

Part 4.

Using food security statistics for policy analysis

Monitoring food insecurity based on Moldova's HBS 2003 and 2006

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ABSTRACT

Food security statistics are of interest to policy-makers, economists, nutritionists, food programme planners and others, in helping them identify and locate food-insecure people. In addition, they are useful for evaluating the effectiveness of intervention programmes using trend analysis. Moldova's National Bureau of Statistics (NBS) has a well-established Household Budget Survey (HBS) Programme that collects household expenditure, including on food, from a sample of 6000 households over a 12-month period. The food data are collected using diaries based on a monthly period. NBS used the FAO Food Security Statistics Module (FSSM) to derive food security statistics at national and sub-national levels from HBS 2003 and 2006.

This paper presents comparative results of the analysis of HBS 2003 and 2006 at national and sub-national levels, including some functional population groups for monitoring purposes. The results also provide elements for policy-makers to analyse the evolution of the food insecurity situation in Moldova over the three-year period. It also provides useful information for assessing and evaluating the implementation of food policies during the period.

Keywords: food consumption data, food security statistics, dietary energy consumption, food deprivation, critical food poverty, coefficient of variation

BACKGROUND

Improvement of the population's food security is one of the basic objectives specified in a range of national development programmes in Moldova. Food access and reduction of food deprivation are major concerns of the international community, as mentioned in the Millennium Development Goals (MDG) and the World Food Summit (WFS), which aim to reduce the undernourished population by half by 2015.

To improve the information framework for monitoring the food security situation and progress, thus providing decision-makers with more reliable and relevant information, national Bureau of Statistics of the Republic of Moldova (NBS) has started to compile food security statistical indicators. Compilation of these indicators is at national and sub-national levels, depending on the main socio-economic characteristics of households and the residence area. This activity follows the FAO methodology as recommended in the manual *Measuring hunger at sub-national level* (Sibrián, Ramasawmy and Mernies, 2007) and using the Food Security Statistics Module (FSSM) software.

OBJECTIVES, METHODS AND DATA

This paper contains a trend analysis of food security in Moldova from 2003 to 2006, at national and sub-national levels, based on the food consumption data collected from the 2003 and 2006 Household Budget Surveys (HBS) of Moldova. The paper also discusses and summarizes results on food deprivation, critical food poverty, food consumption in dietary and monetary values, food cost (dietary energy unit value), inequality in access to food and diet composition.

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FSSM estimated the relevant food security statistics from the two sets of food consumption data from HBS. HBS is a yearly continuous survey conducted by NBS. It has the purpose of observing, from a multilateral perspective, the living standards of the population with respect to income, expenditure and living conditions. The survey covers all the people in about 6000 households selected using a two-stage sampling design over national territory, apart from the left bank of river Dnester and the municipality of Bender. It does not cover people living in institutional units such as prisons, asylums for elderly people and orphanages. The interviewers record data with two instruments: interviews and self-recording. The main household questionnaire is completed during the interview, while the diary of daily records is kept through self-recording in combination with interview. Data collection on food expenditure follows the classification of individual consumption by purpose (COICOP) approach. The household reference period for recording data in the main household questionnaire and diary is the calendar month, apart from data on:

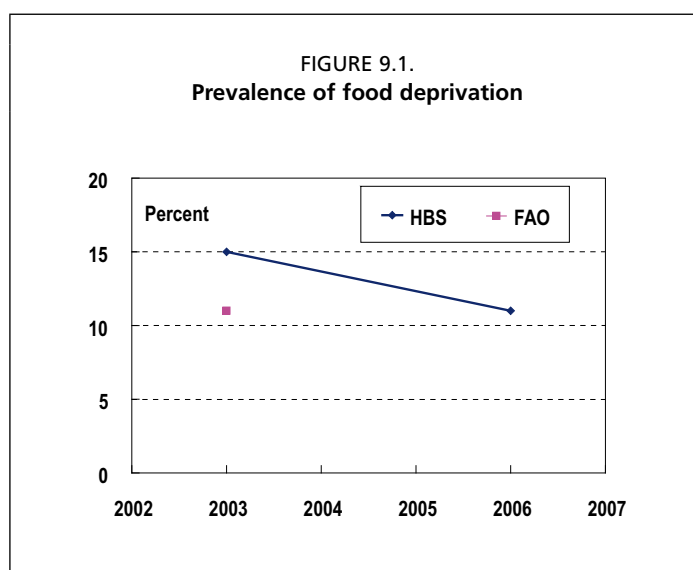
- food product expenditures in the 2006 survey were recorded during a two-week period only, while during a one-month period in previous surveys;
- some types of income and expenditures, especially those of a seasonal nature (expenditure and income from individual agricultural activities; and expenditure on home maintenance, such as central heating, gas and the procurement of coal and wood), which in the 2006 survey were registered for the current month and the last 12 months.

MONITORING PROGRESS IN FOOD SECURITY

Food deprivation

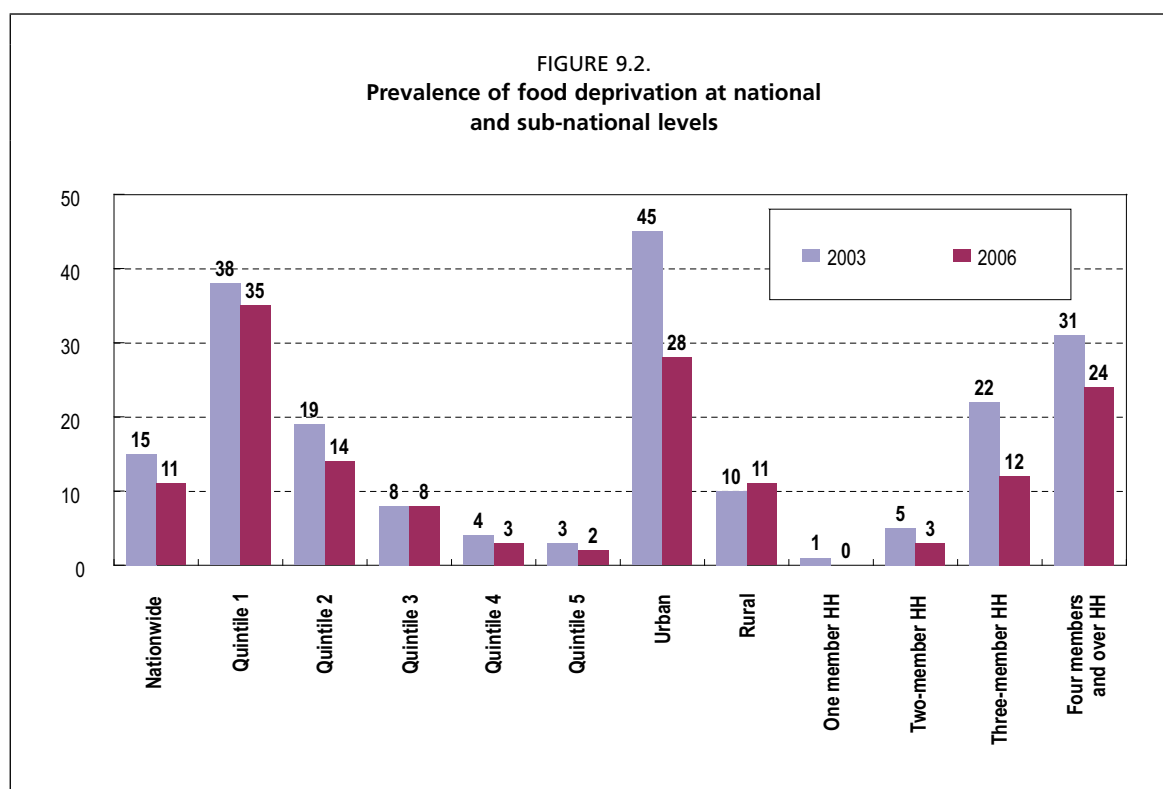
The prevalence of food deprivation (undernourishment) refers to the proportion of the population whose food dietary energy consumption is below the minimum dietary energy requirement (MDER).

This decreased from 15 percent in 2003 to 11 percent in 2006 according to HBS data (Figure 9.1). FAO estimated the prevalence of undernourishment (food deprivation) at 11 percent for the 2002-04 period, using food balance sheet (FBS) data. The 2003 and 2006 HBS estimates of food deprivation yielded an average annual decrease of about one percent, indicating that Moldova will probably meet the MDG indicator 1.9 target by 2015.



