



NATIONAL NUTRITION RESEARCH IN GEORGIA



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**This is the shorter version of the full report available at www.foodsecuritysc.com*

Field work conducted by ACT Research

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Executive Summary

In general nutritional and diet diversification status of the population in Georgia as well as awareness rising regarding healthy eating are issues that need to be addressed. National Nutrition Study in Georgia was focused on providing evidence-based recommendations for policy advocacy for the improvement of nutrition in Georgia.

The study utilized the methods of qualitative and quantitative researches. Two-stage cluster sampling with preliminary stratification was used for sampling design of quantitative survey. Within the frameworks of quantitative survey 1000 face to face (FTF) interviews were conducted with households of Georgia. In addition to studying households' dietary characteristics, diet diversification statuses of adults and children of 10-18 were studied separately within the households. Qualitative study focused on pregnant women and breast-feeding mothers. In total, five in-depth interviews were conducted with this segment in Tbilisi.

Within the frameworks of quantitative and qualitative research, access to food products, nutrition level and health and hygienic issues of various segments in Georgia were studied.

In terms of physical access to various food products, quantitative survey revealed that in general households in Georgia do not have problems in this regard. The main market source for purchasing all kinds of food products is a supermarket/store in the district or village for the majority of the population in Georgia. However, it should be noted that Inhabitants of high mountainous areas have access to food products mainly in agricultural markets and supermarkets in their municipality centres. Quality and price are two main criteria for households in Georgia while purchasing food. The majority reports reading labels of the purchased products, however the validity date and price are the two main subjects of interest in this regard.

Notwithstanding the fact that vast majority of the population has access to food products, more than a half of inquired households report a shortage of some kind of food groups for the last months. They mostly lack meat, however some families declare a shortage of all food products for the whole year. According to the survey, the most severe months in this regard are February, March and April. The main reason named for food shortage is affordability. Such results are not surprising considering the fact that every third inquired household reports that they do not have enough money even for purchasing food.

According to the survey results, the most frequently consumed dishes in Georgia are: Fried Potatoes, Lobio (boiled dried beans) and Ajapsandali (dish with egg-plant and tomatoes). It is symptomatic that consumption of dishes cooked from meat is quite rare. Analyses of data regarding food groups consumed by households for the last 24 hours also show that meat is eaten only by 34 percent of respondents.

Half of the population in Georgia experiences medium dietary diversity¹. Nutrition of the majority of households from low and medium dietary diversity groups mainly consists of cereals, oils and vegetables. A

¹Dietary diversity of households as well as individuals, women and children are calculated according to ten food groups consumed by them for the last 24 hours. This food scale is ideal for comparison of dietary diversity of all surveyed segments. Ten food group scale includes all food groups except spices and sweets. Consumption of sweets are analyzed separately. The scale size was decided to be more appropriate for country specificities as well as project goals. Lowest

high share of vegetables in every day diet of the population in Georgia could be explained by the fact that the survey was conducted in July and August when consumption of fresh vegetables is quite high. However, notwithstanding the summer period of the research, fruit is reported to be consumed only by 46 percent of inquired households. A reason for the above-mentioned could be economical as products like fruit and meat are expensive and as survey results show, they are mainly consumed by households with high income. In terms of nutrition, it should be added that the majority of inquired individuals 18+ as well as households report consuming sweets in the last 24 hours.

Consumption of microelements like plant or animal food rich with vitamin A or iron rich products were studied separately. If consumption rate of vitamin A rich products is quite high, consumption rate of iron rich products could be considered as low. It is noteworthy that in the households of lone pensioners as in general in the group of inquired pensioners, consumption share of iron rich food is the lowest.

As survey results show, the majority of inquired adults do not consider their diet as healthy. It is also noteworthy that healthy diet for a significant part of respondents is eating more vegetables. According to the survey, water consumed by adults daily makes about two litres on average.

Survey reveals that in general, children of 10 to 17 in Georgia consume less vegetables, oils and milk and dairy products than adults. They also consume less water daily (one to two cups mostly). Furthermore, the majority of inquired children declares eating sweets and carbonated soft drinks several times a week.

Besides quantitative data, the State nutrition related policies were also reviewed, which aim to respond to the existing nutrition challenges in the country. The review highlighted the following policy priority areas which need to be further developed and supported by the State:

1. Institutional environment related to food security and nutrition, policy documents and the legal framework;
2. Prevention programs for non communicable diseases;
3. School programs and initiatives that support the integration of healthy eating habits in schools;
4. State programs related to vitamin and micro nutrient fortification;
5. Policies and programs focusing on malnutrition problems among mothers and children;

The implementation mechanisms on local levels of the international codex on mother's milk substitutes; The desk review assessed the existing institutional environment and also identified those areas which need further governmental regulation so that it is able to better respond to the existing nutrition challenges in Georgia.

dietary diversity includes three food groups or less; Medium dietary diversity includes four or five food groups; High dietary diversity consists of six food groups or more.

Main Findings

National Nutrition Study in Georgia – Households

HH Food Purchase

- In general **Quality** and **Price** are the two the most vital criteria for the population of Georgia while purchasing food.
- **Validity Date** was named as the most important factor to pay attention to while purchasing milk and dairy products by the majority of respondents, while **Appearance** was reported as the most vital criteria for purchasing vegetables, fruits and berries by most interviewees.
- The majority of survey respondents report reading labels on food. However, they mostly are interested in the product's **Validity Date** and **Price**.
- In general, the main market source for purchasing food is **a supermarket/store in the district or village** for the majority of the population in Georgia.
- Inhabitants of high land areas mostly buy food in the **supermarkets** or **agricultural markets** of their **municipality centres**. Purchasing vegetables and fruit from **Mobile Traders** is also quite common practice in the high mountains.

HH Food Consumption

- The majority of inquired households report **shortage** of some **food** groups for the last 12 months (58 percent). According to the survey data, lack of meat is quite common. The most severe months in terms of food shortage appeared to be in late winter and the first two months of spring. The main reason of food shortage is mostly economical.
- The majority of the population of Georgia mainly consumes carbohydrate and experiences a shortage of food rich with proteins, iron, vitamin A rich meat and fish.
- Only 1/3 of the population consumes iron rich products, which is estimated based on animal food consumption. The consumption rate of iron rich products in women and children is very low and varies between 33-34%.
- The three most frequently consumed dishes at home in Georgia are: 1. **Fried Potatoes**, 2. **Lobio** (boiled beans) and 3. **Ajapsanadali** (dish with eggplant and tomatoes). It is noteworthy that none of the above-mentioned dishes is prepared from meat products.
- **Fried Potatoes** are popular in all regions of Georgia, except Samegrelo-Zemo Svaneti where **Satsivi** (dish from nuts) is named as the most frequently consumed dish.

- Analysis of variety of food groups consumed by the households in Georgia show that half of population executes medium dietary diversity² (50 percent).
- Nutrition of **low** and **medium dietary diversity groups** mainly consists of **oils** and **vegetables**.
- Products like **fruit** and **meat** are available only for the majority of inquired households with high income.
- 50% of women (with the monthly income of 100-1000 GEL) consume only 4 groups of food: cereals, vegetable and animal fats, vegetables, milk and dairy products, while their family members consume food from 5 groups. Fruits and meat are only consumed by women who have more than 1000 GEL monthly income.
- Although the households in medium and low wealth tertile³ can afford 5 food groups, they do not use these resources in the same way (they consume only 4).
- The Household Dietary Diversity Score (HDDS) of **low wealth tertile** is 4.87, while HDDS of **high wealth tertile** is 5.7.
- A vast majority of the surveyed households report consuming **vegetables** (90 percent). It could be explained by the fact that the survey was conducted in July and August.
- Consumption of **iron** rich products is quite low in the households of **lone pensioners** (24 percent).

HH Economic Status

- According to the survey results, the average monthly income of households in Georgia is **575 GEL** and almost a half of it is spent on food every month (**270 GEL average expenditure on food**)
- Households of the **low wealth tertile** spend 65 percent of their income on food (Income: 219 GEL; Expenditure: 142 GEL), while households of the **high wealth tertile** spend only 35 percent of their income on food (Income: 1421 GEL; Expenditure on food: 492 GEL).
- As survey results demonstrate, the majority of households in Georgia **purchase food on credit** from time to time.

²Dietary diversity of households as well as individuals, women and children are calculated according to ten food groups consumed by them for the last 24 hours. This food scale is ideal for comparison of dietary diversity of all surveyed segments. Ten food group scale includes all food groups except spices and sweets. Consumption of sweets are analyzed separately. The scale size was decided to be more appropriate for country specificities as well as project goals. Lowest dietary diversity includes three food groups or less; Medium dietary diversity includes four or five food groups; High dietary diversity consists of six food groups or more.

³ Low wealth tertile consists of households whose monthly income is ≤300 GEL; Medium wealth tertile – HHs with 301-999 GEL monthly income; High wealth tertile – HHs with 1000+ GEL monthly incomes. HH income tertiles are defined according to the average income characteristics of the country according to official statistics of Georgia as well as logical distribution of monthly incomes within the National Nutrition Survey in Georgia

- Monthly expenditures of almost a half of the surveyed households have increased compared to the previous year, while the income of most households has remained the same.
- According to survey results, every third household in Georgia **does not have enough money even for purchasing food**.

Chronic Diseases

- The two most frequentl chronic diseases in the households of Georgia are: **Hypertension** and **Cardiovascular disease**. Cardiovascular disease is more common in high land areas, while hypertension is more frequent in the valley.
- 20 percent of respondents report food poisoning of their household members. However, visiting doctors in case of **food poisoning** as well as taking preventing actions in the future is quite rare among population of Georgia according to the survey results.

National Nutrition Study in Georgia – Individuals

- The two most important sources of information regarding healthy eating are considered to be **TV** and **word of mouth**.
- Only 29 percent of survey respondents believe that their **eating** pattern is **healthy**, however half of them think healthy diet is eating more vegetables.
- More than a half of survey respondents are well aware of which plants are rich with vitamin A.
- Every third inquired individual reports **eating two times** a day at home.
- An analysis of the variety of food groups consumed by 18+ individuals in Georgia show that more than a half of the population executes medium dietary diversity (54 percent).
- The majority of individuals from the lowest dietary diversity group, which makes 15 percent of the whole sample, reports eating mainly **cereals** and **vegetables**. This group mainly consists of **pensioners** and respondents from the **low wealth tertile**.
- Dietary diversity of inquired Tbilisi inhabitants is poorer than of respondents from other urban and rural areas of Georgia.
- Individual Dietary Diversity Score (IDDS) of the **low wealth tertile** is 4.77, while IDDS of the **high wealth tertile** is 4.99.
- Women Dietary Diversity Score (WDDS) of the **low wealth tertile** is 4.58, while IDDS of the **high wealth tertile** is 4.85.

