Food and Nutrition Policy in South Africa:

The National Vision, Policy Space and Policy Alignment

by

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Declaration

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Abstract

As part of the United Nations sustainable development agenda, goals two and three of the Sustainable Development Goals (SDGs) aim to end world hunger and to ensure general good health and well-being, respectively. However, providing the world's population with a healthy, nutritionally adequate, affordable and environmentally sustainable diet is proving to be one of the greatest challenges of the 21st century. Coupled with rising food price volatility, increasing obesity, climate change, environmental degradation, persisting food insecurity and numerous food safety crises, there has been a rapid increase of calls for more sustainable and integrated food systems and food policies alike.

However, food policy offers a substantial challenge to governments across the globe as, amongst many other issues, it spans across multiple policy areas- thereby demanding various responses across these said different policy sectors. Furthermore, government structures often create inconsistent policies due to separate political mandates and the perusal of various self-interests. The study by Hendriks (2013) states that the overall goal of food and nutrition security related policies is to; "achieve household food and nutrition security and support individuals in accessing adequate individual dietary intakes to meet their needs at different stages in the human life cycle." However, as demonstrated within this study, it is clear that South Africa's current food and nutrition related policies are far from reaching this objective.

Building on this, the aim of this study was twofold: firstly to assess the full South African national policy landscape pertaining to the food system in order to understand policy alignment and coherence across and within sectors, and to indicate the implications thereof. Secondly, to provide an alternative way to view the South African food system, and correspondingly provide a framing for more effective alignment and coherence in food policy in order to ensure adequate food and nutrition security.

The results of this study revealed three key dimensions that are evidently overlooked in South African food policy: 1) the complexity of the food system, as revealed when taking a social-ecological system lens, which subsequently highlights the challenges, assumptions, and expectations of governing this complex system through policy; 2) what appropriate policy responses to the food system would be; and 3) the (mis)alignment of policy (across sectors). Upon inspection of the policy matrix adapted from the approach by *Harris et al* (2017) and through use of the social-ecological system approach, results clearly demonstrate significant levels of redundancy, contradiction and internal and external sector misalignment.

This in turn has highlighted issues surrounding departmental vision and the necessary mechanisms required to ensure the coordination of sectors and internal directorates mandated to provide the

overall policy guidance at provincial and local government. Furthermore, this study illustrates that applying a social-ecological systems approach to food systems has many advantages, particularly with regards to understanding the interconnected dynamics of environmental and societal issues within the food system as a whole. This in turn, has important implications for policy makers to improve policy in general, and food and nutrition policy in particular.

Opsomming

As deel van die Verenigde Nasies se volhoubare ontwikkelingsagenda beoog doelwit twee en drie van die Volhoubare Ontwikkelingsdoelwitte (VOD's) om onderskeidelik hongersnood wêreldwyd te beëindig en om algehele goeie gesondheid en welstand te verseker. Dit blyk egter dat dit een van die grootste uitdagings van die 21ste eeu is om die wêreld se populasie van `n gesonde, voedsame, bekostigbare en omgewingsvolhoubare dieet te voorsien. Saam met stygende onbestendige voedselpryse, toenemende vetsug, klimaatsverandering, omgewingsdegredasie, volgehoue voedselonsekerheid en talle voedselveiligheidskrisisse, is daar `n vinnige toename in die vraag na meer volhoubare en geïntegreerde voedselstelsels en –beleide.

Die voedselbeleid bied egter `n wesenlike uitdaging vir regerings regoor die wêreld, aangesien dit onder andere oor verskeie beleidsrigtings strek. Sodoende word daar verskeie reaksies van die verskillende beleidsektore vereis. Verder skep regeringstrukture dikwels teenstrydige beleide weens afsonderlike politieke mandate en die insae van verskillende selfbelange. Die studie gedoen deur Hendricks (2013) noem dat die algehele doelwit van beleide verwant aan voedsel- en voedingsekuriteit is om "voedsel- en voedingsekuriteit in huishoudings te bewerkstellig en om individue te ondersteun om toegang te verkry tot voldoende individuele dieetinnames om sodoende hulle behoeftes in die verskillende stadiums van die menslike lewenssiklus te bevredig". Soos aangedui in hierdie studie is dit egter duidelik dat Suid-Afrika se huidige voedsel- en voedingsverwante beleide nie naastenby hierdie doelwit bereik nie.

Op grond hiervan is die doel van hierdie studie tweeledig: die eerste doel is om die volledige Suid-Afrikaanse nasionale beleidslandskap te evalueer ten einde die belyning en samehang van beleide tussen en binne sektore te verstaan, en om die implikasies hiervan te kan aandui. Die tweede doel is om `n alternatiewe manier te vind om die Suid-Afrikaanse voedselsisteem te beskou en om dienooreenkomstig `n raamwerk te voorsien waarvolgens meer effektiewe belyning en samehang in die voedselbeleid verseker kan word, om soedoende voedsel- en voedingsekuritiet te verseker.

Die bevindinge van die studie het drie belangrike dimensies bekendgemaak wat klaarblyklik in die Suid-Afrikaanse voedselbeleid misgekyk word: 1) die kompleksiteit van die voedselsisteem, soos gesien wanneer daar deur `n sosiaal-ekologiese lens daarna gekyk word, wat gevolglik die uitdagings, aannames en verwagtinge van die beheer van dié komplekse stelsel deur middel van beleid beklemtoon; 2) wat geskikte beleidsreaksies op die voedselsisteem sal wees; 3) die (verkeerde) belyning van beleid (oor sektore heen). Deur die ondersoek van die beleidsmatriks aangepas uit Harris *et al* (2017) se benadering, en deur gebruik te maak van die sosiaal-ekologiese stelselbenadering kan daar duidelik gesien word dat resultate beduidende vlakke van oorbodigheid, teenstrydigheid, en interne en eksterne afwyking van die sektor toon.

Die bogenoemde het dus klem gelê op kwessies rondom die departementele visie en die meganismes wat nodig is om koördinering van sektore te verseker; en interne direktorate wat veronderstel is om algehele beleidsvoorligting aan provinsiale en plaaslike regerings te voorsien. Verder dui die studie ook daarop dat die gebruik van die sosiaal-ekologiese stelselbenadering tot voedselstelsels verskeie voordele het, veral met betrekking tot die begrip van die onderling verbinde dinamika van omgewings- en maatskaplike kwessies in die voedselstelsel as geheel. Op sy beurt het dit ook belangrike implikasies vir beleidmakers om beleid in die algemeen te verbeter en voeding en voedsel beleid spesifiek.

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Dedication

“A happy family is but an earlier heaven.”
-George Bernard

This one is for you, Mom and Dad. You are God’s truest gift.

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Chapter 1: Introduction

1.1 Background and Objectives of the Study

As part of the United Nations sustainable development agenda, goals two and three of the Sustainable Development Goals (SDGs) aim to end world hunger and to ensure general good health and well-being, respectively. However, providing the world's population with a healthy, nutritionally adequate, affordable and environmentally sustainable diet is proving to be one of the greatest challenges of the 21st century (Pereira & Drimie, 2016). Globally, there are 795 million undernourished people, and a further 2 billion with micronutrient deficiencies (FAO, IFAD & WFP, 2015). Furthermore, malnutrition (in its multiple forms) affects one in three people across the globe, manifesting in chronic illnesses, stunted growth and micronutrient deficiencies, amongst many others (Harris, Drimie, Roopnaraine & Covic, 2017). As a result, the above coupled with food price volatility, increasing obesity, climate change, environmental degradation, persisting food insecurity and numerous food safety crises has led to a rapid increase of calls for more sustainable and integrated food systems and food policies alike (Candel & Pereira, 2017).

In the past, 'food policy' was essentially used as a blanket term to indicate the entire range of policy efforts that affect various food system outcomes. Of late however, the term has come to be used to indicate the need for more integrative strategies to align the various policy efforts. Said efforts would involve pursuing a shared vision of food systems as a whole, through consistent and integrated sectoral policy goals and instruments (Rayner & Howlett, 2009). Within South Africa, the presidency is mandated to coordinate and integrate said policies, in order to create credibility, sustainability, investor confidence and in order to avoid political confusion (Drimie, 2016). However, food policy offers a substantial challenge to governments across the globe as, amongst many other issues, it spans across multiple policy areas- thereby demanding various responses across these said different policy sectors (Barling, Lang & Caraher, 2002). Furthermore, government structures often create inconsistent policies due to separate political mandates (Drimie, 2016) and the perusal of various self-interests.

The right to food is a fundamental human right, as recognised within the South African Constitution. The right to food is also recognised as a principal economic and social right in the *Universal Declaration of Human Rights* (UN, 1948) and the *International Covenant on Economic, Social and Cultural Rights* (UN, 1996). However, law does not automatically result in the realisation of rights, and legal enforcement is not the only means through which rights can be implemented. The ability of individuals and households to access adequately nutritious food depends on a range of social economic conditions. The government therefore has an important role to play in establishing the necessary social conditions and arrangements, through the implementation of appropriate and effective food and nutrition security policy measures. Hendriks (2013) states that the overall goal of

food and nutrition security related policies is to; “achieve household food and nutrition security and support individuals in accessing adequate individual dietary intakes to meet their needs at different stages in the human life cycle.” However, as will be demonstrated, it is clear that South Africa’s current food and nutrition related policies are far from reaching this objective.

Building on this, the aim of this study is twofold: firstly to assess the full South African national policy landscape pertaining to the food system in order to understand policy alignment and coherence across and within sectors, and to indicate the implications thereof. Secondly, to provide an alternative way to view the South African food system, and correspondingly provide a framing for more effective alignment and coherence in food policy in order to ensure adequate food and nutrition security.

1.2 Methodology

As an outcome of multiple factors operating from household levels through to international levels, food and nutrition security is an inherently complex issue. It depends upon not only on the availability of production, but on a range of entitlements that enable and sustain economic and social access to food (Ericksen, Stewart, Dixon, Barling, Loring, Anderson & Ingram, 2010). Given this inherent complexity, in order to systematically review the food systems and the subsequent policies that govern the system as a whole, the approach developed by Harris *et al* (2017) was followed. The approach provides a narrative review of policy and strategy documents from different sectors; with a systematic assessment to evaluate vertical and horizontal coherence with specific reference to food and nutrition security. In line with this approach, a policy matrix was constructed to identify key policies falling under different sectoral responsibilities in government. The National Policy on Food and Nutrition Security for South Africa (NPFNS) was gazetted in 2016 and serves as South Africa’s most recent and comprehensive food and nutrition security policy effort. As such, the NPFNS was adopted as a starting point to populate the matrix, given that it is the most recent policy framework which recognises the role of different sectors in addressing food and nutrition insecurity. Drawing on the approach by Harris *et al* (2017) and the basis provided by the NPFNS, the key sectors of agriculture, environment, social protection, health, land, education and rural development were determined to be the main areas of policy focus. Based on these sectors, various policies were sourced and placed within the relevant focal groupings. Tracking back from the NPFNS, the SDGs and NDP was positioned first in the matrix to show the international and national goals, evidence and linkages with the SA food and nutrition related policies

In order to source the various policies, the websites of various national and local government departments were searched through the Departments of Agriculture, Forestry and Fisheries; Environment and Tourism; Social Development; Health; Education; rural Development and Land Reform; Human Settlements; Trade; and Water Affairs. These websites were searched for relevant policies using search terms such as ‘policy’, ‘strategy’ and ‘plan’, and then identified further policies through cross-references in policy documents. In order to access further supplementary literature, a

search through Stellenbosch University's library database and Google Scholar was also conducted, using numerous key words aligning to the particular search criteria at hand. Supplementing this, existing bodies of research were utilised and requested from key scholars within the field, including: Sheryl Hendriks; Nick Vink; Scott Drimie and Laura Pereira. Further inputs were drawn from key informants such as the lead of the Western Cape Food and Nutrition Security Strategy and the Head of Department in Agriculture and Rural Development in KwaZulu-Natal and the author's own knowledge of the policy landscape. Two policy workshops, provincial and national, were also utilised in order to further validate research and policy selection. These sequential steps were taken in order to ensure that all associated policies were retrieved. Policies that focused on both individual and household food and nutrition security provision in South Africa and that were published from January 2000 to November 2017 were included within the policy matrix and subsequent analysis, with the exception of those under the land domain. This is due to the current rhetoric surrounding the possible policy shift from the current land reform programme to that of land expropriation without compensation in addition to the nature of the land reform programme at large.

