



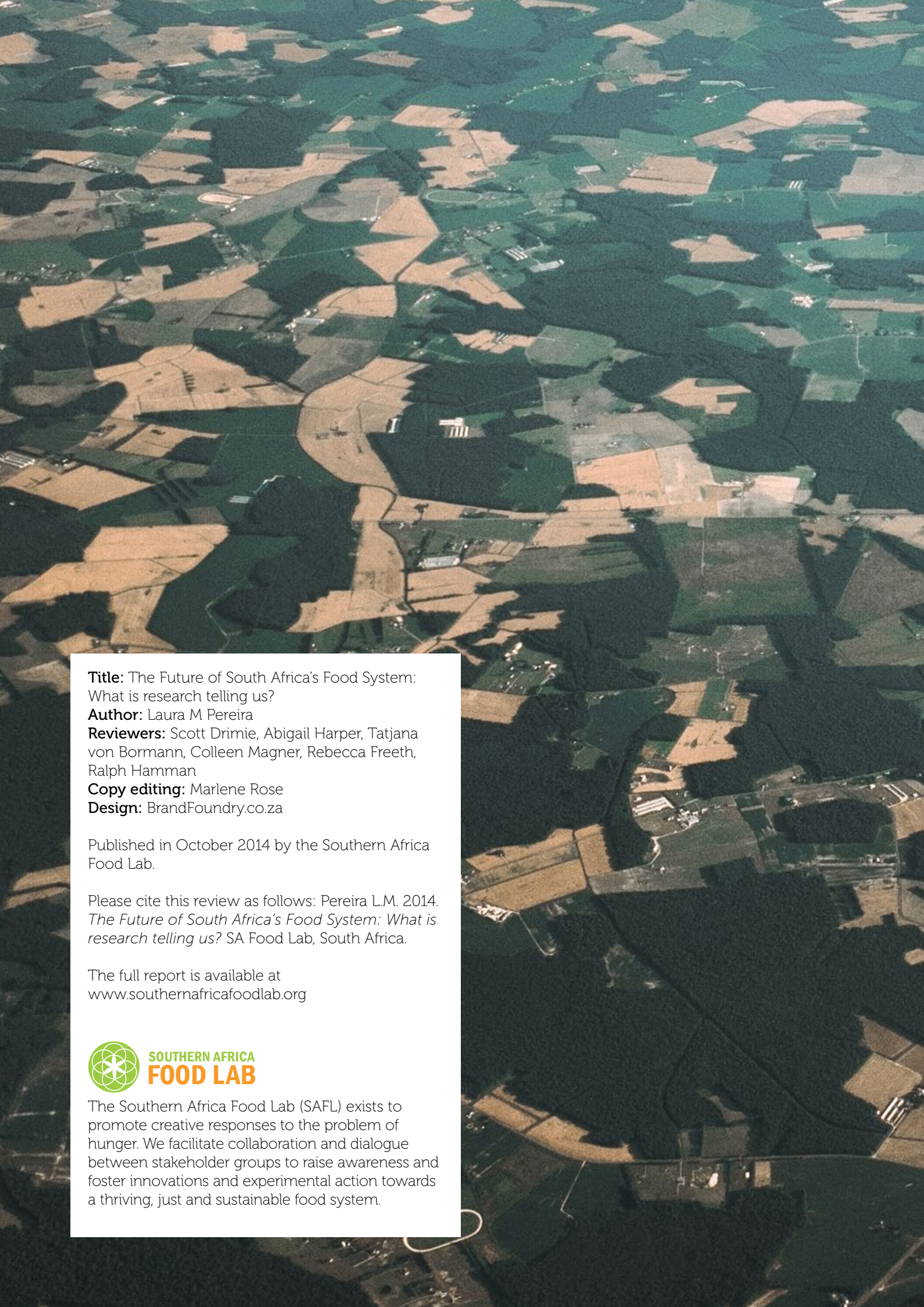
SOUTHERN AFRICA
FOOD LAB

A SYSTEMATIC LITERATURE REVIEW – EXECUTIVE SUMMARY

The Future of South Africa's Food System: What is research telling us?

by Laura M Pereira





Title: The Future of South Africa's Food System: What is research telling us?

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The Southern Africa Food Lab (SAFL) exists to promote creative responses to the problem of hunger. We facilitate collaboration and dialogue between stakeholder groups to raise awareness and foster innovations and experimental action towards a thriving, just and sustainable food system.

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Introduction

Food security is when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy lifestyle.

Food sovereignty is the right of each nation to maintain and develop its own capacity to produce foods that are crucial to its own food security, while respecting cultural diversity and diversity of production methods.

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A sustainable
food system takes
cognisance of
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economic impacts
and provides
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for all.”

The vitally important provision of food through the food system is not a simple linear process, but a contested outcome of a complex system. This systematic literature review was undertaken to better understand the inherent complexity of this system and inform a long-term scenario-planning process to ensure a food-secure future in South Africa.