NBS used FSSM programs to compute additional estimates of prevalence of undernourishment in different population groupings, based on geographical, demographic and socio-economic factors collected in HBS. Figure 9.2 gives the HBS-estimated levels of food deprivation at national and sub-national levels.

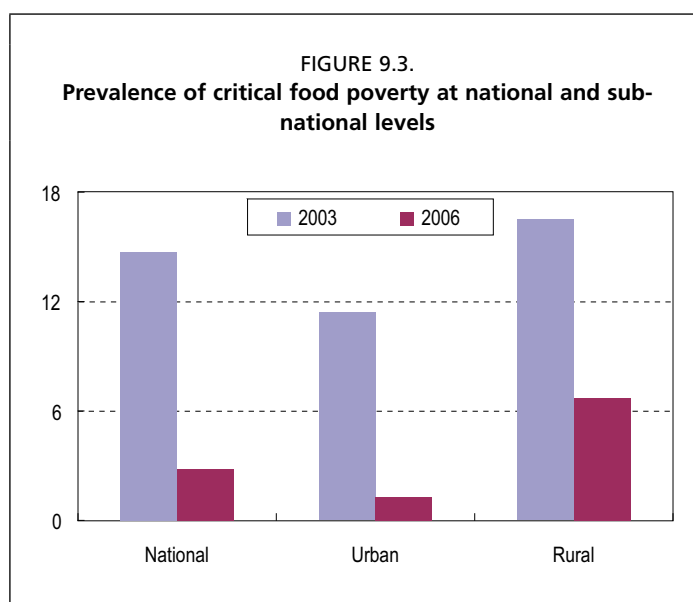
Food deprivation decreased in almost all population groupings from 2003 to 2006, except in rural regions, which registered a marginal increase of one percentage point. The urban population, which had the highest proportion of food-deprived population in 2003, registered a significant fall, to reach 28 percent in 2006. In 2003, the level of food deprivation among the low-income population was less than the 45 percent of urban areas. The fall of food deprivation among the low-income population was not sufficient to keep it below the 2006 urban level.



Critical food poverty

Figure 9.3 shows the prevalence of critical food poverty, that is, the proportion of the population living on less than the cost of a balanced diet equivalent to MDER in 2003 and 2006.

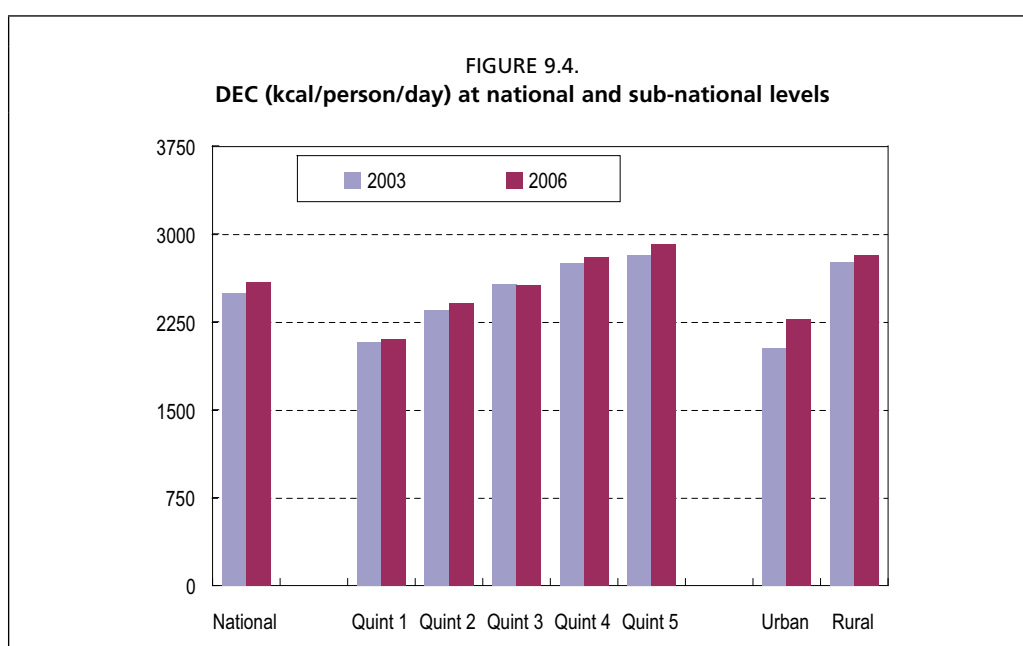
Critical food poverty decreased significantly from 15 percent in 2003 to less than three percent in 2006. The decreasing trends at national and sub-national levels were due to increases in income, which compensated for food price increases in the range of 50 to 75 percent from 2003 to 2006. The rural population still had a high level of critical food poverty, at seven percent, owing to the low level of income of this population.



Dietary energy consumption

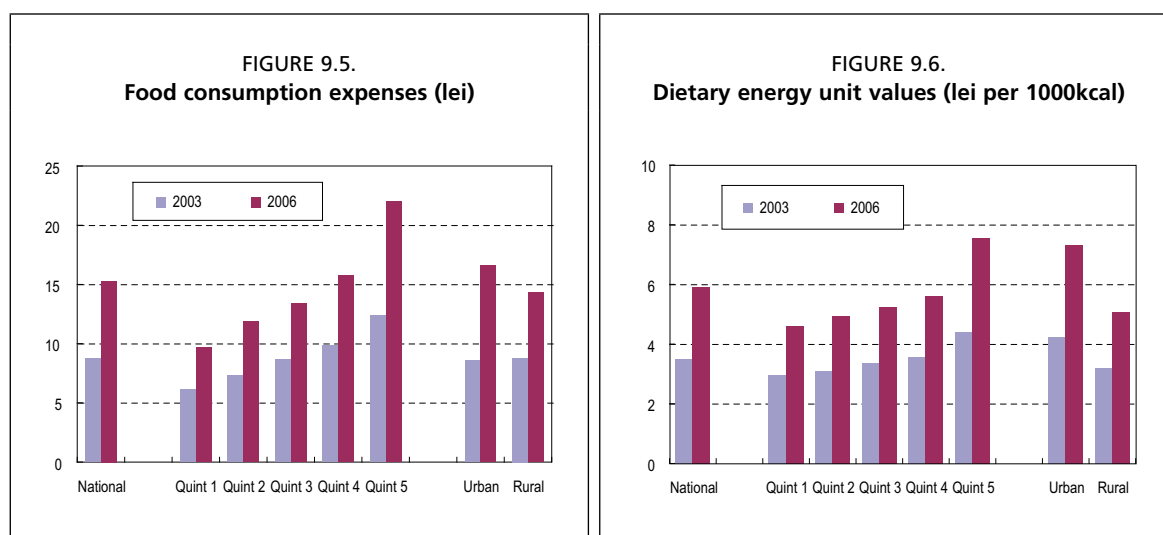
In 2006, the average daily dietary energy consumption (DEC) at national level was 2590 kcal per person, registering a 100 kcal increase over 2003's DEC of 2490 kcal (Figure 9.4).

DEC increases with income level and the highest income group had a daily per person consumption of more than 2900 kcal in 2006. Rural consumption was greater than that in urban areas. DEC increased in almost all population groupings. The highest increase was in urban areas, probably owing to the high levels of income among this population. The population of the lowest quintile experienced a marginal increase of one percent in their DEC during the three-year period.