The selection of this framework for analysis was informed by the observation during data collection that the incoherence evident in the policy content appeared to reflect significant deviations across sector beliefs and policy agendas. In essence, the policy incoherence within the South African food policy system appeared to not simply reflect different policy goals and targets across sectors, but also reflected predominately different beliefs about food and nutrition security and nutrition as a policy issue within South Africa. As a consequence, the various policies within each focal grouping were reviewed with the following six research questions/ criteria in mind: 1. policy goals; 2. mission; 3. recognition of interdependencies; 4. co-ordination mechanisms; 5. targets/indicators and 6. possible learning culture/ethos. The over-arching objective of the policy matrix and subsequent analysis is to identify policy content that fostered positive incentives for food and nutrition security and nutrition within the South African food system, or subsequent points of incoherence or misalignment.

1.3 Delimitations of the Study

As alluded to in the study objectives and methodology, the focus of this study was purely on national South African policy and did not analyse individual provincial and local level food polices. The importance of coherence and alignment between national and local level policy however is addressed in the literature throughout this study. Furthermore, in order to provide the most accurate and current overview of food policy and food and nutrition security, only policies that are currently implemented were included in the assessment.

1.4 Outline of the Study

In Chapter 2, the dynamic nature of the South African food system is discussed in order to better understand the interlinked state of food and nutrition security. In order to achieve the aforementioned aim, the chapter briefly defines and discuss the food system at large, followed by a discussion surrounding the changing nature of this system. This then proceeds to an examination of the current state of food and nutrition security in South Africa.

Chapter 3 investigates the current space surrounding food policy governance in South Africa, and the changing nature thereof. The chapter begins by discussing a shift towards an integrated approach in policy making, followed by an investigation as a consideration of adopting a transdisciplinary approach. This is then followed by a discussion of the implications this followed by a description of the policy making process in South Africa.

Chapter 4 contains the policy matrix adapted from Harris *et al* (2017) identified in section 1.2. The matrix is followed by a critical assessment using the approach illustrated in section 1.2.

Chapter 5 provides an alternative systems-based conceptual framework as a platform to study the 'food system' as a social-ecological system. By viewing the food system through the social-ecological system 'lens', many of the traditional challenges (and subsequent policy implications) surrounding food provision systems and the greater issue of food and nutrition security become secondary, and new, often overlooked challenges come to the forefront. Chapter 5 begins by exploring the most prominent of these issues and discusses the implications for policy. The chapter proceeds to apply the social-ecological systems approach to the current food policy space outlined in chapter 4 to highlight opportunities for more effective alignment and coordination.

Finally, Chapter 6 presents the conclusions drawn from the research findings of the study. The policy implications of these findings are highlighted, followed by recommendations for further research.

Chapter 2: The Food System

2.1 Introduction

Historically, the 'food system' and greater society were connected through the processes of buying and selling food, enabled by market access to local or regional produce. However due to the ever increasing interconnectedness of global food systems brought on by globalisation (amongst a multitude of factors) food systems are constantly transforming. Due to their increasing interconnectedness and dynamic nature, food systems are becoming exceedingly more vulnerable to a range of both local and global shocks and stressors (Drimie, 2016). The South African food system is no exception. As of October 2018, the South African food system had already experienced a range of developments and subsequent stressors. These include: the ongoing drought in the Western Cape and in other parts of the country; the impact of diseases such as Avian Influenza and Listeriosis on livestock markets; a decline in real agricultural GDP; increased political uncertainty; and declining investor confidence in the South African economy as a whole (BFAP, 2018).

Thus the aim of this chapter is to briefly unpack the dynamic nature of the food system, in order to better understand the interlinked state of food and nutrition security in South Africa. In order to achieve the aforementioned aim, section 2.2 will define and discuss the food system at large, whilst section 2.3 will briefly discuss the changing nature of the South African food system. Section 2.4 will then proceed to discuss the current state of food and nutrition security in South Africa with section 2.5 concluding.

2.2 What is the Food System? A Food Systems Approach

In response to the dynamic nature of the food policy environment, the food systems approach has been developed as a means of understanding that in order to achieve food and nutrition security, there needs to be a multidimensional interaction between various factors across multiple levels- ranging from the production of food to its consumption (Pereira, 2014). The general food system can be broadly defined as including; "the entire food value chain, from agricultural input markets, through food production, processing, distribution, retail, consumption and waste handling, as well as regulatory functions and support services," (Drimie & McLachlan, 2013). Together, these activities generate outcomes that impact food and nutrition security and various societal interests. Pereira (2014) states that in order to be regarded as sustainable, it is necessary for a food system to take into consideration all environmental, social and economic factors. The various components of the food system include; value-chain inputs, mechanisms and structures (for the entire food supply-chain process), all participants of the food system (from production to consumption), all social issues intertwined within food equity, justice and sovereignty, as well as political and institutional considerations spanning across local, regional, national and global levels (The Southern Africa Food

Lab & Reos Partners South Africa, 2015). Essentially, the food system is not a simple, linear process that can be governed by conventional, methodical policy. Rather, it is an intricate network consisting of multidimensional, nonlinear relationships that requires dynamic, flexible policy structures and instruments.

2.3 The Changing South African Food System

The South African food system remains highly contested, with the legacy of Apartheid leaving a dualistic agrarian system. However, South African agriculture has encountered significant transformation over the past 30 years, particularly since the democratic transition in 1994. These changes continue to impact the role and practice of agriculture, and thus the wider South African food system. Given the intricate, dynamic nature of the food system and its relation to food and nutrition security, it is important to consider the various trends that are currently shaping the South African food system. The Southern Africa Food Lab *et al* (2015) briefly summarizes the major trends currently shaping the food system in the following ten points:

1. Rapid Urbanization and the shift towards dependence on purchasing food as opposed to self-production
2. The duality of the current agricultural system
3. The decline in agricultural investments as a result from uncertainties in land and agricultural policies.
4. Corporate power concentrations and the resultant decline in consumer choices
5. The current nutrition transition
6. The severe rate of stunting and the subsequent long-term impact of nutritional deficiencies on South Africa's children
7. Scarcity of resources (particularly the decline in water availability and quality)
8. The steady depletion of fishery stocks
9. The increased variability and uncertainty in weather patterns due to climate change
10. The volumes of food waste which further strain the production system.

As one can see, several of these drivers are further entrenching inequalities within the South African food system, most notably points two, four, five and six. Of further concern is the increasing rate of urbanization and the shift towards food purchasing rather than self-production. Furthermore, as discussed previously, South Africa continues to have dual model agricultural system, with commercial agribusiness supporting the growing urban areas, whilst the various policy efforts to include small-scale, smallholder farms into the formal food system have largely failed (see chapter four) (Pereira, 2014).

As mentioned previously, the current nutrition transition (see page 8) taking place within South Africa is becoming increasingly concerning, particularly with regards to the long-term impacts on the health of the nation. The scarcity of resources and various environmental concerns resulting from climate change poses a significant threat to achieving future food and nutrition security in South Africa, and poses considerable challenges to developing a sustainable food system (Pereira, 2014). Lastly, the increasing concentration of corporate power within the food system is a rising concern- due to their now increasing control over consumer choices and preferences.

2.4 Food and Nutrition Security In South Africa

The right to food is enshrined in article 25 of the 1948 Universal Declaration of Human Rights and within the 1966 International Covenant on Economic, Social and Cultural Rights (ICESCR). Article 11.1 of the ICESCR states that the right to food is part of the greater right of everyone to an adequate standard of living, of which includes adequate food, clothing, housing and the continuous improvement of living conditions (Hendriks & Olivier, 2015). Furthermore, article 11.2 recognizes not only the right of everyone to be free from hunger, but also the commitment by state parties to take (both individually and through international cooperation) the measures necessary to achieve this right (Hendriks *et al*, 2015).

Within the South African perspective, the right to food is further enshrined within the 1996 Constitution of the Republic of South Africa. Sections 7(1), (2) and 8 of the constitution states that the South African government is obliged to uphold and implement the rights contained in the Bill of Rights:

“7(1) This Bill of Rights is a cornerstone of democracy in South Africa. It enshrines the right of all people in our country and affirms the democratic values of human dignity, equality and freedom.

(2) The State must respect, protect, promote and fulfill the rights in the Bill of Rights.

8(1) The Bill of Rights applies to all law, and binds the legislature, the executive, the judiciary and all organs of state” (RSA, 1996).

The right to health care, food, water and social security is contained within section 27 of the constitution, which further obliges the South African government to take the necessary steps (within the context of its available resources) to achieve these rights. Thus, the following subsections are worth noting:

“27(1) everyone has the right to have access to –

(b) Sufficient food and water; and

(2) The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of these rights" (RSA, 1996).

Despite the well-enshrined rights outlined above, at the South African household level hunger is widespread in both the urban and rural areas, with evidence of stunting, wasting, and micronutrient deficiencies amongst children (Drimie *et al,* 2013). According to the first South African National Health and Nutrition Examination Survey (SANHANES-1), only 45.6% of the South African population is food secure. With regards to the individual race groups, the black African race group experienced the highest level of food insecurity at 30.3%, followed by the Colored population at 13.1%, and then the Indian/Asian population at 8.6% (Pereira *et al*, 2016). The white race group remains the most food secure, with 89.3% of all white households being food secure and only and 1.3% having actually experienced hunger (Pereira, 2014). Despite South Africa being food secure at the national level, such levels of household food insecurity remains a major concern within the context of South African food policymaking.

Over the past few decades, there has been much emphasis on the notion of 'food and nutrition security ', which was defined in the 1996 world food summit as: "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," (CFS, 2012). This definition covers the four key dimensions of food and nutrition security: availability (the production, distribution and exchange of food), access (the affordability, allocation and preference of food), utilization (the nutritional and social value of food and food safety) and stability (constant and reliable supply). These dimensions are highly inter-related: food availability is mandatory (but not sufficient) to achieve access; access is required (but not sufficient) for utilization; and utilization is necessary (but once again, not sufficient) for stability (Webb, Coates, Frongillo, Lorge Rogers, Swindale & Bilinsky, 2006). Furthermore, the definition stretches beyond the need of everyone to have food in the present day, but further encompasses the necessity of not worrying about obtaining food supplies in the future (Hendriks *et al*, 2015). Those who are financially poor tend to be food insecure, but not all of those who are food insecure are finally poor. May (2017) attributes this phenomena to the fact that; "components of diet (food choice, food preparation and food consumption) are derived from elements other than its cost including status, safety, convenience, roles, power, affiliations, religious beliefs, social norms, values and beliefs."