The past 40 years have seen an emphasis on the notion of ‘food security’, which was defined at the world food summit in Rome in 1996 as existing ‘when all people, at all times, have physical, social and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life’. However, in response to an increasing dependence on global markets to meet national food security, the term ‘food sovereignty’ started gaining credence. At the same summit, the concept of food sovereignty was launched by the international movement La Via Campesina as the ‘right of each nation to maintain and develop their own capacity to produce foods that are crucial to national and community food security, respecting

cultural diversity and diversity of production methods’.¹

Within this contested space, the food systems approach has been developed as a way of understanding that food security is the outcome of a complex interaction of multiple factors on multiple levels, from the production of food to its consumption.² Food security, understood from the 1996 definition, can be divided into three elements: food availability (the production, processing, distribution, consumption – and wasting – of food), food access (the affordability, allocation and preference of food) and food utilisation (the nutritional and social value of food and food safety). These elements are the outcomes of a set of activities and processes in the food system that also include social and environmental outcomes.³ For the purposes of this review, the food system includes all the components involved in production, processing, distribution, consumption and waste. A sustainable food system is regarded as one that takes into consideration environmental, social and economic impacts and that provides nutritious food for all.

¹ Campesina 1996 in Hospes 2014:199. ² Ericksen et al. 2010. ³ Ericksen et al. 2010.



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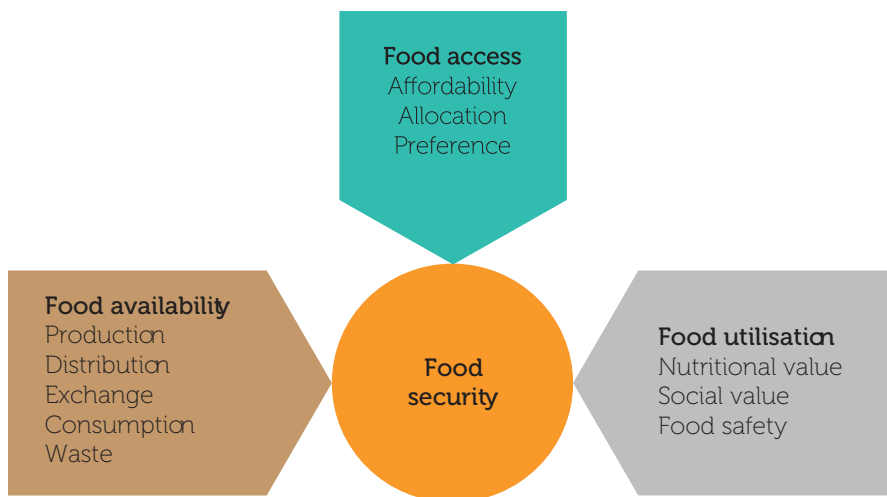
Key question: what can we learn about the South African food system from the literature on food security over the past 15 years?

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Finally, the food system approach also allows for a more holistic appreciation that food security is not just about calorific intake. The concept of the 'nutrition transition' has become a concern in the food system, especially in developing countries. This concept refers to the increased consumption of fats, refined sugars and animal products in the diet as these become more readily available and more affordable to low-income consumers in developing countries.⁴ Coupled with lifestyle changes from processes like urbanisation, this has resulted in an increase in chronic non-communicable diseases like type 2 diabetes and cardiovascular conditions related to obesity.⁵

The aim of this document is to systematically review the literature on food systems in South Africa so as to answer the following key question: what can be learned about the South African food system from the literature on food security over the past 15 years?

Food security forces



Following a systematic review of the literature on food systems in South Africa, a total of 258 papers were compiled in a database. Since this was too large a dataset for a full systematic review, an analysis was done to identify categories where there was a substantial number of new publications that had not yet been sufficiently reviewed. Three main themes were thus chosen to reflect the new knowledge about the South African food system and to identify where there were still gaps in the knowledge, namely the nutrition transition in South Africa, the role of the private sector and market forces in the food system, and identified threats to the food system.

⁴Drewnowski & Popkin 1997. ⁵Drewnowski & Popkin 1997.

