FEATURE

NCD Prevention through an Equitable Food System in South Africa: Opportunities and Challenges

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Introduction

Non-communicable diseases (NCDs) are a leading cause of global mortality, with about 41 million people dying of them annually (WHO 2021). In South Africa, NCDs accounted for 43% of total deaths in 2012, with this increasing to 51% in 2018 (WHO 2014; WHO 2018). The NCD Countdown 2030 report estimates that South Africans have a 51.9% probability of dying from NCDs (Bennett et al. 2020).

The increasing prevalence in NCDs is largely attributable to unhealthy diets: these generate more disease than smoking, alcohol and physical inactivity combined (Yach et al. 2007 in Puoane 2013). In recent years, the consumption of processed and ultra-processed food and beverages has increased in many African countries, including South Africa (Reardon et al. 2021). Processed and ultra-processed food and beverages are often marketed in a way that appeals to children; they are also affordable and easy to prepare. Most NCDs are 'strongly associated with diet' (Joubert 2012: 148); hence, food systems cannot be divorced from the solutions necessary to tackle the NCD crisis.

Food system inequities are a key driver of NCDs as these restrict the poor's access to healthy food. Food systems are instrumental in shaping consumer food preferences, attitudes and food cultures, and they influence the selection of food that people consume.

The prevalence of food insecurity and malnutrition in South Africa's food system points to the fact of food-system inequity. The country's food system increasingly supplies the highly processed food that fuels the spread of nutrition-related diseases. This increase is largely driven by multinational corporations (using advertising and the appeal of low costs), and is facilitated by weak government regulation (Ho 2021).

An equitable food system can assist in shaping the supportive food environment necessary to promote healthy eating (WHO 2014). While South Africa produces enough food to meet its domestic needs, its high levels of poverty and inequality mean that there is a problem around access to nutritious food (Greenberg 2015).

This article examines food-system inequities, their deep-rooted causes, and the opportunities and challenges that exist in seeking to transition to the

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more equitable food systems which are necessary for NCD prevention. It emphasises that multi-scale interventions (involving a range of players in the food system) are needed to tackle these inequities. Regulatory and policy frameworks that seek to address food-system inequities need to go beyond food itself and address inequalities in income, in access to resources, and in underlying power relations.

Evidence of inequities in South Africa

South Africa is considered one of the most food-secure countries in Africa. It produces more than enough food to feed its entire population at a national level (Chakona & Shackleton 2017). However, food security refers to more than the simple availability of food at a national level; it exists only 'when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life' (FAO 1996).

More than half of South Africa's population is at risk of hunger, while large numbers do not have access to nutritious food (Samodien et al. 2021; Chakona & Shackleton 2017). According to Stats SA (2019), about 11% (6.5 million) of the population suffers from hunger, while almost one in four children under the age of 5 are stunted and (in stark contrast) one in eight children are overweight (May et al. 2020).

Food insecurity is not an issue of the unavailability of food; rather, it reflects the fact of unequal access to nutritious food and resources, which is rooted in socio-economic inequalities. Poverty is the root cause of food and nutrition insecurity in South Africa. More than half of the population (55%) experiences poverty, while more than 60% of children live in poverty (Samodien et al. 2021; Stats SA 2020). In general, women are less likely to be employed than men, and earn approximately 30% less than their male counterparts, while black Africans earn the lowest wages among all population groups (Stats SA 2020). These basic socio-economic inequalities determine access to nutritious food.

Food insecurity is related to the prevalence of obesity, overweight, and diet-related NCDs such as diabetes and cardiovascular disease. Food and beverages high in calories and fat are more readily available and affordable than fruits and vegetables (Nackers & Appelhans 2013). The affordability and availability of calorie-dense foods are influenced by the aggressive marketing of ultra-processed products by Big Food and Beverage companies (Igumbor et al. 2012).

In fact, eating healthy food is unaffordable for poor South Africans (Samodien et al. 2021), who have to spend almost 50% of their income on food purchases (Crush et al. 2011; Oxfam 2014). There is a strong association between food security, income, and diet quality, with lower food security and income resulting in a decrease in the intake of healthy food (Nackers & Appelhans 2013).

In addition, the poor are much less likely to own the refrigerators which enable the safe storage of fresh and nutritious and fresh food, and so are pushed to resort to the readily available and highly processed and ultra-processed foods that are high in salt, sugar and fats (Joubert 2012) and whose consumption results in much greater levels of vulnerability to NCDs.