Nonetheless, food and nutrition security encompasses more than just calorific intake. The concept of nutrition security ought to be viewed separately as to that of food and nutrition security: good nutrition is achieved through a suitably nutritious and balanced diet (May, 2017). According to Pereira (2014), of late the concept of the 'nutrition transition' has become a concern, particularly within developing countries. The concept essentially refers to the increased consumption of animal products, fats and refined sugars as they become more affordable and easily accessible to

consumers in developing countries coupled with a decrease in fiber - and micronutrient rich starches, fruit and vegetables. Overall, nutrition security exists when a nutritionally adequate diet is combined with regular physical activity, a sanitary environment and adequate health services, knowledge and care (FAO *et al*, 2015). Currently, 68% of woman in South Africa are regarded as obese, followed by 31% of men in South Africa (StatsSA, 2017). Subsequently, overweight, obesity and non-communicable diseases (NCD) are resulting in high healthcare costs and adult deaths that are preventable.

Due to the ever increasing reliance on global markets to meet food and nutrition security , the term 'food sovereignty' has begun to gain significant momentum. Food sovereignty is defined as the; "right of each nation to maintain and develop its own capacity to produce foods that are crucial to its own food and nutrition security , while respecting cultural diversity and diversity of production methods," (Pereira, 2014). Irrespective of the differing conceptual spaces, food insecurity, in all its forms remains a 'wicked problem'. It hinders the ability of people to live a full life, be productive and improve their standard of living (Pereira *et al,* 2016). 'Wicked' problems such as food and nutrition security are not easily solved. Often they are only temporarily solved, only to re-emerge in a different form and thus needing to be re-solved (May, 2017).

In general, South Africa faces a structural household food insecurity problem, which is largely caused by widespread poverty and unemployment. Furthermore, South Africa experiences one of the highest incomes inequalities in the world. As opposed to other 'middle income' countries, it has extremely high levels of absolute poverty (Altman, Hart & Jacobs, 2009). Aside from poor incomes and high levels of unemployment, the food insecurity problem within South Africa is further compounded by price volatility, urbanization trends and the increasing dependence of poor households on cheap, highly processed food (see 'nutrition transition' above) (Pereira *et al*, 2016). Thus food insecurity within South Africa is not a short term phenomena, but rather a long-term, chronic threat that is grounded within various economic, political, social and institutional aspects of South African society (Drimie *et al,* 2013). Much of the structural disadvantages inherited from South Africa's apartheid past continue to prevent many from actively participating in the economy- thereby further exacerbating the food insecurity problem in South Africa. For example, Greenberg (2006) states that; "the ghettos (rural and urban) created by the segregationist system of apartheid … continue to underpin the economic and social, if not political, structure of the country, exacerbating differentiation at a household level— and even within households—so that those without effective command over resources may be food insecure even in areas where there is local-level security." Overall, the reasons for the high levels of persistent food insecurity in South Africa are complex and interrelated, and span across various environmental, health, economic, sociopolitical, and agro-food related issues (Pereira *et al*, 2016).

2.5 Conclusion

As illustrated within this chapter, the South African Food System is intricate network consisting of multidimensional, nonlinear relationships that requires dynamic, flexible policy structures and instruments. Due to their increasing interconnectedness and dynamic nature, food systems are becoming exceedingly more vulnerable to a range of both local and global shocks and stressors. The South African food system remains highly contested, with the legacy of Apartheid leaving a dualistic agrarian system. However, South African agriculture has encountered significant transformation over the past 30 years, particularly since the democratic transition in 1994. These changes continue to impact the role and practice of agriculture, and thus the wider South African food system. Given the intricate, dynamic nature of the food system and its relation to food and nutrition security , it is important to consider the various trends that are currently shaping the food system, as outlined within this chapter. As a whole, South Africa faces a structural household food insecurity problem, which is largely caused by widespread poverty and unemployment.Thus food insecurity within South Africa is not a short term phenomena, but rather a long-term, chronic threat that is grounded within various economic, political, social and institutional aspects of South African society. Thus on the part of policy makers there is a need for a thorough understanding surrounding the dynamic, intricate nature of the food system, in order to fully tackle the ‘wicked’ problem of food and nutrition insecurity in South Africa.

Chapter 3: Food Policy and Governance

3.1 Introduction

Whilst traditional approaches to policy formulation have been effective in the past, within the current policy environment there is a growing acknowledgement that said traditional approaches are not suitable to the highly complex and multifaceted issues that now face societies across the world (Chapman, 2004) (Lindquist, 2011). Generally speaking, policies vary largely with regards to design, aims and implementation requirements, therefore different strategies and methodologies are required for different types of policies. In the past, 'food policy' was essentially used as a blanket term to indicate the entire range of policy efforts that affect various food system outcomes. Of late however, the term has come to be used to indicate the need for more integrative strategies to align the various policy efforts. Said efforts would involve pursuing a shared vision of food systems as a whole, through consistent and integrated sectoral policy goals and instruments (Rayner & Howlett, 2009). Thus the overriding aim of this chapter is to investigate the current space surrounding food policy governance in South Africa, and the changing nature thereof. The outline of this chapter is as follows: section 3.2 of this chapter will discuss shifting towards an integrated approach in policy making, which will then lead to an investigation as to the need to adopt a transdisciplinary approach in section 3.3. In section 3.4 there will be a discussion as to the implications of the previous sections for food policy making, whilst in section 3.5 the policy making process in South Africa is described. Section 3.6 concludes.

3.2 Shifting Towards Integrated Food Policy

As mentioned previously, of late there has been much focus within the food policy environment surrounding the need for integrative strategies to align the various policy efforts. The formal governance of food extends beyond traditional governmental sectors, but rather further encompasses the private governance of food. Such an example includes the systems of standards and grading of food products (Barling *et al*, 2002). As whole, the food system is continually changing, which causes shifts in resource structures and power concentrations (particularly corporate concentrations) along the entire food chain (Lang, Barling & Caraher, 2001). Therefore, key corporate stakeholders within the greater food system have become important in the governance of food in the modern market economy. This has led to the consideration of these private interests within public regulation systems (Barling *et al,* 2002). This mix of public and private governance adds further to the complexity surrounding food policy, thereby necessitating an integrated approach towards policy formulation. Furthermore, due to the presence of said multi-level governance, policy integration is not only required across policy sectors, but also throughout different levels of governance (Lang *et al*, 2001).

Despite this shift of focus, achieving food policy integration across various policy efforts remains a continual challenge for governments across the globe. The many challenges that surround achieving truly integrated food policy span beyond dealing with the issues of departmentalism and the perusal of political self-interests that are entrenched within many governments. Candel *et al* (2017) outlines the five main food policy integration challenges faced by governments discussed point-wise in the following section.

1. ***Constructing a resonating policy frame***

One of the main integration challenges facing government is the formulation of an all-encompassing policy frame that can effectively induce integrative action. In order to establish a common approach and the necessary motivation, it is vital to formulate a coherent and compelling set of ideas to which all stakeholders can relate. The challenge however, to construct a resonating food policy frame is substantial. It takes time and considerable effort to change existing ideas and preferences (Hall, 1993).

2. Formulating policy goals

In order to effectively transition towards integrated food policy there must be a single, overarching goal in which to follow. This however, can be somewhat ambiguous and difficult to achieve, therefore it is necessary to further specify which policy goals are central in order to achieve integrated food policy. Firstly, In order to identify said goals, policy makers need to take into account all the pertaining food system challenges and complexities (Drimie & Ruysenaar, 2010). Secondly, policy makers generally tend to hold different views with regards to which challenges and complexities are most pressing. This therefore implies a certain degree of political choices and possible trade-offs. Furthermore, in order to achieve policy consistency and integration, it is vital that both the formulation and implementation of food policy goals are not restricted to the single overarching policy goal, but rather also to the various policy efforts across the levels and sectors. However, in order to assimilate these sub-policy goals, considerable political backing, cross-sectoral buy-in and multi-level cooperation is required.

3. Involving relevant sectors and levels

Considering the multi-level and multi-sectoral nature of food policy, two important questions arise: (i) which sectors and levels should be involved within the policy formulation? ; and (ii) how should they be coordinated? With regards to the first question, as mentioned previously the food system tends to be affected by most governmental policy efforts. In practice however, it would be more feasible to focus on those sectors in which the greatest and most obvious issues occur. In terms of the question surrounding coordination, there are many possible obstacles to overcome to achieve effective coordination- even if all of the identified sectors and levels are committed to food policy integration. Such obstacles include competing priorities, limited capacities and ‘turf wars’ between

competing governmental bodies, to name a few. Only by implementing coordinative procedures and structures (such as inter-departmental committees and impact assessments) coupled with a resonating policy frame and sustained political leadership, will these obstacles be overcome.

4. What constitutes optimal policy integration?

The third challenge concerning food policy integration relates to the difficulty of determining what constitutes as 'optimal' policy integration. Within policymaking there is a certain degree of tension between the nature of integration and specialization. Whilst there is much traction behind achieving policy integration as a means of correcting fragmented, misaligned policy efforts, said fragmentation is often necessary in order to allow specialization within policy efforts. Specialization is a key component of food policy formulation, given the many complex issues faced by government and international organizations. Subsequently, many policy and governance scholars have begun to promote a 'polycentric' model of governance, as opposed to simply integrating various sub-policies into a cohesive whole. A polycentric model of governance would entail a system whereby; "multiple governing bodies interact to make and enforce rules within a specific policy arena or location," (Stockholm Resilience Centre, 2015). This would lead to specialized sub-policies still being maintained, along with the necessary organization and connectivity between them.

5. Designing a Consistent Mix of Policy Instruments

Finally, in order to formulate and implement truly integrated food policy, it is key to design a consistent mix of policy instruments that will assist following the specified food policy goals. However, designing and selecting said instruments can be just as challenging as specifying the specific food policy goals. Within the context of food policy, various instruments are often criticized as either being market-distorting, or lacking in substance and structure. Furthermore, when designing the food policy instruments it is important to consider how governmental efforts relate to those of the private sector.

3.3 The Need for a Transdisciplinary Approach

As illustrated above, the formulation and implementation of food policy is by no means a simple task. In order to overcome the complex and dynamic nature of the food system, food policy must take into account a vast range of interest groups and stakeholders. However, the different opinions and concerns of said interest groups and stakeholders often taint and warp the policy formulation process. Thus, policy efforts are often subdued in their attempts to remedy the food system not only due to its complex nature, but also due to the powerful agendas and interests across the political and corporate system (Drimie, 2016).