Food security in South Africa

Over the past 15 years there has been a marked increase in the number of peer-reviewed studies relating to food security and the food system in South Africa. This can possibly be attributed to the increase in interest in food security following the 2008 food price crisis that saw skyrocketing food prices followed by food-related riots in countries around the world. While South Africa is food secure at national level, at household level there is worrying evidence of a high prevalence of hunger, related to socio-economic factors, in both urban and rural areas, and examples of stunting, wasting and micronutrient deficiencies among children.⁶ The SANHANES-1 survey (South African National Health and Nutrition Examination Survey) provides South Africa's first comprehensive snapshot of food security.⁷ A few key statistics from the survey show that overall 45.6% of the population is food secure; the largest percentage of participants who experienced hunger were in

urban informal (32.4%) and in rural formal (37.0%) localities; demographically, the black African race group had the highest prevalence of food insecurity (30.3%), while 13.1% of the Coloured population are food insecure. A large percentage (28.5%) of the Indian population was also at risk of hunger, whereas the majority (89.3%) of the white race group was food secure, a figure

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The ‘nutrition transition’ in South Africa is causing undernutrition in young children and overweight and obesity in older children and adults.
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significantly higher than those of the other race groups.⁸

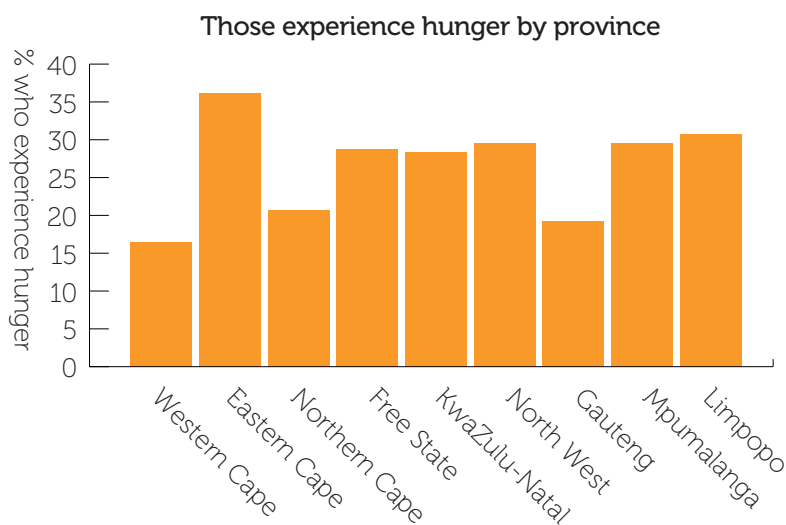
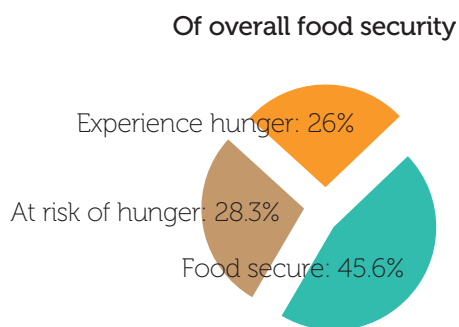
Further data indicate that South Africa is undergoing a ‘nutrition

transition’ where stunting, wasting and undernutrition in young children are occurring alongside increasing levels of obesity and overweight in older children and adults.⁹ The increase in obesity is raising health concerns about a concurrent increase in non-communicable diseases, with the problem being most acute among black women.¹⁰ This increase in overweight/obesity needs to be seen in view of the steady increase in the per capita food supply of fat, protein and total calories in South Africa, while salt intake is also in excess of recommended levels.¹¹

This public health concern is largely related to the consumption patterns of South Africans who often do not have access to a healthy diet. These patterns can be attributed to several drivers: urbanisation; an increased reliance on buying food, making nutritional food less accessible to poorer households; market dynamics driving volatility in prices, and an expanding role of ‘Big Food’.¹²

Food security statistics

(Shisana et al. 2014)



⁶Drimie & McLachlan 2013. ⁷The first round of the SANHANES study was a cross-regional survey to provide baseline data for future longitudinal studies conducted from 2007. It was based on household questionnaires where all occupied households were eligible to participate. The survey applied a multi-stage disproportionate, stratified cluster sampling technique where a total of 1 000 census enumeration areas (EAs – spatial areas used to collect census data) were selected from a database of 86 000. A further 500 EAs were chosen based on South Africa's socio-demographic profile. Twenty visiting points were then randomly selected within each of these, giving an overall sample of 10 000 (see Shisana et al. 2012 for more information). ⁸Shisana et al. 2014. ⁹McLachlan & Landman 2013. ¹⁰Shisana et al. 2014; McLachlan & Landman 2013; Micklesfield et al. 2013; Mvo et al. 1999; Vorster & Kruger 2007. ¹¹Igumbor et al. 2012; Hofman & Tollman 2013. ¹²‘Big Food’ is defined as those ‘large commercial entities that dominate the food and beverage environment’ (Igumbor et al. 2012:1).