- Consumption of **iron** rich products is quite low in 60+ age group. (24 percent).
- The majority of inquired individuals reports eating bread and drinking tea or coffee almost every day. Having baked goods like Khachapuri (cheese pie) or Lobiani (pie with beans), sweets, carbonated sweet drinks and mineral water is quite rare according to the survey respondents and are reported to be consumed more frequently by inquired rural inhabitants, than Tbilisi citizens
- Notwithstanding the fact that inquired individuals refuse frequent consumption of sweets, the vast majority of them reported consumption of dishes containing sugar for the last 24 hours.
- One-third of survey respondents report **drinking** two litres of **water** daily, while every fourth interviewee claim to drink only one litre of water.

National Nutrition Study in Georgia – Children of 10-17

- **Children Dietary Diversity Score** make 4.68 which is slightly lower than of studied adults (4.90).
- More than 50% of 10-17 years old children in Georgia do not consume proteins, vitamins and iron rich products, affecting their physical and mental development. The shortage of the aforementioned food is associated with a high risk of anaemia, low immune function and development retardation in children.
- The surveyed children of 10 to 17 of age mostly execute medium dietary diversity⁴. Furthermore, **meat, poultry, fish, seafood, eggs** and **legumes** are consumed by a low share of inquired children.
- Children consume less **vegetables, oils and fats** as well as **milk and dairy products** than inquired adults. Consumption of fruits is higher among children of 10-17 than older individuals.
- The majority of inquired children reports eating bread almost every day. As for baked goods like Khachapuri, Lobiani or Pizza, every third child seems to consume them two-three times a week and almost half of inquired children eat such baked goods quite rarely.
- The majority of inquired children declares consuming sweets and carbonated soft drinks several times a week.
- Significant share of children report drinking one or two cups of water daily (41 percent), while every fourth interviewee claim to drink three or four cups of water.

⁴Lowest dietary diversity includes three food groups or less; Medium dietary diversity includes four or five food groups; High dietary diversity consists of six food groups or more.

National Nutrition Study in Georgia – Pregnant women and breast-feeding mothers

- According to frequently consumed food groups, **cereals** and **oils** take the first two positions in the nutrition of inquired women, while **flesh meat**, **eggs**, vitamin **A rich fruits** and **legumes** take the last four places.
- **Organ meat** as well as **fish and seafood** are extremely rare in pregnant women's or breast-feeding mothers' diet.
- Like all other segments inquired in the study, pregnant women and breast-feeding mothers also **purchase food** in nearby supermarkets and grocery stores at most times.
- While selecting food, inquired pregnant women and breast-feeding mothers pay attention to **quality, origin** and **healthiness**.
- Most inquired women pay attention to fruits, vegetables and meat produced in Georgia which are believed to be healthier and "fresh".
- According to inquired breast-feeding mothers, breast-feeding is necessary and important for infants.
- "Healthy diet" for inquired pregnant women and breast-feeding mothers first of all is associated with the consumption of **vegetables, boiled meat, dairy products** and **cereals**.
- Healthy food products named by the inquired respondents are the following: broccoli, green pepper, scallion, veal, apple, pomegranate, pumpkin, carrot and squash.
- Keeping healthy diet is quite difficult according to study participants because of their taste, morning sickness, lack of time and patience.
- No inquired pregnant women and breast-feeding mothers have any chronic diseases.

Key Policy Recommendations

1. *Develop a clear-cut nutrition policy in Georgia by adopting the National Nutrition Strategy of Food and Healthy Nutrition;*
2. *Develop a food security and nutrition monitoring system;*
3. *Elaborate state programs that enhance the access to nutritious food by the vulnerable segment of the population;*
4. *Increasing access to local, cheap and nutritious food, by increasing local food production through investment schemes for small holder farmers;*
5. *Increase awareness on the correlation between undiversified nutritious and the spread of non-communicable diseases;*
6. *Increase the role of Ministry of Education in integrating the principles of healthy eating habits into the school curriculums.*

Introduction

The given document is the research report of the “National Nutrition Study in Georgia” prepared by Analysis and Consulting Team (ACT) for Oxfam and Biological Farming Association ELKANA. The fieldwork findings were analyzed by a nutrition expert, Tamar Manjavidze. The report reviews the results of the research of households, individuals, children, pregnant and breast-feeding women in Georgia.

The research project was executed from July to September 2015. The fieldwork of the quantitative study was performed in July and August 2015, and was followed by qualitative fieldwork performed in September 2015.

The report reviews the research design including the main goals and objectives, research methodology and sampling design. The main part of the report is dedicated to the results of the study, which are presented in two main chapters – (1) Research Results for Survey of Households and individuals in Georgia and (2) Policy analysis for the National Nutrition Study in Georgia

The present section is a shorter version of the full report of the results of the National Nutrition Study, which is available at www. The research enabled us to evaluate the diet diversification status of the population in Georgia in terms of access to main food products and their consumption.

The quantitative results of the survey were analyzed through cause and effect relation between different economic statuses, access to diverse foods and macro and micronutrients, health risks and chronic disease rates in various target segments.

Access to food was analyzed based on the FAO/FANTA Household Dietary Diversity Index (HDDI).^{5,6} as well as the development level of the relative infrastructure (food markets, shops, etc).

Food consumption was analyzed in households and individuals based on various food groups, Vitamin A rich and iron rich food consumption, seasonal access to food, water consumption and the rates of chronic diseases.

Perception about healthy eating and eating related behavior were analyzed based on the data about the population’s awareness of hygienic issues, eating outside, junk food consumption rates, eating patterns, and other important issues.

⁵Household Dietary Diversity Index (HDDI) for Measurement of Household Food Access: Indicator Guide VERSION 2 , - FANTA , 2006

⁶ Guidelines for Measuring Household and Individual Dietary Diversity - FAO, 2013

Part 1: Access to Food

Affordability of food products was assessed using economic indicators such as a household's expenditure on food and the ratio of the expenditures on food to expenditures on other goods.

According to the households' survey results, a household's expenditure on food on average amounts to 50% of their monthly income. The survey of households in the capital, other towns, rural areas as well as high land and valley inhabitants shows that Tbilisi residents have higher incomes and spend more on food than the households in other towns and rural areas. However, in Tbilisi a household's expenditure on food is 10% lower (on average 40% of their income) than that of households in other urban and rural areas.

The households (HHs) in the valley spend more on food than the highland population⁷. The rural population's monthly expenditure on food is higher than that of the urban residents. The average monthly income in the households of ethnic minorities is lower and makes 475 GEL than in Georgian families (590 GEL). The monthly expenditure on food of the inquired households of ethnic minorities is lower and makes only 230 GEL than the average expenditure of the inquired Georgian households (276 GEL).

The households' food access was analyzed based on the FAO/FANTA methodology. The surveyed HHs was divided into three equal groups (33% each) of low, medium, and high wealth tertiles⁸.

Low wealth tertile consists of households 33% whose monthly income is ≤ 300 GEL; Medium wealth tertile – HHs (33%) with 301-999 GEL monthly income; High wealth tertile (33%) – HHs with 1000+ GEL monthly incomes.

Demographic profile of inquired Households

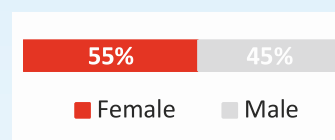


Area: Georgia

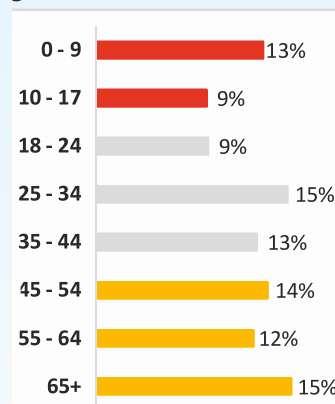
Total number of HH: 1000

Total number of HH members: 3637

Gender Distribution



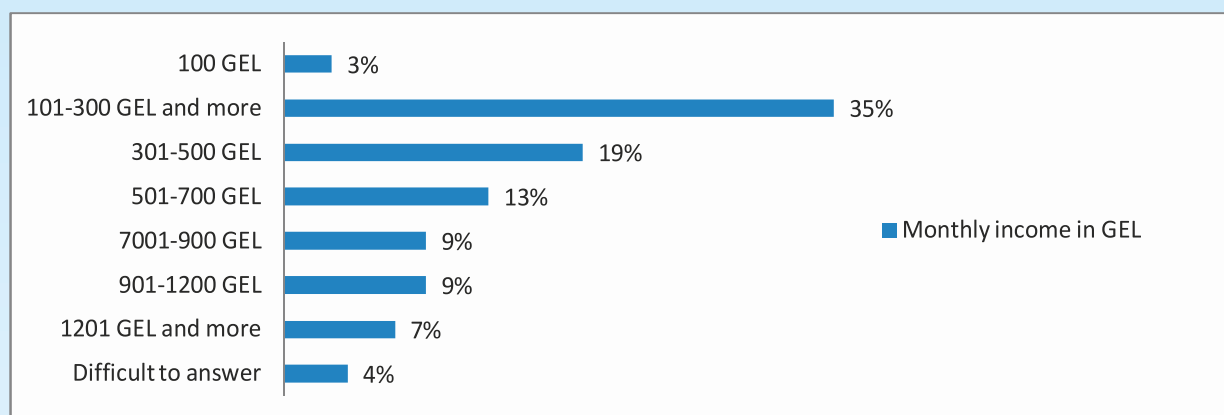
Age Distribution



⁷ For more information please see chart 10, HH monthly expenditures on food highlands and lowlands, National Nutrition Research, full version, available at www.foodsecuritysc.com

⁸ Low wealth tertile consists of households whose monthly income is ≤ 300 GEL; Medium wealth tertile – HHs with 301-999 GEL monthly income; High wealth tertile – HHs with 1000+ GEL monthly incomes. HH income tertiles are defined according to the average income characteristics of the country according to official statistics of Georgia as well as logical distribution of monthly incomes within the National Nutrition Survey in Georgia.

Graph 1 - Average Monthly Income of Households in Georgian Lari



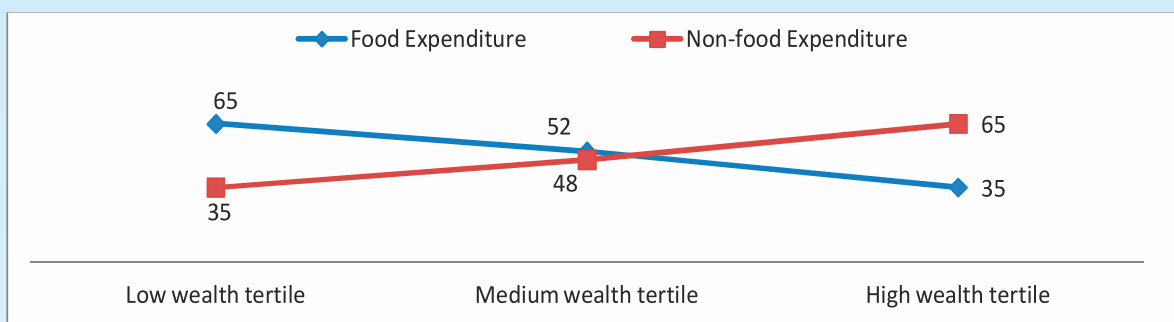
The ratio of food expenditure to non-food expenditure for each tertile shows that households of **low wealth tertile** spend most of their income on food (65%). Therefore the index is higher than that of the other tertiles - $65/35=1.85$ (See Table 22 - Monthly income and expenditure on food).