At the same time, food insecurity and malnutrition in South Africa are accompanied by a 'nutritional transition' (Popkin 2015). This is characterised by a shift from the traditional diets (which are high in healthy cereal and fibre) to 'Western diets' which are high in (unhealthy) sugar, fats and salt (Greenberg 2015) and contribute to increased levels of NCDs.

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In general, this shift can be attributed to the large commercial entities that dominate the food and beverage sector, often referred to as 'Big Food and Beverage' (Samodien et al. 2021). Big Food and Beverage has been implicated in unhealthy eating for making 'ultra-processed, energy-dense food more available, accessible and appealing to the poor through retail brands, packaging and labelling and by extending retail outlets into poorer areas' (Kroll 2017: 4). Big Food and Beverage corporations also make ultra-processed products more appealing by making them cheap; sponsoring schools or sports events; and through buying celebrity endorsements.

The dramatic increase in the consumption of Coca-Cola products in the country exemplifies the success of Big Food and Beverage tactics to make these high-energy and low-nutrient products affordable, accessible, and desirable to South Africans. In 1992, consumption stood at 130 products per person; it grew to 175 by 1997 and reached 254 in 2010. This is compared to a worldwide average of 89 Coca-Cola products per person per year (Igumbor et al. 2012). At the same time, the rapid expansion of supermarkets in South Africa has accelerated the popularity and consumption of the 'Western' diet.

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Joubert (2012) argues that the commercial survival of supermarkets depends largely on their trade in processed and packaged foods. Moreover, food-system inequity is evident in the simple fact that supermarkets stock less-healthy foods in low-income areas, while in wealthier suburbs they stock healthier food (Kroll 2017). Big Food and Beverage and the large supermarket chains are reaping profits at the expense of the health and well-being of the poor.

While millions of South Africans are food-insecure or at risk of hunger, tonnes of nutritious food are simply discarded and end up in the rubbish dump. About a third of the food produced in the country is wasted every year, with fruits, vegetables and cereals accounting for 70% of this food wastage (WWF 2017). The total cost of food wastage is R61.5 billion, equivalent to 2.1% of South Africa's GDP (Oelofse 2015: 6).

Social inequality is evident in the relation of food waste to income. A study in Rustenburg (North West Province) found domestic food waste to be higher in low-income areas (27%) than in middle- and high-income areas, where it stood at 13% and 17%, respectively (WWF 2017: 8). Interestingly, although low-income earners consume less food than their higher-income counterparts, they generate more food waste. This is very likely related to poor storage facilities, and especially the lack of refrigerators.

From the above, the inequity at work in South Africa's food system is incontestable: the high prevalence of NCDs and the fact of food insecurity, malnutrition, and food waste all demonstrate this.

Food-system transformation: Opportunities and challenges

South Africa has made some progress in developing the food policies necessary to reduce NCDs. However, implementation leaves a lot to be desired. Global studies on the control and prevention of NCDs reveal that policies which favour healthy eating should be population-based and characterised by 'mass media campaigns and transparent food labelling, and, more drastically, through regulation and taxation of unhealthy foods' (Samodien et al. 2021: 2). In addition, other interventions can include subsidies and the regulation of school environments.

South Africans consume high levels of salt in excess of the international guidelines (which recommend not more than 6 grammes per day for adults) (Puoane et al. 2013). In 2016, the government implemented legislation for mandatory maximum sodium levels to be observed

across a wide range of processed food categories, including processed meat, stock cubes, noodles and potato crisps (Charlton et al. 2021). A pre-mid-impact evaluation of the effectiveness of this legislation found that salt intake (measured using 24-hour sodium excretion) dropped by 1.16 grammes per day between 2015 and early 2019 (Charlton et al. 2021).

The government also implemented a number of other policies, including the prohibition of advertising to children and the insistence on the stricter labelling of food. In 2016, it became the first African country to introduce a tax on sugar (Puoane et al. 2013; Samodien et al. 2021). South Africa has, however, stalled on its efforts to develop and implement front-of-package labelling for nearly a decade (Gonzalez 2022).

Although the effectiveness of these policies is yet to be realised and some policies are yet to be implemented, it is commendable that NCD reduction through food policies is on the policy agenda. However, these policies do little to address the fact of socio-economic inequality in diet-related health (Samodien et al. 2021). The focus of the food policies is on food itself, and this does little to change the food environment or reduce inequalities at a deeper level. The existing policies offer little that directly address the problem of reducing socio-economic inequality in diet-related health issues.

