Making sense of undernutrition and overconsumption
Agenda-setting for sustainability in the South African food sector

Food system series: Paper II
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Compiled by Luke Metelerkamp on behalf of the Sustainability Institute
Introduction to the Ernst and Young Food Systems Series: Thought leadership for corporate engagement in global food systems

Food and food related issues are rapidly rising in prominence on the global sustainability agenda given the cross cutting impact of food on everything from the state of the Earth’s climate to the productivity of business’s employees. Food powerfully connects ecological, social and economic systems in complex ways - many of which we are only just beginning to comprehend. Despite its importance very few business leaders, let alone sustainability managers, have the background information they require to successfully navigate this increasingly critical field. In recognition of the importance of food systems within the corporate leadership agenda, Ernst and Young, in partnership with the Sustainability Institute, have embarked on an ongoing food systems research programme. This interdisciplinary research provides business leaders with the cutting-edge foundation they require for successful private sector engagement in the food systems arena.

Within this series

- **Paper I**: A sustainability review of the global food system
- **Paper II**: Making sense of under-nutrition and over-consumption: agenda setting for sustainability in the food sector
- **Paper III**: 1913 land act – The state of South African land ownership 100 years on
- **Paper IV**: Consolidation in the food system - risks, responsibilities and opportunities
- **Paper V**: Soil and sustainability - what every CSR manager needs to know
Executive summary

As the severity of the challenges surrounding food systems increases, in particular issues relating to the pricing of, access to and preferences for nutritious food, so too will the challenges facing business in regions where food system dysfunction is most acute. In order to better understand the implications this could have for the private sector, this report seeks to outline the complex linkages between nutrition, society, business and the environment.

Key questions include:

- What is the status of overconsumption and obesity in South Africa?
- What is the status of malnutrition and hunger in South Africa?
- What are the drivers of the above?
- How does this impact on the country's business climate?
- What role can the private sector play in pioneering solutions?

Through this research it has emerged that for South Africa, ‘stuffed’ is fast becoming a bigger killer than ‘starved’. A child born in 2013 has a greater chance of suffering from the health impacts of having too much food, rather than too little. Yet, almost 25% of South African children show signs of stunting, and the country’s food system increasingly operates on borrowed time by eroding the natural capital on which all life depends. For the world’s transitional economies such as South Africa, China and Mexico, this double burden of poor nutrition and overconsumption represents an increasingly serious threat to economic performance and long-term prosperity.

Strong evidence is also presented on the immediate and long-term implications for the entire economy. These implications include: increased labour costs; rising healthcare costs; exacerbated socio-economic inequality; and higher chances of socio-political unrest. These and other factors presented highlight the necessity for more active and critical engagement by the private sector with issues surrounding nutrition as a component of maintaining its position of a competitive and responsible contributor to the global economy.

A menu of evidence-based solutions is presented which is compiled from seminal research from four alternative perspectives on the system. It is stressed that while each organisation needs to select a personalised bouquet of interventions, there are three principles by which all companies engaging in the nutritional space should abide:

1. Intervene to enhance their own employee wellbeing and productivity.
2. Intervene to protect the wellbeing and productivity of tomorrow’s workforce.
3. Intervene in ways which address the root causes of dysfunctional food systems by focussing on actions that create a healthier food system for all and not just for valued employees.

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1 Stunting is measured by a low body weight for age and is a reliable indicator of nutritional deficiencies.
2 Such as soil, biodiversity, climate and water resources.
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1. Introduction

'Stuffed' is fast becoming a bigger killer than 'starved', and a child born in 2013 has a greater chance of suffering from the health impacts of having too much food rather than too little (WHO 2010, Armstrong et al. 2011, Lancet 2011, Swinburn et al. 2011). Despite these alarming figures, almost a billion people still go hungry and our food systems increasingly operate on borrowed time by eroding the natural capital3 on which all life depends. For the world’s transitional economies, which include those of South Africa, China and Mexico, this double burden of poor nutrition and overconsumption represents an increasingly serious threat to economic performance and long-term prosperity (Lehnert, et al. 2005). Ballooning healthcare burdens, poor educational performance and increasingly uncompetitive labour pools are all symptoms indicative of failing food systems (Lehnert, et al. 2005; Victoria et al. 2008; Crosby, Jayasinghe & McNair 2013). Given what we now know about the linkages between early childhood nutrition and educational performance later in life (Victoria et al. 2008; Crosby, Jayasinghe & McNair 2013), for example, or the linkages between employee wellbeing and the cost of labour (Lenneman et al. 2011, Freijer et al. 2013), the rising attention that diet-related wellbeing is receiving is unsurprising.