Table 1 - Monthly income and expenditure on food

Wealth tertile	Average monthly income (GEL)	Average expenditure on food (GEL)	Share of Food expenditure (%)	Index of food and non-food expenditures
Low	219	142	65	$65/35 = 1.85$
Medium	591	306	52	$52/48 = 1.08$
High	1421	492	35	$35/65 = 0.53$

The households of medium wealth tertile spend more than a half of their income on food (52%). Therefore, the ratio of food and non-food expenditures is relatively low (1.08). However, it is twice as much as the ratio of the households in the high wealth tertile (0.53%). The households in the high wealth tertile spend a smaller share of their high incomes on food. In this case the non-food expenses are higher and the ratio between the food and non-food expenses is $35/65=0.53\%$. The ratio of the households' expenditures in high wealth tertile shows that these interviewees can afford sufficient and adequate food and spend their money on the other needs, such as education, health care, recreation, culture, etc. In the medium and low wealth tertile, the households' income is lower and the food expenditures are higher. Thus, these households can afford to spend money on their other needs to a lesser extent (see Chart 1 Percentage of Food and Non-food Expenditures).

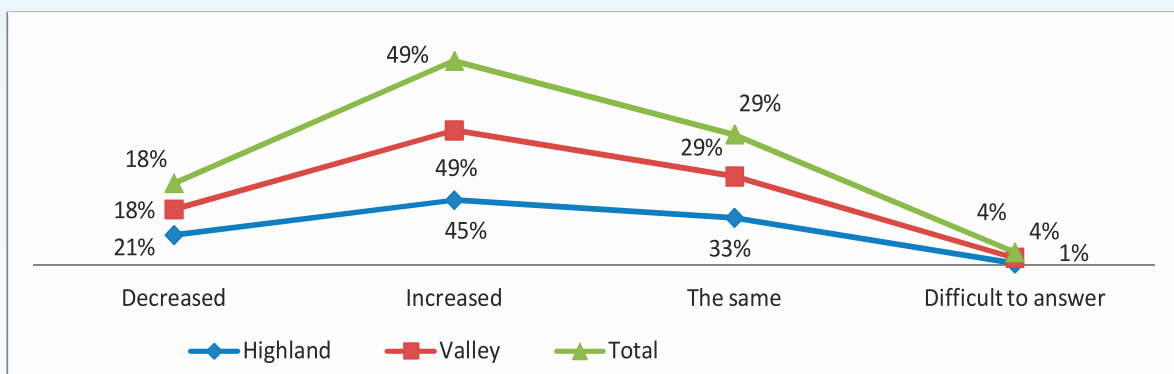
Chart 1 Percentage of Food and Non-food Expenditures



The comparison of absolute values of the expenditures shows that in the high wealth tertile, the households' expenditure on food 1.5 times higher in the medium wealth tertile and 3 times higher than in the low wealth tertile.

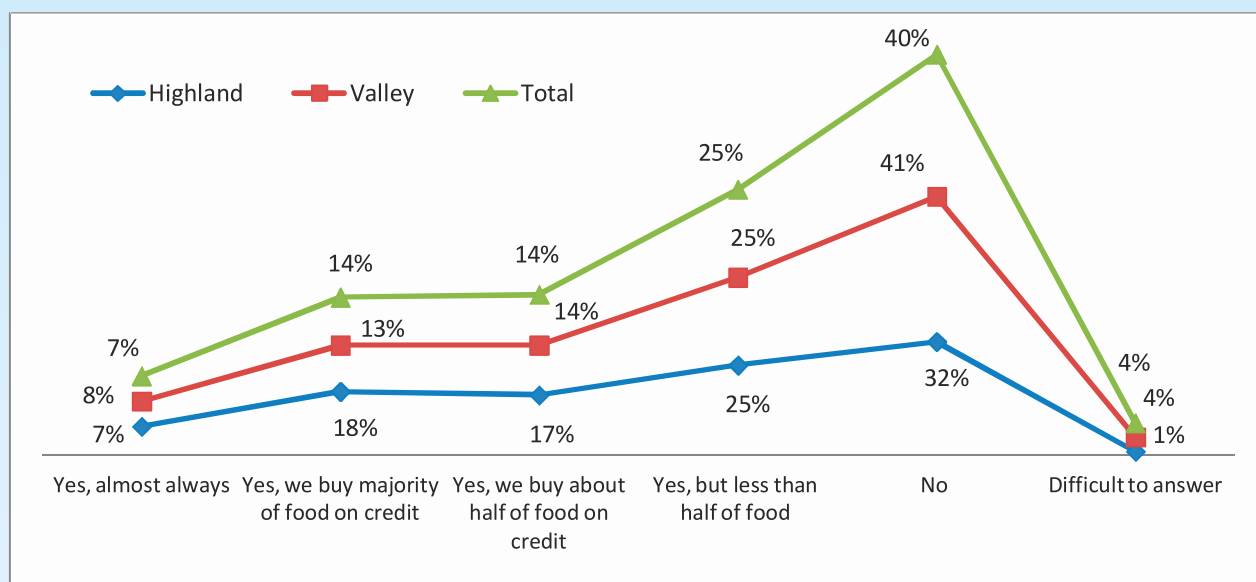
In view of the above, it is noteworthy that almost half of survey respondents report that their household's monthly expenditure on food has increased compared to the previous year. In this regard, there is no significant difference in the data of the lowlands and highland households. The HHs in the lowlands spend only 3% less on food than the highland population. It shows that spending on food has increased in all the regions of Georgia (*see Chart 2 Changes in the Food Expenditure over the last year*).

Chart 2 Changes in the Food Expenditure over the last year - How did your food expenditures change over the last year?



The survey shows that 60% of the households in the country buy food on credit (*see Chart 3 Do you have to buy food on credit*). In the highlands, the percentage of the households borrowing money is higher by 10% than in the valley. 53% of lone pensioners cannot afford to buy sufficient food

Chart 3 Practice of buying food on credit - Do you have to buy food on credit?



In view of the above, more than 50% of the population in Georgia has food affordability problems. The low-income segments of the population, especially lone pensioners, are the most vulnerable groups. In terms of geographic location, the food affordability problem is worse in the rural areas and highland than in urban areas and the valley. The population in highland rural areas has the highest poverty rate and risk of hunger rate increase.

Physical access to food was assessed based on the data about the access of population in various geographic regions of Georgia to market sources where they can purchase food and distance of such market sources from their place of residence.

The data analysis shows that there is no problem of access to food in Tbilisi and other large cities of Georgia as they have a well-developed network of various markets and food stores. In rural areas, some residents cannot buy all kinds of food products near their houses. In the valley population, 25% have to go to the neighboring district center to buy fruit and vegetables and 20% - to buy meat and eggs. ¼ of the highland population buy fruit and vegetables from mobile traders, which do not travel in winter. About 1/3 of the population go to the municipal center to buy fat, sugar and sweets⁹.

Therefore, rural population, which do not grow fruit and vegetables and do not own cattle cannot buy fruit, vegetables, meat, fat, and sugar in the settlement they live. The problem is especially acute in the highland in winter

⁹ For further information please see Table 4. Market sources for valley and highland population in Georgia, full version of National Nutrition Research in Georgia available at www.foodsecuritysc.com

Recommendations

- ✓ Carry out intervention programs for vulnerable groups to improve their access to food taking into consideration the environment and geographic features;
- ✓ Support small farmers in growing and marketing local food produce in order to increase availability of locally produced, cheaper food. Taking into account the geographic characteristics of Georgia, improve access to scarce food products, food supply and develop the network of markets and shops.

Food Consumption Patterns

Food consumption was analyzed in all the surveyed groups (households, 18+ individuals, women, 10-17 year old children) using consumption rates of various food groups and dietary diversity indicators (DDI). The analysis reveals which major food groups are scarce in the country, how diverse is the population's diet, which food groups are consumed by various population segments and which foods are in short supply.

The percentage of various food groups' consumption was analyzed with a 10 food group scale¹⁰.

The 10 food group scale is the list of foods, which are necessary for human health, and their daily consumption ensures macro and micronutrients and energy required for physiological processes. The 10 food group scale was developed through desegregation of 5 main food groups (cereals, fruit/vegetables, dairy products, meat, and other protein foods, fat). Sweets are not included in the scale and their consumption is analyzed separately.

According to the survey results, the target groups (households, adults, and 10-17 year old children) in urban and rural areas, in the valley and highland consume all food groups although the consumption rates vary. The survey results also show that the consumption rates of almost all food groups is 20-100% except fish and nuts. The consumption rates of fish and nuts are the lowest (2-5% for fish and 7-12% for nuts).

The aforementioned percentages confirm that there is no shortage of food groups essential for human health in rural and urban areas or in any of the regions of Georgia. However, it does not mean that all citizens have equal access to diverse and sufficient foods, macro and micronutrients. This problem is discussed in the section below.

Dietary Diversity Indicators (DDI) is calculated based on the number of food groups consumed by various segments of the population. Low, medium, and high dietary diversity are defined by the number of food groups consumed in compliance with the FAO indicators (Table 2. Dietary diversity Index – FAO)¹¹:

¹⁰ For further information please see Table 9. Food groups consumed by various target segments – 10 food group scale, full version of National Nutrition Research in Georgia available at www.foodsecuritysc.com

Table 2. Dietary Diversity Index - FAO Standards

Low Dietary Diversity	Medium Dietary Diversity	High Dietary Diversity
3 Food Groups	4-5 Food Groups	6 Food Groups

Low, medium and high dietary diversity for Georgia was specified by 10 food groups scale based on the percentage of consumed food groups for 50% of households (**Table 3. Dietary Diversity Index – Georgia**).

Table 3. Dietary Diversity Index – Georgia

Low Dietary Diversity	Medium Dietary Diversity	High Dietary Diversity
2 Food Groups	5 Food Groups	7 Food Groups

The data shows that the **low dietary diversity** index for Georgia is lower than the FAO standard. In Georgia, the diet of some groups is actually so scarce that it consists of only two food groups- cereals and vegetables¹² According to the survey data, such a diet is also supplemented with sweets (mostly sugar) and is typical for the poorest segment of the population whose monthly income is about GEL 100 (3%) and lone pensioners (9%) **Medium dietary diversity** index in is compliance with the FAO standard and comprises of the 5 food groups, including cereals, vegetables, oils and fats, milk and dairy products, white roots and tubers. High dietary diversity includes the aforementioned 5 groups and two more (meat and fruit).