Transforming South Africa's food system to an equitable one needs to be informed by equity-focused concerns. Friel et al. (2015: ii82) suggest that equity-focused approaches to promoting healthy diets in food systems should 'ideally consider actions that … reduce inequities in the immediate conditions in which people are born, live, work and play. [These should] also directly address food availability, accessibility and price in local food environments.'

South Africa's food-security strategy continues to be directed largely at increasing food production; but the real problem is food accessibility. While the country produces enough food to feed the entire population, the high unemployment rate means that many South African lack the financial means to access or purchase nutritious food.

The government needs to implement policies that increase the ability of the poor to access nutritious food (see discussion below). Despite notable gains in poverty reduction, poverty levels remain high amongst the black population (Plagerson 2021). Inequalities persist despite government efforts around social spending, targeted transfers and affirmative action and other initiatives to increase the distribution of wealth for black South Africans.

The transition to a more equitable food system requires solutions that improve the entire food environment and work to promote healthy diets. Swinburn et al. (2011) argue that policy interventions are more effective when directed at the context in which the making of healthy choices (affordable, accessible and desirable) takes place rather than allowing consumers to make the decision around healthy food choices to take place in an unhealthy food environment.

Lack of access to food could be improved by implementing a basic income grant to incorporate the unemployed (Greenberg 2015). The government needs to develop strategies that increase actual food access to the poor and subsidise healthy foods while taxing unhealthy foods to make them unattractive to consumers. The child grant should include a healthy food hamper, while school feeding programmes (SFPs) should serve as a means for poor, working class children to gain regular access to nutritious food.

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Indeed, South Africa's National School Nutrition Programme (NSNP) provides meals to more than 9 million poor school children. A recent study of the efficacy of the NSNP in the Eastern Cape Province 'suggests that school feeding interventions can improve children's nutritional status … and even protect against overweight and obesity … [while] the addition of breakfast as a second meal in school seems to reinforce these positive outcomes for children' (Devereux et al. 2018: 15).

While the South African government spends almost R7 billion annually on food for the NSNP (Mensah & Karriem 2021), the bulk of this is procured from Big Food and Beverage, with very little bought from small farmers, since the NSNP merely 'encourages' schools to buy fruits and vegetables grown locally.

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By contrast, the Brazilian government passed a law which legally compels schools to purchase a minimum of 30% of all agricultural produce for school feeding programmes from small farmers and land-reform beneficiaries. This new law in Brazil increased the supply of fresh fruits and vegetables to SFPs and restricted the procurement of products that were high in sodium, sugar and saturated fats at schools (Devereux et al. 2018; Mensah & Karriem 2021).

The South African government could learn from this example. It could use its R7 billion food procurement budget to reduce its dependence on Big Food and Beverage and support local food systems, thereby improving the livelihoods of small farmers, land reform beneficiaries, and urban gardeners.
In general, the government could play an important role in promoting and supporting local food systems through the procurement of nutritious food for SFPs and food-insecure communities, and thereby contribute to reducing the high prevalence of NCDs in South Africa.

Access to clean water and sanitation is also important to food safety. A multi-scalar approach to tackling food-system inequities needs to be adopted, an initiative which should include the government, farmers, retailers, marketers, and consumers. Government departments need to develop this kind of synergy if the state is to successfully address the increasing prevalence of NCDs.

Conclusion

The prevalence of NCDs continues to increase in South Africa. It burdens South Africa's already beleaguered health-care system, which is already grappling with communicable diseases, ad hoc injuries and maternal and child mortality. It is now essential to realise that NCDs are caused by preventable risk factors, with the fact of unhealthy diets being one of the key drivers. Food insecurity, malnutrition, food waste and the increase of NCDs are manifestations of inequalities in South Africa's food system – inequalities which are rooted in socio-economic inequality and inequitable distribution of resources.

While the government has promoted food policies which aim at tacking NCDs, the gap between policy and practice needs to be bridged. Inequalities stubbornly persist, and there is a need for stakeholders to proactively address these and promote more equitable food systems. Food-system governance is necessary for recognising and monitoring the different actors within the food system in order to reduce food waste.
It is important to address all these challenges if we are to transform South Africa's food system into a more equitable and sustainable one, one which not only reduces food insecurity and NCDs, but which is also resilient in the face of future stresses and shocks, such as those experienced with COVID-19.

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References

Bennett, J. et al. (2020) 'NCD Countdown 2030: Pathways to achieving Sustainable Goal target 3.4', *Health Policy,* 396 (10255): 918–934.

Chakona, G. and Shackleton, C.M. (2019) 'Food insecurity in South Africa: To what extent can social grants and consumption of wild fruits eradicate hunger?' *World Development Perspectives,* 13: 87–94.