This paper seeks to make sense of many of the unseen and often complex linkages between healthy diets and healthy businesses. In so doing, the research straddles two quite different timeframes: the first deals with the more immediate benefits which the private sector can gain by engaging internally with issues of nutrition; the second addresses the longer-term perspective on nutrition that needs to be taken, at both an organisational and national level, in order to break the destructive, multigenerational cycles into which South Africa is fast descending with regards to nutrition.

Finally, the research also seeks to provide the private sector with some points for critical reflection. It is likely that, given their proven health impacts, food products which are high in processed sugars and fats will become the tobacco of the 21st century (Stuckler et. al. 2012). In many ways, the stage has already been set between related industries and the medical community. This raises some probing questions around CSR (and accountability) which, for many business leaders in the food sector, will cut to the foundations of their business models. While it is tempting to gloss over the uncomfortable reality that many of the world’s biggest and most successful food companies externalise staggering large socio-economic and environmental costs, this research suggests that it is in the private sector’s best interests to begin transforming these poor practices. To this end, this research seeks to tread a fine line between being unbiased in its assessment and constructive in its outcomes.

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3 Such as soil, biodiversity, climate and water resources.
2. The current status of over and undernutrition

Nutrition Globally

The conditions of overweight and obesity, traditionally considered a North American problem, are globalising rapidly with a total of 1.6 billion adults reportedly overweight or obese (WHO 2010). This is almost double the 852 million people in the world who are faced with immediate food insecurity (WHO 2010). While global hunger levels are levelling out, the ranks of the overweight and obese are predicted to grow by 40% over the next 10 years (WHO, 2010). Among adults the growth in excess body weight is dramatic: 538% over the past 30 years, from a global average of just 6.5% in 1980 to current levels in excess of 35%. However, it is among the children of the world that the most rapid year-on-year growth is now occurring (WHO 2010).

Nutrition in South Africa

Nutritionally, South Africa is a relatively poor performer. Some 53% of South Africans are overweight and the country is in the top 38th percentile of the world's fattenest countries (Streib 2007). Levels differ significantly between demographics, with the highest rates of obesity reported in black women (58%) followed by white men (54%) (Goedecke, Jennings & Lambert, 2006). For South African businesses within which white men likely constitute the majority of current management staff, followed by black women who are being fast tracked most rapidly into positions of responsibility, the disease burden placed by overweight employees on their operations is worth noting and will be discussed in greater detail in Section 3.

Yet, despite apparently high levels of over-consumption nationally, between 14% and 52% of households are moderately to severely food insecure, depending on the metrics used (Joubert 2012). Similarly, around 24% of children under the age of three years display symptoms of stunting (low body height for age), which is brought on by under-nourishment during gestation and early childhood (Steyn, et al 2005). To further this apparent irony, many overweight South Africans are also considered nutritionally insecure based either on their chosen diets and/or inability to afford the diversity of foods required for a balanced diet (Joubert 2012).

The linkages go deeper. Stellenbosch University community nutrition specialist Lisanne du Plessis explains that undernourishment in the early stages of life (particularly the first 1000 days between conception and the age of two) increases the risk of being overweight as an adult. This cruel twist of fortune highlights why du Plessis and others argue for improving nutrition in the first 1000 days of life as the optimal - and in their view, the only - point of intervention at which the intergenerational cycle of malnutrition can be broken (Du Plessis, 2013).

It is important to highlight that issues relating to diet-based wellbeing are not restricted to low-income demographics. In a recent study of over 13 000 white collar workers in South Africa, of whom the majority are professionals and managers, more than 63% were either overweight or obese and 82% fell below the recommended daily intake of fresh fruit and vegetables (Discovery, 2011). Using this and other data, the health insurance company calculates what it terms the “Vitality Age”, which ranks people’s health relative to their age in life, and gives an indication of how employees’ health meets up to their age. Figure 1 provides an insight on the drivers of premature aging and poor health from a corporate perspective.

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4 This is due to physical and psychological programming which gets irreversibly hard wired into our metabolic systems.
Trends looking forward

Looking to the future, growth trends paint a grey picture, particularly with respect to obesity levels (Steyn, et al, 2005). To date, the population distribution of overweight and obese people is skewed significantly towards adults. However, a troubling ‘catch up’ effect is now taking place in which the onset of obesity is moving down the age ladder. The most rapid rises in obesity levels in South Africa are now occurring amongst children and teens (Goedecke, Jennings & Lambert 2006). Take, for example, the near ninefold increase (from a low of 1.1% to 9.5%) in the prevalence of overweight boys between the ages of 8 and 11 years between 1994 and 2004 (Armstrong et al. 2011).

This rapid growth in childhood obesity is congruent with trends in other low- and middle-income countries (LMICs) as shown in Figure 2. Many indicators now suggest that non-communicable diseases related to excess body weight are among the biggest killers in South Africa (Goedecke, Jennings & Lambert 2006). By 2020, deaths resulting from lifestyle-related diseases are likely to almost equal deaths caused by communicable diseases (such as TB and HIV), maternal and perinatal diseases combined (WHO 2010). This list of lifestyle related diseases includes type II diabetes, coronary heart disease, stroke and some forms of cancer.

