

Policy-relevant Indicators to Monitor Household Food Security

Objective of the note

Food security exists when all people have continual access to sufficient, safe and nutritious food. NDP proposes to harness resources and capabilities to raise the living standards of the population by the achievement of national food self-sufficiency as well as the ability of households to access adequate quantity and quality of foods to sustain healthy lives. A large proportion of South Africans experience hunger and many suffer health problems as a consequence of under- and malnutrition, in spite of the production of sufficient quantities of food in the country. Critical interventions are thus required and appropriate measures of household and individual food security status are essential in order to monitor and evaluate these interventions.

Increased consumption of ultra-processed food

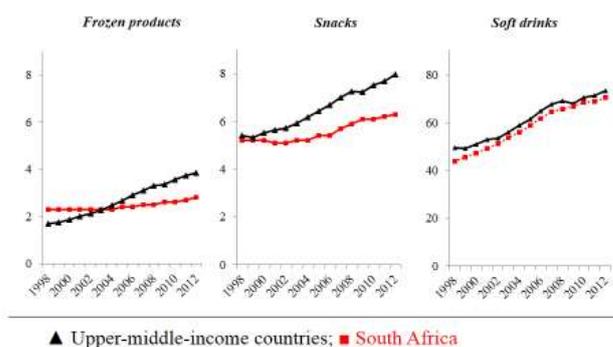
Industrial food processing is now the main shaping force of the global food system and a fundamental determinant of recent changes in diets and related states of health and wellbeing. International research shows that ultra-processed products now dominate the food supplies of high-income countries and consumption of these products is rapidly increasing in middle-income countries (Swinburn et al, 2011; Stuckler et al, 2012; Moodie et al, 2013; Monteiro & Cannon, 2012; Monteiro et al, 2013; Popkin, 2006; Hawkes, 2007). Ultra-processed food replace freshly-prepared meals comprising unprocessed or minimally processed foods and culinary ingredients. This trend has health, economic, social, cultural and ecological implications.

The NOVA Food Classification (Monteiro et al, 2013) differentiates between three groups of foods:

1. Unprocessed foods and minimally processed food – including grains, legumes, roots, vegetables, fruit, nuts, seeds, meat, fish, seafood, milk, eggs and water;
2. Processed substances – including oils, animal fats, sugar, salt;
3. Ultra-processed ready-to-consume products- including bottled, canned, salted, cured and smoked products, using stabilisers, emulsifiers, bulkers, synthetic micronutrients, hydrogenated oils or hydrolysed proteins and resulting in products such as industrial breads, sweetened breakfast cereals, snacks, salty fried or baked products, carbonated soft drinks, reconstituted meat and fish products, spreads and sauces, baby food products, health and slimming products, and ready-to eat dishes.

Nutritionally, ready-to-consume products are more energy-dense than unprocessed foods and contain larger quantities of free sugars, sodium, fats and saturated fats, but less fibre, iron, zinc, potassium, and vitamin C. Furthermore, ultra-processed products, are often sold in large portion sizes, are manufactured to be hyper-palatable (even habit-forming or addictive), and are extensively advertised. They increase the risk of passive energy over-consumption. Although such foods have created space and opportunity for the development of professional careers for women, to whom the role of cooking has traditionally fallen, research shows that higher consumption of ultra-processed products substantially increases the risk of obesity. Conversely, frequency and complexity of cooking and meal structure are associated with higher diet quality and higher food security (Monteiro et al, 2013).

Per capita retail sales of selected ultra-processed products in South Africa and upper-middle-income countries (1998-2012)



The highly centralised, vertically integrated agro-processing of staple foods in South Africa, closely associated with large transnational supermarkets, permits little scope for small-scale manufacturing and agro-processing.