Market dynamics and food affordability

A number of studies have emphasised the growing dependence on market purchases for procuring food in South Africa.¹³ Within a broader political economy of deagrarianisation, whereby livelihoods are increasingly becoming delinked from agriculture, and high levels of poverty, the reliance of many poor households on social grants has been identified as a mechanism that drives the purchasing of food.¹⁴ The consequence in rural areas has been a reliance on local stores and supermarkets rather than on food production. This undermines the ability of households to invest in household food production, which in turn reinforces deagrarianisation trends.¹⁵

Households in the lower income groups (LSM 1–3) spend approximately 35% of their income on food.¹⁶ These households are often the most severely affected by malnutrition (which includes over- and undernutrition) and represent the population groups most vulnerable to food price increases.¹⁷ Having limited income to spend on food inevitably leads to an inadequate food basket, the contents of which are largely dictated by the price of food. Food prices have increased substantially in recent years, with food inflation reaching 10.3% between January

2011 and January 2012 and the price of white maize increasing by 90% for this period.¹⁸ Due to the openness of South Africa's markets, international food price shocks (such as the one in 2007/08) are almost fully passed on to local wholesale and retail prices, making poor households extremely vulnerable to food price increases.¹⁹ It is notable that, neither after the food price crisis in 2002/03 nor after the one in 2007/08 were there any major policy responses or changes in policy direction to

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Households in the lower income groups (LSM 1–3) spend approximately 35% of their income on food.”

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these crises reinforced the country's reliance on 'second-class' policy interventions that deal directly with relieving the burden of food price inflation for poor households (such as welfare payments, school feeding schemes and food parcels).²¹ While these interventions can act as safety nets for poor households, they do not fundamentally alter the ongoing inability of households to afford food.

Various studies have shown that the majority of households cannot afford to meet their daily dietary requirements, especially given the food-based dietary guidelines released in 2012.²² In

reflect the newfound recognition among politicians that domestic agriculture is an important buffer against international market dynamics.²⁰ Instead,

reality, poor South Africans are not able to spend money on a diverse diet. Instead, the only option to facilitate satiety and alleviate hunger is to feed family members large portions of maize meal porridge. Naturally, this does not address their nutritional needs.²³ Although all commercially produced porridge maize meal in South Africa must be fortified, consuming fortified porridge throughout the day (three 850 g servings) contributes to only 45.5% of the Recommended Dietary Allowance (RDA) for protein, 85% of the RDA for iron and 31.2% of the RDA for vitamin A.²⁴

The conclusion is that poorer South Africans, especially in rural and informal urban areas, are less able to afford healthy, nutritious meals on a daily basis. An increasing reliance on purchasing food instead of growing it has also meant that consumers are more vulnerable to price shocks.

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Especially in poor rural areas the emphasis has shifted from growing one's own food to buying it at local stores and supermarkets, often with money received from social grants.”

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¹³Baiphethi & Jacobs 2009; D'Haese & Van Huylenbroeck 2005; Pereira et al. 2014; Schönfeldt et al. 2010. ¹⁴Pereira et al. 2014. ¹⁵Thornton 2008; Pereira et al. 2014. ¹⁶McLachlan & Landman 2013. ¹⁷Schönfeldt et al. 2010. ¹⁸NAMC 2012. ¹⁹Kirsten 2012. ²⁰Kirsten 2012. ²¹Kirsten 2012. ²²Jacobs 2009; Schönfeldt et al. 2013; Temple & Steyn 2011. ²³Schönfeldt et al. 2013. ²⁴Schönfeldt et al. 2013.

Consumer choice and nutrition

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The easy access to fast food like hamburgers, kotas, Gatsby sandwiches, chips and vetkoek will result in home cooking becoming less frequent.

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The nutrition transition is also being driven by the food choices that many South Africans are making. These choices are as much a function of convenience and affordability as they are of preference and marketing. Recent case studies have shown that in South Africa there is an increased consumption of 'fast food', defined by Feeley et al. (2009) as convenience foods obtained from take-away vendors, and usually characterised as energy dense, low in micronutrients and fibre and high in simple sugars and salt. Feeley et al. (2009) hypothesise that fast-food items, like hamburgers, kotas (quarter-loaf of white bread, chips, processed cheese, meats and sauces), fried chips and vetkoek will become a regular part of the local diet because healthier options are less accessible.²⁵ They further predict that the easy access to fast food will influence cooking practices where home cooking may become less frequent,

increasing dependence on fast food, especially in cases where consumers must travel long distances at high cost to larger villages to obtain fresh food from formal vendors or trading centres.²⁶

In addition to the change in food consumption patterns due to the greater availability of fast food from vendors, there is an ongoing debate about the impact of 'Big Food' retailers on food security and health.²⁷ On the one hand, as a result of their more effective procurement policies and better management, supermarkets benefit from economies of scale. This makes food prices lower in supermarkets than in traditional retail outlets.²⁸ It has been argued that this is beneficial to the poor as they get a wider variety of food at lower prices. At the same time supermarkets ensure the quality and safety of food as they tend to follow more stringent quality requirements than their informal-market counterparts.²⁹



²⁵Feeley et al. 2011. ²⁶Feeley et al. 2011. ²⁷Igumbor et al. 2012; Hawkes 2006; Alexander et al. 2011; Stuckler & Nestle 2012; Moodie et al. 2013. ²⁸D'Haese & Van Huylenbroeck 2005. ²⁹Ramabulana 2011. ³⁰Wojcicki 2005 in McLachlan & Landman 2013. ³¹Igumbor et al. 2012. ³²Igumbor et al. 2012.