If funding within low and middle income countries (LIMCs) can be seen as a proxy for recognition of this growing health crisis, it would seem that much work remains to be done in order to address the apparent imbalance in perception around the importance of nutrition (Figure 3).

Figure 2: Estimates of percentage of childhood population overweight (Swainburn et al, 2011).

Figure 3: Comparison of funds dedicated to basic nutrition and food aid vs. HIV/AIDS (Horton ed. 2008)
3. Why nutrition matters to the private sector

The increasing prevalence of overweight and undernourished people doubles the disease burden carried by many South Africans and places the individuals, their employers and the social welfare system at a significant developmental disadvantage.

Links between employee wellness and productivity

For businesses, the traditional approach to interpreting the burden of disease has centred on employee productivity and healthcare. The rationale is sound and from this perspective, the true impact of increasing death and debilitation arising from lifestyle related diseases needs to be seen in terms of the fact that almost half of those affected are within the prime of their productive years (WHO 2010, World Economic Forum 2013). The scale of these losses relative to other forms of illness can be seen in Figure 4.

![Figure 4: Cumulative output lost 2011-2030 by disease type (Bloom et al. in WEF 2013)](image)

An extensive body of international literature is emerging which demonstrates that the financial implication of diet-related diseases in the workplace is statistically significant (Kowlessa et al. 2011, Lenneman 2011, Howard & Potter 2012). The general findings within these studies conclude that the bulk of the cost to companies does not arise from associated healthcare costs, but rather as a result of reduced labour productivity arising from absenteeism and, even more surprisingly, presenteeism (attending work while sick) (Howard & Potter 2012, WEF 2013). As Sean Sullivan, co-founder and president of the Institute for Health and Productivity Management, points out, “Presenteeism alone is more than double the cost of absence and direct medical care combined at both Dow and J.P. Morgan Chase Bank One.” (Sullivan 2008:p1)

Put simply, unhealthy workforces significantly impact on a company’s performance. Furthermore, the leading cause of death, debilitating ailment and lost productivity in the workplaces of the 21st century can be solved by simple changes to what employees put in their mouths, and the levels of exercise they participate in. On face value, this is a remarkably simple and empowering statement and many companies are showing that taking action delivers positive returns on investment (WEF 2013).

Sullivan, whose organisation also leads the World Economic Forum’s Workplace Wellness Alliance⁵, points out that “illness in the growing non-working population is imposing a huge burden of caregiving on working-age Americans - especially the ‘sandwich generation’ of mostly middle-aged and often single women who also must take care of sick children at home. With nearly one-third of claims for Family Medical Leave now attributable to caregiver responsibilities, this has become a substantial cost of ill health for employers” (Sullivan 2008:p2). The implication of this for companies is that only considering the wellness of direct employees will limit the success of employee wellness initiatives.

Here it is important to note that because these studies focus on the direct cost to companies rather than societies, their samples consist of the employed and, at most, their immediate families. Absent from this specific branch of literature is the impact which poverty related dietary diseases⁶ have on companies and society at large, which could be considerable given the scale of these diseases.

The limitations of employee wellness

From a short-term perspective, focusing on employee wellness represents an important solution wedge in the nutritional dialogue and is unquestionably an easy first step companies can take to improving their resilience. However, obesity among both the wealthy and poor has reached proportions which can no longer be considered solely a result of ‘weak’ individuals making poor lifestyle choices, as is often portrayed, but rather “a normal response by normal people to an abnormal environment” (Swinburn et al. 2011:804).

South Africa’s Healthiest Companies: as ranked on the 2011 Healthy Company Index

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<td>Vital Health Foods</td>
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<td>Cadiz Holdings</td>
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<td>Lambard Insurance</td>
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<td>Magna Carta PR</td>
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<td>St Stithians College</td>
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(Source: Discovery 2012)

Furthermore, many of the large multinational food companies which are now engaging in wellness programmes for their own employees are considered by leading researchers in the medical field as the key architects of this “abnormal environment” which is driving the obesity epidemic (Swinburn et al. 2011; Stuckler et. al. 2012; Dorfman et al. 2012). In return for this, these companies, which apply one principle for their employees and another one entirely for their clientele, extract great profits by externalising massive health-related costs to other companies, taxpayers and society at large. Why, for example, should JP Morgan be forced to foot the bill for expensive employee wellness programmes when it is not Profiting from polluting the health system?

Dorfman et al. (2012) go even further in their comparison of the public relations strategies employed by the tobacco industry in response to the increasing recognition of the harmful effects of smoking, and the current public relations strategies of the two biggest soda companies, in drawing the following conclusion:

“In the most successful companies, leaders at all levels recognise the inextricable link between employee health and overall productivity.”