Food expenses and dietary energy unit value

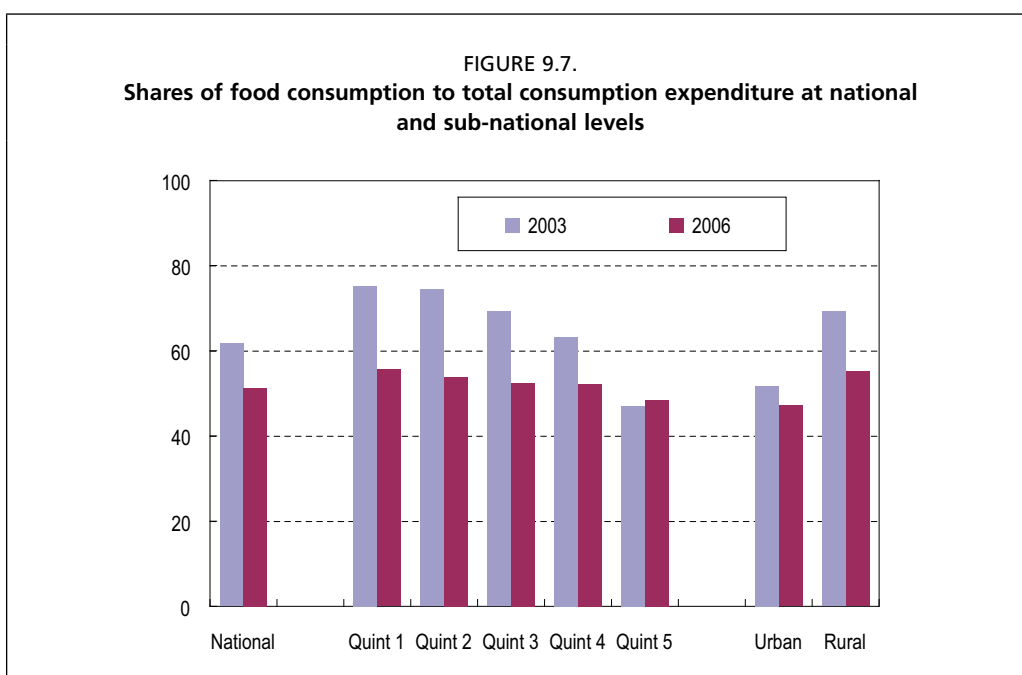
From 2003 to 2006, there was a 76 percent increase in national food consumption expenditure, resulting in a 70 percent increase in the dietary energy unit value (Figures 9.5 and 9.6). These increases were the result of the combined effects of higher incomes and higher food prices during the three-year period. Wages went up by about 60 and 85 percent in the manufacturing and non-agricultural sectors, respectively, from 2003 to 2006, while the food price index rose by about 40 percent (Laborsta Web site). Again, the urban population registered the highest increases in food consumption expenses and hence paid higher prices for their DEC in 2006. It should be noted that the urban population obtained most of their food from purchases, compared with the rural population, which relied to a large extent on own-produced food, usually available at relatively low prices. For the lowest-income population, food consumption expenditure went up by about 60 percent and energy unit value by 55 percent.



Food ratio

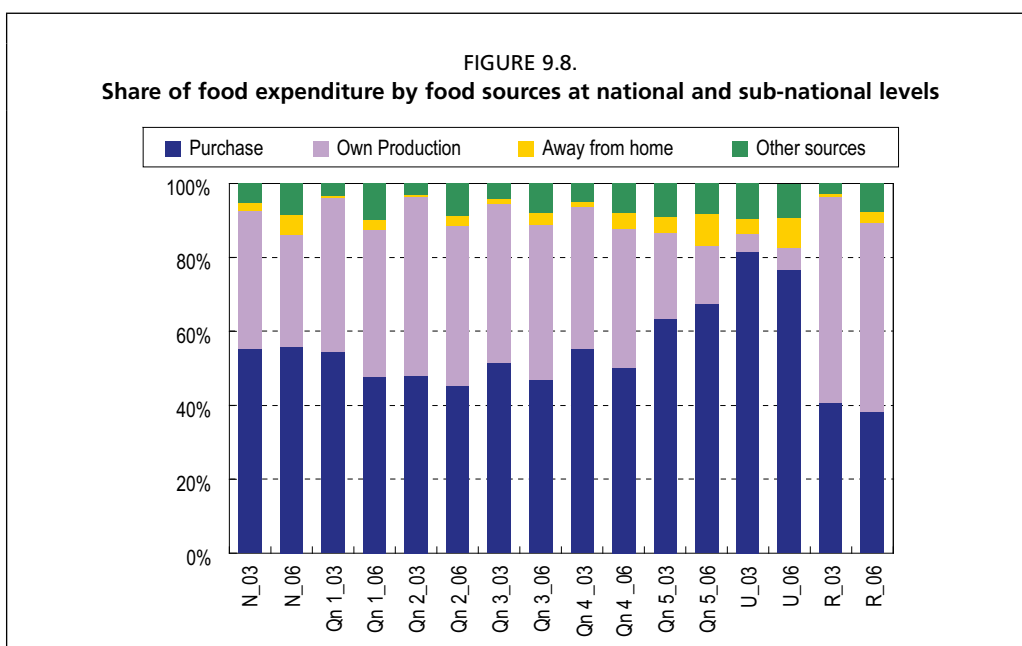
Expenditure on food products as a share of total consumption expenditure (the food ratio) decreased from 61 percent in 2003 to 51 percent in 2006 (Figure 9.7).

The overall decrease of ten percentage points was due to falls of 26 and 20 percent in the food ratios of low-income and rural households, respectively. The food ratio is expected to decrease with higher income (Engel's law), and this was the case for all population groupings, apart from the highest-income households. The main sources of food consumption of the population, expressed both in monetary and DEC values, were purchases, at 56 and 51 percent, respectively, in 2006 (Figures 9.8 and 9.9).



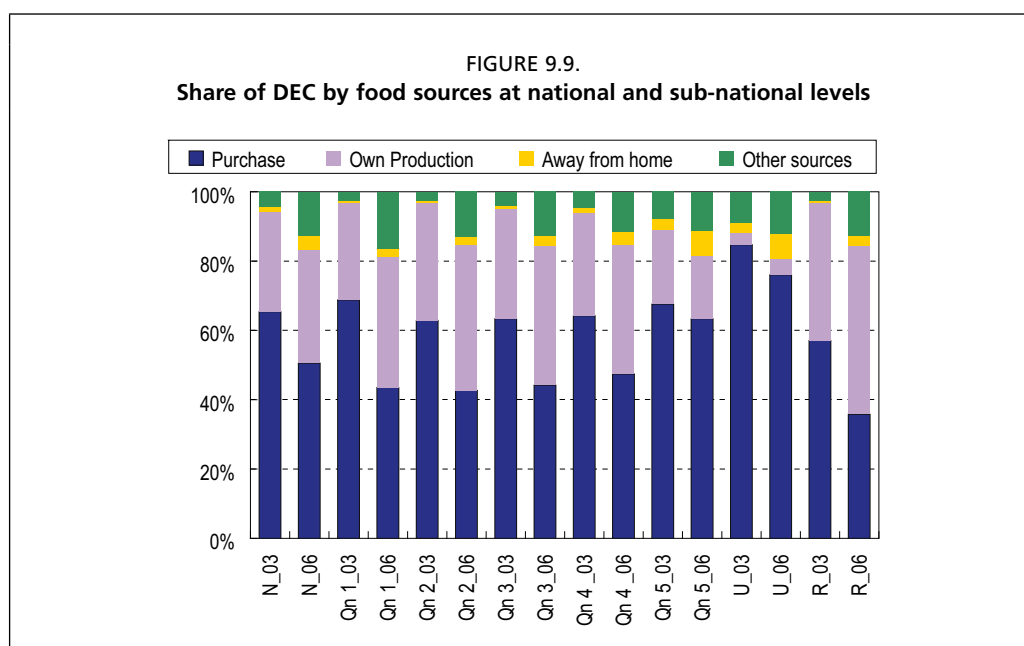
The corresponding 2003 values were 55 and 65 percent for monetary and dietary values, respectively. The share of purchased food in total food expenses decreased marginally in most population groups, except for the highest-income population, which registered a four-point increase.

There was a decrease of seven percentage points in the contribution of own-produced food to total food expenses at national level. This decrease was compensated for mainly by increases food from other sources, such as food from relatives, friends and food aid. From 2003 to 2006, there was a tendency for higher consumption of food away from home, due to the availability of more outside catering service facilities, such as restaurants, snack shops and food courts.



The shifting of food sources showed a completely different pattern, as illustrated in Figure 9.9. Substantial decreases in the contribution of purchased food were counterbalanced by increases in the other three food sources.