Charlton, K.E. et al. (2021) 'Effect of South Africa's interim mandatory salt reduction programme on urinary sodium excretion and blood pressure', *Preventive Medicine Reports,* 23.

Crush, J., Hovorka, A., and Tevera, D. (2011) 'Food security in Southern African cities: The place of urban agriculture', *Progress in Development Studies*, 11(4): 285–305.

Devereux, S., et al. (2018) 'School feeding in South Africa: What we know, what we don't know, what we need to know, what we need to do'. DST-NRF Centre of Excellence in Food Security, Working Paper #004.

FAO (1996) Rome Declaration on World Food Security and World Food Summit Plan of Action, World Food Summit 13–17 November 1996.

Friel, S. et al. (2015) 'Addressing inequities in healthy eating', *Health Promotion International,* 30(S2): ii77–ii88.

Gonzalez, L. (2022) 'Researchers and dieticians argue its high time South African food products come with warnings, *Daily Maverick*. Available at https://bit.ly/3RsuV5G.

Greenberg, S. (2015) 'Corporate concentration and food security in South Africa: is the commercial agro-food system delivering?' Institute for Poverty, Land and Agrarian Studies: University of the Western Cape.

Ho, U. (2021) 'Poor regulation of South African industry has led to a public health crisis, says panellists', *Daily Maverick*. Available at https://bit.ly/3y386P5.

Igumbor, E.U. et al. (2012) '"Big Food", and the policy response in South Africa', *PLoS Medicine* (9)7: 866.

Iowa State University (2022) 'Inequities in the food system'. Available at https://bit.ly/3E8gUqQ.

Joubert, L. (2012) T*he Hungry Season: Feeding Southern Africa's Cities.* Johannesburg: Picador Africa.

Kroll, F. (2017) 'Foodways of the poor in South Africa: How poor people get food, what they eat and how this shapes our food system', PLAAS Policy Brief 48. University of the Western Cape: Cape Town.

May, J., Witten, C. and Lake, L. (eds) (2020) South African Child Gauge. Children's Institute, University of Cape Town.

Mensah, C. and Karriem, A. (2021) 'Harnessing public food procurement for sustainable rural livelihoods in South Africa through the national school nutrition programme: A qualitative assessment of contributions and challenges', *Sustainability,* 13(24).

Nackers, L.M. and Appelhans, B.M. (2014) 'Food insecurity is linked to a food environment promoting obesity in households with children', *Journal of Nutrition and Educational Behaviour,* 45: 780–784.

Oelofse, S. (2015) 'Food waste in South Africa: Opportunities and challenges', Waste and Recycling Conference, Emperor's Palace and African Waste Week, Cape Town ICC, 4 September 2015.

Oxfam (2014) *Hidden Hunger in South Africa: The Faces of Hunger and Malnutrition in a Food Secure Nation.* Oxford: Oxfam International.

Plagerson, S. (2021) 'South African policies go some way to tackling poverty and inequality. But more is needed', The Conversation. Available at https://bit.ly/3y6y18W.

Popkin, B.M. (2015) 'Nutrition transition and the global diabetes epidemic', Current Diabetes Reports, 15(9): 64.

Puoane, T.R. et al. (2013) 'Non-communicable diseases in South Africa: Progress and challenges', School of Public Health, University of the Western Cape. SAHR 2012/2013.

Reardon, T. et al. (2021) 'The processed food revolution in African food systems and the double burden of malnutrition', *Global Food Security,* 28, 100466, ISNN 2211-9124.

Samodien, E. et al. (2021) 'Non-communicable diseases: A catastrophe for South Africa', *South African Journal of Science,* 117(5/6).

Statistics South Africa (2020) 'How unequal is South Africa?' Available at https://www.statssa.gov.za/?=12930.

Statistics South Africa (2020) 'More than 60% of South African children are poor'. Available at https://www.statssa.gov.za/?=13438.

Swinburn, B. et al. (2011) 'The global obesity pandemic: Shaped by government by global drivers and local environments', The Lancet, 378(9793): 804–14.

WHO (2014) *Global Status Report on Non-Communicable Diseases* 2014.

WHO (2018) 'Non-communicable diseases (NCDs) country profile'. Available at https://www.who.int/nmh/countries/zaf_en.pdf.

WHO (2021) 'Non-communicable diseases'. Available at https://bit.ly/3USc476.

WWF (2017) Food loss and waste: Facts and futures'. Available at https://bit.ly/3C2dOly.