World Economic Forum 2013:p18

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⁵ The Workplace Wellness Alliance was founded in 2009, inspired by a CEO-led call to action the World Economic Forum in Davos the year before. Today, the Alliance has over 150 member organizations, totaling over 5 million direct employees.

⁶ Such as impaired cognitive development resulting from early childhood malnutrition.
Employee-based wellness programmes are a good start, and can serve as a valuable laboratory for better understanding the linkages between diet, wellbeing and sustainability. As Klaus Schwab, executive chairman of the World Economic Forum (WEF) points out, “Over 50% of the working population spend the majority of their time at work, so the workplace provides a unique opportunity to raise awareness, as well as guide and incentivise individuals to develop healthier behaviours.” (WEF, 2013: p3). However, because these strategies tend not to grapple with the structural drivers of ill health, it will always remain important to view employee wellbeing (and other individual wellness programmes) for what they are: an important yet limited niche-market fix on a leaking bucket, rather than a long-term global solution. In the long run, any individual wellness programme - be it employee-centred or otherwise - that allows attention to be deflected away from the key drivers of the nutrition crisis, is likely to do more harm than good.

Nutrition beyond company borders

Nutrition needs to be considered from a wider sustainability perspective, which encompasses linkages between diet-based wellbeing and the broader economic and environmental framework of society.

This is based on three premises:

- Dietary inequality is a driver of socio-economic inequality: At a national level, poor nutrition leads to poor health and reduces educational and earning potential in ways which affect the poor far more than the wealthy.

- Socio-economic inequality is a key driver of socio-economic instability: Because nutrition currently acts as an invisible driver of inequality, food plays a wider role in determining levels of economic stability than many people acknowledge.

- Poor diets across all classes as well as dietary inequality between economic classes is bad for business and society at large: Lower skills, poor health and socio-economic instability not only increase the cost of doing business, they are barriers to meaningful prosperity.

The most commonly-cited linkage between food and economic stability is the 2007/2008 food price crisis which saw civil uprisings and riots in 30 countries across the globe. This unanticipated popular movement left scores dead and cabinet ministers ousted as hungry citizens took to the streets in protest (Holt-Gimenez & Patel 2009). Indeed, as food insecurity becomes increasingly acute as a result of increasing price-induced scarcity among the poorest billion people on the planet, disruptions to business and other civil activities are likely to increase (Holt-Gimenez & Patel 2009, Swilling & Annecke 2012).

However, in order to explore many of the more powerful, yet less obvious, connections between diets and our economy (alluded to in Figure 5), the linkages between poverty, nutrition, education and inequality need to be clarified.
Figure 5: Complex impacts of dysfunctional consumption (Metelerkamp, 2013)
Nutrition as a starting block for social capital

As the foundational building block from which every human being is constructed, nutrition begins shaping an individual’s future even before birth. Just as alcohol intake during pregnancy can create incurable mental disabilities, malnourishment reversibly stunts not only physical stature but also cognitive development (Victoria, et al. 2008, Du Plessis 2013, Crosby Jayasinghe & McNair 2013). Similarly, there is an increasing body of evidence suggesting that maternal obesity during pregnancy also predisposes the foetus to obesity-related diseases (such as diabetes) later in life (Du Plessis 2013).

A child exposed to chronic malnutrition in the first 1000 days of life (see Figures 6) starts school with a lower cognitive capacity than his or her immediate peers, attains a lower level of education, benefits less from state investments into tertiary training, and ultimately becomes less productive in the workplace (or even employable) (Joubert 2012). These compounding losses arising from early childhood malnourishment can reduce an individual’s lifetime earning capacity by up to 10% (World Bank in Joubert 2012). In the words of The Lancet (the world’s leading medical journal), adequate nutrition in the first 1000 days of life is “essential for formation of human capital”, because “Undernourished children are more likely to become short adults, to have lower educational achievement, and to give birth to smaller infants. Undernutrition is also associated with lower economic status in adulthood.” (Victoria, et al. 2008:p 352)

Put another way, when a girl experiences undernutrition in the first 1000 days of life, not only is her economic productivity as an adult affected, but by default so too is the economic productivity of the children she gives birth to. This knock-on effect on her children can be almost entirely mitigated - but this is dependent on adequate interventions between her birth and the birth of her children.

Conversely, those who receive optimal nutrition - typically the wealthy and well educated - experience an invisible multiplier effect in their ability to stay ahead of their poorer counterparts. In this intergenerational and almost entirely invisible way, nutritional inequality today, reinforces multi-generational poverty cycles which combine with a range of compounding factors to widen the inequality gap for many years to come.