Measuring food security within the context of South Africa's double burden of hunger and malnutrition

There is heightened commitment to addressing food security in South Africa, as evidenced by the NDP and the drafting of a new policy on food security and nutrition. However, since the 1970s, in excess of 200 definitions of Food Security have been postulated. It is a multidimensional construct and the FAO definition includes dimensions of food availability and stability of supply, access, utilisation and stability. In urbanising middle-income countries like South Africa, the information needs for policymaking are particularly complex. Hunger and under-nutrition are juxtaposed with obesity and diet-related chronic diseases. There is ongoing global policy debate on using the term 'food and nutrition security' more adequately to reflect concerns. Consensus on a single measure or set of measures of food security is elusive. An achievable goal may be to create a shared understanding of the range of meanings associated with food security, the information needed for different purposes, and how various tools can be used to address different needs. Ultimately, consensus will be required on the precise nature and origin of the food security challenge in order adequately and appropriately to address it at a systemic level. Empirical work in Limpopo during 2011 tested indicators including the Household Food Insecurity Access Scale (HFIAS); Household Dietary Diversity Score (HDDS); Months of Adequate Household Food Provisioning (MAHFP); and the Food Poverty (FP) and Low Energy Availability (LEA) indicators. The HFIAS result for 600 households surveyed across five Limpopo districts was that 53% were severely food insecure; 26% moderately food insecure; and only 21% food secure. This reflected closely the 52% of households country-wide experiencing hunger (2005 National Food Consumption Survey); 28% at risk of hunger and only 20%, food secure. Somewhat in contrast, the South African National Health and Nutrition Examination Survey (SAHANES) 2012 found 31% of households in the Limpopo case study to be experiencing hunger and 42% to be food secure. The comparative data were based on differing survey methodologies, sample sizes and food security measures. Developers of an index should note that in Limpopo, food insecure households, typically have a low income; a large household size; are more likely to be headed by women than men; have very low educational levels; have a high dependency ratio; and are not very active in farming. The index should be credible, relevant, inexpensive to measure, time-sensitive, and comparable across geographical locations and different cultures. Sources of available income data are the Living Standard Measure (LSM) used by the South African Advertising Research Foundation (SAARF) and Stats SA's Income and Expenditure Survey (IES).

The extent of food insecurity in urban areas has been under-researched owing to the policy focus on rural areas. Surveys in 11 cities using the HFIAS and found that 77% of households in low income areas could be classified as moderately or severely food insecure. The highest level of food insecurity was found in Harare (80%) and the lowest in Johannesburg (40%) (Frayne et al, 2010). Within South Africa, the SANHANES 2012 data shows that only just over 30% of households in both rural informal and urban informal areas are food secure, substantially lower than the 51% in rural formal and 55% in urban formal areas. In India, where income is continually increasing, research has shown counterintuitively, that household food consumption is declining. This is because food security measurement had been disregarding the trend that as people become wealthier, they consume greater quantities of food outside of the house. If similar trends exist in South Africa, and food security interventions continue to be focussed on poor, mainly rural areas, then the large number of poor households in wealthy provinces such as Gauteng and the Western Cape, are neglected. In low-income Cape Town townships, data indicates (Battersby, 2011) that households do their day-to-day shopping in the informal sector and their monthly shopping at a supermarket. A proliferation of fast food braai stands and small scale township retailers sell vetkoek, meat and other items around public transport stops, supplying many with their daily food. Conversely, supermarkets with wider stock ranges are ubiquitous in middle class suburbs, while the fewer supermarkets in low-income areas are franchised and tend to be more expensive.

Three studies have to date examined dietary diversity in South Africa (Shisana et al, 2013). The 1999 study of children used 24 hour recall of foods consumed. Foods were divided into 9 groups, the consumption of all of which, meets all micronutrient requirements. The data revealed a high correlation between the medium adequacy ratio (MAR) and the food variety score (FVS); and between nutrient adequacy and dietary diversity. A DDS of below 4 was shown to be a good indicator of acute malnutrition. Most of the population were found to be consuming large amounts of maize meal, bread and sugar with low intakes of animal protein, fruit and vegetables. Mean scores were 5.5 for FVS, 3.6 for DDS and 50% for MAR. In the 2009 study, the mean DDS amongst urban formal residents was 4.7, as opposed to 3.8 amongst those living in urban informal areas, 3.6 in

rural areas and only 3.3 in tribal areas. Preliminary results from the more recent SANHANES data (Shisana et al, 2013) confirms the results of the first two studies. Whereas 99.7% of people consume food in the cereals group, the proportions are 78% for meat or poultry, 56% for dairy products, 38% for fats and oils, and only 17% for Vitamin A rich fruit and vegetables.