Consequently, aside from incorporating an integrative approach to food policy, policy makers must also base their policy efforts upon a transdisciplinary approach. Such an approach entails engaging society through sound scientific research, which in turn produces new, socially relevant scientific

knowledge and insights (Drimie *et al*, 2013). Transdisciplinary research assists in the development of the competencies and skills necessary to understand and create sustainable transitions through the combination of researching, learning and application (Drimie *et al*, 2013). Thus, the approach recognizes that social and political knowledge is just as important as scientific knowledge in the formulation and implementation of food policy. Due to the food system being a convergent point for the many socio-economic and environmental issues facing society today (Regeer & Bunders, 2009), the development of a transdisciplinary approach within the policy environment is vital in the creation of sustainable and effective food policy.

3.4 Implications for Policy Making

Whist the above approaches to food policymaking would indeed assist in resolving the many complexities surrounding food policy, it would be naïve to expect that governmental policy within itself will solve the many problems entrenched within the food system. Food and nutrition security is, after all, a societal issue. Thus, it is problematic to simply leave food policymaking and governance to government. One of the main challenges facing the policy efforts surrounding the challenges posed by food and nutrition security is the interdependence of activities, problems and actors, which render the effectiveness of traditional policymaking and governance null and void (Drimie, 2016). Understanding the dynamic and intricate nature of the food system whilst also adopting both an integrative and transdisciplinary approach to food policy making would further ensure the effectiveness and sustainability of food policy.

In practice however, policy is fashioned through many forces that are often overlooked or unaccounted for. Such forces such as political and corporate allegiances, power plays and populist politics are deeply embedded within the sociopolitical system. Without recognizing the many forces at play within the policy environment, food policy efforts will achieve little. As stated by Drimie (2016); “Policy should not be seen as singularly important in eliciting change: politics and power are equally important in understanding the direction of policy processes.” Thus, it is important to consider the underlying political, social and economic interests and subsequent influences that surround food policy making.

3.5 The Policy Making Process in South Africa

As noted previously, within South Africa the presidency is mandated to coordinate and integrate said policies, in order to create credibility, sustainability, investor confidence and in order to avoid political confusion. As like most democracies across the globe, South Africa has three distinctive, interdependent and interrelated spheres of government, characterised as the *national sphere, provincial sphere* and the *local sphere*. The national sphere consists of the National Executive, commonly referred to as the Cabinet. It comprises of the President and ministers, and is subsequently supported by a number of various national government departments. The provincial

sphere consists of the Provincial Executive, which is further comprised of the provincial Premier and by Members of the Executive Council (MECs). The Provincial Executive is supported by a number of various provincial government departments. The local sphere on the other hand consists of numerous municipalities, each of which has an elected Municipal Council consisting of elected councillors. The Medium-term Strategic Framework (MTSF) serves as The Presidency's electoral mandate for a given specific cycle of five years. The MTSF merely guides planning and resource allocation, the various national and provincial departments develop their own strategic plans and budgets in accordance to the MTSF.

Whilst Parliament is the statutory body that approves policies and passes new laws, the process itself is long, in which the proposed policy or regulation is debated and negotiated with various stakeholders. Hendriks, Mkandawire, Hall, Olivier, Schönfeldt, Randall, Morgan, Haggblade, & Babu (2016) outlines the following five phase process that characterises the policy making process in South Africa:

Phase 1: The government makes a formal political decision to formulate new policy.

Phase 2: A 'status quo' report provides an overview of any current relating policy, regulatory and/or implementation framework. The report indicates any failures, gaps and/or shortcomings. Once completed, the report is discussed internally within the government department responsible for its drafting.

Phase 3: The new policy framework is then formulated, containing the proposed values, objectives, outcomes and required regulatory and institutional arrangements for the given policy.

Phase 4: Following the finalisation of the policy framework, a team of various departmental experts commence with the production of the draft policy document. Policy frameworks can however take on a number of various forms, with not all of them being compulsory. They include: discussion documents; a Green Paper; and a white paper (in both a draft and final format).

Phase 5: After the given policy document has been approved by Cabinet and is subsequently published in the Government Gazette, phase 5 begins. This phase comprises of the drafting and implementation of the required legislation for the policy at hand, in addition to the establishment of the various administrative processes required for the implementation of the underlying policy.

3.6 Conclusion

It would be naïve to expect that governmental policy within itself will solve the many problems entrenched within the food system. Food and nutrition security is, after all, a societal issue. Thus, it is problematic to simply leave food policymaking and governance to government. One of the main

challenges facing the policy efforts surrounding the challenges posed by food and nutrition security is the interdependence of activities, problems and actors, which render the effectiveness of traditional policymaking and governance null and void (Drimie, 2016). Understanding the dynamic and intricate nature of the food system whilst also adopting both an integrative and transdisciplinary approach to food policy making would further ensure the effectiveness and sustainability of food policy.

In practice however, policy is fashioned through many forces that are often overlooked or unaccounted for, as illustrated through the lengthy policy making process in South Africa. Forces such as political and corporate allegiances, power plays and populist politics are deeply embedded within the sociopolitical system. Without recognizing the many forces at play within the policy environment, food policy efforts will achieve little. As stated by Drimie (2016); “policy should not be seen as singularly important in eliciting change: politics and power are equally important in understanding the direction of policy processes.” Thus, it is important to consider the underlying political, social and economic interests and subsequent influences that surround food policy making. Real solutions to household food insecurity lie in growth, structural change and fresh, innovative perspectives to food policymaking. Such solutions do not lie within one particular dimension alone. A multidimensional approach is therefore required that includes, above all, the necessary political commitment.

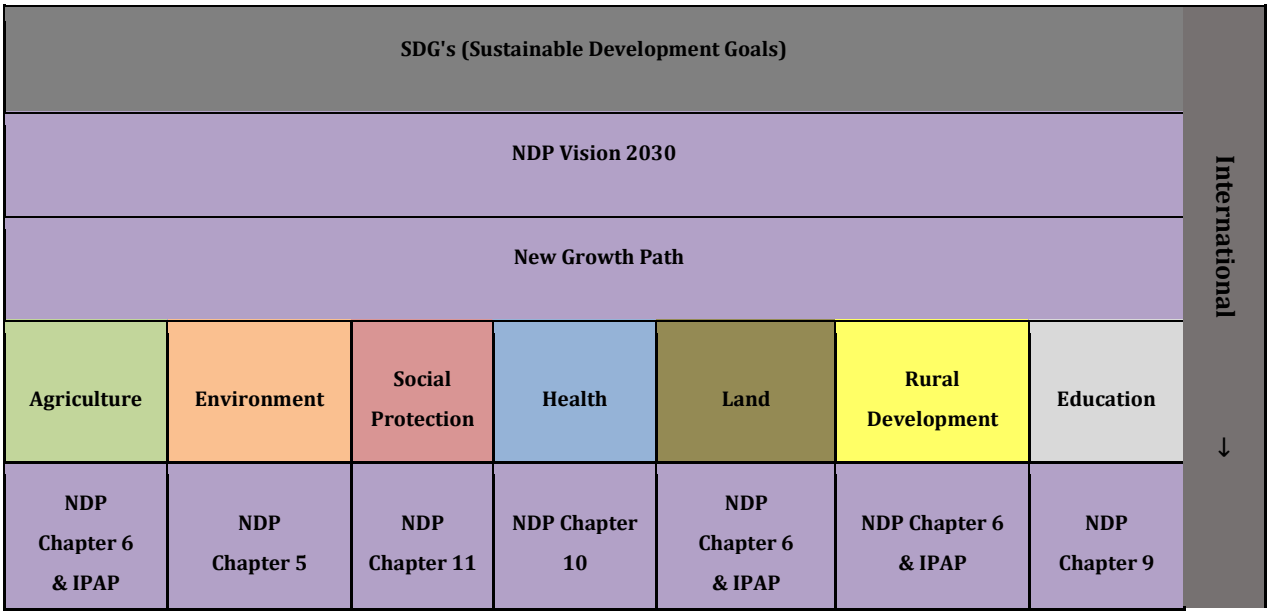
Chapter 4: The South African Food Policy Space

4.1 Introduction

As illustrated within Chapter 2, as an outcome of multiple factors operating from household levels through to international levels, food and nutrition security is an inherently complex issue. It depends upon not only on the availability of production, but on a range of entitlements that enable and sustain economic and social access to food. South Africa is one of many low and middle income countries across the globe that is battling a rise in overweight and obesity leading to diet-related non communicable diseases (NCDs) whilst still struggling to address persisting household food insecurity and undernutrition (Thow, Greenberg, Hara, Friel, duToit & Sanders, 2018). Addressing this double burden of malnutrition and food insecurity requires a comprehensive policy approach, which supports both the demand and supply of healthy food. Using the policy matrix (see figure 1) formulated through the approach developed by Harris *et al* (2017) and identified in chapter 1, the aim of this chapter is twofold: 1) identify instances of policy incoherence and misalignment; and 2) indicate areas of opportunity to improve policy coherence among sectors with responsibilities related to food and nutrition security and nutrition in South Africa. In section 4.3 the above mentioned policy matrix is analysed using the approach illustrated within Chapter 1. This chapter is concluded in section 4.4.

4.2 Policy Matrix

Figure 1: Matrix of current food and nutrition security related policies



AgriBEE Fund, 2004	Drought Management Plan, 2005	Social Grants	National Vitamin A Supplementation Guidelines for South Africa, 2012	SPLAG Grants, 1995	Integrated Sustainable Rural Development Strategy (ISRDS), 2000	National School Nutrition Programme (NSNP), 2004	National
MAFISA, 2005	The National Biodiversity Framework (NBF), 2008	War on Poverty Programme, 2008	National Environmental Health Policy, 2013	White Paper on Land Reform, 1995	Comprehensive Rural Development Programme (CRDP), 2009		
Ilima/ Letsema	Ground Water Strategy, 2010	Household Food & Nutrition Security Strategy for SA (2014)	Roadmap for Nutrition in South Africa, 2013	Land Redistribution for Agricultural Development (LRAD), 2001	Adoption Strategy for Rural Human Settlements, 2013		
National Agricultural Research & Development Strategy, 2008	National Climate Change Response White Paper, 2011.	Social Relief of Distress (food parcels), 2013	Strategic Plan for the Prevention and Control of NCD's, 2013-2017	Comprehensive Agricultural Support Programme (CASP), 2004			↓
Integrated Growth & Development Policy for Agriculture, Forestry & Fisheries (IGDP), 2012	Ocean Economy Strategy (Operation Phakisa), 2013		Strategy for the Prevention and Control of Obesity in SA, 2015	Proactive Land Acquisition Strategy (PLAS), 2006			Sectoral
Festa Tlala Food Production Initiative, 2013	National Water Resource Strategy, 2013			Settlement and implementation Support Strategy (SIS), 2008			↓
Agricultural Policy Action Plan (APAP), 2015-2019				Green Paper on Land Reform, 2011			

				Land Tenure Security Policy of Commercial Farming Areas, 2013			↓ Agencies
				State Land Lease and Disposal Policy (SLLDP) , 2013			
				Recapitalisation and Development Policy Programme ('Recap'), 2014			
Medium Term Strategic Framework (MTSF) 2014-2019							
DAFF- Strategic Plan 2015- 2020	Department of Environmental Affairs Strategic Plan 2014-2019	National Strategic Plan 2015/2020	Department of Health Strategic Plan 2014/15 – 2018/9	Department of Rural Development and Land Reform Strategic Plan 2015 - 2020.	Department of Education Strategic Plan 2015-2020		

Key to colours used in the Matrix:

Dark Grey: International overarching

Purple: National overarching policies

Orange: National integrated policies

Green: Agricultural Domain

Peach: Environment Domain

Red: Social Protection Domain

Blue: Health Domain

Brown: Land Domain

Light Grey: Education Domain

Yellow: Rural Development Domain

4.3 Understanding the Institutional Framework: Matrix Assessment

4.3.1 National Policy on Food and Nutrition Security (NPFNS)

Passed by cabinet in 2013 and subsequently gazetted in 2014, the National Policy on Food and Nutrition Security (NPFNS) serves as South Africa's most recent and comprehensive food and nutrition security policy effort to date. It is regarded by the government of South Africa as a key policy pillar in achieving the NDP's vision to eradicate poverty, reduce unemployment and eliminate inequality by 2030. Thus the strategic goal of the NPFNS is to ensure the availability, accessibility and affordability of safe and nutritious food at both national and household levels (DAFF, 2014a). The policy aims to build upon existing initiatives and systems and to ensure improved alignment, coordination, and oversight by creating; "A common reference for all players tackling the food and nutrition insecurity problem with emphasis on synergy that will minimise undue duplication and inefficient deployment of resources," (RSA, 2015). Central to the NPFNS is the acknowledgement of the complex nature of food and nutrition security , and thereby the need to ensure an ambitious, thorough and dynamic response to food insecurity as a whole. The policy therefore provides a platform for various strategies, including and not limited to: 1) efforts to increase food production and distribution; 2) the strategic use of market interventions and trade measures which will promote food and nutrition security ; 3) increased and better targeted public spending in social programmes which impact on food and nutrition security and; 4) leveraging Government food procurement to support community-based food production initiatives and smallholders (DAFF, 2014a). Five pillars underpin these said policy strategies which subsequently provide the foundations of the NPFNS: 1) the need for improved nutritional safety nets; 2) improved nutrition education; 3) the alignment of investment in agriculture; 4) improved market participation of the emerging agricultural sector and; 5) food and nutrition security risk management (DAFF, 2014a). The policy further states that each of the said mentioned pillars will be pursued in line with the appropriate strategy documents which will further outline the various programmes and activities that will contribute to the achievement of the policy's food and nutrition security objectives.

An important feature of the NPFNS is the recognition of the need for a common definition on food and nutrition security, in order to specify the key elements and scope of the policy as a whole. This allows for a holistic understanding in line with the NDP's Vision 2030. Consequently, the policy defines food and nutrition security as: "Access to and control over the physical, social and economic means to ensure sufficient, safe and nutritious food at all times, for all South Africans, in order to meet the dietary requirements for a healthy life," (DAFF, 2014a). In order to achieve the policy's food and nutrition security objectives, the NPFNS states that, along with the appropriate institutional support, the following response mechanisms are required: 1) information management systems; 2) a centralised food safety control system; 3) food and nutrition security risk management system and;

4) agricultural research and technology research (DAFF, 2014a). It is DAFF's belief that these systems will assist in the smooth implementation of the NPFNS as a whole.

Essentially designed to address the shortcomings of the previous Integrated Food and nutrition security Strategy (IFSS), at its core the NPFNS in fact offers very little that is different from the IFSS. Concerns and discrepancies already arose in the policy's development process, which was largely characterised by a lack of consultation and co-development amongst stakeholders across the greater food system. This centralised decision-making approach contradicts the one promoted within in the main policy document itself, given that it states: "Food and Nutrition Security is a complex issue characterised by inter- disciplinary approaches. This National Policy on Food and nutrition security and Nutrition seeks to provide an overarching guiding framework to maximise synergy between the different strategies and programmes of government and civil society," (DAFF, 2014a). Furthermore, there are no clear guidelines or procedures on how the participation of civil society organisations and/or the private sector will be included with regards to the implementation of the policy itself. Whilst the NPFNS does highlight the importance of the participation of civil society and the private sector in achieving the policy's food and nutrition security objectives, it remains unclear what the roles of these organisations will be. This has essentially resulted in the NPFNS (and its subsequent 2015 implementation plan) being somewhat limited in the identification of problems within the food system and the required policy responses. Meaningful consultation is required in order for policy to effectively respond to the needs of those most affected by food insecurity. The limited engagement with all of the relevant stakeholders has led to a narrow and inadequate understanding of the vast array of complex issues that affect the food system and food and nutrition security in South Africa as a whole. As stated by Pereira & Drimie (2016), the NPFNS's development process; "led to policy directives that were deemed inadequate by a wide cross-section of people."

Whilst the proposed institutional arrangements remain an improvement on the IFSS, they continue to be limited under the direct control of government, without much input or participation from other stakeholders outside of the government sphere. Central to the NPFNS is the recognition of the importance of multi-sectoral co-ordination and alignment. However, due to the limited consultation undertaken within the development process of the policy, one is forced to question the commitment to these intentions, and the ability of the NPFNS to lead to practical outcomes that are different to those of the IFSS. Evidence of goal and outcome misalignment already becomes apparent through the lack of focus on behalf of the NPFNS surrounding employment creation. The NPFNS does well to situate food and nutrition security within the broader picture of poverty in South Africa, but is short on ideas on how to practically stimulate job creation. This is in direct misalignment to the central goals of the national over- arching policies of South Africa (see *National Development Plan* and *New growth Path*). Furthermore, with regards to ensuring the effective coordination and alignment between both new and existing programmes, the policy states that; "national, provincial and local municipalities will be required to co-ordinate and partner with existing stakeholders in their spheres

of government," (RSA, 2015). However, despite this frequent emphasis, lines of co-ordination and accountability between governments departments remain indistinct and uncertain (Pereira *et al*, 2016). In addition, if the existing limitations within the given government departments are not considered, any implementation plan based on a multi-sectoral and multi-stakeholder approach will be largely ineffective (Drimie, 2015).

Despite acknowledging the crucial difference between *national-level* versus *household level* food and nutrition security (and South Africa's current failings in the latter), overall the NPFNS places considerable emphasis on expanding and stabilising national food production and overall market efficiency. Together with frequent references surrounding the challenge of 'ensuring food and nutrition security for our rapidly expanding population' it can be argued that the NPFNS holds a somewhat Malthusian perspective on the issue of food insecurity in South Africa (Drimie, 2015). Yet despite this significant production based policy orientation the NPFNS outlines a more hand-off approach, suggesting response mechanisms such as the previously mentioned 'food safety controls' and 'food and nutrition risk management'. It is also worth noting that the NPFNS lacks the legislative framework necessary for the policy to achieve its goals and objectives (Hendriks *et al* , 2015). Policy on its own is not legally binding and subsequently not enforceable. Whilst admirable in its overall vision and goals, the NPFNS appears to be overly ambitious with its set targets, and lacking the necessary co-ordination and implementation mechanisms to effectively align the policy responses across the various sectors and government departments.

4.3.2 International Sphere

Sustainable Development Goals (SDG's)

Officially launched in January 2016, the Sustainable Development Goals (SDG's) were built upon the previous Millennium Development Goals (MDG's) as a means to chart a way for a post-MDG development focus (Hendriks, 2018). Initially developed through the Rio+20 Conference by United Nations (UN) Member States, the SDG's aim to correct the imbalances of the MDG era by coordinating world-wide economic and environmental agendas. Consisting of 17 separate goals and 169 associated targets, the SDG's; "recognize that eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development," (UN, 2015). Whilst the MDG's only applied to developing countries, the SDG's are universal- they apply to all member states of the UN. Thus all member states are bound to address them and are subsequently judged on their progress thereof (Hendriks, 2018). As stated within the UN's 2030 Sustainable Development Agenda, SDG targets; "are defined as aspirational and global, with each government setting its own national targets guided by the global level of ambition but taking into account national circumstances," (UN, 2015).

As the SDG's represent a considerably ambitious, large-scale transformative agenda, they will require not only significant co-operation between various national and regional governments, but correspondingly between various sectors such as agriculture, economic and social development, health, technology and climate change (Carant, 2017). Whilst the global issues of poverty, hunger and malnutrition are shared themes within the MDG's and successive SDG's, within the specific context of food and nutrition security the SDG's compel policy makers to develop solutions that are broad and all-encompassing (Charlton, 2016). Moreover, within the SDG's, the confined focus of hunger and poverty was expanded to specifically include nutrition as well as various indicators that focus beyond simply maternal and child health (Hendriks, 2018). Whilst all 17 of the SDG's include food-security related elements and indicators, SDG 2 is the most relevant with regards to addressing food and nutrition security. SDG 2 tackles one of the most important and basic of human needs- access to nutritious, healthy food, and its sustainable procurement. SDG 2 recognises that; "Tackling hunger cannot be addressed by increasing food production alone," and that, "well-functioning markets, increased incomes for smallholder farmers, equal access to technology and land, and additional investments all play a role in creating a vibrant and productive agricultural sector that builds food and nutrition security," (UN, 2017).

Within the African policy context, the 2030 Agenda (and the subsequent SDG's) has been assimilated and adopted within the African Union Agenda 2063, and further reiterated within the Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods (Hendriks, 2018). Thus within South African food policy the global SDG's have been incorporated within both national food and nutrition security policies and local food and nutrition security sensitive planning. As of 2017, South Africa has a SDG global ranking of 108 (of 157) with an index score of 61.2, compared to the Sub-Saharan average regional score of 51.4 (UN, 2017). Thus there is still much scope for improvement with regards to the South African food and nutrition security related policy efforts.

4.3.3 National Sphere

National Development Plan (NDP) Vision 2030

The National Development Plan (NDP) of 2012 is South Africa's long-term policy plan and has subsequently become the overarching government development agenda. It envisions the desire of the South African nation to eliminate poverty and reduce inequality by 2030, through the growth of an inclusive economy, capacity building, state capacity enhancement and through the promotion of leadership and partnerships throughout South African society (RSA, 2012). The NDP proposes to target poverty and inequality by specifically aiming to reduce the proportion of households with a monthly income of less than R419 per person (in 2009 prices) from 39 per cent to 0 per cent, and by

achieving a reduction in the Gini coefficient from 0.69 to 0.6 by 2030 (RSA, 2012). The plan resulted from an extensive, nationwide consultation process between the judiciary, parliament, national and provincial departments, state-owned entities, finance institutions, unions, business, religious leaders and non-profit organisations. Taking into account the complex, dynamic nature of national development, the NDP outlines six main, interlinked priorities (RSA, 2012):

1. Uniting all South Africans around a common programme to achieve prosperity and equity.
2. Promoting active citizenry to strengthen development, democracy and accountability.
3. Bringing about faster economic growth, higher investment and greater labour absorption.
4. Focusing on key capabilities of people and the state.
5. Building a capable and developmental state.
6. Encouraging strong leadership throughout society to work together to solve problems

Within the food and nutrition security policy context, Drimie & McLachlan (2013) states that the NDP; "provides an innovative framework to begin to inform action required across society to deal with pervasive hunger," and that the NDP, "makes several arguments that resonate with international literature in its appraisal of what it will take to eradicate food insecurity." The NDP thus necessitates the engagement of entities within the entire food system along with numerous linkages throughout multiple sectors and various governmental departments. It can be further argued that NDP policy proposals align with that of a systems approach that subsequently calls for collaboration not only within the government itself, but between the private sector, civil society and South African citizens as a whole. Such a collaboration would ideally achieve the establishment of "self -sustainable" local food systems that would form the basis for universal access and utilisation over time (Drimie *et al*, 2013). The NDP further highlights the necessity to make a clear distinction within policy discourse between "national food self-sufficiency", "food and nutrition security " and "access to food by poor people" (RSA, 2012). This too resonates with current international literature surrounding food and nutrition security . Such terms are not inter-changeable, and require their own dimensions within policy making.