This highlights the role that can be played by optimal nutrition in either exacerbating or breaking the cycle of poverty at both a family and country level during the first 1000 days of life (Du Plessis, 2013). As illustrated in Figure 7, there are multiple mechanisms through which nutrition affects development. These mechanisms interact in non-linear ways, which makes modelling highly context-specific.

When extrapolated across regions like sub-Saharan Africa where more than 50% of the population is undernourished (FAO 2012), the impacts of this long range socio-economic lock-in take on epic proportions. Compounding the impact of lost human potential are costs associated with managing the health burden. Due to the scale and complexity of expenses involved, data relating to the impact of dysfunctional food systems on fiscal spending remain rudimentary at best. However, with obesity-related cost forecasts for the USA and UK in the region of R600-billion per annum (The Lancet 2011) it can be assumed that the impact on the cash-strapped health systems of developing economies will be significant.

Figure 6: Phasing of brain development in first 1000 days of life relative to the rest of life (Thomson 2001 in Crosby Jayasinghe & McNair 2013)
Figure 7: Pathways of effect between nutritional status and social capital (Crosby Jayasinghe & McNair 2013)
4. Drivers of nutritional overconsumption and undernutrition

Human diets and changing lifestyles:

Diets have a strong physiological and cultural dimension, which is rooted in a different era when daily energy expenditure was high and the availability of energy-dense food was low (James 2008, Joubert 2012). This has resulted in two phenomena:

i. Neurological hardwiring of the human brain and taste buds to seek out and prioritise once scarce food groups like fats, sugars and salts

ii. Cultural associations between these rarer food groups and social status*

As economies modernise, populations urbanise and companies mechanise, the nutritional requirements of citizens and employees shift. So too does the availability of certain food groups. Not only does the average job now require far less physical energy (James 2008) but entire modern civilisations are increasingly structured to minimise personal energy expenditure (Swinburn, et al. 2011). At the same time, the oils, fats and sugars which were once hardest to come by, are now some of the modern food system’s most affordable and readily available food groups (Swinburn, et al. 2011).

In his assessment of the energy balance of the Chinese population over the last 40 years, James (2008) concludes that due to changes in lifestyle, the average daily caloric requirement for a Chinese citizen needs to drop by 10 - 25% (400 - 800 kcal d-1, depending on gender and occupation). Yet the reverse is occurring. In two lines which are indicative of the challenge faced by developing economies around the world, James goes on to state:

“Food intake should have fallen substantially despite the community’s focus on the value of food after all the food crises of the past. Yet, Chinese fat and sugar intakes are escalating, and these policy-mediated features are amplified by the primeval biological drive for those commodities with specialised taste buds for fatty acids, meat, sugar and salt.” (James, 2008: p7)

Similarly, from a developed economy perspective, the Sustainable Development Commission (SDC) in the United Kingdom recently released a parliamentary report in which four out of the top five highest impact interventions, which linked diets to broader sustainability, stressed points involving less consumption of something* (SDC 2010). This reiterates the argument put forth by James and others that the critical challenge within the global food system is not the typical ‘Borlaug-type’ argument of needing to produce enough to feed 9 billion (Borlaug 2000; The Economist 2011) but rather how not to feed 9 billion, in other words, how to feed them well (James 2008, SDC 2010, Swinburn et al. 2011, Joubert 2012, Haysom & Kelly 2013).

Big Food

Leading researchers all highlight the need to consider the growing role played by the private sector, and in particular large multi-nationals, in defining the global nutritional landscape which is both stuffed and starved (James 2008, Holt-Gimines and Patel 2010, Swindburn, et al 2011, Stuckler & Nestle 2012). In this sense, ‘Big Food’ is defined as the multinational food and beverage industry with considerable and concentrated market power throughout the value chain (Stuckler & Nestle 2012).

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* In South Africa, a point in case is the difference in consumer attitudes between dishes based on nutritionally dense foods such as Morogo (African Spinach) and oil rich, ultra-processed foods such as KFC - with the former being regarded as a poor man’s food and the latter as an aspirational item.

* ‘Consuming less’ as in consuming ‘less low nutritional value food and drink’ and consuming ‘less meat and dairy’ all ranked in these top five (SDC 2010). All of these, the flagship report argues, have social, economic, environmental and health benefits which far outweigh the negative impacts such as lower retailer turnover.

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Big Food from the demand side

“The economic priorities and policies that promote consumption-based growth, and the regulatory policies that promote market and trade liberalisation have produced many benefits but are now increasingly regarded as contributing to the global crises of overconsumption in general. Obesity is but one of these crises, as the private sector becomes ever more effective in its exploitation of basic human biological drives, desires, and weaknesses.” (Swinburn et al. 2011:p881)

The aforementioned understanding of physiological coding, combined with changing lifestyles (Section 4), answers one question which many nutritionists and food activists regard as vital: Why societies everywhere are so susceptible to food companies’ advances with products that contribute to disease and ill-health.