However, the industrial food system has also been blamed for replacing traditional, nutritious food with highly refined foods, low in fibre and high in fats (including trans fatty acids), sugar and salt.³⁰ Supermarkets make both staple foods and the packaged foods produced by large manufacturers more affordable to local populations, providing them with easier access to these less healthy foods.³¹ Refined cereals and foods with added sugar and fat are among the lowest-cost sources of energy in rural supermarkets, thus making nutrient-poor products such as biscuits, margarine and oil-heavy snacks a cheap yet varied source

of energy in rural diets.³² There is increasing evidence that the greater consumption of these unhealthy foods, especially those high in salt and sugar, has resulted in increased health risks from non-communicable diseases.³³

In essence, supermarkets can thus be seen as both enablers and constraints to food security. However, in general, nutrient-dense foods such as lean meat, fish, fruit and vegetables cost far more than processed food products.³⁴ The role of supermarkets in getting consumers in low-income areas to choose affordable but nutritionally poor foods is

hypothesised to accelerate the nutrition transition while not necessarily addressing food and nutrition insecurity.³⁵

Finally, there is a need for a greater understanding of the impact that marketing and advertising have on the food choices that people make. With individuals in rural and urban settings buying more and growing less of their food, it is critical to build up an evidence base of how business practices influence consumer food preferences – and therefore food security – if we want to fully understand the food system.

Trade and sector concentration

How do business practices influence consumer food preferences?

- What is the impact of 'Big Food' retailers on food security and health?
- What is the impact of marketing and advertising on the food choices that people make?
- To what extent can food companies be left to their own devices? What can a better understanding of the processes of vertical integration and cooperation between companies teach us about designing a path to a sustainable food system?
- Should there be a policy response to the current recognition of the importance of domestic agriculture as a buffer to international market dynamics?
- Should business not be playing a greater role in promoting healthy eating habits?

The South African food system has been radically altered by the effects of rapid urbanisation, the globalisation of the food trade and the subsequent concentration of agribusiness. This emphasises the role of the private sector in shaping the food system. Deregulation in the South African agricultural sector began in the 1980s with substantial changes in South Africa's regulations being made in order to comply with the World Trade Organization (WTO) regulations that were signed in Marrakech in 1994.³⁶ The net effect of these changes is that the South African agricultural sector is increasingly exposed to the vagaries of international markets.³⁷ Hence the challenge, which was largely welcomed by South African agribusiness, was 'to achieve and maintain competitiveness in order to survive in the new competitive environment'.³⁸

Research conducted by Doyer et al. (2007) clearly showed a significant trend towards cooperation and coordination in the South African agribusiness supply chain in the early 2000s. This provides some explanation of the structural changes and concentration currently evident in the South African food sector. Four major companies (all of which are South African) account for 97% of sales within the South African formal food retail sector, with Shoprite Checkers currently controlling about 38% of the formal food retail market.³⁹ In the food manufacturing sector a few large, publicly listed companies control both production and sales in most food categories.⁴⁰

With the increasingly concentrated nature of the food sector, food manufacturing and to a certain extent retail companies have been common targets of protest

³⁰Wojcicki 2005 in McLachlan & Landman 2013. ³¹Igumbor et al. 2012. ³²Igumbor et al. 2012. ³³Mayosi et al. 2009; Hofman & Tollman 2013; Tollman & Kahn 2007; Hofman 2014. ³⁴Igumbor et al. 2012. ³⁵Battersby & Peyton 2014. ³⁶Doyer et al. 2007. ³⁷Doyer et al. 2007. ³⁸Doyer et al. 2007:497. ³⁹GAIN Report 2012 in Battersby & Peyton 2014. ⁴⁰Mather 2005; Fig 2007; Louw et al. 2007 in Hamann et al. 2011.

in South Africa, particularly where there have been adjudicated cases of collusion and price fixing.⁴¹ In particular civil society, represented by the Congress of South African Trade Unions (COSATU), has advocated for the introduction of a regulatory body that would control the prices and exports of food and farm produce, similar to the role played by the abolished marketing boards.⁴² Agribusiness, on the other hand, represented by the Agricultural Business Chamber (ABC), is opposed to such an intervention, stating that if the market were to be regulated, competition would no longer exist and companies would not have the incentives to invest in technologies to provide consumers with better products and services.⁴³