Households’ Dietary Diversity Index by wealth tertile – the dietary diversity index was analyzed for low, medium, and highest wealth tertiles. In low wealth tertile, the monthly income is GEL ≤300, in medium wealth tertile – GEL 301-999 and in high wealth tertile – GEL 1000+. The goal of the dietary diversity index analysis is to establish which and how many food groups are consumed by the population of various income levels. This indicator does not show weight or volume of food.

The survey shows that in low and medium income groups, the **dietary diversity index is 5 and these food groups include cereals, oils/fats, vegetables, dairy products and white roots ad tubers**. According to the study, only high income households consume 7 food groups (which include the aforementioned five and two more – **meat and fruit**)¹³. The comparison of food affordability and dietary diversity index of households by wealth tertile shows that

11 Study methodology of analyzing dietary diversity of households and individuals provided in the “Guidelines for measuring household and individual dietary diversity” prepared by the Food and Agricultural Organization of the United Nations (FAO) is applied in National Nutrition Survey of Georgia.

¹² For further information please see Table 5. Food Groups Consumed by ≤50% of Households, full version of National Nutrition Research in Georgia available at www.foodsecuritysc.com

¹³ Table 6. Food Groups consumed by ≤50 percent of households by wealth tertile).

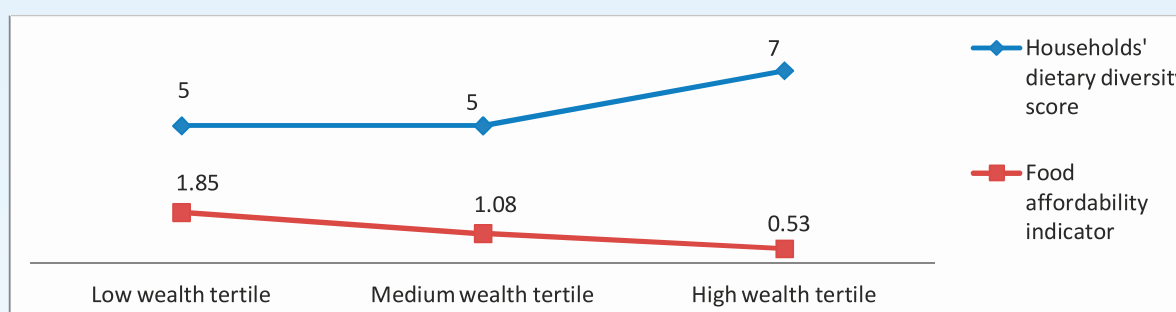
the segment of the population spending more than half of their income on food can afford only 5 food groups (out of ten), while the segment spending a smaller percentage of their income on food (0.53), buy 7 food groups (**Table 4. Food affordability index and dietary diversity index by wealth tertiles**).

Table 4. Food affordability index and dietary diversity index by wealth tertiles

Wealth tertile	Households' Dietary Diversity Index by food groups	Ratio of food and non-food expenditures
Low	5	1.85
Medium	5	1.08
High	7	0.53

The aforementioned data confirm that households in low and medium wealth tertiles have medium dietary diversity and experience the **shortage of meat and fruit**¹⁴. Therefore, the diet of such households lacks vitamins, micronutrients, and proteins.

Chart 4 Comparison of households' dietary diversity indexes and food affordability indicators by wealth tertiles



The diagram above confirms that even households with 301-999 GEL monthly income cannot afford the adequate diet although they spend more on food than the households in low wealth tertile.

It is supposed that there is a difference in food quantities consumed by households in the aforementioned two wealth tertiles. The data is extremely interesting. Although this analysis was not included in the survey objectives, it should be taken into account in other studies.

Individual dietary diversity index allows us to analyze dietary diversity of individual groups, including women (WDDI) and 18+ adults (IDDI).

According to the survey, 54% of 18+ adults (Individual Dietary Diversity Index -IDDI) and 56% of women (Women's Dietary Diversity Index -WDDI) have medium dietary diversity and consume 4 food groups, including

¹⁴ Table 6 Food Groups consumed by ≤50 percent of households by wealth tertile).

cereals, oils and fats, vegetables and dairy products. As we can see in both cases, the indexes are lower than in case of households (HDDI-5).

Low dietary diversity includes only two food groups (cereals and vegetables) and is found in the poorest segments of population, whose income level is less GEL 100 and lone pensioners (9%).

High dietary diversity includes 7 food groups (**cereals, oils and fats, vegetables, milk and dairy products, fruit, white roots and tubers and meat**). It is found in households, 18+ adults, and women of high wealth tertile¹⁵. The survey analysis shows that more than half of 18+ individuals and women consume only 4 food groups, including cereals, oils and fats, vegetables, milk and dairy products. Their diet lacks meat, fish, and fruit. Only the households of high wealth tertile include meat and fruit in their daily diet. Although the households in medium and low wealth tertile can afford 5 food groups, they do not use these resources in the same way.

The analysis of the survey data by geographic location shows that 50% of Tbilisi residents have medium dietary diversity, including cereals, fats, vegetables, and milk and dairy products. In other urban areas, this diet is supplemented with **fruit** and in rural areas – white **roots and tubers**¹⁶. In view of the above, the diet of the majority of rural and urban population lacks meat. The diet of 50% of Tbilisi residents lacks meat and fruit.

The analysis of 10-17 year old children's dietary diversity shows that this age group has medium dietary diversity. The diet of more than 50% of children includes 5 food groups, namely **cereals, fats, vegetables, white roots and tubers, milk and dairy products**. Children in high wealth tertile consume 6 food groups, including the aforementioned five groups and **fruit** in addition. The data is noteworthy as out of three dietary diversity categories only one includes **fruit**. **Meat** and **fish** are not included in any of the three.

The data shows about half of 10-17 year old children in Georgia lack vitamin and protein rich products in their diet. Vitamins and proteins are essential for their growing bodies, their physical and mental development. The children's diet therefore has shortage of macro and micro nutrients. With such a diet, the children also run into a danger of underdevelopment and slow growth.

¹⁵ Table 13. Food Groups consumed by ≤50 percent of 18+ individuals by dietary diversity group and Table 17. Food Groups consumed by ≤50 percent of women by dietary diversity groups full version of National Nutrition Research available at www.foodsecuritysc.com

¹⁶ For more information please see (Table 14. Food Groups consumed by ≤50 percent of 18+ individuals by Tbilisi, Urban, and Rural), full version of National Nutrition Research available at www.foodsecuritysc.com

Dietary Diversity Score (DDS)

Dietary diversity score (DDS) is a quantitative indicator estimated by target groups (households, women, 18+ adults) of various income level. This analysis allows us to evaluate which target group has the highest diet diversity level.

The analysis shows that high scores are found in all groups of high wealth tertile, out of which the Household Dietary Diversity Score (**HDDS**) of **5.71** is the highest, Individual Dietary Diversity Score (**IDDS**) of 18+ adults is **4.99**, and Women Dietary Diversity Score (**WDDS**) of **4.85** is the lowest. Compared to other groups households in high wealth tertile have the most diverse diet.

The low dietary diversity scores are found in all groups of low wealth tertile, out of which Women Dietary Diversity Score of 4.58 is the lowest (**Table 5. Dietary Diversity Scores by Households, Women, and Individuals**).

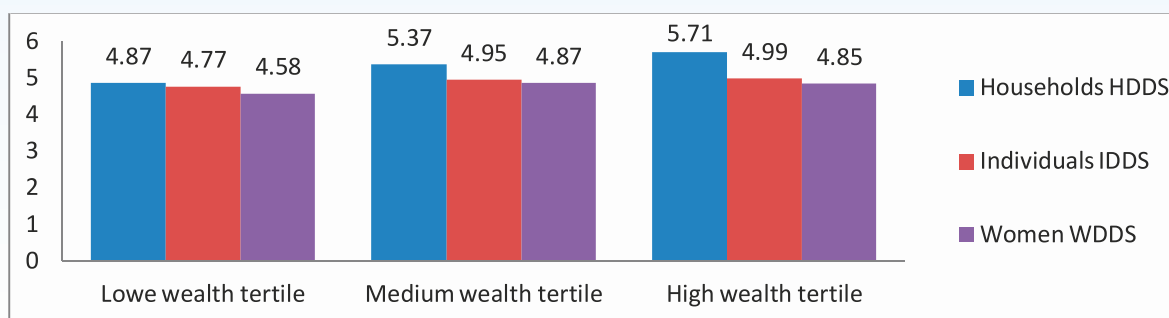
The comparison of scores shows that the biggest difference in dietary diversity is between households in medium and low wealth tertiles (**HDDS – 5.71/4.87 = 1.72**). The difference is less in case of individual adults (**IDDS 4.99/4.77 = 1.04**) and women (**WDDS 4.85/4.58 = 1.05**).

Table 5. Dietary Diversity Scores by Households, Women, and Individuals

Dietary Diversity Score (DDS)	Low wealth tertile	Medium wealth tertile	High wealth tertile
HDDS Households	4.87	5.37	5.71
IDDS Individuals	4.77	4.95	4.99
WDDS Women	4.58	4.87	4.85

One may think that there should be no difference in the vertical columns of wealth tertiles by groups. However, the data analysis shows that women and individuals have lower scores than the households; Moreover, women have lower score in all wealth tertiles (**Chart 5 Dietary Diversity Scores**).

Chart 5 Dietary Diversity Scores



These scores reflect the fact that the consumption of home cooked meals vary by family members. The comparison of HDDI and WDDI also confirms that women consume only 4 food groups, while households consume 5.

The aforementioned situation may be explained by eating outside, unhealthy diet, and insufficient public awareness of the importance of healthy eating. The survey revealed these factors as 41% of the respondents say that they skip meals (mostly breakfast) and 40% say that they eat outside several times a week¹⁷. Only 36% of the interviewed population feels that diet diversity is a criterion of healthy eating. Only 60% of the Georgian respondents, 43% of respondents from ethnic minorities, 56% of young adults, and 40% of pensioners can name vitamin A rich products.

It is no wonder that the aforementioned factors negatively affect the proper use and/or distribution of food resources among a household members. We may suppose that women, especially in low and medium wealth tertiles, tend to save food for their family members. In general, study findings show that in 95% of cases, it is women who are responsible for buying and preparing food for the family. To sum up, women have the lowest dietary diversity scores. It is noteworthy that low DDS of women in low and medium wealth tertiles is associated with low nutritional value of consumed foods, high energy consumption, and higher risks of contagious and non-contagious diseases in these groups.