It also goes some way to explaining why, almost without exception, the world’s largest food companies (such as Nestle, Coca-Cola and Yum!) have evolved into the sugar, fat and salt re-packagers they are today. In a competitive business environment, the winners have been the ones who have been able to best tailor their products to humanity’s physiological and cultural DNA. In the absence of effective regulation and education to protect consumers from themselves, selling healthy diets is simply not as profitable.

Big Food from the supply side

Further driving the distorted consumption of certain food groups is the globalisation of agricultural markets and the promotion of regional agricultural specialisation (Patel 2012). This globalised food system by default preferences food groups which can be mass produced, easily stored for long periods and transported long distances at low cost. Ironically, the very fats, sugars and salts that our taste buds are attuned to, along with the processed carbohydrates which serve as their carriers, meet all of these criteria. This helps to make these unhealthy food groups both more profitable at global scales (thus incentivising producers and retailers) and more affordable when viewed by individual consumers acting on a local level.

When plugged into the health system, these cheap, empty carbohydrates lead to macro-level obesity and simultaneous malnourishment.

“To promote health, [Big Food] would need to make and market healthier foods so as to shift consumption away from highly processed, unhealthy foods. Yet, such healthier foods are inherently less profitable. The only ways the industry could preserve profit is either to undermine public health attempts to tax and regulate or to get people to eat more healthy food while continuing to eat profitable unhealthy foods. Neither is desirable from a nutritional standpoint.” (Stuckler & Nestle 2012:p2)

Despite this highly critical view taken by certain observers, solutions are put forth by others which are covered in Section 5.

Poverty and power

While in the majority of instances, incorrect food intake is now the driver of nutritional dysfunction within food systems, the absolute inability to gain access to sufficient quantities of the right nutrients - or simply any food at all - remains a serious problem. Despite global hunger levels beginning to plateau since the 1990 setting of the Millennium Development Goal of halving hunger by 2015, the total number of hungry people in Africa has grown by more than 45 million - which is almost equivalent to the entire population of South Africa (FAO 2012).

For the roughly 852 million people worldwide who still go hungry, theirs is an access-driven hunger brought on not by a scarcity of food, but rather an inability to purchase food (Joubert 2012, FAO 2012). Or as Patel sees it, an inequitable distribution of social, economic and political power within the food system that results in an inability to assert control over one’s diet. In Patel’s view, this holds true from a household level (at which women and girls are most likely to go hungry) all the way through to global agreements within platforms such as the World Trade Organisation (Patel 2012).

On the most pragmatic level in South Africa, as wage inequality rises alongside rising food prices, so too will the ranks of those unable to cover higher food prices. For those just managing to maintain a healthy diet, downgrading towards nutritionally inferior ‘filler’ foods should be expected. Meanwhile, for those already on the breadline, skipped meals and smaller portions remain the logical outcome.

9 It is important to note, that while poor health may be far more profitable to individual companies, this is only possible via the vast externalisation of costs to other companies and society at large.
Problem statement
Dietary-related wellness plays a significant role in labour productivity. Dietary interventions have been shown to yield positive returns on investment and should be pursued.

Medical research community
Poor nutrition is a serious global crisis, the impacts of which are extensive and preventable. Yet in relation to its impact, diet-related wellbeing is largely ignored and seriously under-funded.

Corporate Critique
“Big Food” exacerbates the growing double burden of undernutrition and overconsumption in emerging economies. Self-regulation by industry has and will continue to fail because regulation will negatively affect profits.

Global Charity
Due to its impacts on cognitive development, nutrition in the very early stages of a child’s life has lasting economic impacts for individuals and states. Despite this it lacks global attention.

Practical solutions
1. Implement workplace wellness programmes which target lifestyle choices such as diet and physical activity of employees and their families.
2. Expand industry efforts to build robust data sets on the costs of undernutrition and overconsumption as well as the return on investment for interventions.

Private Sector
Source: Workplace Wellness Alliance

1. Micronutrient supplementation including iron folate and vitamin A to mothers and children during the first 1000 days.
2. Breastfeeding promotion and support
3. Stricter regulation on food marketing, particularly to children
4. Research leadership in areas that matter: Given the scale of the problem an “unacceptably small and insufficiently solution-orientated” body of rigorous research exists to provide evidence based guidance on issues of global nutrition.

Corporate Critique
Source: PlosMed

1. Strict marketing regulations for unhealthy food products.
2. ‘Sin taxes’ for unhealthy food products.

Medical research community
Source: The Lancet

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2. Expand industry efforts to build robust data sets on the costs of undernutrition and overconsumption as well as the return on investment for interventions.