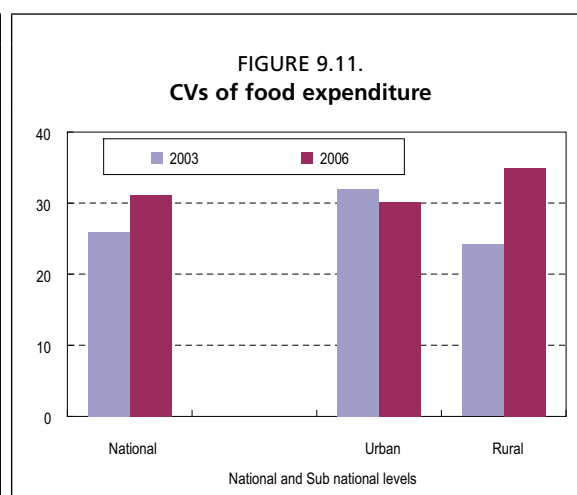
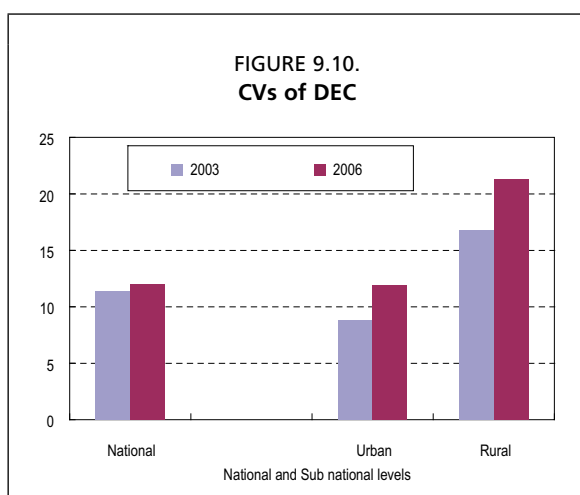
An overall fall of 15 percentage points in the contribution share of purchased dietary energy was noted at national level, counterbalanced by increases of eight points for other food sources, four points for own-produced food and three points for away-from-home food. It is important to note the increasing importance of food from other sources, such as food from relatives, food aid received as wages or even taken from stock. The population of the highest-income group registered marginal falls of DEC from both purchased and own-produced food, but a significant increase in away-from-home DEC.



In 2006, the population of rural areas obtained 49 percent of its DEC from own production, while in urban areas this indicator constituted only five percent. This fact underlines an increasingly high dependency on consumption from agricultural activities for the rural population, while for the urban population it indicates a high dependency on income, because urban consumption was mainly from purchases (76 percent) and food eaten away from home (7 percent). The 2003 values were 85 and three percent, respectively.

Inequality in food consumption

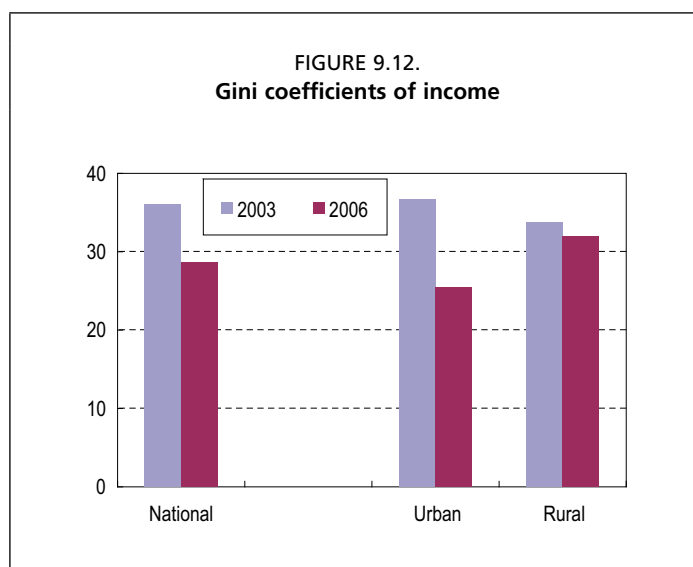
Inequality in access to food, as measured by the coefficient of variation (CV) of food consumption due to income, is shown in dietary energy and monetary values in Figures 9.10 and 9.11, respectively.



There was a slight increase in the CV of DEC at national level. Increases in sub-national population groups were more significant, particularly for urban and rural populations. The rural population had higher inequality in dietary energy than the urban population, in both reference periods. This indicates that rural income was more unequal and lower than that of the urban population. Inequality went up by more than 21 percent for the rural population; better income policies or better remunerated jobs are thus needed to reduce this inequality.

From 2003 to 2006, inequality in food monetary values registered high increases at national level and in rural areas, but a slight decrease in urban regions. The urban population registered a fall of about two percentage points, probably owing to improved distribution of income resulting from the increase in income from 2003 to 2006. The high increase of more than ten percentage points in rural areas could be due to high food prices, which include transportation and other handling costs. It should be noted that the CV for food monetary value is higher than that of dietary energy, as the former also captures the variability of food prices.

It is useful to analyse the evolution of income inequality that has occurred since the general increase in income in Moldova, as confirmed by the almost doubling of daily per person income between 2003 and 2006. Total consumption also almost doubled, resulting in a 75 percent increase in food consumption. The Gini coefficients at national and sub-national levels estimated from the two HBS are illustrated in Figure 9.12.



The increase in the level of income has reduced the income inequality of almost all population groupings. At national level, a significant decrease from 36 to 29 percent was registered over the 2003-06 period. The decrease was more pronounced among urban populations, while a marginal decrease of less than two percent was noted in rural areas. An increase of about 95 percent in the daily per person income was noted in both urban and rural regions, but rural income levels were still lower than urban ones in 2006, by about 40 percent.

Diet diversity

In 2006, the average contributions to dietary energy were 17 percent from proteins, 26 percent from fats and 67 percent from carbohydrates. Compared with World Health Organization (WHO) recommendations, this is a balanced diet because it falls within the normative ranges from ten to 15 percent from proteins, 15 to 30 percent from fats and 55 to 75 percent from carbohydrates.

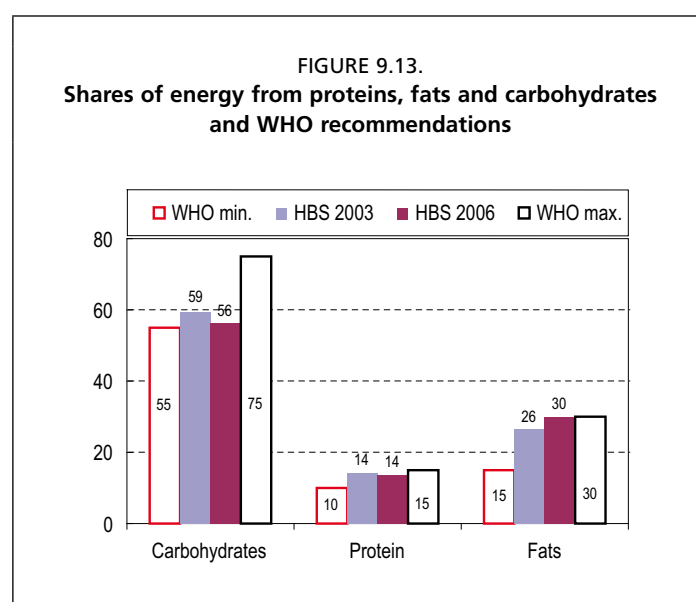


Figure 9.13 compares national shares of nutrients in energy with the WHO guidelines. The diet, which was reasonably balanced in terms of all three macronutrients, had seen an increase in the share of fats towards the maximum of 30 percent, while carbohydrates fell marginally to close to the minimum of 55 percent. These figures are still within acceptable WHO norms.

The share of proteins has remained at a high 14 percent. Analysis of DEC by food item groups showed high consumption of carbohydrates (cereals) and oil products, including both vegetable and animal fats. Cereal consumption fell from 48 percent in 2003 to 44 percent in 2006, while the consumption of oils and fats increased slightly (Figure 9.14).

Consumption of such food products as sugar, potatoes, pulses and vegetables decreased from 2003 to 2006, compensated for by higher consumption of meat, milk and cheese, fruits, fish, eggs and food consumption outside the home. Consumption of alcoholic beverages also went up. This pattern of consumption was more or less balanced, as the population had access to a large range of food products.

