A Status Quo Review of Climate Change and the Agriculture Sector of the Western Cape Province

Report submitted to the Western Cape Department of Agriculture and the Western Cape Department of Environmental Affairs & Development Planning

Chapter 8 Overview of the food system

For public comment

12 April 2015
8 Overview of the food system

Key messages

- The Western Cape agricultural sector is a major element of the province’s food system. The concept of food systems has been developed as a way of understanding that food security is the outcome of this complex articulation of multiple factors interacting across multiple levels.

- Food security can be divided into four elements: food availability, food access, food utilisation and stability, which are outcomes from a set of activities and processes in the food system including social and environmental outcomes.

- The close relationship between agriculture and the food system is not well-understood or acknowledged in policymaking. Indeed, the failure to take on a systems approach to the issue of food has meant that inadequate availability, accessibility and utilisation have often been addressed as technological challenges rather than systemic failures.

- South Africa is undergoing a ‘nutrition transition’ where stunting, wasting and undernutrition in young children is occurring alongside increasing levels of obesity and overweight in older children and adults.

- These public health problems are largely concerned with the consumption patterns of South Africans who often do not have access to a healthy and nutritionally diverse diet.

- Some of these changing dietary patterns are due to urbanisation, the expansion of supermarkets (and related concentration of power) and the availability of processed foods. The majority of South Africans, including those living in the Western Cape, access food through a combination of formal and informal markets.

- Informal food systems operate relatively well, and there exist flexible sourcing and distribution systems by some retailers and informal traders, as well as diverse marketing options. These can bring resilience under climate-driven variability of supply. Nonetheless there are limitations in the form of a lack of small-scale post-harvest infrastructure (storage, distribution, cold chain and transport), infrastructure and technology for smaller players.
8.1 Availability, accessibility, stability, utilisation

The ‘food system’ is a holistic term used to broadly encompass the various factors that contribute to feeding a population. The food system was previously conceived of as a set of activities ranging from production through to consumption (Ericksen et al., 2010). However, there is increased recognition that food security is a complex and multifaceted issue with numerous social, economic and environmental determinants (Ericksen et al., 2010). These include the interactions between nutrition, food and health, in addition to the infrastructure and value chain (harvesting, processing, packaging, transport etc.). The past decade has seen a marked increase in research around various aspects related to the food system and food security in South Africa but there is still a lack of primary data about certain areas of the system (e.g. waste within the food chain). The food system of the Western Cape is intimately linked to the national food system. This national food system is undergoing several major transitions, which are occurring simultaneously; for the purposes of this summary we will focus here on the shifts that we foresee as having the largest impacts on the system and by extension, food security in the years to come.

In order to explore the ‘food system’ it is useful to break it down into four dimensions, namely availability of food, accessibility of food, the stability of that food supply and the utilisation of the food. The Constitution of South Africa: Bill of Rights recognizes the importance of availability, access, stability and utilisation in its section 28. The role of nutrition is mentioned stipulating that everyone has the right to have access to sufficient food and water and that every child has the right to basic nutrition, shelter, basic health care services and social services. The South African Departments developed their own strategic plans and budgets taking the MTSF (Medium Term Strategic Framework) into account. The priority areas for 2009-2014 include (among others): more inclusive economic growth; rural development; food security and land reform; improved health care; cohesive and sustainable communities and sustainable resource management and use.

Based on the objectives of the MTSF (2009-2014) a set of 12 national outcomes was developed. Each outcome clearly articulates measurable outputs and key activities. Outcomes that are particularly relevant to nutrition include: outcome 2: A long and healthy life for all South Africans and outcome 7: Vibrant, equitable and sustainable rural communities with food security for all. These outcomes influence the performance Agreements signed by Ministers referred as the ‘Delivery Agreements’. In the National Development Plan (NDP) Vision 2030, affordable access to quality health care and household food and nutrition security are listed as milestones required for achievement of these measurable outputs. (Shönfeldt, 2014)

In 2002 the South African Government adopted the Integrated Food Security Strategy (IFSS). The vision is: “to attain universal physical, social and economic access to
sufficient, safe and nutritious food by all South Africans at all times to meet their dietary and food preferences for an active and healthy life” (IFSS 2002: 13).