Private Sector
Source: Workplace Wellness Alliance

1. Accelerate efforts to educate the public about the adverse consequences of consuming easily available but unhealthy foods.
2. Greater regulation of Big Food and the strategies it employs to increase the availability, affordability, and acceptability of foods associated with unhealthy diets.
3. Recognise the role of local food systems as an important alternative to big food systems in addressing undernutrition and obesity.
4. Governments develop plans to make healthy foods more available, affordable and acceptable, and non-essential, unhealthy food less available, more costly and less appealing.
5. Public health professionals recognise Big Food’s problematic influence on global food and reach a consensus about how to engage critically.

Global Charity
Source: Save the Children

1. Micronutrient supplementation including iron folate and vitamin A to mothers and children during first 1000 days.
2. Breastfeeding promotion and support.

Strategic solutions
1. Leaders at all levels should be supported to recognise the inextricable link between employee diet and overall productivity.
2. Encourage the global trend towards expanding workplace wellness programmes.
3. Make engagement in workplace wellness compelling, sustainable and measurable by linking interventions with quantifiable metrics on return on investment.

Private Sector
Source: Workplace Wellness Alliance

1. Support and finance national plans to scale up nutrition: High level commitments to provide technical and financial support to most affected countries.
2. Declare and meet interim targets towards achieving 2025 global goal of alleviating child malnutrition.
3. Enhance nutrition sensitivity of agriculture: focus on agricultural programmes which produce optimal nutrition not optimal output.
4. Ensure nutrition is a core part of the G8 Accountability Report: Move towards comparable tracking of nutrition funding, outcomes and impacts.
5. Increase recognition of the importance of nutrition in educational and cognitive development in Early Childhood Development (ECD) programmes.
6. Integrate cognitive stimulation interventions into ECD programmes to mitigate effects of poor nutrition.

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<table>
<thead>
<tr>
<th>Strengths</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Private Sector</strong> &lt;br&gt;(Workplace Wellness Alliance 2013)</td>
<td>• Very limited in its demographic scope.</td>
</tr>
<tr>
<td>• Implementable solutions with clear financial motivations and courses for action.</td>
<td>• Does not address many long-term drivers of the dysfunctional system.</td>
</tr>
<tr>
<td>• Strong chance of short-term success due to localised and quantifiable benefits.</td>
<td>• If considered in isolation is likely to exacerbate socio-economic inequality.</td>
</tr>
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<td>• Targets productivity of working population.</td>
<td></td>
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<tr>
<td><strong>Medical Research Community</strong> &lt;br&gt;(The Lancet 2012, 2011)</td>
<td>• Some recommendations work against powerful actors within the system who are likely to employ creative evasion techniques to get around new laws.</td>
</tr>
<tr>
<td>• Considers both under- and overnutrition and addresses overlaps between them.</td>
<td>• Some recommendations are largely donor dependent and rely on political will in countries with very weak political systems.</td>
</tr>
<tr>
<td>• Takes a long-term view.</td>
<td></td>
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<tr>
<td>• Practical solutions which could be immediately implemented within existing social welfare structures.</td>
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<td>• Potential global reach.</td>
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<tr>
<td>• This is one of the few approaches which deals with a powerful, long-term driver of the unhealthy system. Its effects would be far reaching and not limited to any specific demographic.</td>
<td>• Making unhealthy food more expensive does not make healthy food more affordable.</td>
</tr>
<tr>
<td>• Once implemented the cost effectiveness of such interventions would far exceed that of most other interventions.</td>
<td>• Short-term difficulties of getting taxes and laws implemented.</td>
</tr>
<tr>
<td><strong>Global Charity</strong> &lt;br&gt;(Save the Children 2013)</td>
<td>• Solutions are (intentionally) limited in their demographic scope.</td>
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<td>• Practical solutions which could be immediately implemented within existing social welfare structures.</td>
<td>• Solutions are directed mainly at under-consumers and do not consider the economic burden of obesity.</td>
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</tr>
</tbody>
</table>
5. Where and how to intervene

Discussion

While these four intervention perspectives offer a range of clear, evidence-based solutions, they largely centre around three camps: pro-corporate, anti-corporate/pro-state and donor-driven. It is our view that these polarised groupings, while each have valid viewpoints, all miss two important connections.

Firstly, none makes any reference to the possible emergence of private sector pressure groups aimed at promoting systemic (as opposed to internal) changes to alleviate the need for companies to make employee wellness investments in the first place. From the available evidence, it is undeniable that there are a small number of multinationals profiting from the pollution of the food system, yet it is also true that a far larger number of businesses both large and small are losing greater sums of money as a result of the actions of those few polluters. Given the scale of the problem and the blatant externalisation of costs by the few onto the many, the prospect for private/public/donor alliances seems under-explored. After all, why should the likes of Google or Siemens tolerate the adverse effects which soda manufacturers and fast-food chains have on their employees’ productivity, any more than the state should tolerate picking up the health costs associated with obesity?