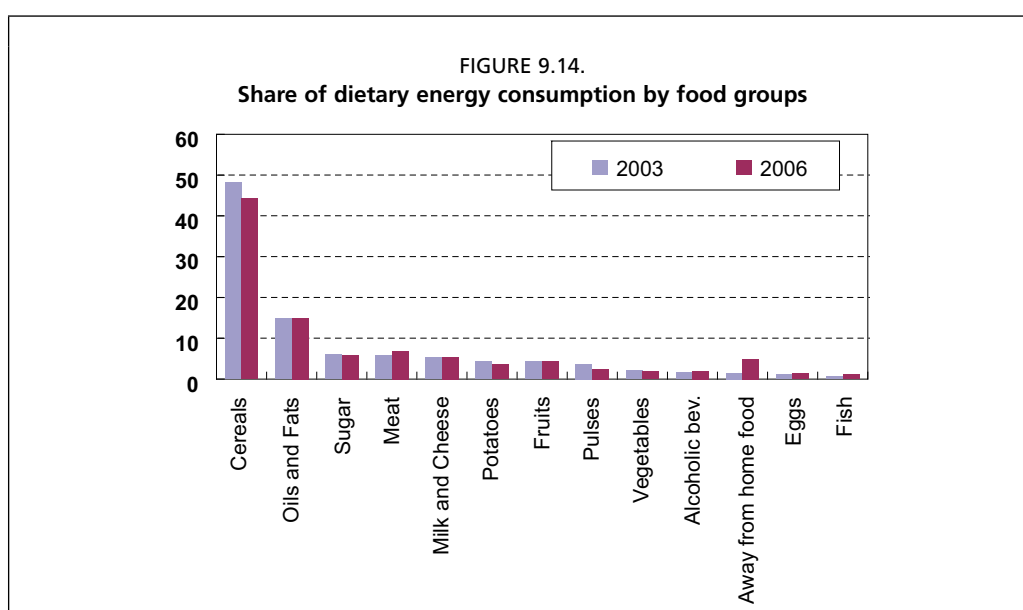
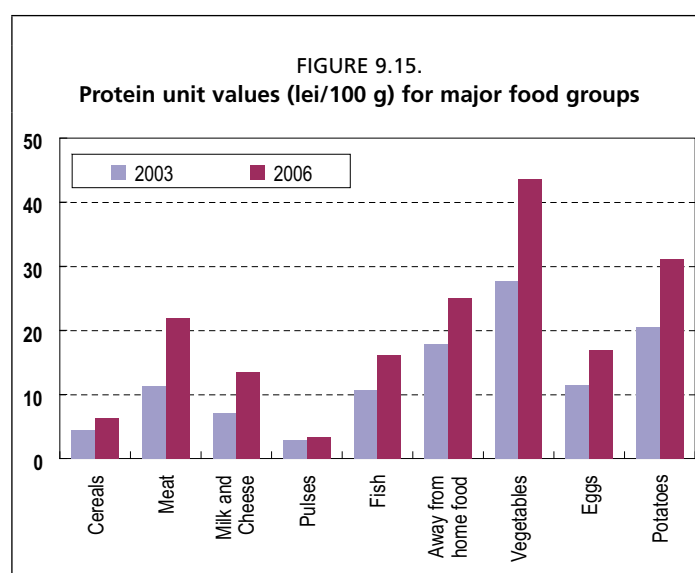


Figure 9.15 compares the protein unit values of food products that contributed more than 95 percent of the Moldovan protein intake. Pulses and cereals were the least expensive protein foods available in markets, while vegetables were the most expensive, owing mainly to their low protein content. From 2003 to 2006, the protein unit values of the main high-protein food items all went up in the range of 16 to 90 percent. Meat and milk and cheese had unit protein price increases of about 90 percent. The protein unit prices of high-value protein food, such as vegetables and potatoes, went up by more than 50 percent.



CONCLUSIONS AND REMARKS

The food security statistics derived from the data collected in HBS are an important source of information on food deprivation and other food security indicators in Moldova. They also provide the information framework for monitoring the food security situation and progress, as well as providing society and decision-makers with reliable, relevant information for carrying out more effectively targeted activities.

FSSM software, designed by FAO and implemented by NBS, is a very efficient tool for elaborating and analysing food security indicators. However, during the elaboration of food security indicators and analysis, the following limitations were encountered:

- The accuracy of some HBS food consumption data was not sufficient. Because the survey tool was not designed specifically for estimation of the population's food consumption, especially food quantity values, it is thus necessary to take into account the possibly less accurate primary information provided by households, concerning:
 - consumption of food products for which the period of acquisition and use exceeds the two-week survey period, which could cause the under or overestimation of food consumption;
 - stocks, especially of food products purchased in large quantities;
 - estimation of food consumption from own production valued using local-market prices.
- Some food products were collected in broad groups of items and their nutrient values had to be estimated.
- Moldova lacks an official food composition table, including micronutrients such as vitamins and iron.

As the quality of food security indicators depends on the information collected by HBS, it is important to improve the accuracy of primary data in the next HBS. NBS looks forward to further support from FAO for the improvement and extension of food security analysis, including the use of updated versions of FSSM.

When comparing the results of 2006 with those of 2003, it is necessary to take into account some comparison limitations resulting from the fact that HBS 2006 was conducted on a new sample of households. There were also some methodological changes and a new questionnaire was introduced, focusing on the improvement of data quality.

REFERENCES

FAO. 2003. Methodology for the measurement of food deprivation. Rome, Statistics Division, Food Security Statistics. Available as metadata at www.fao.org/faostat/foodsecurity/index_en.htm.

FAO. 2006. Step 1 - Processing user manual, Step 2 - Analysis user manual and Step 3 - Reports user manual in Food Security Statistics Module. Rome.

Laborsta. Web site: <http://laborsta.ilo.org/>.

Moldova. 2007. Moldova food insecurity assessment report derived from the food consumption data of Moldova 2006 HBS. National Bureau of Statistics (NBS), Dushanbe.

Moldova. 2007. National Bureau of Statistics (NBS), Department for Statistics and Sociology. Web site. www.statistica.md/?lang=en.

Sibrián, R., Ramasawmy, S. & Mernies, J. 2007. Measuring hunger at sub-national levels from household surveys using the FAO approach: Manual. FAO Statistics Division Working Paper Series No. ESS/ESSA/005e. Available at www.fao.org/es/ess/faostat/foodsecurity/papers_en.htm.

Using food security statistics for policy analysis and actions with long-term impact on hunger eradication based on Palestine's PECS 2005

Ala Joma²⁰

ABSTRACT

The Palestine Central Bureau of Statistics (PCBS) conducted the Palestinian Expenditure and Consumption Survey (PECS) in 2005. PECS 2005 used the acquisition approach to collect household food expenditure and consumption data on a monthly basis, using daily diaries over a twelve-month period between January 2005 and January 2006. The survey sample consisted of 2152 responding households distributed in the West Bank (1427 households) and Gaza Strip (725 households). The Food Security Statistics Module (FSSM) permitted the derivation of national and sub-national estimates of food security statistics for assessing and monitoring the food situation in the West Bank and Gaza Strip (WBGS). Representatives from national and international institutions involved in food security discussed the results and some of the policy implications in the preliminary summary report *Food deprivation assessment in West Bank and Gaza Strip, based on food consumption statistics derived from the 2005 Palestinian Expenditure and Consumption Survey (PECS)*, which was prepared by PCBS and the Ministry of Agriculture, with technical support from the FAO Statistics Division. This paper discusses the use of the food security statistics derived from PECS 2005 for policy analysis, particularly when applied to the agriculture sector in the effort to reduce hunger.

Keywords: food security statistics, policy implications, policy instruments

BACKGROUND

The West Bank and Gaza Strip (WBGS) are two geographically separate entities of what is known as the Occupied Palestinian Territories (OPT). WBGS survives in an exceptional situation because it is not a sovereign State and has only limited control over its natural resources - its land and water. More generally, the occupation has had a damaging impact on the ability of the Palestinian Authority (PA) to implement its policies country-wide, and even on its ability to raise revenues from its citizens to finance such implementation.

Unless the situation in WBGS improves, the likelihood of further escalation into a full-scale humanitarian crisis would increase. Since the second Intifada erupted in September 2000, the economic and social well-being of the four million indigenous Palestinians has continued to deteriorate. The local economy, both inside the Israel Defence Force closed areas and in surrounding rural areas, is severely affected, with agriculture suffocated and livelihoods destroyed. A major cause of this is that the functioning of markets is severely curtailed, and there has been deliberate destruction of property, orchards and irrigation systems. Social support networks are strained to

²⁰ Ministry of Agriculture, Ramallah, Palestine.

breaking point, and exhausted coping strategies are being replaced by survival strategies that lead to structural poverty. The closures and movement restrictions on people and goods also seriously affect the provision of emergency, educational and social services.

Since October 2000, Palestine has steadily plunged into what some researchers have called “de-development”. This is in sharp contrast to the situation on the eve of the second Intifada some six years after the establishment of PA, when levels of unemployment and poverty had declined for the fourth consecutive year. This promise of a prosperous future has been overturned owing to the Israeli response to the uprising, which has had a devastating impact on the whole Palestinian economic and social fabric. Economic decline and stagnation have led to a dramatic increase in poverty levels over the past seven years. Unemployment rose to a peak of 31.4 percent in 2002, and now about a quarter of the workforce is unemployed. The average wages of those employed fell by seven percent in the period 2001 to 2003.