Evidence of collusion and anti-competitive behaviour by South African agribusiness, for example in the wheat and chicken value chains, has further sparked controversial discussions about the extent to which food companies can be left to their own devices.⁴⁴ Research by Hamann et al. (2011) revealed that there is a need for more transparent discussions as to what kind of collaboration

is possible in the context of competition law and how best the public and private sectors can work together to further the interests of consumers and enterprise. Both the processes of vertical integration and cooperation between companies will need continual research and multi-stakeholder engagement in order to identify the best path to a sustainable food system. This is a regionally relevant discussion, considering the important role that South African agribusiness plays in southern Africa, where most of the big retailers and processors have a presence.⁴⁵

South African-based companies such as Tiger Brands and Shoprite Checkers are dominant in the region and could be said to be playing a similar role of vertical integration and market concentration on the African continent as transnational corporations like Unilever and Walmart play internationally.⁴⁶ The most recent, albeit outdated, data show that Shoprite, the largest retailer in Africa, has invested in over 13 African countries with plans to expand in order to meet its objective of earning 50% of its revenue outside of South Africa.⁴⁷ Pick n Pay, the

next largest South African food retailer, has also expanded operations into Africa, but to a lesser extent.⁴⁸ However, it follows a different strategy to Shoprite, preferring first to develop franchise stores.⁴⁹

At the same time as South African companies are moving into Africa, global giants like Cargill and Monsanto are asserting their presence in South Africa. Updated data and research are required to establish what impact these large non-consumer and trading companies will have on the South African and African food system. If the continent follows the same trends as Latin America, it is likely that supermarkets and other formal food retail companies will soon dominate the food system, with all the positive and negative repercussions for food and nutrition security discussed earlier.⁵⁰



⁴¹Hamann et al. 2011. ⁴²Sibanyoni & Ndlangisa 2010 in Ramabulana 2011. ⁴³Ramabulana 2011. ⁴⁴See Grimbeek & Lekezwa 2013. ⁴⁵Igumbor et al. 2012. ⁴⁶Pereira 2012. ⁴⁷Weatherspoon & Reardon 2003. ⁴⁸Weatherspoon & Reardon 2003. ⁴⁹Pereira 2012. ⁵⁰Weatherspoon & Reardon 2003.



Urbanisation

“ South Africa is one of the most successful markets in McDonald’s international history. A record was set when South Africa opened 30 restaurants in just 23 months, at one stage opening 10 restaurants in 78 days.”

More than 60% of South Africa’s population now live in urban areas⁵¹ and with the rural population relying more and more on purchasing their food, the role of formal and informal food retailers in providing access to food is becoming increasingly recognised.⁵² Supermarkets have been able to expand into lower-income areas by outcompeting local wholesalers and small retailers on cost and quality in most of their product offerings.⁵³ These days informal traders often source the produce they sell from supermarkets and wholesalers like Boxer or Metro Cash & Carry.⁵⁴

Coupled with the expansion of supermarkets, there has been an increase in the number of transactions from fast-food chains in recent decades. The increasing dominance of this industry, especially in urban areas, is starting to

have an impact on the food consumption habits of South Africans.⁵⁵ South Africa is one of the most successful markets in McDonald’s international history. A record was set when South Africa opened 30 restaurants in just 23 months, at one stage opening 10 restaurants in 78 days.⁵⁶

There is a crucial need to find a way to deal with the consequences of rapid urbanisation that has distanced people from accessing fresh fruit and vegetables while at the same time providing relatively cheap and easy access to highly processed foods. Crush & Frayne (2010) argue for the development of an urban food policy that takes into account the repercussions that urbanisation is having on the ability of the food system to provide food to urban dwellers.

⁵¹World Bank data: <http://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS> ⁵²D’Haese & Van Huylenbroeck 2005; Pereira et al. 2014; Baiphethi & Jacobs 2009. ⁵³Battersby 2011; Igumbor et al. 2012. ⁵⁴Pereira et al. 2014. ⁵⁵Igumbor et al. 2012. ⁵⁶Igumbor et al. 2012:4.

Threats and gaps

Water stress and climate change

Climate change is projected to have a significant effect on agriculture through the three interconnected systems of food, energy and water. In this regard, Carter & Gulati (2014) refer to the food-energy-water nexus. In essence, the nexus argument is that, due to the interconnectedness of each system, demand for one resource can drive demand for another, while at the same time the cost of one resource has an impact on the production efficiency of the others.⁵⁷ This interconnectivity is highlighted in strategies intended to mitigate and adapt to climate change. For example, the mitigation of climate change through carbon sequestration, the expansion of biofuels or hydropower can create significant new water demands, while adaptation through implementing irrigation schemes requires more energy than rain-fed agriculture.⁵⁸ Although the food-energy link is important, in terms of climate change impacts in South Africa, the emphasis is on the linkages between the food and water systems.