Secondly, very little attention is given to assessing the entire value chain for opportunities for intervention and modification. This seems to have resulted in a suite of solutions which either advocate regulation of a dysfunctional food system, or adaptation to it. While these suggestions hold great value, they fall short in certain instances due to the lack of engagement beyond immediate outcomes. For example, one reason many people maintain or shift to poor diets is due to the lack of engagement beyond immediate outcomes. One reason many people maintain or shift to poor diets is due to the lack of engagement beyond immediate outcomes.

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Therefore, it seems surprising that almost no mention is made within any of the mainstream nutritional discourse of ‘sin taxes’ on these food groups, which are intended to discourage unhealthy consumption and make healthy alternatives appear more affordable (without also working to bring the absolute cost of healthy food down, and making healthy alternatives more accessible), could potentially result in increased food security among those the taxes seek to assist. For this reason, it seems surprising that almost no mention is made within any of the mainstream nutritional discourse of ‘sin taxes’ on these food groups, which are intended to discourage unhealthy consumption and make healthy alternatives appear more affordable (without also working to bring the absolute cost of healthy food down, and making healthy alternatives more accessible), could potentially result in increased food security among those the taxes seek to assist.

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There are a number of ways this could be done:

- **Support local fresh produce markets which bring whole foods back into cities:** A wide range of case studies are available on how cities have benefited from supporting fresh produce markets (FOE 2000, Frayne et. al. 2009). South Africa has begun to see a revival of the urban marketplace and with concentrated support this could be further developed (Ndanga, Louw & Chikazunga 2008).

- **Support Community Supported Agriculture (CSA) schemes and micro-businesses to provide healthy meal alternatives to employees:** Very often, large food companies can’t produce healthy food at affordable prices but local entrepreneurs can, especially if they have support from businesses and employees working towards better health. Doing so will have multiple knock on effects to others beyond direct employees (Tegtmeie & Duffy, 2005).

- **Facilitate convenient access to whole foods and show people how to use them:** Much of what we battle with in our food system is a knowledge gap on how to make healthy food in convenient and delicious ways. This is not ‘rocket science’, but for people who have eaten poorly all their lives, a little teaching goes a long way. By running short cooking courses and demonstrations in conjunction with promoting local markets and CSAs, it is possible to achieve meaningful change. Celebrity chef Jamie Oliver has shown that doing so does not have to be a dull affair.

- **Consider corporate or state funded marketing campaigns that reframe unhealthy food:** New York City provides a rare example of a public entity making use of conventional marketing and PR strategies to reverse perceptions about consumer goods (see Image 1). The campaign consisted of a range of magazine, billboard and TV commercials depicting blood-streaked fat being poured and consumed.

- **Remove subsidies and trade policies that drive globalised mono-crop agriculture in ways which target the biggest polluters, such as corn syrup, sugar cane and palm oil:** These policies are at the core of why empty calories are so cheap in the first place.

- **Impose ‘sin taxes’ and ring-fence them:** Where ‘sin taxes’ are imposed on unhealthy foods these revenues should be used to bring down the cost of healthy ones so that lower income consumers aren’t unfairly hit by price increases.

- **Dysfunctional food systems affect everyone, so seek to form new partnerships:** Bring the private sector as well as departments of health, education and agriculture to the same table to quantify what poor nutrition costs and work collaboratively towards investing in prevention that addresses the root causes. The aim should be to create a situation in which people are healthy because they live in a healthy system, not because they are supported or protected to survive in an unhealthy one. Aid organisations and NGOs can act as catalysts to collaborative action between interested private and public sector parties in addressing the vested interests of those who pollute the food system.

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10 The promotion of breast feeding support programmes -which are the ultimate form of local food - is one notable exception.

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**Image 1:** State funded health campaign from New York City targeting soft drink consumption

**Link:** [www.youtube.com/watch?v=-F4t8zL6F0c](http://www.youtube.com/watch?v=-F4t8zL6F0c)

**Source:** Anon.
Like most low and middle income countries, South Africa carries a heavy double burden of disease which has immediate and long-term implications for the entire economy. These implications include reduced labour productivity, exacerbated socio-economic inequality and higher chances of socio-political unrest. This highlights the need for the private sector to be engaging more actively with issues surrounding diet and nutrition to maintain its position as a competitive player in the global economy. A range of solutions have been presented which were intentionally left broad and inclusive of different viewpoints on the system. However, regardless of the strategies selected to suit individual contexts, there are three principles by which all companies engaging in the nutritional space should abide:

1. Intervene to enhance their own employee wellbeing and productivity.
2. Intervene to protect the wellbeing and productivity of tomorrow’s workforce.
3. Intervene in ways which address the root causes of dysfunctional food systems by focusing on actions that create a healthier food system for all and not just for valued employees.
List of references


6. FAO, 2012, State of Food Insecurity. FAO, Rome


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