Central to the NDP's discourse surrounding food and nutrition security is the notion that the ability to access food determines household food and nutrition security. This subsequently stresses the importance of job creation, agricultural productivity and provision of aid to poor households to cope with increases in food prices. Therefore in terms of safety nets, the NDP further asserts that social grants access should be maintained for eligible households and that public works programmes should be utilised and further expanded to develop rural infrastructure (Drimie, 2016). In addition, the NDP stresses the need for both public and private action to achieve broader social coverage with regards to household food and nutrition security commitments (Hendriks & Olivier, 2015).

A further important feature with regards to the NDP's approach to food and nutrition security is the link it constructs between food and nutrition security and the wider food system. The NDP underlies the need for greater investment in: (1) both the agricultural and agro-processing sectors; (2) fruit and vegetable production (in order to better align the sector to nutritional intake guidelines); and (3) areas of small, medium and micro-enterprise growth for job creation and to redress skewed ownership patterns (RSA, 2012). As stated by Drimie (2016), this focus decidedly diverges from traditional agricultural development plans that generally focus on grains and crops for export.

Whilst South Africa may currently face mounting levels of household food insecurity, at the national level the country is food-secure and has been for a number of decades (i.e. South Africa produces a trade surplus from agricultural exports and is thus able to cover the cost of food imports). However, the average South African's diet is changing, reflecting a trend towards the higher consumption of animal proteins and the increasing preference for wheat, rice and potatoes as the preferred staples as the population becomes increasingly more urbanised (RSA, 2012). As a result, the NDP states that; "the national food-security goal should be to maintain a positive trade balance for primary and processed agricultural products, and not to achieve food self-sufficiency in staple foods at all costs," (RSA, 2012). Thus the NDP positions the South African food system within the broader southern African context by highlighting the importance and favourability of regional co-operation and expansion (Hendriks *et al*, 2015). As a whole, South Africa would benefit from the opportunities that regional expansion of production in particular would bring for trade, value-chain consolidation and overall food stability.

Within the rural areas of South Africa, the NDP states that food insecurity at both the household and individual level is best addressed through job creation and increased agricultural productivity, with agriculture having the potential to create one million new jobs by 2030. Given this economic potential, the NDP proposes several approaches to land reform and the necessary financing, through the suggestion of a wider set of engagements and improved integration between departments (Drimie, 2016). Ensuring quality access to basic services, health care, education and food and nutrition security are central to the NDP's vision for building an integrated and inclusive rural economy.

The NDP proposes a long-term perspective not only for future food and nutrition security policy initiatives, but for the future of South Africa as a whole. As a national plan, government will have to actively engage with all sectors and provincial governments to ensure cohesion, consistency and effective implementation. As the NDP will shape budget allocation until 2030, it is imperative that policy planning and implementation is driven by evidence-based monitoring and evaluation. Whilst food and nutrition security may be highlighted by the NDP as a top priority of the South African government, chapter 11 of the NDP itself states that current food and nutrition security policy; "is fragmented and under-resourced" (RSA, 2012). Six years later since the NDP's initial implementation

in 2012, much progress has been made to reduce hunger. However, poverty remains the more serious problem in South Africa with most South Africans unable to afford a stable, balanced diet. In order for the NDP to successfully achieve its various food-security related outcomes the ability of local governments to fulfil their developmental roles need to be strengthened. Overcoming food insecurity within South Africa requires the NDP to be supported by a more efficient, stable regulatory system and by the necessary enabling polices (at both provincial and national level) that will strengthen and assist the food system as a driver of economic growth and producer of sustainable employment.

New Growth Path (NGP)

The New Growth Path (NGP) is South Africa's vision to place jobs and decent work at the centre of economic policy, based on strong and sustained inclusive economic growth. It sets the target of creating five million jobs by 2020 though through a mix of direct government job creation, social-democratic consensus building and through various macroeconomic, labour and industrial policies (Nattrass, 2011). Whilst the NDP aims to reduce poverty, unemployment and inequality, the NGP aims to enhance economic growth and create employment and equity- thereby complementing the Industrial Policy Action Plan (IPAP). Developed by the Department of Economic Development (DED), the plan proposes to implement a set of macroeconomic and microeconomic interventions with clear and concrete stakeholder commitments in order to move South Africa into faster, more inclusive economic growth (DED, 2011). Overall, the NGP aims to be a comprehensive and cross-cutting policy package (Tregenna, 2011) and is intended to facilitate "a restructuring of the South African economy to improve its performance in terms of labour absorption as well as the composition and rate of growth" (DED, 2011). Consequently, the NGP provides a comprehensive list of actions intended to drive labour absorbing growth within targeted sectors such as agricultural value chains, mining value chains, various manufacturing sectors, tourism and other high-level services. Given this focus on job creation throughout the greater South African economy, the NGP provides the following measurable indicators for evaluating success: quality and level of jobs created; economic growth rate; environmental outcomes; and equity levels (in terms of lower income inequality and poverty levels) (Hendriks, 2013). Aside from aiming to improve co-ordination within all spheres of government, the NGP further encourages strong partnerships amongst communities and both the private and public sectors, as well as improved co-operation with other African countries and the other BRICS countries. Whilst the NDP is primarily based on state driven change, the NGP recognises that a state-led approach has to align market outcomes with development needs (Hendriks, 2013).

Within the specific focus of food and nutrition security, the NGP emphasizes the issue of food insecurity in South Africa, and subsequently underlies the importance of both domestic and export related economic growth within the agricultural sector for improving food and nutrition security in the

country. Consequently, the NGP calls for a set of policies that is conducive to fostering an environment of growth and transformation within the sector, which are consecutively aligned and integrated (Meyer, 2013). Moreover, Hendriks (2013) notes that the NGP importantly recognises both the production and consumption domains of the greater food system, and further takes into regard the often high and volatile inflation that can affect food staples and farm inputs. As job creation is central to the NGP's greater food and nutrition security objectives, it targets employment opportunities for 300 000 households in agricultural smallholder schemes, plus 145 000 jobs in agro -processing by 2020, whilst stating that there is further potential to upgrade working conditions for 660 000 farm-workers (DED, 2011). In order to achieve these employment targets the NGP outlines the following core strategies: restructuring land reform to support smallholder schemes; acceleration of land claims processes and better support to new farmers following land-claims settlements; upgrading employment in commercial agriculture (particularly through improved worker input); measures to support growth in commercial farming and to assist in buffering price fluctuations in maize and wheat (whilst still supporting food and nutrition security); programmes to ensure competitive pricing of inputs; marketing, finance and extension services; and support for fishing and aquaculture (DED, 2011).

The above policy directives reflect the potential that the agricultural value chain offers for employment creation through smallholder schemes and the processing and sale of agricultural products. Similarly, they further reflect the importance of subsistence and smallholder agriculture for overall agrarian development (Drimie, 2016). The NGP additionally notes that as a whole, the South African government must implement more policy measures to support small-scale agriculture, specifically through community food gardens; marketing and service co-operatives; and accessible banking facilities (DED, 2011).

Since its implementation, most economic and policy commentators have responded negatively to the NGP, arguing that it is contradictory and does not provide the necessary detail surrounding the policy's implementation. Meyer (2013) notes that with regards to provincial and local level implementation of the NGP, municipalities will have to adapt to the policy and amend existing strategies. Furthermore, municipalities will have to implement the NGP by means of best-fit strategies in order to ensure the greatest chance of success. Such factors are crucial for successful implementation, yet are largely absent within the NGP itself. As a whole, the NGP appears to be more of a 'vision' than a plan and has no specific implementable steps. Critics' further claim that the NGP is not investment friendly, is too vague on detail and contains no new, original concepts. The NGP was designed and formulated to mark an intended break with the previous policies of the first two decades of post-apartheid South Africa. As a whole however, the NGP appears remarkably similar to the past Growth, Employment and Redistribution (GEAR) and the Accelerated and Shared Growth South Africa (ASGISA) economic policies-neither of which made any real, substantial impact on economic development or food and nutrition security in South Africa (Meyer, 2013). A central

policy focus on employment creation as intended by the NGP requires that both the direct and indirect factors that facilitate employment creation are taken under consideration through an entire spectrum of policy choices. Overall, in order for the NGP to meet its food and nutrition security objectives it would have to adopt a more national, comprehensive outlook on food and nutrition security as a whole. This would have to be further supported by the necessary enabling policies and an efficient regulatory system that would assist the greater food system as a driver of economic growth and sustainable employment (Hendriks, 2015).

Industrial Policy Action Plan (IPAP) 2016/17 – 2018/19

First adopted in 2008, the Industrial Action Policy Plan (IPAP) represents a mixed range of policies designed to achieve comprehensive structural change within the South African economy, through lessening commodity dependence, increasing manufacturing-based value addition, adopting an export intensity focus and through employment creation. IPAP 2016/17 – 18/19 is aligned with the Medium Term Strategic Framework (MTSF), with its own policy foundation drawn from the National Industrial Policy Framework (NIPF) adopted back in 2007. Identifying industrial development as key to achieving inclusive growth, successive iterations of IPAP have taken into account the importance of adjusting and strengthening industrial policy instruments in the ever-changing and dynamic domestic and global markets (DTI, 2016). Currently on its eight iteration, each successive annual iteration of IPAP has introduced new themes and focal areas in order to achieve a more comprehensive and higher impact industrial policy.

A key priority of IPAP 2016 is to bolster the economic linkages between the primary agriculture, mining and manufacturing sectors in order to secure maximum downstream beneficiation and maximise upstream linkages (DTI, 2016). IPAP 2016 highlights in particular the opportunities provided by agro-processing to make significant contributions to export earnings, job creation and economic growth as a whole. Subsequently, IPAP highlights the following policy imperatives: 1) improved coordination between various government departments, particularly the Departments of Agriculture, Forestry and Fishing (DAFF), Rural Development & Land Reform (DRDLR), Department of Small Business Development, the Economic Development Department (EDD) and the Department of Trade and Industry (DTI); 2) increased focus on export agribusiness and demand driven import replacement as a key target of industrial policy; and 3) addressing the structure of agro-processing and food production, in order for new entrants and diversification to be promoted to increase overall competition and dynamism within the system (DTI, 2016). Thus the overarching policy objective of the DTI is to improve the diversity and competitiveness in agro-processing and food production systems. However, in order to achieve said objective DTI, DAFF and other key governmental departments will have to adopt a more co-operative approach to governance in order to provide the necessary system of support towards the agricultural and agro-processing sectors.