Projected climate change impacts include changes in the rainfall intensity and distribution, an increase in extreme events, and high temperatures exceeding the natural tolerance levels of crops. The financial losses from maize production have been estimated in one case study to be about R46 million.⁵⁹ Although confidence in the measurements for other crops is limited due to the small number of studies, these show that yields for rice and groundnuts could potentially increase.⁶⁰ There will also be negative impacts on

livestock farming in the form of greater water requirements for livestock, and livestock heat stress.⁶¹ The biggest impacts are likely to come from variability in water availability. Since the agricultural sector currently consumes 60% of the total water resources in the country, any increase in irrigation for growing food would have an impact on the water and energy systems.⁶² Moreover, natural water resources are unevenly distributed across the country, with more than 60% of the surface flows arising from only 20% of the land area.⁶³

In response to climate variability, many farmers have started to adapt at multiple levels, mostly by adjusting farming operations.⁶⁴ Irrigation appears to be the most popular intervention, which reinforces that water is the most important factor limiting agriculture in South Africa.⁶⁵ Rainwater harvesting is a new technique that is being implemented, particularly by smallholder farmers, in the face of variable rainfall and limited storage capacity.⁶⁶

Fisheries

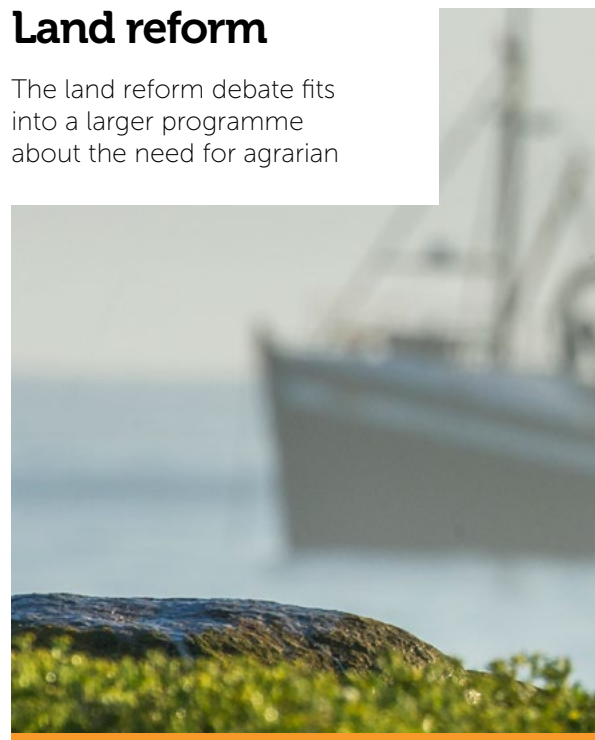
In South Africa, fisheries play an important economic role and provide direct subsistence to local communities. At local level, fish provide a crucial source of protein for many of the traditional fishing communities along the South African coastline. An example is the snoek industry on the West Coast.⁶⁷ At national level, commercial fisheries contribute about 0.5% to South Africa's GDP and directly employ approximately 27 000 people.⁶⁸ In spite of, or perhaps due to, the importance of this industry,

almost 50% of South Africa's marine resources are fully exploited, a further 15% are overexploited and some of the most popular seafood choices for South Africans include species that are classified as collapsed, such as kob/kabeljou and geelbek.⁶⁹ Even more worrisome is the fact that important governance decisions need to be made based on very little data on most linefish species, and outdated data on others.

Although there is general consensus that there is a decline in South Africa's marine resources, the lack of adequate data makes it problematic to institute effective governance mechanisms in this sector despite the highly significant role that fishing plays in South African food security. Of particular concern is the lack of a policy that takes into account the importance of small-scale fisheries for livelihoods and food security, although this is being addressed by new regulations.⁷⁰

Land reform

The land reform debate fits into a larger programme about the need for agrarian



⁵⁷Carter & Gulati 2014. ⁵⁸Carter & Gulati 2014. ⁵⁹Turpie et al. 2002 in Carter & Gulati 2014. ⁶⁰Carter & Gulati 2014. ⁶¹Archer & Tadross 2009. ⁶²Benhin 2006. ⁶³Basson et al. 1997 in Carter & Gulati 2014. ⁶⁴Carter & Gulati 2014:13. ⁶⁵Benhin 2006. ⁶⁶Mwenge Kahinda & Taigbenu 2011; Andersson et al. 2013. ⁶⁷WWF 2011; Isaacs 2013. ⁶⁸WWF 2011. ⁶⁹WWF 2011. ⁷⁰Sowman 2006; Sowman & Cardoso 2010; WWF 2011.

reform in the country that will include marginalised farmers and communities in the country's food system. There are high barriers to entry for small farmers, manufacturers and retail outlets that want to become part of the increasingly competitive and commercial formal food system in South Africa.⁷¹ Despite the rhetoric favouring small-scale agriculture, neither the land reform programme nor agricultural restructuring processes since the end of apartheid have actually contributed towards inclusive rural development.⁷²

In South Africa, only 13% of the land is arable, with only 3% of the arable land considered as high-potential land.⁷³ As of 2012, figures show that 87% of arable land in the country was still owned by white commercial farmers.⁷⁴ This is indicative of South Africa's dualistic agrarian structure that comprises about 35 000 large-scale, mostly

white commercial farmers who produce almost all the country's marketed output, and a much larger number (approximately 4 million) of small-scale black farmers who are largely confined to the former Bantustans.⁷⁵

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As of 2012, figures show that 87% of arable land in the country was still owned by white commercial farmers.