With the protracted crisis that ensued after September 2000, all PA’s national development plans and sectoral strategies became rapidly irrelevant in the new context. As the conflict intensified and closures assumed alarming proportions, a Palestinian Emergency and Public Investment Programme (PIP) for 2003/2004 was presented for donor financing in February 2003 in London. Ten months later, PA presented the Socio-Economic Stabilization Plan (SESP) for 2004/2005 to donors, in Rome. A key objective of these two plans was “to contribute to the basic humanitarian and social needs of a growing Palestinian population”, which is reflected in cash and food assistance as well as employment generation programmes.

The Medium-Term Development Plan (MTDP) 2005 to 2007 followed SESP, with the latest draft dated February 2005. The overarching goals of MTDP are to address poverty in a sustainable way, reduce unemployment, and build social capital and functioning State institutions. PA is trying to attain these goals, but has not been in full control of the development process because of limits imposed by the occupation. Nevertheless, some aspects of development, such as institution and capacity building, are proceeding.

RATIONALE

There have been significant changes in the political and economic situation of WBGS recently, especially in 2006. The recent crisis triggered a revived interest from PA, humanitarian agencies and donors in food security analysis and programming. Improved information should contribute to a shared understanding of food security status and dynamics, leading to improved coordination among the broad range of actors working in the food security sector.

International summits such as the World Food Summit (WFS) and the Millennium Declaration have set targets to reduce hunger by 2015, in terms of both absolute numbers and proportion of the population below the minimum level of dietary energy consumption (DEC). There is a need for information to monitor these targets at national and sub-national levels.

In addition to these demands, other initiatives, such as the food security strategy, the poverty alleviation strategy and rural development strategies, have also increased the needs for food security statistics at national and sub-national levels to guide policy design, interventions, evaluation and monitoring.

OBJECTIVES, METHODS AND DATA

Food security statistics are useful to policy-makers (economists, nutritionists, food programme planners, food traders, etc.) in identifying and locating food-insecure people and evaluating the effectiveness of intervention programmes. These statistics, together with complementary information, help to foster an integrated approach to food and nutrition analyses, focusing on the prevention of undernourishment or starvation as fundamental food policy goals. This implies putting in place a set of

instruments and mechanisms that seek to: 1) overcome existing long-term nutritional deprivation in vulnerable population groups; and 2) identify short-term nutritional deprivation resulting from adverse political and natural events or sudden changes in people's capacity to acquire enough food.

Various methods are available for monitoring the nutritional status of both large categories and major sub-categories of the population. These include: 1) construction of a national food balance sheet to estimate the food available for human consumption in the country; 2) food consumption data collected through household expenditure and consumption surveys to estimate food deprivation and identify the profile of the population falling below minimum standards of food consumption; and 3) more specific investigations of vulnerable groups, to assess the degree, nature and intensity of their inability to acquire sufficient food.

Given the constraints involved in constructing a national food balance sheet, the analysis in this paper is based on the household expenditure, consumption and food data collected in the Palestinian Expenditure and Consumption Survey (PECS) 2005 by the Palestine Central Bureau of Statistics (PCBS). The FAO Food Security Statistics Module (FSSM) was implemented to derive national and sub-national estimates of food security statistics, for assessment and monitoring of the food situation in WBGS based on PECS 2005 data. The food security statistics discussed below allow policy-makers to assess, at national and sub-national levels, the nature and magnitude of food deprivation and critical food poverty, food and nutrient consumption levels (energy, proteins, fats and carbohydrates), access to food due to income, minimum dietary energy needs, and the contributions to total food consumption of different food sources. These estimates provide information for long-term forecasting of food demand and the monitoring and evaluation of the effects of programmes with food security policy implications.

The PECS 2005 sample consisted of 2152 responding households, distributed in the West Bank (1427 households) and the Gaza Strip (725 households). The acquisition approach was used to collect food data on a monthly basis, using daily diaries over a twelve-month period between January 2005 and January 2006. This approach is prone to wide margins of error, particularly owing to the PECS collection of acquisition rather than consumption data. In the context of the situation in WBGS, food acquisition as a proxy for food consumption may provide only an approximation of current conditions. However, the pursuit of accuracy must be weighed against the costs of obtaining additional information; the important task is to obtain orders of magnitude in terms of numbers of people, and to identify the geographical situation of food deficiency or vulnerable groups. The preliminary summary report, *Food deprivation assessment in West Bank and Gaza Strip based on food consumption statistics derived from the 2005 Palestinian Expenditure and Consumption Survey (PECS)*, prepared by PCBS and the Ministry of Agriculture, has been presented to and discussed among participants from national and international institutions involved in food security statistics in WBGS.

FOOD INSECURITY IN WBGS

The paper addresses food insecurity issues relating to: 1) access to food rather than food supply, that is, whether people have sufficient control over food and methods for supplementing their entitlements if food is deficient or absent; 2) access to food by all people, implying that an aggregate view is insufficient and that the situation of individuals in social groups at risk is of critical importance; and 3) a focus on availability of food and the ability to acquire food, corresponding to the distinction between food availability and food entitlement. These food security issues owe much to the shift away from thinking of food solely in terms of available food supply.

A complementary view of food insecurity is based on the risk that certain social groups may face starvation. Food insecurity is measured in terms of the probability

that a given population, for example, one defined by geographical location or income group, may experience inadequate access to food. This probability is the product of certain risks, such as closure and unemployment, that is, the probability of failing to earn enough. The task of food security policy is to reduce the level of these probabilities. Posing them in terms of risk makes it evident that stabilizing supply and reducing the incidence of poverty both have important roles to play.

A distinction between chronic²¹ and transitory²² food insecurity is also important, and provides a useful organizing scheme for discussing food policy instruments.

Food insecurity in Palestine in 2005 was indicated by a food deprivation level of 44 percent. This means that almost half the Palestinian population were consuming less than the minimum dietary energy requirement (MDER) of 1680 kcals per day (Palestine, 2007). Food deprivation was higher in rural areas and refugee camps than in urban areas, reflecting higher inequalities in access to food. The opposite was the case regarding income inequalities. The highest level of food deprivation (97 percent) was among the population of the lowest income group.

POLICY IMPLICATIONS

The food security situation, as summarized in the previous paragraph, provides inputs for understanding the nature of the food insecurity problem, and some intermediate and underlying causes. The nature and magnitude of food insecurity have policy implications for Palestine. Policies with an impact on food security concern the integration of actions affecting the supply, distribution and consumption of food in order to ensure continuity of access to enough food for all people in the country.

In this context, supply refers not just to domestic production, but also to the potential for supplementing food production with commercial imports or food aid. Distribution refers to the way food marketing channels work, and the effectiveness of its timing, place and form.

On the demand side, food policy is concerned with the adequacy of food consumption across all population groups in society. It is concerned with the aggregate and average nutritional status and the purchasing power of different groups of people regarding food, and includes policy instruments designed to improve the access to food of sections of the population that are vulnerable to inadequate levels of food consumption. Food policy is also concerned with the ability of the food marketing system to achieve efficiently the required spatial and temporal distribution of food, including inter-seasonal stabilization of volumes and prices. Stability of prices and supplies is a crucial integrating concept in food policy.

FOOD AVAILABILITY FOR HUMAN CONSUMPTION

On the supply side, food policy is concerned with food production, its rate of growth, food imports and food aid. Food production encompasses all those instruments that form agricultural policy: the inputs, outputs and technology of farm production, and instruments aiming to change the size and composition of food output. Food imports provide an alternative to domestic production for the achievement of a given level of total supply. The use made of imports for this purpose depends on both efficiency criteria (world prices versus domestic production costs) and macroeconomic feasibility (availability of foreign exchange). Food aid provides a third alternative source of food supplies.