The South African government has started two other programmes to increase food security within its population, both of which are implemented in various forms in the Western Cape. DAFF, as a national department, works through provincial departments in terms of implementation, providing support to enable the spheres of government to meet their mandate. First, the Zero Hunger Programme of DAFF focuses on food access, food production, nutrition security, development of marketing channels, fostering of partnerships with relevant stakeholders and promoting stakeholder dialogue (Zita, 2012). Second, the Outcome 7 programme launched by the government focuses on sustainable agrarian reform and aims to improve access to affordable and diverse food, rural services and sustainable livelihoods, rural job creation and enabling an institutional environment for sustainable and inclusive growth (Government of South Africa, 2010). Outcome 7 is a broader development programme while zero hunger focuses on reducing hunger (De Cock et al., 2013).

South Africa is described as a food secure nation, meaning that it produces sufficient food to feed its population. Food production by the national and provincial agricultural sectors remains critical for food security because it underpins the availability of food for people that do not produce food. Production also assures employment and has been identified by the NDP for its potential to absorb large numbers of unemployed people. However, the statistics at a household level tell a different story. The most recent large
scale survey of household food security in South Africa was the South African National Health and Nutrition Survey (SANHANES, Shisana et al., 2014). The SANHANES survey data indicated that on a household level 45.6% of the population was food secure, 28.3% were at risk of hunger and 26.0% experienced hunger (were food insecure). While the Western Cape reported the highest rates of food security (57.9%) on a national level, 25.6% of study participants were at risk of hunger and 16.4% experienced hunger.

While the Western Cape fared better than many of the other provinces for various food security indicators, the nutrition transition is also taking a toll on population health, as indicated by the high rates of overweight in the province. A varied diet is needed to ensure an adequate intake of essential nutrients and dietary diversity (DDS) can be used as a proxy measure of the nutritional quality of a population’s diet, as well as an indicator of the access dimension of household food security (Kennedy, 2009). Apart from reflecting on food security, a low dietary diversity has also been associated with low weight and stunted growth. In the Western Cape, 28.2% of study participants had a DDS < 4. While this is the best in the country, a DDS < 4 for almost a third of the surveyed population is still a cause for concern. Dietary diversity is generally associated with increased economic development and the Western Cape and Gauteng (which had the two highest DDS scores) are the most economically developed provinces.

Increased development and the nutrition transition can also lead to higher levels of sugar and fat intake. This did not apply to fat intake at the provincial level where mean fat intake at the national level was 7.26 and in the WP 6.78. The mean sugar score ranged from 2.14 in Eastern Cape to 3.03 in the Western Cape. The other provinces had significantly lower mean scores compared with Western Cape and Gauteng. The mean dietary intake of fruit and vegetables was 3.77 on the national level and 3.6 in the Western Cape. In part due to the nutrition transition, overweight was most prevalent on a national level in the Western Cape (18.2%) and Western Cape girls were the most overweight (20.3%) compared to their counterparts in other provinces.

Both rural and urban households accrue the majority of income in the form of employment, remittances from migrant workers and from social grant payments (Misselhorn et al., 2007). As a result, the mainstream economy and levels of employment are the major factor influencing food security in South Africa (Misselhorn et al., 2007). There is a perception that food insecurity is more common in rural than urban populations but research indicates that this is not the case. In urban areas, however, food availability is seldom the key factor contributing to undernutrition. Rather, access to health services, poor sanitation and care are the leading causes of undernutrition (Crush and Frayne, 2011). The urban poor are exposed to both acute and chronic problems of food access – often on an ongoing basis – thus impacting nutritional status negatively at all stages of the life cycle, from conception to adulthood, and also in old
Chapter 8 Overview of the food system

age (Crush et al., 2011). An AFSUN baseline survey examining food security in urban cities across the world found that 68% of the sampled poor community in Cape Town were severely food insecure (Crush et al., 2011). Low birth weight and stunting also pose serious public health problems that can have severe long term consequences on the growth and mental development of young children. In South Africa, almost one quarter of children under five years old remain stunted. Since 1990, the stunting rate has decreased only slightly, from 35.4% to 33.3% (Crush et al., 2011).