Medium Term Strategic Framework (MTSF 2014-2019)

The Medium Term Strategic Framework (MTSF) is the South African government's strategic plan for the 2014-2019 electoral terms, reflecting the commitments made in the election manifesto of the governing party. Both the NDP and NGP are supported by the first cycle of the MTSF, which further provides the framework for other various policies of national, provincial and local government. Not only does the MTSF define the strategic objectives and targets of the government for the outlined five year term (2014-2019), it additionally serves as the primary guide for the planning and allocation of state resources over the five year term (DMPE, 2014). The MTSF is structured around 14 priority outcomes generated from both the NDP and NGP policy frameworks, twelve of which were the focus of the 2009-2014 administration, along with the two new outcomes of social protection; and nation-building and social cohesion (DPME, 2014). Of the fourteen outcomes, three specifically relate to agriculture and food and nutrition security : outcome 4 (decent employment through inclusive growth); outcome 7 (comprehensive rural development and food and nutrition security); and outcome 10 (protect and enhance our environmental assets and natural resources).

Outcome 4 (decent employment through inclusive growth) of the MTSF provides a more detailed programme of action with regards to the NDP's long-term vision of dealing with the challenges of unemployment, inequality and creating a more inclusive society. Key targets of the MTSF include: 1) an increase in the GDP growth rate from 2.5% in 2012 to 5% in 2019; 2) an increase in the rate of investment to 25% of GDP in 2019; 3) the share in household income of the poorest 60% of households rising from 5.6% in 2011/12 to 10% in 2019; 4) a decrease in the official unemployment rate from 25% in the first quarter of 2013 to 14% in 2020 (DPME, 2014). The MTSF further identifies a range of actions to achieve these targets, which are primarily aimed at achieving considerably higher levels of employment creation and a more rapid reduction of inequality. In certain instances the MTSF states that this does not require completely new policies, but rather improved implementation of pre-existing policies (DPME, 2014).

Outcome 7 (comprehensive rural development and food and nutrition security) of the MTSF focuses on measures aimed at strengthening food and nutrition security and agricultural competitiveness whilst further lifting marginalised rural households (especially those based in former homeland areas) out of poverty. The MTSF thus supports the NDP's vision that by 2030 the rural economy (i.e. primarily agriculture) should be able to create close to 1 million new jobs, and thereby additionally supporting the NGP's vision of reducing overall unemployment. In order to achieve these visions, the MTSF outlines the following policy priorities: 1) support for sustainable rural enterprises and industries characterised by strong rural- urban linkages; 2) increased investment in agro-processing, trade development and improved access to markets and the necessary financial services; 3) smallholder farmer development and support; 4) improved land administration and spatial planning for integrated development in rural areas; 5) increased access to quality basic infrastructure and

services (particularly with regards to education, healthcare and public transport in rural areas); 6) improved food and nutrition security and; 7) sustainable land reform for overall agrarian transformation (DPME, 2014). Such large-scale ambitious policy imperatives would require improved coordination and integration between state actors, with the MTSF further stating that it will require significant capacity building on behalf of the state in order to enable both state institutions and private industries to implement these interventions (DPME, 2014).

Outcome 10 (protect and enhance our environmental assets and natural resources) of the MTSF is centred around the NDP vision that by 2030, South Africa will be in the process of successfully transitioning to an environmentally sustainable, climate- change resilient and just society. Given this vision, the MTSF's main focus for the 2014-2019 period will be on the development of a framework for implementing the transition to an environmentally sustainable and low-carbon economy. This would include data collection, establishment of baseline information, unblocking regulatory constraints and the testing of key strategies for change (DMPE, 2014). In order to successfully develop this framework, the MTSF states that research and information management capacity needs to be harnessed in addition to the general improvement of decision-making and governance (DPME, 2014).

4.3.4 Agriculture Domain

With the turn of democracy in South Africa in 1994, the agricultural policy environment experienced a significant amount of change. Government bureaucracies were reorganised, effectively replacing a system that was fragmented by the apartheid era with a new, more inclusive policymaking system. Previously one national agricultural department serviced white farmers nationwide, along with a number of other departments serving their respective geographical homelands. The new system however, consists of a single national agricultural department that services the nation as whole, further complemented by province-based departments that are largely responsible for the implementation of policy (Aliber, 2015). Agricultural production in South Africa can be largely split into three different broad categories: 1) commercial production; 2) smallholder agriculture and 3) subsistence agriculture. Currently, commercial production in South Africa covers on average 82 million hectares, which is roughly consists of 40 000 farming units that produces about 99 per cent of the country's formal marketed agricultural output. Smallholder agriculture on the other hand covers an estimated 14 million hectares, involving between 300 000 to 400 000 predominantly black farmers that are predominately located in the former homelands. Subsistence agriculture in South Africa is estimated to be practiced by on average 4 million households (RSA, 2017).

At present, the Department of Agriculture, Forestry and Fisheries (DAFF) is primarily responsible for acts relating to agriculture, forestry and fisheries in South Africa, given a legislative mandate derived from Sections 24(b)(iii) and 27(1)(b) of the Constitution of the Republic of South Africa (DAFF, 2017). As a whole, the department envisions a; "united and transformed agriculture, forestry and fisheries

sector that ensures food and nutrition security for all and economic prosperity," through the advancement of, "food and nutrition security, job creation, economic growth and transformation of the sector through innovative, inclusive and sustainable policies, legislation and programmes," (DAFF, 2017). Thus the department aims to create an enabling environment for the equitable access to opportunities and establishes norms and standards in addition to providing financial assistance and other support mechanisms to farmers. DAFF's strategic planning process is largely informed by the MTSF for Outcomes 4, 7 and 10, as required by Treasury Regulations. Thus crucial actions and key outputs from the NDP are utilised to develop indicators and targets, in order to ensure that the department aligns towards achieving the 2030 Vision of the NDP.

As DAFF's strategic goals are grounded in the MTSF for 2014/15 to 2018/19, the department primarily focuses upon the implementation of three if the 14 national outcomes, as per the South African government's outcomes-based performance management approach. Of the three outcomes, Outcome 7 (Vibrant, Equitable, Sustainable Rural Communities Contributing Towards Food and nutrition security for All) is the most applicable with regards to achieving South Africa's food and nutrition security outcomes. Outcome 7 further comprises of DAFF's Strategic Goal 3 (Enabling Environment for Food and nutrition security and Sector Transformation), through the use of Programmes 3, 5 and 6 (DAFF, 2017). Programme 3 (Food and nutrition security and Agrarian reform) in particular aims to promote and facilitate household food and nutrition security , agrarian reform programmes and initiatives through the implementation of the NPFNS, by targeting subsistence, smallholder and commercial producers. The programme comprises of three further sub-programmes: Sector Capacity Development, Food and nutrition security and Extension Support Services. The sub-programme of Food and nutrition security provides the necessary national frameworks to specifically target the promotion of sustainable household food and nutrition security through the improvement of the production systems of subsistence and smallholder producers in the agricultural, forestry and fisheries sectors in order to achieve food and nutrition security and sustainable livelihoods, and by further facilitating the provision of inputs, implements and infrastructure support (DAFF, 2017). For the 2016/17 period, DAFF spent a total of R 1 250 173 on various food and nutrition security related production initiatives, of which a total of 19 761 households benefitted, in all 9 provinces (DAFF, 2017).

AgriBEE Fund and MAFISA

The AgriBEE framework was initially developed in 2004 to assist those who were previously marginalized to become active participants in the agricultural sector as owners, managers, professionals, skilled employers and active participants in all aspects of agribusiness (DAFF, 2014b). Initiated by DAFF, the AgriBEE Fund is thus largely a support programme developed primarily as an intervention to support previously excluded black farmers to participate in mainstream economic activities with the vision of enhancing the transformation agenda in the agricultural sector as a whole.

Consequently, the overriding goals of the AgriBEE Fund is to support small, medium and micro enterprises within the agricultural sector and to advance agribusiness development through agro-processing and value adding activities to who were previously disadvantaged and could not participate in the agri-sector value chain (DAFF, 2014b).

MAFISA (Micro Agricultural Financial Institutions of South Africa) is a financial scheme developed by DAFF to address the financial services needs of smallholder farmers in the agri-sector by providing capital to enhance agricultural activities. Implemented in 2004, MAFISA aims to facilitate the provision of equitable access to financial services through the empowerment of small and micro-level producers, processors and micro-entrepreneurs (Oladele & Ward, 2017). Services provided through MAFISA include production loans, assistance for saving schemes and capacity building for member owned financial institutions/ intermediaries (DAFF, 2010). A range of institutions accredited by DAFF serve as retail intermediaries to facilitate the access of MAFISA products and services. MAFISA loans are primarily aimed for the purchase of production inputs (fertilizers, seeds, pesticides etc.); the purchase of small equipment and implements; and the purchase of breeding livestock, medication, feed, and branding material (DAFF, 2010). Those eligible for MAFISA include:1) smallholder farmers; 2) land and agrarian reform beneficiaries; 3) farm workers; 4) self-help groups (SHGs)/ Co-operatives; and 5) small agribusinesses. However, the policy states that applicants must possess a clean credit record and further demonstrate their willingness and ability to repay (Oladele *et al*, 2017).

As indicated by Oladele *et al* (2017) it is commonly accepted that microfinance programmes such as those of MAFISA, Llima/Letsema and the AgriBEE Fund improve beneficiaries' access to various socio-economic facilities, such as those of such as health, nutrition and education through the increased incomes generated by the programmes. Furthermore, access to the necessary financial capital to acquire fixed assets is central for any business to sustain its operations and to gain a competitive advantage. Conversely, Oladele et al (2017) also notes that access to microfinance is in itself insufficient to ensure the intended positive impact on the livelihood of beneficiaries, and that the finance often does not reach those who need it most- even when it does it often destroys their 'resourcefulness' due to repayment difficulties that constrain the procurement of other vital resources.

Llima/Letsema and Fetsa/Tlala Food Production Initiative

Announced in 2008 and implemented nationwide in early 2009, the Llima/Letsema programme was developed with the aim of reducing poverty through increased food production initiatives. The concepts 'letsema' and 'ilima' are tantamount to the same. 'Ilima' etymological root stems from 'ukulima' from the Zulu language, which essentially means to cultivate the land. 'Letsema' on the other hand, is a Setswana, Sesotho or Sepedi word for a group of people who come together in order to perform a particular task (Twala, 2004). Thus in order to achieve the objectives of poverty

reduction and increased food production the programme provides the following products and services: 1) the revitalisation of irrigation schemes; 2) household gardens and households supported with the necessary inputs; school, community and public gardens; livestock purchasing and hectares planting inputs; and the mechanisation of farming practices.

As outlined within the NDP, food and nutrition security is identified as a key component in South Africa's policy drive to alleviate poverty, reduce unemployment and inequality by 2030. Subsequently, in 2013 the Fetsa Tlala (SeSotho for 'end hunger') Food Production Initiative was introduced as a key attempt to address these vital challenges. The initiative comprises largely of an integrated government framework that aims to promote food and nutrition security in South Africa through the promotion of staple food production on fallow lands with agricultural production potential. Farmers are essentially pooled together to plant various commodities to sell on the open market with the hope that households will use the income generated to purchase food. Initially the initiative focused on the planting of maize and dry beans (80% and 20% respectively), however now various commodities are included, ranging from maize, beans, sunflower, grain sorghum, groundnuts, vegetables and fruit. Fetsa Tlala aims to place 1 million hectares of land under production by 2018/19 production season (DAFF, 2015).