Recommendations

- ✓ *The goal is to raise the low DDS of a specific wealth tertile to the high DSS of the same tertile. In the short term, this goal can be achieved through intervention programs focused on public awareness raising about the connection between women's reproductive health and nutrition, equal distribution of food among male and female members of a household and proper use of food resources.*
- ✓ *The DDS of high wealth tertile should be a target score for improving the DDS of households in low and medium wealth tertiles. This goal can be achieved through gradual approach and long-term projects focused on improvement of social welfare and economic situation of the population.*

The percentages of food groups consumed by various target segments (households, adults, 10-17 year old children) show that consumption rates of carbohydrates and fats are the highest, while consumption of proteins is low. In protein-rich foods, only the consumption of milk and dietary products is slightly above 50%¹⁸. Consumption of sweets was analyzed separately and the results showed that 73% of households consume them. The most frequently consumed sweet is sugar.

The comparison of the children's and adult's survey data shows that children consume less vegetables, oils and fats as well as milk and dairy products than inquired adults. As regards fruit consumption, children consume 8% more fruit than households. However, this index is still far less than the consumption of carbohydrates. Comparisons of various age groups' data show that more than 5% of respondents of all ages consume

¹⁷ Table 12. Daily Frequency of Meal Consumption, full version of National Nutrition Research available at www.foodsecuritysc.com

¹⁸ Table 9. Food groups consumed by various target segments – 10 food group scale, full version of National Nutrition Research available at www.foodsecuritysc.com

carbohydrates more frequently than proteins. 40% of children also frequently consume sweets and carbonated soft drinks¹⁹

Most frequently cooked dishes in Georgia

Most frequently consumed dishes in Georgia are Fried Potatoes (41%), Lobio (23%), and Ajapsanadali (16%). The analysis of data shows that the respondents in low wealth tertile most frequently consume dishes prepared from white roots and tubers (68%) and respondents in high wealth tertile – from meat (73%). In highlands, dishes are mostly frequently cooked from white roots and tubers (79%) and rarely from meat (37%).

To sum up, the population of Georgia mainly consumes carbohydrate and experience a shortage of food rich with proteins, vitamins, and minerals. The difference between the food consumption data of adults and children confirm the unequal distribution of food among household members. This problem is caused by not only access to food but also the low level of public awareness.

Consumption of Vitamin A and Iron Rich Products

The indicator of Vitamin A consumption is estimated based on the consumption of Vitamin A rich plant and animal foods. This indicator is high in all surveyed groups and varies between 60-77%. However, most vitamin A rich foods consumed by respondents are plant based and dairy products. The consumption level of Vitamin A rich meat and fish is very low²⁰

Most frequently consumed Vitamin A rich plant foods are tomatoes, greens, and watermelons. The consumption of other Vitamin A rich foods is only 15%. However, we should take into account that the survey was conducted in August, when the aforementioned plant products are in abundance and prices are low and the surveyed households report the lack of foods for the last 12 months, especially meat and fish (60%) and fruit, vegetables and Vitamin A rich plant foods (up to 50%)²¹. Therefore, the high indicator of Vitamin A rich foods consumed by the respondents is probably caused by the period of the survey.

It is important for the population to know which plants are rich in Vitamin A and what their colours are. The analysis of this data shows that 1/3 of the respondents do not know what colour vegetables and fruit are rich in Vitamin A. The valley population is less informed than the highland population. However, the highland population named mostly dark green leafy vegetables. The respondents of ethnic minorities have lower level of awareness than the Georgian respondents and young people know more about this issue than senior citizens.

¹⁹ Chart 15. Frequency of Consumption of Unhealthy Food by Children of 10-17, full version of National Nutrition Research available at www.foodsecuritysc.com

²⁰ Table 19. Consumption rate of micronutrients of interest by various age groups, full version of National Nutrition Research available at www.foodsecuritysc.com

²¹ Chart 2. Lack of Certain Food Groups for the Last 12 months

Consumption of iron rich products, which is estimated based on animal food consumption, is low in all target groups. It should be noted that the consumption rate of iron rich products in women and children is almost the same and varies between 33-34%. The consumption rates in senior women and lone pensioners are especially low (24-25%)²²

In view of the above, the consumption rates of Vitamin A rich products are low in winter and early spring. The respondents report shortage of iron and Vitamin A rich animal foods throughout a year, caused by low rates of meat and fish (protein rich predicts) consumption. The shortage of the aforementioned foods is associated with a high risk of anemia, low immune function and eyesight problems, birth of premature and underweight babies, development retardation in children, etc.

Recommendations

- ✓ *Raising the public awareness regarding the importance of micronutrients (iron, Vitamin A) and the negative effects of their shortage on human health.*
- ✓ *Public awareness rising campaign regarding local products containing the aforementioned micronutrients and seasonal alternatives.*
- ✓ *Support in the production and marketing of local Vitamin A rich food products.*
- ✓ *Elaboration of state programs facilitating the access of risk groups to food products rich with micronutrients.*

Food Shortage by Seasons

The shortage of food products for the last 12 months is an important indicator of food consumption. The survey data by food groups show that most of the respondents (more than 60%) report the shortage of protein food (meat and fish) and almost half – the shortage of fruit and vegetables. More than 1/3 of the survey respondents report the shortage of Vitamin A rich foods and most of them are in low wealth tertile²³. The comparison of highland and valley population's data reveals that this problem is more acute in the highland than in the valley. Compared to the valley residents 12% more respondents in the highland report the shortage of fruit and vegetables and 14% more - the shortage of Vitamin A rich products.

It is noteworthy that ¼ of the respondents reporting the lack of various food groups during a whole year name the lack of funds as a main reason.

²² Table 19. Consumption rate of micronutrients of interest by age groups

²³ Chart 2. Lack of Certain Food Groups for the Last 12 months

In view of the above 58% of the population, experience the shortage of various food groups, mostly because of the lack of funds. The shortage means the deficit of protein, mineral and vitamin rich products. The shortage of food is more severe in the rural areas than in the urban areas. This problem is acute in the highland areas, especially in the households of low wealth tertile.

Chronic Diseases

The survey data shows that 64% of households report that their members have a chronic disease. The two most frequently met diseases are hypertension and cardiovascular diseases. 11% have diabetes and 3% have cancer. It should be mentioned that we cannot generalize the survey results as the respondents' replies are not supported by medical diagnosis and in some cases may even be wrong. However, the percentage of hypertension and cardiovascular diseases is high in the population of Georgia. This fact is reflected in the survey data and confirmed by the statistics.

The rates of chronic diseases should be reviewed in association with the DDS showing that more than half of the population eats mostly carbohydrates, fats, sweets, and vegetables, do not consume fruit, meat, enough water and 58% of the respondents experience the lack of products rich with proteins, minerals, and vitamins during a whole year. Therefore, we can conclude that one of the main reasons of high rates of chronic diseases in Georgia is the undiversified/inadequate diet.

The survey results allow us to determine the highest risk groups of chronic diseases taking into account dietary diversity. These groups are as follows:

By wealth tertile: the population in low and medium wealth tertile consuming mainly carbohydrates, fats and sweets and eating very little fruit and meat.

By geographic location: the rural population experiences more shortage of food than the urban residents. **In the highlands, the risk of chronic diseases is higher.** The present study shows that the rates of the most dangerous diseases (cardiovascular diseases and cancer) are higher in the highlands than in the valley²⁴ **In view of the above, the unbalanced diet, low DDS resulting in the deficit of macro and micronutrients is one of the major risks of chronic diseases in the population of Georgia.**

²⁴ Table 11. Chronic Diseases by Highland and the Valley

Recommendations

For decreasing the risk of chronic diseases, the urgent measures to be taken are as follows:

- ✓ *Establishing the clear-cut policy on nutrition;*
- ✓ *Recognize nutrition as a priority in public health care issue; raising public awareness of cause-and-effect relation between chronic diseases and unbalanced diet;*
- ✓ *Elaboration of dietary diversity support programs in prevention and therapy of chronic diseases and their integration in health care.*

Water Consumption and Hygiene

The survey results show that only 1/3 of the respondents (both male and female) and ethnic minorities drink the recommended 2 liters of water daily. Children consume a critically small quantity of water (2-4 glasses²⁵ ¼ of the interviewed households report the low quality of drinking water. According to the survey data, more respondents in the highland report the high quality of drinking water than in the valley.

The low consumption of water is not related to the economic condition. The reason is most likely the lack of public awareness of the required water consumption and its importance.

The low level of water consumption leads to slowing down in blood circulation and transportation of oxygen and nutrients to various organs, accumulation of harmful substances and increasing the risks of various diseases.

The data on washing hands with soap show that 80-94% of 18+ adults wash their hands after and before certain activities. The rates are lower in children of 10-17, i.e. 24% of them do not wash their hands before eating, 1/3 – after cleaning the house and working in the garden and 14% - after toilet²⁶

Recommendations

- ✓ *Raising the awareness of the population, especially children, about the importance of water consumption.*
- ✓ *Prevention of diseases, educational programs for the population on the issues of hygiene, cooking, and food storage, spreading and prevention of contamination related diseases.*

²⁵ Chart 5. Water Consumed Daily by the Respondents of the Survey

²⁶ Chart 9. Washing hands after or before several activities

Food Poisoning

According to the survey data about 25% of the respondents report cases of food poisoning. However only a few of them went to medical institutions or doctors and only 7% have confirmed medical diagnosis. This data shows that the government does not have the accurate statistics of food poisoning and cannot plan the prevention measures. On the other hand, majority of the population have very little awareness of food poisoning, the importance of its timely and comprehensive treatment.

To sum up, the issues of hygiene, water consumption, water quality and prevention of food poisoning are not related to finances. They are caused by the lack of knowledge about healthy diet related habits and practice.

Food Purchase Criteria

The food purchase criteria in the survey included Quality, Price, Validity Date, and Visual Looks. The survey showed that respondents do not use all criteria while purchasing food. 72% of the respondents pay attention to Quality and Price. Comparison of the data in low and high wealth tertiles shows that 79% of households in the low wealth tertile mostly pay attention to Price. Unlike the respondents in high wealth tertile, they cannot afford high-quality products with higher prices.

Visual Looks is an essential criterion for buying fruit, vegetables, legumes, fish, and meat. These products are sold by weight, have no labels and buyers have no other criteria. Validity date is the most important criterion for purchase of dairy products, sweets, and fats. Dairy products have the highest indicator (29%) as they are perishable. Therefore 40% of the respondents, including those living in the valley, pay attention to the Validity Date. However, these products have package and label and 29% showed by the survey is a low percentage. It shows that majority of the population just do not know about the importance of the information on the label.

¼ of the surveyed Tbilisi residents report that they read the ingredients of a product on its label. However, labels do not contain the norms of ingredients. If a buyer does not know the norms he/she cannot get the necessary information from the label.

The respondents, which do not read the label, report that the main reason is small letters on labels and lack of time. Some respondents believe that labels do not contain important information and respondents of ethnic minorities report that they do not know Georgian.