8.2 Nutrition and health
The ‘nutrition transition’ can be described as the phenomenon whereby the growing urban and middle class population is moving from a traditional diet to an increasingly refined diet high in sugar, animal products and trans fats (Crush et al., 2011). This transition has facilitated the growing obesity epidemic in South Africa which has severe economic and health implications for the population at large due to the rising prevalence of chronic non-communicable diseases. Increased urbanisation and a rapid expansion of supermarkets into informal settlements and rural areas in the country have led to greater dependence on supermarkets as the chief supplier of food. While some argue that supermarkets have offered the urban and rural poor a greater variety of foods at lower prices, others posit supermarkets can reduce the ability of marginalised populations to purchase a high-quality diet, and encourage the consumption of energy-dense, nutrient-poor highly processed foods (Crush et al., 2011).

Excessive consumption of poor quality foods and pervasive poverty leads to the paradoxical situation of a population with simultaneous obesity and malnourishment. While cost is a critical determinant of the food choices of the urban poor, cultural and other social factors also play an important role. The media and advertising contribute to shaping food preferences and choices, affecting both the quantity and quality of food eaten. This fundamentally alters consumption and nutrition outcomes in urban areas. For the urban poor, many of these changes are negative. The desire for so-called ‘status’ foods and ‘aspirational’ foods is a powerful driver of food choices (Crush et al., 2011).

8.3 Hotspots of malnutrition
The SANHANES data indicated that by province, the Western Cape has the lowest prevalence of hunger (16.4%), followed by Gauteng (19.2%). However, it needs to be kept in mind that the SANHANES methodology encompassed areas all over the Western Cape and does not focus on areas with a particular problem. Unpublished data from the Worcester area focusing on the Avian Park and Zweletemba communities found that 63% of households were food secure or 37% food insecure. It is also interesting to note that there was a higher prevalence of household food security (70.5%) in households not receiving the child support grant (Koornhof, 2014). These communities
are disadvantaged and include both formal and informal housing so cannot be categorised as one or the other by the SANHANES criteria.

A 2011 systematic literature review based on 17 relevant studies indicated the severity of malnutrition in the Western Cape in relation to the health of children (Durao, 2011). Pooled results identified that a significant proportion of children in the province are undernourished. Stunting affects a higher proportion of children than underweight or wasting across all age and gender categories. Among children 0-5 years old, 18.4% were stunted compared to 7.5% and 9.7% of children 6-10 and 11-18 years old, respectively. An unexpectedly high prevalence (5.1%) of wasting was observed among the youngest children. In addition, a high proportion of children are overweight, older children and girls being more affected. Among teenagers, 27.9% of girls were overweight compared to only 4.7% of the boys. Nutritional status improvements over the period between 1997 and 2010 were not observed (Durao et al., 2011). Most published studies were done in known disadvantaged communities and were, therefore, classified as being representative of a poor socio-economic status. The 2012 riots and civil unrest that occurred among the farmworkers in the De Doorns area also came about in part due to rising food prices, a low minimum wage and increasing food insecurity in the region. Both Avian Park, Zwelethemba and the De Doorns communities are semi-rural and dependent largely on formal and informal labour in the agricultural sector as well as various forms of social protection. These findings indicate that hunger and malnutrition remain pervasive problems in the Western Cape, both in rural and urban informal settlements. The stunting and wasting among younger children is of particular concern as these conditions have long term negative consequences for the morbidity as well as the cognitive development of these children and are ultimately detrimental to society at large (Durao et al., 2011).

8.4 State of food system

A recent review of literature pertaining to food security and food systems in South Africa provides a useful summary (Pereira, 2014). 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 agri-business supporting the growing urban areas, while attempts to include smallholder farmers in this formal system have so far failed at national level.