Physical availability of food commodities is not considered a major problem in WBGS, although there have been sporadic losses of stable physical access to food as a consequence of the restrictive and arbitrary closure regime, mainly in the Gaza Strip. The destruction of infrastructure, mostly in the Gaza Strip, has put at risk other

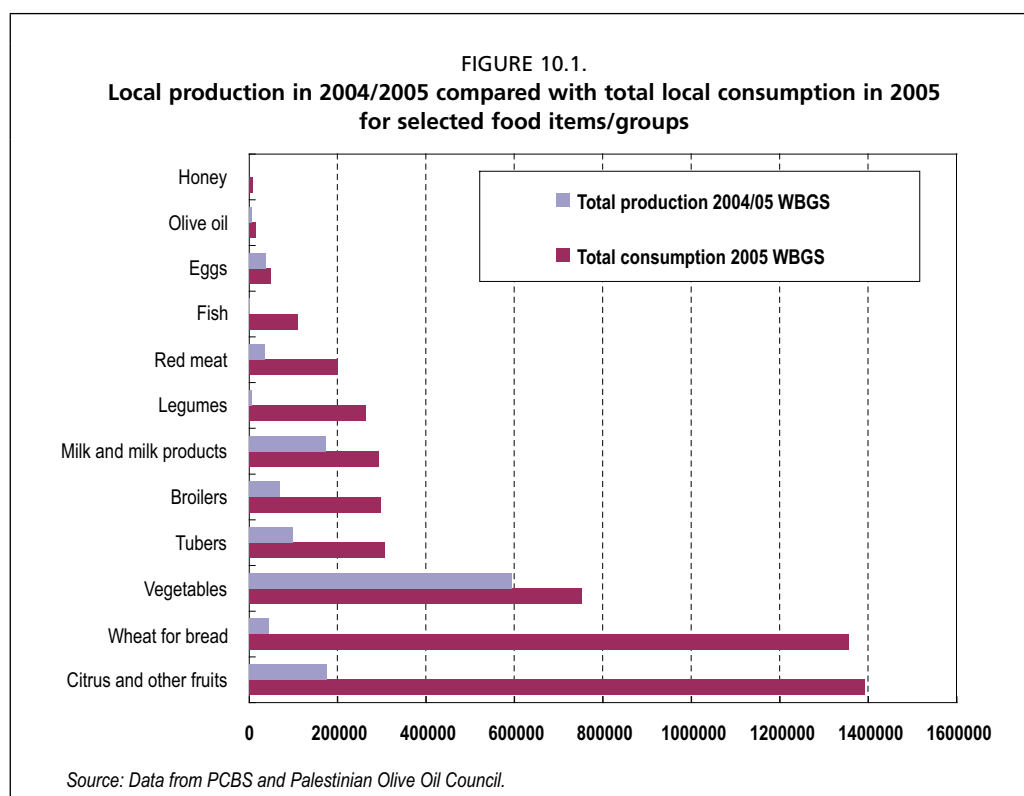
²¹ Chronic food insecurity refers to a continuously inadequate diet resulting from persistent inability to acquire enough food.

²² Transitory food insecurity is defined as a temporary decline in a household's access to enough food.

essential components for food security, such as access to clean water, health care and productive assets. Productive capacity is permanently restricted by limitations on access to land and water, high costs and poor-quality sources of water, and limited access to and increased costs of fertilizers, livestock feed and other inputs.

Local production does not provide sufficient staple food commodities (such as cereals and pulses), and the food supply relies on imports and commercial channels. In addition, areas of high agricultural potential are affected by closures (e.g., Qalqilya, Tulkarm and Jordan Valley) and isolation from urban markets (e.g., Nablus). The gap between total consumption and total production shown in Figure 10.1 displays a structural deficit in staple food commodities that is not likely to change in the short term.²³ Except for the case of olive oil, where local production exceeded local consumption by 164 percent, local production covered from two to 83 percent of local consumption for the most important basic food groups (WFP and FAO, 2007).

WBGS is dependent on imports, the availability and price of which are controlled by Israel. Palestinian traders' access to agricultural products and foreign markets through Israeli ports of entry and exit are particularly affected by the unequal application of the 1994 Paris Protocol. Additional risks to Palestinian importers derive from the unpredictability of closure policies. For instance, the closure of Karni Crossing forced importers to pay significant demurrage fees for goods not released, and transaction costs have also increased, to accommodate the rising risk in shipping and documentation. These costs do not result in reduced availability of food, but are reflected in reduced economic access to food. In contrast, Israeli agricultural products enter the Palestinian market easily, which renders them very competitive in terms of price compared with local produce. WBGS exports vegetables to Israel which are about 20 percent of total imports from Israel. In addition, the international market provides some foods, such as cereals and pulses, at such low prices that Palestinian production is unable to compete (WFP and FAO, 2007).



²³ The average annual total consumption in the years 2004 and 2005 was calculated and used for comparison with total production in 2004.

Recently, food aid has become an ever-more prominent source of food. In 2005, the World Food Programme (WFP) and the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) distributed a total of 126066 tonnes of food aid. Food and non-food aid distributed through charities and non-governmental organizations (NGOs) as one-off assistance are difficult to capture. The significant amount of food aid distributed through conventional and non-conventional channels has enabled food-insecure Palestinians to cover their food needs, preventing negative repercussions on their nutritional status, as shown by the very slow - albeit steady - growth of chronic malnutrition (measured as stunting).

FOOD DISTRIBUTION AND ACCESSIBILITY

Agricultural and food market fragmentation in WBGS create a situation in which the food that is produced or imported is not evenly distributed. Fragmentation of food systems in the West Bank is caused by closures, checkpoints and the Barrier. This has resulted in a horizontal trisection, limiting the flow of commodities among northern, central and southern regions, and a vertical bisection, severing the agriculturally productive Jordan Valley from its markets. Many markets have closed or been relocated, increasing transaction costs and restricting the access of some population groups to the buying or selling of products. These areas are increasingly isolated “economic islands” on which increasingly distinct market catchment areas are based. Thus, while overall food availability at the macro level is balanced by imports, the availability of particular foods in particular areas at particular times may be uneven. In general, fluctuations in international prices, high fuel costs and increased transport costs have all exerted an upward pressure on prices.

At the same time, the inflow of Israeli products into Palestinian markets, the inaccessibility of other markets - including those in Israel, the West Bank or Gaza - for Palestinian traders, and the withholding of PA salaries and the economic recession since the beginning of 2006 have had a dampening effect on prices. The overall outcome has been a rise in prices, especially in the Gaza Strip.

Economic access to food continues to be the most significant food security concern in WBGS. Moderate food price increases in the face of drastic reductions in livelihoods, cash income and consumers’ purchasing power have created a “market-induced shock” for vulnerable households. Traditionally strong social ties tend to preclude the possibility of acute household hunger, thus preventing an acute food crisis. Poor Palestinians receive various forms of assistance and services from a number of partners, enabling many of them to maintain sufficient access to necessary foods. However, declining food security in all areas of WBGS since the 2000 Intifada has been exacerbated by the more recent loss of income for PA employees and their dependents and the destruction or inaccessibility of productive assets and jobs for households affected by the Barrier and other occupation measures. To overcome the loss of income and the subsequent loss of economic access to food, Palestinians are using such coping mechanisms as assistance from friends and family, redistribution of limited resources among households, land cultivation and animal rearing, and financial loans (WFP and FAO, 2007).

CHALLENGES

The need to improve agriculture in WBGS has been underlined as a way of improving food availability for the Palestinian population. Closures, destruction of agricultural lands, lack of water, etc. hinder the already minimal food availability from own production (which accounts for less than four percent of food requirements) (Palestine, 2007). Significant domestic food production is limited to a few commodities - mainly olive oil, poultry products, milk/dairy, tubers and vegetables - of high nutritional value; most staple food commodities, such as

cereals, pulses and red meat, are imported. The focus on promoting domestic food production is based in part on the desire to avoid undue reliance on unstable and unpredictable world food markets, especially imports from Israel. Domestic food production is promoted by a range of policies, including those for land development, input, credit, research and irrigation. Growth of domestic food production mainly addresses the problem of total food availability, and has some impact on chronic food insecurity to the extent that the employment and income prospects of poor farmers and landless labourers are improved. It may also help overcome some types of transitory food insecurity; for example, irrigation reduces the seasonality of output for farmers. The production capacity of all high nutritional-value products, such as poultry, red meat and milk products, should be protected and expanded. This will help replace imports with local production and will also increase the income from exports, thus providing economic access to food that cannot be produced locally.

POLICY INSTRUMENTS

Instruments for tackling the lack of food entitlements take two forms: lowering the price of food to improve exchange entitlements (food subsidies), or increasing command over food through employment creation, poverty alleviation, food-for-work programmes or cash transfers. These instruments can be general and applied to all food consumers, or targeted and directed to specific social groups in need.