Towards developing comprehensive, composite indicator for food security in South Africa

A food security indicator should capture food availability, access to food, food utilisation and stability of supply. Societal inequality makes efforts to resolve food insecurity a complex task. Other aspects that could be factored into an indicator are role of skills, education, self-determination, social organisations and institutions, gender and empowerment, and exposure to the external 'world'. Additionally, the means of coping with livelihood shocks require quantification. These include assets of a social, personal, human, physical and financial nature. A rapid review of South Africa's 2010 MDG country report reveals a lack of data on household food and nutrition security. Indicators for MDG1 on 'eradicating extreme poverty and hunger', contain mainly outdated information. Reliable and high-frequency evidence about how food secure households are, is critical to monitor and evaluate diverse interventions. StatsSA produces statistics on the percentage of households which engage in some agricultural activity (GHS 2012); which rely on social grants (IES, LCS); which have at least one employed member; which purchase ultra-processed food three times per week or more (IES 2010 & 2011); which have access to piped water (GHS 2012) or mains electricity (GHS 2012); and the percentage of household income spent on food (GHS 2012); and percentage of individuals with a high DDS (GHS 2013). In the 2009 GHS, the HIFAS question system was used, but some questions were found to be inappropriately complex or vague or not pertinent to the local context. Other indicators have been tracked since 2002, including the basic 'did you have hunger during the past year?', which shows that there was a significant decline in hunger until 2008 when it increased again to as high as 17% in the lowest quintile of the population. StatsSA proposes to implement a Continuous Population Survey, alternating in focus from district to municipality to province over a three-year cycle. At all three levels, access, availability and utilisation of food will be surveyed. In the province-based surveys, data on anthropometrics, expenditure on food, and diarrhoea will also be collected. The country has experienced several food price crises (Jacobs, 2012). There has generally been a close match between the jump in the general PPI and retail food prices. However, in 2012, price increases have more specifically mirrored changes in the agro-food sector. Household food security is much more than just production. It includes frequency of having enough food and nutritional quality of diet. The IES provides valuable under-utilised data on food access and expenditure, nutritional markers, BMI scores, and child health indicators. A further source of data is the National Agricultural Marketing Council (NAMC) food price monitor (FPM), which reports on food prices; global supply and demand prices; and long-term and short-term factors that influence food prices. Monitoring is important because the impact of high food prices can result in social unrest and panic buying by net-importing countries. The FPM shows that food is less expensive in rural than in urban areas and that food price increases transfer more quickly to urban than to rural areas. Long-term increases in food prices are attributable to increased demand from a growing middle class; increased urbanisation and dietary diversification; slow growth in agricultural productivity; the depreciating value of the Dollar; higher crude oil prices; and the increased demand for production of crops for biofuel.

Recommendations

The multiple dimensions of food security should be clearly defined and appropriately addressed by policy.

The NDP should target the expansion and diversification of agriculture and agro-processing; promote innovative market linkages for farmers; assist small producers to achieve economies of scale in processing; and incentivise the production and processing of nutrient-rich foods such as legumes and other vegetables.

A screening process should be implemented at clinics for families at risk of malnutrition or obesity, to determine whether they consume less than 4 food groups per day.

The nutritional goals of school nutrition projects should be harmonised with the types of food retailed at school tuck shops.

Greater legislative control should be exercised over the types of foods being marketed between television programmes that target children.

Broader participation should be promoted in the formal retail food market and in the sale of maize and of wheat.

Constitutional provision for sufficient food and nutrition should be translated into appropriate policy and implementable programmes, as for example is the case in India's food and nutrition security law and Mexico's taxation on snacks and soft drinks.

Food and nutrition measurement tools and data collection methodologies should be enhanced, resulting in indicators that capture all dimensions of food security, including consumption patterns outside of households.

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