
Breast milk (free), oil and fats				

*only foods contributing more than 1% is included.

SYUNIK	Household	Child 12-23 months	Child 6-7 years old
Monthly cost (AMD):	82,481	8,053	10,896
Limiting Nutrients:	Calcium, Iron	Calcium, Iron	Vitamin A, Calcium, Iron
Largest share of cost:	Spinach, chicken leg, egg	Spinach, spelt, chicken leg	Cow milk, spelt bread
Largest share of quantity:	Milk, spelt, spinach	Breast milk, spinach cow milk,	Cow milk, spelt, potato/bread
Largest contributors to limiting Nutrients:	Calcium – cow milk Iron – spelt	Calcium – breast milk, Iron – spelt	Vitamin A – cow milk Calcium – cow milk, Iron – spelt

VAYOTS DZOR

DAILY SNUT COST AND FOOD EXPENDITURES FOR HOUSEHOLD



Composition of the SNUT basket

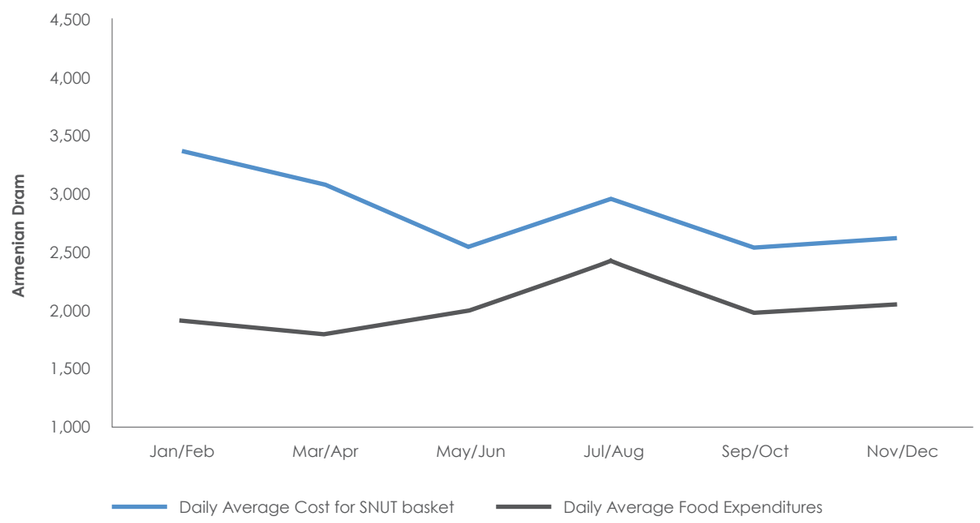
Grains, roots and tubers	Legumes, nuts and seeds	Meat, fish and eggs	Milk and milk products	Vegetables and vegetable products
Bread	Lentil	Chicken leg	Milk, cow	Cabbage
Potato	Chickpea, yellow	Egg, chicken		Squash, zucchini
Spelt				Spinach
Breast milk (free), oil and fats				

*only foods contributing more than 1% is included.

Vayots Dzor	Household	Child 12-23 months	Child 6-7 years old
Monthly cost (AMD):	74,474	6,939	9,898
Limiting Nutrients:	Calcium, Iron	Calcium, iron	Vitamin C, Calcium, iron
Largest share of cost:	Spinach, spelt, egg	Spinach, spelt, cow milk	Cow milk, spelt, bread
Largest share of quantity:	Cow milk, spelt, spinach	Breast milk, spinach, cow milk	Cow milk, bread/ potato
Largest contributors to limiting Nutrients:	Calcium – cow milk Iron – spelt	Calcium – breast milk, Iron – spelt	Vitamin C – potato Calcium – cow milk, Iron – spelt

TAVUSH

DAILY SNUT COST AND FOOD EXPENDITURES FOR HOUSEHOLD



Composition of the SNUT basket

Grains, roots and tubers	Legumes, nuts and seeds	Meat, fish and eggs	Milk and milk products	Vegetables and vegetable products
Spelt	Lentil	Chicken, leg	Milk, cow	Cabbage
Bread		Egg, chicken		Mushroom
Potato				Cauliflower
Wheat, flour				Spinach
Breast milk (free), oil and fats				

*only foods contributing more than 1% is included.

TAVUSH	Household	Child 12-23 months	Child 6-7 years old
Monthly cost (AMD):	86,718	8,713	11,245
Limiting Nutrients:	Calcium, Iron	Iron, calcium	Calcium, Iron
Largest share of cost:	Spinach, egg, chicken leg	Spinach, chicken egg, chicken leg	Cow milk, chicken leg, bread
Largest share of quantity:	Cow milk, spinach, wheat flour	Breast milk, spinach, cow milk	Cow milk, spelt, potato/bread
Largest contributors to limiting Nutrients:	Calcium – cow milk, Iron – chicken egg	Iron – spinach , Calcium – breast milk	Calcium – cow milk, Iron – chicken leg

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ANNEX 2: DAILY COST OF SNUT DIET PER HOUSEHOLD BY SEASON AND PROVINCE

Province	Jan/Feb	Mar/Apr	May/Jun	Jul/Aug	Sep/Oct	Nov/Dec	Average
Yerevan	2,372	2,119	2,230	1,959	1,995	2,194	**2,143**
Aragatsotn	3,619	2,467	2,270	2,236	3,041	2,493	**2,681**
Ararat	2,347	1,888	2,076	1,724	2,242	2,119	**2,063**
Armavir	2,623	2,108	1,856	2,489	2,188	2,036	**2,215**
Gegharkunik	2,487	2,456	2,160	2,577	2,391	2,191	**2,377**
Lori	2,648	2,098	2,320	1,988	1,922	2,280	**2,206**
Kotayk	2,980	2,436	2,354	2,154	2,396	2,453	**2,458**
Shirak	2,372	2,178	2,095	2,388	2,107	1,924	**2,177**
Syunik	2,780	2,795	2,596	2,661	2,975	2,466	**2,712**
Vayots Dzor	2,737	2,587	2,290	2,418	1,924	2,744	**2,448**
Tavush	3,370	3,077	2,548	2,959	2,547	2,620	**2,851**

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