The consensus on policy instruments to alter food entitlement is that targeted interventions are preferable to generalized interventions, and that self-regulated targeting is preferable to administered targeting. Targeting interventions are also preferred to generalized interventions because they avoid the creation of economy-wide price distortions.

In the present context, key features of food insecurity in WGBS, such as livelihood crisis and cash income decline, need to be addressed through a focus on economic access to food. The findings of the present analysis provide the foundation for adequate policy responses. Specific objectives and designed responses need to be developed in close interaction and coordination among relevant stakeholders on food security, both local and international. Responses include the following interventions.

Protection of livelihoods and mitigation of poverty

Protection of livelihoods and mitigation of poverty can take place through sustainable employment generation schemes, promotion of productive and income-generating activities, micro-enterprises and micro-finance, for example. Support to industries and the private sector requires close policy dialogue and commitment of different stakeholders to long-term processes.

Within this framework, agriculture/fisheries-based livelihoods need to be protected to maintain some strategic food production capacity for most rural families. Supporting this coping mechanism would contain the escalation of humanitarian needs and help protect entitlements to land and water resources, in particular through:

- strengthening of Palestinian produce, poultry, vegetables and olive oil, and support to poor farming households to maintain productive capacity in these vibrant sectors with a commercial perspective;
- investments in the diversification of food production patterns, aimed at enhancing: 1) local food security against the fragmentation of food systems; and 2) the source of locally procured food aid (e.g., from farmer to the poor, and complementary high-value food commodities for school feeding);
- technological improvements to increase agricultural productivity within the natural limits of land and water resources, focusing mainly on expanding income opportunities from agriculture by increasing the production and marketing of high-value crops that are also suitable for local consumption (WFP and FAO, 2007).

Job creation

The provision of temporary employment (income support) to the unemployed, and cash assistance to enhance households' capacity to cope with shocks and stresses, has a spin-off effect on local economies, especially when aimed at creating productive assets, such as land reclamation.

Job creation schemes can address several non-mutually exclusive requirements, such as:

- maintenance of urban infrastructure, including roads, water schemes and other civil infrastructure that prevent degradation and maintain the appearance and hygiene standards of towns and camps;
- investment in the productive asset base, particularly land and water conservation and management, which prevents degradation of the physical environment and augments Palestinians' entitlements and protection of their rights (WFP and FAO, 2007).

Food markets and trade

Food markets and trade need support to: 1) address traders' vulnerabilities in the areas of credit and supply chains; and 2) regulate food prices and affordability, to protect the purchasing power of the poor. As there is little experience of supporting traders and markets, interventions should be carefully studied in close collaboration with the private sector (WFP and FAO, 2007).

Food aid

The combined humanitarian aid efforts have undoubtedly saved lives, but they are not sustainable in the medium or long-term and they do not deal with the root causes of food insecurity. Humanitarian aid is often also poorly coordinated and based on the insufficient knowledge of those who most need food on the part of the responsible institutions. This has resulted in some deserving cases receiving nothing, while other families receive food from more than one source.

To alleviate poverty and sustain food security, a twin-track strategy is recommended: strengthening social safety nets to put food on the tables of those who need it most, and attacking the root causes of food insecurity with initiatives to enhance the productive capacity of the Palestinian economy, particularly agriculture and industry, by stimulating food production, increasing employment and reducing poverty. This brings to an end the current unfruitful debate about humanitarian aid versus development approaches to reduce poverty and food insecurity. The twin-track approach creates a virtuous circle as the use of locally produced food to improve food assistance to the needy, food availability and food accessibility, can result in rising incomes and additional improvements to food security. Targeting criteria need to be based on geographical location and level of impact of the crisis. Food aid should target urban as well as rural areas and refugee camps, as there is increasing evidence that a sector of the urban population cannot meet its food requirements.

Food aid interventions should include:

- productive assets creation (food for work) and protection of the livelihoods asset base (directed to socially impaired and poor households);
- support to education (school feeding) and vocational/literacy training (food for training);
- protection of food consumption/nutrition levels of very poor households;
- responses to acute food shortages, such as in situations of blockade and armed conflict, through contingency planning (WFP and FAO, 2007).

Social welfare/protection schemes

Various government organizations, such as the Ministry of Social Assistance, NGOs and other religious and secular stakeholders operate social welfare and protection schemes aimed at preventing the socially marginalized and poorest of the poor from falling into destitution and to offer young people opportunities for education and jobs. Such schemes include:

- direct income transfers (cash assistance, food aid);
- vocational training;
- promotion of income-generating activities.

Assistance should be determined on the basis of the difference between desired overall consumption and the actual level of access to essential needs, including food. The diverse eligibility and targeting criteria utilized by humanitarian actors and other agencies need to be reviewed in the light of social equity (Palestine, 2007; WFP and FAO, 2007).

Integration of policy instruments

Ideally, this involves the integration of both supply-side and demand-side instruments of food security, to form a coherent and integrated food security strategy. This rarely occurs in practice, however, because of the complexity of the different components of food and nutrition security. The Ministry of Agriculture usually handles domestic agricultural production, while nutrition is the responsibility of the Ministry of Health, and public employment schemes or food-for-work projects in the domain of the Ministry of Labour or Public Works. Coordinating the food security activities of all these agencies requires considerable effort, and is thus seldom achieved.

CONCLUSIONS

Although Palestine exhibits equilibrium in the aggregate supply and demand of food, for various reasons 44 percent of the population is unable to obtain adequate food for healthy survival. Inequalities in food distribution, due to differences in income among social groups, regions and households and within the household, remain food policy's main concern. Distinction between households and individuals is important for food policy, because individuals have special nutritional needs according to their age and sex, and these are not always easy to meet, even when the provision of basic calories is adequate at the household level.

An aggregate shortage of food is only one of several factors that can cause short or long-term inadequacy of food consumption. Food shortage affects entitlements primarily through an increase in the market prices of food. This diminishes the purchasing power of the 90 percent of the population that depends on market purchases of food for its survival. However, a number of adverse price changes, originating in events other than food shortage can also cause a fall in the exchange entitlement of food for different population groups. Examples of these are: 1) a rise in food prices caused by a devalued exchange rate; 2) a fall of trade for farmers; 3) a widening of the marketing margin between farm-gate sales prices and food retail prices; and 4) a rise in consumer prices that is not compensated by an equivalent rise in income.

In WBGS, where there is highly unequal income distribution, widespread unemployment or underemployment, and extensive poverty, there has been a high incidence of inadequate nutrition, even though at the aggregate level there is sufficient food to meet demand. By shifting the focus away from the aggregate economic level, it becomes possible to obtain a disaggregated view of the circumstances of social groups vulnerable to inadequate access to food. Such groups may be urban, rural or in refugee camps. The important factor is then people's command over food, which

varies according to the nature and strength of their food entitlements. Identifying vulnerable groups, their composition and location, can provide an understanding of the root causes of their problems, thereby facilitating the necessary responses through planning, programming and targeting of food-insecure groups.

Almost half of Palestinian households are food-insecure and highly dependent on assistance; solutions depend on tackling the root causes of their food insecurity, which are related to the political sphere. The ultimate long-term objective is to eliminate poverty via overall growth, paying adequate attention to the income distribution dimensions of alternative growth strategies. For example, one leading food security strategy sees the solution to the food entitlement problem as lying in employment-intensive development, especially in the small-farm sector, leading to patterns of rising demand for labour-intensive consumer goods, self-reinforcing growth of small-scale activities, and rising employment and incomes for previously vulnerable social groups.

REFERENCES

Palestine. 2007. *Food deprivation assessment in West Bank and Gaza Strip based on food consumption statistics derived from the PCBS 2005 Palestinian consumption and expenditures survey*. Ramallah, West Bank.

FAO. 2003. *Methodology for the measurement of food deprivation*. Rome, Statistics Division, Food Security Statistics. Available as metadata at www.fao.org/faostat/foodsecurity/index_en.htm.

FAO. 2006. Step 1 - Processing user manual, Step 2 - Analysis user manual and Step 3 - Reports user manual in *Food Security Statistics Module*. Rome.

Sibrián, R., Ramasawmy, S. & Mernies, J. 2007. *Measuring hunger at sub-national levels from household surveys using the FAO approach: Manual*. FAO Statistics Division Working Paper Series No. ESS/ESSA/005e. Available at www.fao.org/es/ess/faostat/foodsecurity/papers_en.htm.

WFP & FAO. 2007. *Comprehensive Food Security and Vulnerability Analysis (CFSVA). West Bank and Gaza Strip*. Rome.