In view of the above, majority of the population do not or cannot read labels on food products due to the aforementioned reasons. Those who read labels do not get full and useful information. Unwrapped products have no labels and consumers have no information on the origin of products.

Recommendations

- ✓ *Regulations should be developed on the font size and contents of the information on the label. Labels should be easily readable and contain complete information. The relevant regulations should be prepared for labeling products sold by weight in markets and shops.*

Pregnant Women and Breastfeeding Mothers

It should be mentioned that pregnant women and breastfeeding mothers were not the target group of the surveyed segment. The data was collected in the interviewed households where there were pregnant women and breastfeeding mothers at the time of the survey. Their total number was 17. Five unstructured interviews were added and in total, the data of 22 respondents was analyzed. Due to a small number of respondents the survey results cannot be generalized to describe the diet of pregnant and breastfeeding women in Georgia. We can only illustrate some nutrition related trends.

Food consumption – the respondents report that cereals, fats, dairy products prevail in their daily diet. Meat, eggs and fish and consumed less frequently. None of the respondents report eating Vitamin A rich fruit. Although we cannot generalize the data, it should be mentioned that the diet of pregnant women and breastfeeding mothers is of medium diversity. Therefore, they consume fewer food groups than recommended for their health and the health of their babies. The positive aspect is that these respondents try to avoid eating outside and consume fast food.

The respondents lack knowledge on healthy eating. Most of the women consuming fruit prefer apples as they contain iron. Only one respondent managed to name Vitamin A rich fruit. Most of the women are aware that their diet could not contain all essential vitamins or minerals and therefore they take vitamins prescribed by their doctors. Most of the respondents read labels when they buy food. However, they only pay attention to the Validity Date.

The data on the breastfeeding mothers' eating patterns is especially noteworthy. Most of them report that they eat twice a day and often skip breakfast due to the lack of time. The infants' nutrition is mostly recommended by doctors and in some cases by family members, e.g. mothers-in-law.

Ensuring the adequate diet of pregnant women and children is essential for improving the nutritional status of the population. Although this is the main priority of the health care policy of Georgia, the state statistics and the results of the present survey confirm that there are a number of problems in the nutrition of this segment of population.

Recommendations

- ✓ *Based on the survey results some important recommendations can be elaborated to increase the government's involvement in improving the nutritional status of the population of Georgia;*
- ✓ *An action plan should be developed describing solutions to the problems identified in the survey in collaboration with all responsible agencies, non-governmental organizations, and experts.*
- ✓ *A food security monitoring system should be improved.*
- ✓ *The nutritional status of the population should be surveyed regularly with a special emphasis on vulnerable groups.*
- ✓ *Nutritional risks, trends, and dangers should be identified and interpreted timely and the relevant interventions should be planned.*

Part 2: The Review (Analysis) of Food Security and Nutrition Policy framework in Georgia

By *Tamar Manjavidze*

International Mechanisms

Food and Agriculture Organization of the United Nations (FAO) and World Health Organization (WHO) specify that food security is the right of everyone to have access to the sufficient amount of safe and nutritious food for an active and healthy life. FAO's definition identifies four main dimensions of food security, including physical AVAILABILITY of food, economic and physical ACCESS to food, food UTILIZATION and STABILITY of the other dimensions.

The food security concepts are clearly stated in the human rights and international humanitarian laws. They specify the obligations of national governments to respect, protect and promote the right of all citizens to have access to adequate and sufficient food.

In order to ensure effective implementation of the recognized food security principles at the national level governments must ensure development of food policy, inclusion of international norms of food security and adequate nutrition in the national legislation, their enforcement, and promotion. Food security and nutrition policy is regarded as an inter-sector priority developed and implemented through concerted efforts of various agencies. The inter-agency partnership is mainly regulated by a national government, which should facilitate establishing of high-level institutional structures and involvement of a wide range of stakeholders, including civil society²⁷.

WHO surveys conducted in various countries show that in some of them nutrition policies (one of the components of food security) do not adequately reflect the challenges facing the state in this regard. Therefore, WHO recommends its member states to evaluate food security and food policy regularly.

²⁷ Policy Foundations Review Version 2.3, 1 October 2004- Governments should regard food security and nutrition as an intersectoral priority by setting up high-level institutional mechanisms responsible for the design, implementation and coordination of food security and nutrition policies. The government takes a lead role in managing partnerships and coordinated actions among a broad range of actors and sectors involved in food security and nutrition at the national and decentralized levels, including by creating space for civil society participation.

Such evaluation allows identification of problems and provides basis for elaboration of an effective strategy to implement food security principles at the national level²⁸.

The present study analyzed the food security and nutrition policy in Georgian using the WHO global criteria,² based on the review of demographic situation, literature on the subjects, laws, surveys, and official statistics. The analysis was also based on the unstructured interviews with the representatives of the responsible agencies. In total 5 key informants were interviewed.

Assessment Areas

1. Institutional framework of food security and nutrition policy, policy documents and legal framework;
2. Programs of noncommunicable disease prevention;
3. School programs and initiatives promoting integration of healthy nutrition principles at schools;
4. Programs of supplementing and fortifying foods with vitamins and micronutrients;
5. Policy, programs and intervention designed to eradicate inadequate nutrition/undernutrition (malnutrition) of mothers and infants, to promote breast-feeding and complementary feeding;
6. Implementation of the International Code of Marketing of Breast-milk Substitutes at the national level.

Analysis:

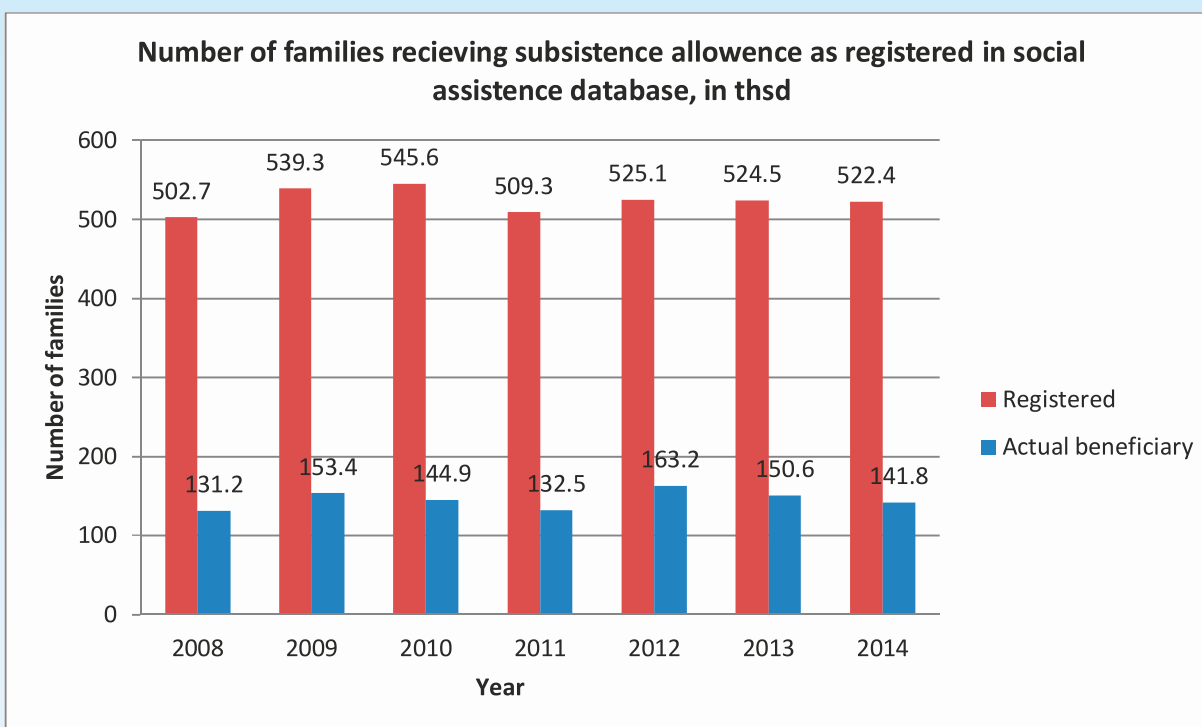
Demographic situation. As of January 2015, the population of the country is 3 729.5 thousand people. 57.4% of the population live in urban areas. According to the 2015, data of the National Statistics Office of Georgia (Geostat) 11.6% of the population live below poverty line (registered poor)²⁹.

All the families registered in the database of the social welfare programs are provided with health insurance and families with less than 57,001 rating points are beneficiaries of monetary allowance from the government.

²⁸ Global nutrition policy review: What does it take to scale up nutrition action? World Health Organization 2013 (www.who.int/about/licensing/)

²⁹ Demographics in Georgia - Statistical Guidebook -2015

Chart 6 – Number of families receiving subsistence allowance



The largest group of beneficiaries is lone pensioners. In Georgia, the subsistence minimum is defined based on a food basket. The Minimum Food Basket for Working Age Male estimated by Geostat includes 40 foods and 2300 kilocalories in total. The data of Geostat shows that in June 2015, the subsistence minimum for a working age male in Georgia was GEL 161.4. The percentage of food expenditures in a subsistence minimum is 70% and the percentage of non-food expenditures is 30%.

70:30 ratio of food and non-food expenditures in Georgia is an indicator of a low standard of life.

The ratio of food and non-food expenditures should be improved. The subsistence minimum needs to be recalculated based on the inflation rates, current prices of food and other products. The ratio of food

and non-food expenditures should be regulated in such a way as to increase the share of non-food expenditures, which can be achieved through increasing the subsistence minimum. It means that the Georgian citizens' expenses on education, recreation, healthcare will rise, which is the main indicator of life standard improvement.

Institutional framework of food security and nutrition policy, policy documents, and legal framework

Institutional framework – food security and nutrition policy is an intersectoral priority of health care and agriculture. It covers food security, health care, food products quality and safety, water supply and hygiene, development of social welfare system, establishing the legal framework, implementation of relevant programs and measures. The competence of **the local authorities** includes nutrition at nurseries. The Ministry of Education and Science is responsible for integrating healthy lifestyle (including healthy nutrition) programs in school curriculums and their implementation. NGOs are an important part of the institutional environment implementing food safety and nutrition-related programs supported by local and international donors in the sectors of health care, agriculture, and education.

The government structures, local authorities, and NGOs in Georgia create an enabling institutional environment for successful implementation of nutrition policy. However, the important disadvantage is the lack of a single agency responsible for elaboration of an integrated state policy and an interagency strategic plan with consistent and coherent programs fully reflecting the present challenges and adapted to the needs of the country. There is no single coordinating agency responsible for the coordination and monitoring of the efforts made by various agencies.

The current environment dictates the need for either making a single government agency responsible for the implementation of integrated food security and nutrition policy, coordination and monitoring of various agencies' activities or establishing an interagency body for this purpose. This approach will ensure comprehensive implementation of relevant programs and protect the interests of all segments of the society.