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Given these statistics, the fundamental critique of the land reform process is that it has been largely a token process, with the incorporation of a few select black farmers into formal value chains being overshadowed by the ongoing consolidation of agribusiness throughout the system, such as the recent Pioneer-Pannar and Walmart-Massmart acquisitions.⁷⁶ This has left the old agrarian and land system largely in place within the food system and has become a matter of great concern for many stakeholders. The uncertainty of policies is worrying the private sector and the lack of progress is impacting on local communities and is a cause of concern for civil society organisations.



Photo: Peter Chadwick

⁷¹Hamann et al. 2011. ⁷²Greenberg 2013. ⁷³Laker 2005 in Carter & Gulati 2014. ⁷⁴Van der Elst 2012. ⁷⁵Aliber & Cousins 2013. ⁷⁶Greenberg 2013.

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One of the biggest gaps in the South African food system is the problem of combating food waste, especially in the fruit, vegetable and meat value chains.

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Food waste

One of the biggest gaps lies in the awareness – and knowledge – of food waste in the South African food system. Three studies on food waste have been published in South Africa. Nahman et al. (2012) estimated that the costs attributed to household food waste alone was estimated at approximately R21.7 billion per annum. This is an important figure, given that in general household food waste tends to account for less than 4% of total food losses across the supply chain. This study was extended by Nahman & De Lange (2013) to include the losses across the entire food value chain. These

losses were estimated at R61.5 billion per annum, the bulk arising at the processing and distribution stages of the fruit and vegetable value chain and at the agricultural production and distribution stages of the meat value chain. The results of the latest study by Oelofse & Nahman (2013) show that in 2007 an estimated 177 kg of food per capita was wasted across the value chain in South Africa. As a neglected yet relevant aspect of the food system, especially given the concerns about the ability of the global food system to feed 9 billion people, more research needs to be done on food waste. Understanding this phenomenon could provide insights into dynamics in the broader food system, in particular where in the chain the most effective interventions could take place to make it more sustainable and equitable.



Conclusions

9 food system trends to watch:

1. Rapid urbanisation and a shift towards buying food in a supermarket rather than growing it at home.
2. The duality of the current agriculture system, where large commercial farms produce food for the formal value chain and smallholders are marginalised.
3. The concentration of power in the hands of a few corporates and the impact of this on consumer choices.
4. The ongoing nutrition transition and the impact on the health of the nation and the development of chronic non-communicable diseases.
5. The long-term impact of nutritional deficiencies on South Africa's children.
6. The scarcity of arable land and water.
7. The depletion of fishery stocks.
8. The impacts of climate change.
9. The causes and volumes of food waste.

This review of the literature on food security has revealed an increasing interest in the South African food system, especially as it relates to food and nutrition security. Several drivers are exacerbating inequalities in the food system, most notably urbanisation and the shift towards buying rather than growing one's own food. It is also evident that South Africa continues to have a dual farming system, with commercial agriculture and agribusiness supporting the growing urban areas, while attempts to include smallholder farmers in this formal system have so far failed at national level.

The concentration of power in the hands of a few corporates within the food system has also been raised as a concern, especially as they now mediate the majority of the population's access to – and preferences for – food, whether through their production, their processed products or as retailers. The rise of 'Big Food' has also brought with it concerns about the nutrition transition that is taking place in South Africa and its impact on the health of the nation. Poor households now have easier access to processed foods high in salt, fat and refined sugar, which

has changed the diet of many South Africans. This has led to an epidemiological transition: increased levels of obesity have increased the prevalence of non-communicable diseases like type 2 diabetes and heart disease. At the same time, undernutrition and micronutrient deficiencies continue to affect a disproportionate number of children.

Finally, the environmental implications of the food system have also been brought to the fore as a threat to future food security. Depleting fish stocks combined with the projected impacts of climate change in a country that is already challenged by a scarcity of arable land and water pose considerable challenges to developing a sustainable food system. A lack of knowledge of important system components such as waste and the impacts of climate change on the food value chain must also be flagged.

An overarching theme in many of the papers in the review was the need for multi-stakeholder engagement in the governance of the food system. The food system is being contested on many levels and by many different groups. What is generally being advocated is the need to bring various points of view together in order to chart a way forward for a food system that is both sustainable and equitable.



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