The Western Cape has a high success rate of 62% in land reform projects (WCG: Agriculture, 2014c) with emerging farmers being integrated into the mainstream commodity groups, for example via the Deciduous Fruit Development Chamber (HORTGRO, 2014b) and others. Has this addressed the need to reduce the gap and contribute to better food security for some portions of the population? Benefits could accrue either directly through local access to food, or indirectly through more
equitable income distribution and raised household expenditure. The evaluation study indicates that approximately 60% of land reform project beneficiaries' household income increased owing to the project.

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’ (Igumbor et al., 2012) 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. The projected impacts of climate change on increasingly scarce natural resources such as 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. What is generally being advocated is the need to bring various points of view together in order to chart a way forwards for a food system that is both sustainable and equitable.

8.5 Role of Western Cape agriculture in food system

The relatively consistent rainfall of the Western Cape, diverse microclimates and varied soils allow for stable production and a remarkably diverse crop mix. The province contains approximately 10% of the national population, 12% of the country’s agricultural land, and produces 20% of the nation’s agricultural produce (WCG: Agriculture, 2005). This makes the Western Cape a disproportionately large contributor to the national agricultural economy. The province is also home to the smallest and most biodiverse floral kingdom in the world, making agriculture in the province a disproportionately large stakeholder in global biodiversity conservation.

Fruit, poultry, eggs, winter grains (such as wheat, oats and barley), viticulture and vegetables make up more than 75% of the Western Cape’s agricultural production. Excluding viticulture, the region’s agriculture is focussed almost entirely on food crops. In total the agricultural sector in the province yielded a gross financial income of around...
Chapter 8 Overview of the food system

R30.8 billion in 2012, the highest in the country (WCG: Agriculture, 2014b). However, much of this is not aimed at local consumption, with 45% of provincial agricultural production generated from export orientated horticultural products such as fruits and wine grapes (Statistics South Africa, 2007). These export yields have grown steadily in recent years to a value of around R16.019 billion (WCG: Agriculture, 2014b) and in 2013, seven out of the top ten export earners for the Western Cape were agricultural.

Unlike other provinces in South Africa, where subsistence agriculture is widespread, there is almost no traditional subsistence agriculture taking place in the Western Cape (DAFF, 2013c). However, pockets of smallholder agriculture do exist, with the Department of Agriculture estimating the numbers at approximately 10,000 farmers based on a survey in 2010. Moves have been made by civil society and local government to address urban poverty through localised food production (McLachlan and Thorne, 2009).

In 2002, the total number of commercial farming units in the Western Cape stood at 7,185 (Statistics South Africa, 2002), but had decreased by seven percent in 2007 to 6,653 units (Statistics South Africa, 2007a; DAFF, 2013c). This steady decline in the total number of farming units in production is a direct result of the agglomeration of farms, rather than a reduction in the total area under production (Statistics South Africa, 2007a). It should also be noted that over large sections of the province significant changes in cropping patterns are occurring as winter cereal producers shift towards agro-ecological production systems which employ increasingly diverse crop rotations (BFAP, 2013; Metelerkamp, 2011).

Corresponding employment figures on large farms for the same period showed a 13.5% decline from 219,091 full-time and part-time employees in 2002 (Statistics South Africa, 2002) to 189,489 in 2007 (Statistics South Africa, 2007). This decline was largely due to merging farming units retrenching duplicate labour and increasing mechanisation (Metelerkamp, 2011). Vink and van Rooyen (2009) have argued that progressive regulation of the agricultural labour market has also driven this decline in employment figures. Either way, the loss of 29,000 full and part-time jobs represents a defeat in the province’s struggle against unemployment, urban migration and food insecurity. Furthermore, the increasing consolidation at both the point of production and retail needs to be recognised as a positive feedback loop that will continue to drive inequality in the province as control over the entire value chain concentrates into the hands of a few. The radical class imbalances in agricultural land ownership are of similar concern.

1However, Vink and van Rooyen do note that “While labour regulation appears to have negatively impacted on employment levels, there is evidence to suggest it has had a positive impact on the development status of those farm workers who continue to be employed” (2009: 25)
Looking to the future, the central question becomes: How can the Western Cape transition from an unsustainably resource-intensive production paradigm, to a more equitable, labour intensive production paradigm which builds the region’s natural capital?