Legal framework – standard acts regulating the food safety issues in Georgia.

Law on Labeling genetically modified organisms used for food products/animal feed and GMO products of Georgia, 2014 – regulates legal relations arising from labeling genetically modified organisms and GMO products made from them.

Food products/Animal Feed Safety, Veterinary and Plant Protection Code of Georgia , 2012.

Product Safety and Free Movement Code, 2012 – states that compulsory safety requirements apply only to the regulated areas. In other areas, producers have the right to choose and meet the safety requirements themselves.

Food products/Animal Feed Safety, Veterinary and Plant Protection Code of Georgia, 2012 – the main principles of the Code are as follows: a) risk analysis; b) prevention; c) transparency; d) protection of consumers' interests;

Law on Licenses and Permits of Georgia, 2005 – the Law regulates the area of licenses and permits, specifies the complete list of licenses and permits, establishes the rules of issuing, amending and cancelling licenses and permits.

Water Code of Georgia, 1997 – The main goal of the Law is to ensure the integrated state policy in water protection and use.

Law on Prevention of Iodine, Other Microelements and Vitamins Deficiency Disorders, 2005 – the main goal of the Law is to support the environment for prevention of iodine, other microelements, and vitamins deficiency disorders.

Law on Health Care of Georgia, 1997 – the Law regulates relationships between government agencies and legal and physical persons in the sphere of citizens' healthcare.

Law on Public Health of Georgia, 2007 – the purpose of the Law is to support public health and healthy lifestyle, create safe environment of human health, and promote reproductive health care of families, prevention of spreading contagious and noncommunicable diseases.

Law on Protection and Promotion of Breastfeeding, Consumption of bottle-feeding Products, 1999 – the purpose of the Law is children's health care through provision of safe and adequate food, promotion, protection, and propagation of breast-feeding as well as control of distribution of bottle-feeding products, feeding bottles, teats and baby's dummies.

Decree No 376 of the Government of Georgia on Approval of the Technical Regulation for Wheat Flour regulates production, processing and marketing of wheat flour by businesses.

Decree No 152 of the Government of Georgia on Approval of the Technical Regulation for Milk and Dairy Products, 2015 – the purpose of the decree is to specify the unified regulating principles of producing, processing and distribution of milk and dairy products, as well as products containing them and to protect the consumers' interests.

Decree No320 of the Government of Georgia on Approval of the Rules for Labeling genetically modified organisms used for food products/animal feed and GMO products, 2015 establishes the requirements for labeling of GMO products and regulates the relations between businesses, state control agencies and consumers.

Decree No58 of the Government of Georgia, 2014 on Approval of the Technical regulations for Potable Water.

Decree No 650 of the Government of Georgia on Approval of State health Care Programs, 2014 – program for provision of medicines to pregnant women, diabetes control.

Order No 300/6 of the Minister of Labour, Health Care and Social Welfare of Georgia on the Technical Regulations for Food Fortification, 2007 – specifies that food products of mass consumption (flour, bread and baked products, milk and dairy products, salt, sugar, drinks, children's food) shall be fortified with vitamins and minerals.

Decree No 78 of the Government of Georgia on Approval of the Technical Regulations for Sanitary Rules and Norms of Children's Nutrition in Kindergartens, 2014 – establishes general nutrition requirements for kindergartens regardless of their organizational-legal status and form.

National Guidelines and Proceedings

- Anemia caused by folic acid deficiency;³⁰
- Anemia caused by Vitamin B12 deficiency³¹
- Iron deficiency anemia³²
- Breast feeding regulation in maternity hospitals ³³
- Nutrition of children under age 2³⁴.

Programs and Strategies

- Program of legislative approximation in food security - 2010-2014;
- Strategy and action plan of noncommunicable disease prevention and control 201-3-2018;
- Program for provision of medicines to pregnant women;
- Diabetes control program.

There is a sufficient number of laws and regulations in the country for development of food safety and nutrition policy. However, further improvement of the legislation, increase of human and institutional resources and above all, establishing an effective monitoring arrangement are required for the

³⁰ <http://www.moh.gov.ge/files/gaidline/protokoli/42.1.pdf>

³¹ <http://www.moh.gov.ge/files/gaidline/protokoli/43.1.pdf>

³² <http://www.moh.gov.ge/files/gaidline/protokoli/44.1.pdf>

³³ <http://www.moh.gov.ge/files/gaidline/protokoli/49.1.pdf>

³⁴ <http://www.moh.gov.ge/files/gaidline/protokoli/57.1.pdf>

introduction of a system complying with the EU and international standards. The present law requirements are often ignored and in some cases, the strategic approach is absent. The state statistics, as well as the data of various surveys confirm the aforementioned problems. These data are analyzed in the present document according to the WHO criteria.

Policy, programs and intervention designed to eradicate inadequate nutrition/under-nutrition (malnutrition) of mothers and infants, to promote breast-feeding and complementary feeding

The surveys conducted in Georgia and the state statistics show that half a million Georgian citizens, mostly women and children, suffer from some kind of malnutrition³⁵. Out of three WHO indicators showing the prevalence malnutrition, two indicators are found in Georgia:

- anemia in women of reproductive age;
- Excess weight in adults.

According to the results of the National Nutrition Survey³⁶ in Georgia **anemia** is widespread in children under 5 years of age and women of reproductive age. However, these groups mostly have mild or moderate anemia. According to the WHO recommendations, it is a moderate public health problem in Georgia (prevalence 20-39%).

Excess weight and Obesity is a much more severe problem in Georgia than anemia. It is prevalent in 19.9% of children under 5 years of age and 42.1% of non-pregnant women¹¹.

Chronic protein-energy malnutrition in children under 5 years of age is higher than WHO standards. Although this indicator in Georgia is classified as “low” according to WHO classification system, it still needs attention and the relevant response, i.e. supporting the healthy nutrition.

Breastfeeding – according to the official statistics most of women in Georgia give birth to their babies in maternity hospitals. 90% of infants are breastfed in a few hours after birth. However, only 51.4% of infants are exclusively breastfed until they are 3 months old (instead of 6 months) and only 30% of children are breastfed until they are 12 months old³⁷. Taking into account that the Law “on Protection and Promotion of Breastfeeding, Consumption of bottle-feeding Products” has been in effect since 1999 and the national guidelines and proceedings (breast feeding regulation in maternity hospitals⁷ and nutrition of children under the age of 2⁸) the indicators should be much higher. The data shows that the requirements of the

³⁵ Improvement of Healthcare and wellbeing, 2012, UNICEF

³⁶ National Nutrition Study in Georgia of 2009, Report of 2010, UNICEF

³⁷ Health care statistics guide -2013.

Law are not met, medical staff do not follow the recommendations of the national guidelines and fail to meet the standards set for a medical institution.

The aforementioned issues were discussed with Ms. Maia Kherkheulidze , professor of the department of pediatrics at Tbilisi State Medical University. In her interview, she emphasized the importance of primary health care (PHC) in the integration of healthy nutrition principles. Primary health care medical staff, especially family physicians and nurses responsible for the health care of pregnant women, breastfeeding mothers and children, should consult mothers about their and their children's nutrition. They are also responsible for breastfeeding management and proper complementary feeding. It means that complementary feeding should start at the age of six months and breastfeeding should continue until the child is 2 years old. Unfortunately, the PHC specialists, especially mid-level health workers, lack knowledge in the aforementioned issues. Therefore, they cannot provide the necessary information and services to the population. The present data shows that the population of Georgia, particularly mothers and young children (who especially need assistance in healthy nutrition issues) often do not receive the relevant information and qualified services from the PHC specialists. The problem is especially severe in the regions. One of the reasons is that the Guidelines are posted on the website of the Ministry and a lot of medical staff members in the regions do not have access to the internet. The other important problem is the lack of relevant controls for monitoring the medical service quality in the sphere of nutrition. The only exception is a patient's complaint.

The increasing trend of mothers and children's poor nutrition in Georgia is one of the major reasons of anemia and excess weight in various age groups.

“Raising the awareness of the public and medical staff members about healthy nutrition, provision of necessary educational programs to specialists and information to the general public are necessary to solve the problems described above”, pointed out Maia Khekheulidze.

Implementation of the International Code of Marketing of Breast-milk Substitutes at the national level

In the late 1990s, important programs supported by WHO/UNICEF/IBFAN (the International Baby Food Action Network) were carried out in Georgia in order to implement the aforementioned Code at the national level. An educational program was developed for specialists to implement “Ten Steps to Successful Breastfeeding” specified in the joint WHO/UNICEF statement and Innocenti Declaration. The program supports the implementation of infants' optimum nutrition principles in maternity hospitals and PHC facilities. The trainings on the aforementioned issues were provided to the medical personnel in all the

regions of Georgia. Based on the assessment included in the Program successful health care facilities were identified. Up to 10 maternity hospitals were awarded the status of “a baby friendly hospital”.

- ✓ *The success achieved in the aforementioned sphere ten years ago is in decline and the main reason is the lack of an integrated state policy and monitoring.*

Programs of noncommunicable diseases prevention

According to WHO Report of 2011 91% of mortality in Georgia is caused by noncommunicable diseases, including 71% caused by cardiovascular diseases, 12% - by cancer, 2% - by diabetes and 1% - by chronic respiratory diseases. The other noncommunicable diseases account for only 5% of mortality³⁸. Diabetes is an important problem for the healthcare system of Georgia. According to the data of the National Center for Disease Control and Public Health (NCDCPH) diabetes is on the rise in Georgia. However, the current data does not reflect the actual situation. According to the NCDCPH data there were 200 000 patients in Georgia in 2000. This number is expected to increase and reach 223,000 patients. The spreading of diabetes is related to a number of factors, including unhealthy diet, increase in **tobacco and alcohol consumption, obesity, and hypodynamia**.

The survey of noncommunicable disease risks³⁹ covering 18-64 year old residents of Georgia showed the following: a) the average amount of calories consumed by the population of Georgia is lower than the individual rate ; b) 69.5% of the surveyed respondents eat less fruit and vegetables than the recommended 5 servings per day; c) the consumption of meat and fish is significantly lower than recommended; d) most of the surveyed respondents have unhealthy diet.

Twice as many overweight respondents (37.6%) and three times as many obese respondents (55%) have hypertension than respondents with normal BMI (Body Mass Index)⁴⁰. Logically, excess weight has a negative influence on human health. The hypertension survey shows that the prevalence of hypertension rises with the increase in weight. It is noteworthy that majority of the population of Georgia (93.6%) are at risk of one or more noncommunicable diseases. Almost half of the country's population over age 45 (49.7%) are at high risk of noncommunicable disease.

- ✓ *The aforementioned data shows that the situation in Georgia is alarming in this regard and so far, no effective programs have been implemented to control the risks of noncommunicable diseases, such as unhealthy diet, low physical activity, tobacco consumption, excess weight. As the system of noncommunicable diseases prevention and control, monitoring of health status and risks is underdeveloped in the country, it is necessary to carry out the relevant measures. The responsibility for solving these problems lies mainly with the Ministry of Healthcare. However, without coordination and concerted efforts of the other agencies the Ministry of Healthcare alone cannot deal with such challenges.*

³⁸ www.euro.who.int - 2011

³⁹ Noncommunicable Disease Risk Factors Survey (STEPS) 2011 www.cdc.ge

⁴⁰ Body Mass Index (BMI) is the index calculated based on a person's height and weight.

Robinson Tsiklauri, the representative of noncommunicable diseases department of the National Center for Disease Control and Public Health (NCDCPH), president of the Nutritionists' Association of Georgia, states that unhealthy diet is one of the main risks of noncommunicable diseases in Georgia.

Currently, the most important nutrition problem in Georgia is the scarce data on the issue. Valid surveys are needed to provide a full picture of the nutrition status in the country and allow us to implement goal-oriented target programs. In 2009, for example, the survey conducted by the United Nations Children's Fund (UNICEF) revealed high prevalence of anemia, especially among women and children. However, laboratory researches do not confirm this data. Therefore, additional surveys are needed to get an actual picture of the problem. Mr. Tsiklauri emphasizes that there is no integrated policy to address nutrition problems in Georgia and adds that the original draft of the National Strategy of Food and Healthy Nutrition has been elaborated. The documents have been examined by the experts of the NCDCPH but it has not been approved yet. Currently, the document is being evaluated by various ministries and experts. After completion of the evaluation and inclusion of the relevant recommendations in the document, the issue of approving the National Strategy will be discussed. At present, the Strategic Plan is also being prepared. Mr. Robinson Tsiklauri points out that the NCDCPH has already elaborated "Strategy and Action Plan for Prevention and Control of Noncommunicable Diseases – 2013-2018"⁴¹. The document is based on the NCDCPH's strategy and action plan for prevention and control of noncommunicable diseases and its aim is to address global challenges in prevention and control of noncommunicable diseases.

2. Programs of supplementing and fortifying foods with vitamins and micronutrients

Supplementing and fortifying foods with various vitamins and micronutrients for high-risk population (iodine, vitamins, iron, folic acid, calcium, etc) contributes significantly to the improvement of public health.

The current **Technical Regulations for Food Fortification envisages fortification of food products of mass consumption (flour, bread and baked products, milk and dairy products, salt, sugar, drinks, children's food) with vitamins and minerals.** These products are affordable for all the segments of the population and are used in their daily diets (Article 4, Point 1). The Standard Act of labeling flour, bread and baked goods requires that information on the fortification and fortificants should be shown on labels (mg/100g) (Article 5, Point 3). This requirement is usually ignored in Georgia⁴². The invalid and insufficient survey data does not allow identifying of reasons causing anemia. Such data is essential for making decisions on fortification of food products with iron.

According to the Law **"On Prevention of Iodine, Other Microelements, and Vitamins Deficiency Disorders"**, only iodized salt can be sold in Georgia. The survey shows that all samples of salt are iodized and only a few samples contained insufficient amount of iodine, which is mainly caused by improper storage conditions.

⁴¹ <http://www.ncdc.ge/Category/Article/1684>

⁴² M. Jibuti Institutional Arrangements of Food Safety in Georgia and the relevant government policy - 2014

Program for provision of medicines to pregnant women has been implemented in Georgia since 2014 and envisages provision of all pregnant women with folic acid until the 13th week of pregnancy. In case of iron deficiency anemia, pregnant women are provided with iron (supplements starting from the 26th week of pregnancy). All pregnant citizens of Georgia can become the Program beneficiaries. However, women can benefit from the Program only after they become pregnant.

- ✓ *Since in Georgia the anemia rates are high in nonpregnant women and children, it is advisable to carry out additional interventions covering all anemia risk groups. Such interventions will contribute to the elimination of anemia problem.*

3. School programs and initiatives promoting integration of healthy nutrition principles at schools

At present, there is no integrated government policy on healthy nutrition at schools. A lot of schools in Georgia (especially in the regions) have no school lunches. Schools with diners select caterers through tenders. Unfortunately, no official documents and standards regulate pupils' nutrition at schools. Therefore, school administration and/or caterers participating in tenders have no guidelines for organizing children's nutrition at schools.

Ms. Marina Baidauri, representative of the regulation division of the healthcare department at the Ministry of Labour, Healthcare and Welfare of Georgia stated in her interview that the organizational arrangements of children's nutrition at schools are currently under discussion in collaboration with the Ministry of Education and Science. The elaboration of the relevant document is planned to start in the nearest future.

Ms. Baidauri also mentioned that nutrition of pre-school children in kindergartens is equally important. In this regard, the government issued the decree on Approval of the Technical Regulations for Sanitary Rules and Norms of Children's Nutrition in Kindergartens in 20014. The Decree is based on Order No 280/5 "On Approval of Sanitary Procedures and Norms of preschool children's nutrition arrangements in kindergartens" issued by the Ministry of Labour, Healthcare and Welfare in 2003. At present, the new draft Decree is only slightly different from the old one (mostly in terms). As regards the contents of a new decree, a team of experts was established with the support of UNICEF to update the standards. The project is underway and its completion is planned for the end of 2015. Consequently, in 2016, the decree can be amended as necessary and the updated standards will be provided to kindergartens.

- ✓ *Elaboration of new arrangements for preschool children's nutrition and their integration in the system will solve the current problems of children's nutrition in the country. However, the new arrangements apply only to public kindergartens. Meanwhile there is a large number of private nurseries (the exact number is unknown) in Georgia which do not have to use the government nutrition standards. Therefore, the nutrition of children attending private kindergartens will remain beyond the government's control.*

Ms. Nana Dalakishvili, representative of the department of national curriculums of the Ministry of Education and Science outlined the healthy nutrition related initiatives implemented at schools. She pointed out that since 2010 the certain class hours were allocated to discuss these topics with 1st-4th grade pupils. During this hour, the pupils discuss various subjects with their tutor, including environment protection and healthy lifestyle. These issues have been in the limelight lately. In collaboration with various international organizations and NGOs, the Ministry implements a number of educational programs for teachers, parents, and pupils.

One of such programs is the project “Funny Lessons on Nutrition”, which has been implemented successfully for the second and third grade pupils in 12 secondary schools in Tbilisi and 3 schools in Telavi for 4 years. Annual information/educational materials are elaborated under this Project for teachers, schoolchildren and their parents. Lessons on healthy nutrition are given during a form master’s hour. The program raises the beneficiaries’ awareness on healthy diet, hygiene, and eating habits.

- ✓ *The inclusion of the initiatives teaching pupils, especially elementary school children, about healthy lifestyle and healthy diet in school programs is a welcome effort. However, schools experience a significant shortage of information/educational materials on the subject. Most of the projects implemented in this field cover a relatively small number of beneficiaries and most of them are not continuous. School diners and canteens are not supplied with high quality healthy food. The caterers have neither relevant standards nor responsibility to do this. Moreover, school diners often sell fast food and carbonated soft drinks. The problem is exacerbated by fast food cafes and restaurants near schools where schoolchildren can buy junk food.*
- ✓ *In view of the above, the Ministry of Education should integrate the principles of healthy lifestyle in school programs. In collaboration with the healthcare agencies and experts the Ministry should also participate in the development of nutrition standards for schools, focus on raising the schoolchildren’s awareness and implementation of continuous programs. Thus, schoolchildren will be able to make healthy food choices themselves.*

4. Food Security and Agricultural Strategy and Support of Trade development

The Comprehensive Strategy and Legislative Approximation Programme in Food Safety were adopted by the Government of Georgia in 2010.

The aforementioned Programme includes the dates, stages, responsible institutions and resources for approximation of food safety, veterinary and plant protection laws with the relevant horizontal EU legislation. The Program consists of two main parts: a) legislative approximation with EU legislation; b) enforcement of the laws. The Program includes the Georgian and EU laws, indicates the compliance, partial compliance or non-compliance of the Georgian laws with the EU ones. Through the legislative approximation program, the government of Georgia assumes the responsibility for improvement of the legislation and legislative approximation to the EU laws.

In 2013 for the first time, the Food Department of the National Food Agency of Georgia conducted a laboratory analysis of *Listeria monocytogenes* in compliance with the European Commission Regulation EC 2073/2005 on Microbiological Criteria for Foods.

In order to promote Georgian honey import to the EU countries the traces of veterinary medical products and other traces were analyzed in 2013 for the first time.

Mr. Kakha Sokhadze, Head of the Food Department of the National Food Agency of Georgia spoke about **the issues mentioned above**. Mr. Sokhadze pointed out the significant progress in the regulation of trade with EU. Since 2010, import procedures have been simplified and the limits on the EU and the European Economic Area products have been cancelled. The products from the Third World enterprises recognized by the EU are imported without veterinary control of the enterprise by the national inspection body. On July 1, 2014 the Law “On Labeling genetically modified organisms used for food products/animal feed and GMO products” of Georgia came into force. Its purpose is to inform the consumers about genetically modified organisms in the food. There is also the Technical Regulation for Milk and Dairy Products allowing consumers to receive the relevant information and make informed decisions when they purchase these products.

Mr. Sokhadze believes that a lot of improvements have already been implemented in the food safety sphere. However, the process is quite complicated and a lot of problems need to be addressed. He mentioned the Technical Regulations on labeling products establishing additional requirements for labeling all kinds of food products in Georgia. He also pointed out that the Technical Regulations have some flaws, e.g. they do not specify the font size of labels. Producers can print label texts in small fonts, which are difficult to read. Therefore, various survey results show that a large share of the population of Georgia cannot read labels due to the small size of their fonts.

It is also noteworthy that the list of product ingredients should be shown on the label. This requirement is met but labels do not contain any information on amounts and norms of these ingredients. If a consumer is unaware of these norms, he/she cannot receive the information on the product quality by reading a label. Labels should contain information on GMO ingredients. Since 2015, this rule has been applied but only to packed products. Consumers have no information on GMO ingredients in products sold without packages or by farmers at markets. At present, there is no government or donor financed program to raise the consumers and producers’ awareness about this issue.

- ✓ *Although the legislative approximation programme is being implemented in stages and its completion is planned for 2030, some issues need to be addressed timely, e.g. the size of label fonts need to be specified and should be easily readable by consumers., GMO and trans fat containing products which currently are not regulated by the legislation, etc.*

Conclusion

There is a significant progress in terms of food safety and nutrition policy in Georgia. However, the country still faces some serious challenges in this sphere. No government agency, UN body, private, or public sector organizations can solve these multisectoral problems alone.

According to the WHO recommendations, Georgia needs to elaborate food safety and nutrition policy and national strategic plan to respond to the current challenges. The policy and plan should include goal-oriented and long-term programs of all responsible agencies taking into account the interests of all segments of the population.

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