Through the Llima/Letsema and Fetsa/Tlala policies one gains a great deal of insight with regards to how the government perceives food production in relation to the problem of food and nutrition security. Throughout the last decade addressing food production in South Africa has been predominantly a rural project. Thus focus has shifted from support for large-scale white commercial farmers to more small-scale subsistence farmers, of which are predominately black South Africans. Input and capacity development initiatives such as those of Llima/Letsema and Fetsa/Tlala make use of a cash/crop for purchase approach, thus the produce is not meant for direct consumption. This is despite the fact that on average, maize is not in short supply in South Africa, is not particularly expensive (even for rural inhabitants) and only has a partial contribution to household nutrition security. Furthermore, much of the maize produced under the Fetsa/Tlala initiative was yellow maize- thus meant for animal consumption. As noted by Aliber (2015), whilst the sale of animal feed may lead to an improvement in household diets through the resultant income boost, the entire initiative was diminished by the absence of any marketing plan. Aliber (2015) further notes that in the Eastern Cape, poor households were unable to pay the R1800 commitment fee required to participate in the Festa Tlala Production Initiative. Thus the initiative does not reach the poorest and most vulnerable households, especially those who partake in subsistence production. Data from the 2017 General Household Survey further supports this finding. Among households involved in agriculture only 9.9% received government services in 2016; 1.9% received training and 6% received dipping/ livestock vaccination services (StatsSA, 2017). Consequently, through the Llima/ Letsema and Festa Tlala policy initiatives the South Africa government's expectation of turning smallholder and subsistence farmers into medium and large-scale commercial farmers has proved to be an expensive and largely

ineffective venture. The Llima/Letsema initiative has particularly been criticized as being a political front for an ANC led campaign to simply advance ANC political interests under the pretext of community assistance. In addition, the perception of the campaign as largely politically owned by the ANC has led to participation difficulties for other stakeholders, albeit other political parties or non-politically aligned organizations (Twala, 2004).

Furthermore, Fetsa Tlala poses a significant challenge for multisectoral co-ordination and integration within the South African policy environment. With regards to institutional arrangements, the Fetsa Tlala Production Plan identifies the following as a 'task team' to implement the production initiative: DAFF (Convenor), DRDLR, DWA, DTI, DSD, DPW, NT, and PDAs. DAFF spearheads and governs the programme as a whole**.** Further worth noting is that the plan highlights the importance of a multisectoral approach to food production in achieving food and nutrition security in South Africa. Whilst DAFF is responsible for forming a national task team (comprised of various government departments and the private sector) in the implementation of Fetsa Tlala, the department also has a role as convenor and coordinator, and will further serve as the secretariat for the task team (DAFF, 2015). The DRDLR on the other hand, is largely responsible for coordinating the activities of Outcome 7, which aims to ensure vibrant sustainable rural communities and food and nutrition security for all. Further compounding the issue, the DRDLR is the chair of the implementation forum, whilst the DAFF is the co-chair. It is important to note the two departments each have their own separate policy mandates with regards to achieving food and nutrition security in South Africa; and that as government departments they remain sectorial in nature (focusing on the agricultural sector and rural development and land reform respectively). Thus the interchange between DAFF and the DRDLR as conveners of multisectoral platforms for food and nutrition security poses a major challenge in multisectoral coordination as a whole.

Such examples of multisectoral policy coordination challenges serve to further highlight additional difficulties in ensuring multisectoral policy integration in South Africa as a whole. In general a given government department has very little convening power over other line ministries. DAFF for instance, has no convening powers over other sector departments. Thus the role of the department as convener of task teams and working groups related to food and nutrition security is severely hampered, as there is no obligation for the other departments to attend the meetings due to a lack of legal enforceability (Nkwana*,* 2015). Consequently, in order to ensure effective policy coordination and implementation there needs to be a clear interchange and clarification of the roles between the various departments as conveners of multisectoral platforms for food and nutrition security. These platforms could further benefit from inputs and participation from broader stakeholders and key role players.

National Agricultural Research and Development Strategy

The product of concentrated consultations within the National Agricultural Research System (NARS), the National Agricultural Research and Development (R&D) Strategy specifies South Africa's long-term strategic vision for the accelerated effort and investment in agricultural research, development and transfer of technology. The strategy was developed in accordance with national policy priorities; predominately the recognition for more coordinated and focused research priorities, primarily aimed at equitable and enhanced natural resource management and the sustained competitiveness of the agricultural sector as a whole (DAFF, 2008). The overall riding goal of the strategy is to improve the contribution of agricultural research in South Africa towards the effort to attain at minimum, a 6% economic growth rate through the use of sustainable agriculture in the effort to ensure food and nutrition security and the elimination of poverty in South Africa. Thus in order to achieve the above stated aim, the National Agricultural Research and Development Strategy comprises of the following leading objectives: 1) to guide the Agricultural Research and Innovation System in the formation and operation of national agricultural research and development programmes; 2) to both mobilise and enhance resources in their effective use for sustainable agricultural research; 3) guide the creation of knowledge within the agricultural sector; 4) provide a framework for developing research capacity and expertise; and 5) provide an institutional framework to enhance participation of all stakeholders in agricultural research and development (DAFF, 2008).

Overall, the strategy appears to contain strong governance and institutional arrangements, with the original DAFF (2008) policy document containing 15 detailed pages outlining various arrangements surrounding implementation and coordination mechanisms; legal frameworks; financial mechanisms; mandates and responsibilities; and structures for management and co-ordination. As a whole, the National Agricultural Research and Development Strategy provides an important supportive basis within the policy sphere of the agricultural sector in South Africa. The cost of generating sustainable economic sector growth rests largely on the sector's capacity to develop and generate technological solutions to address the many challenges facing production and processing throughout the agricultural commodity value chain. Thus through the provision of vital research and development services the strategy provides the necessary supportive basis for various other agricultural policy efforts sustain and improve not only growth within the agricultural sector, but for various sector wide efforts in the attainment of food and nutrition security and poverty elimination.

Integrated Growth & Development Policy for Agriculture, Forestry and Fisheries (IGDP)

Implemented in 2012, the IGDP represents the first attempt by the DAFF to integrate the three subsectors of agriculture, forestry and fisheries in order to develop a common vision and integrated implementation framework. Holding integration as the underlying core of its ethos, the IGDP envisions; "an equitable, productive, competitive, profitable and sustainable Agriculture, Forestry and Fisheries Sector growing to the benefit of all South Africans," (DAFF, 2012). This vision is

congruently supported through the IGDP's mission to achieve a developed and sustainable sector that both contributes and embraces food and nutrition security , economic growth and development, sustainable livelihoods, job creation, sustainable use of natural resources, maintenance of biodiversity and ecosystems, and rural development (Thow *et al,* 2018). Thus given the number of existing sector-specific and cross-sectorial policies within the agriculture, forestry and fisheries sectors that affect both the growth and development of the sector as a whole, the IGDP subsequently strives to improve the effectiveness of policies governing the three sectors. Focusing on the four broad sector goals of equitable growth and competitiveness; equity and transformation; environmental sustainability; and governance, this further includes fast tracking the implementation of the policies concerned, in accordance to the national goals outlined in the *Medium Term Strategic Framework* (MTSF) and other various cross-sectorial policies (DAFF, 2012).

The IGDP aims to improve the effectiveness of the policies concerned through the implementation of an effective monitoring and evaluation system. The system's primary objectives are thus accordingly to: collect and provide information that will be used to track the progress on the implementation of all the interventions within the policies concerned; plan, allocate, prioritise and manage various policy resources; identify any gaps and weaknesses in the delivery of services; and to effectively monitor the impact of the various policy interventions on the intended beneficiaries within the agriculture, forestry and fisheries sectors (DAFF, 2012). Thus the various measures and/or indicators utilised within the monitoring and evaluation system will depend largely on the policy issue at hand, as well as the level of planning required. In order for the monitoring and evaluation system to successfully improve the effectiveness of the policies covered by the IGDP it will be essential to additionally conduct financial and performance monitoring in order to determine overall sector efficiency, sustainable resource use and the achievement of national goals and outcomes.

Within the last 5 years there have been important progressive developments in food- related policy, with the IGDP being one forerunners to this progressive change of pace. For instance, the IGDP notes that when addressing the issue of food and nutrition security there is a need for, "greater emphasis on both physical and economic access to food," (DAFF, 2012). This important acknowledgement as to the multifaceted nature of food and nutrition security is further emphasised by the recognition of food and nutrition security as a multi-sectoral issue: "Household food and nutrition security is influenced by the availability, accessibility and affordability of nutritional food and this requires an integrated approach…," (DAFF, 2012). As the IGDP takes its cue from the twelve outcomes identified in the MTSF, achieving said outcomes will require intergovernmental cooperation in the implementation of various key policies, such as the NDP, NGP and IPAP. Disappointingly, the IGDP however offers little, if any, interventions or mechanisms that would facilitate and foster said intergovernmental cooperation.

Within the greater context of food policy, the IGDP is representative of the general lack of attention on the part of policy makers to actual effective and sustainable problem solving. The IGDP frequently makes note of governance difficulties, such as the misalignment of policy and the general lack of effective monitoring and implementation mechanisms within the current policy sphere, as well as to the importance of internal departmental alignment. Promisingly, the IGDP offers a set of interventions and activities to address these governance challenges, as well as what it deems to be an effective and comprehensive monitoring and evaluation system. However, these interventions remain vague in detail and generally represent a lack of real engagement with the mechanisms required to underpin real policy alignment.

Agricultural Policy Action Plan (APAP), 2015- 2019

Planned over a five year period and updated on an annual basis, the Agricultural Policy Action Plan (APAP) strives to transmute the high-level policy responses offered in the IGDP into clear, tangible steps. Given that this is the first iteration of APAP, the policy plan is not offered as a full, comprehensive plan but is rather based on the model of IPAP. Subsequently, the plan identifies a number of ambitious yet feasible decisive actions in the expectation of future, subsequent APAP iterations that will keep the process moving forward. APAP was formulated and developed with the intention of the plan's core objectives aligning to those of the NGP, IPAP, NDP and the MTSF (in respect of Outcomes 4, 7 and 10) (DAFF, 2014c).

This first iteration of APAP focuses on the following key themes identified as strategic in achieving the objectives of the NDP, NGP and IPAP: 1) contribution to food and nutrition security ; 2) job creation; 3) value of production; 4) growth potential; and 5) the potential contribution to trade balance (DAFF, 2014c). These key themes are then further broken down into various sectoral interventions: small-scale fisheries; Aquaculture Competitiveness Improvement Programme; poultry/soya beans/maize integrated value chain; biofuels value chain; red meat value chain; forestry; wheat value chain; sugar value chain; fruit and vegetables and the wine industry (DAFF, 2014c). In addition, various transversal interventions are outlined, including the previously mentioned Fetsa Tlala Integrated Food Production Intervention. Further transversal interventions include: biosecurity; research and innovation; strategic integrated projects (SIPs); trade, agribusiness development and support; and promoting climate-smart agriculture (Thow *et al,* 2018). Collectively, the transversal interventions seek to further strengthen the agriculture, forestry and fisheries sectors by alternative, diverse means. As a whole, these various short and medium-term interventions will be translated via the various iterations of APAP that are to follow, and aim to support the IGDP's four broad sector goals of equitable growth and competitiveness; equity and transformation; environmental sustainability; and governance. It is important to note that each intervention is outlined by means of a **'**problem statement', an overview of the 'nature of intervention', and 'key outputs'. Notably, such

a systematic structure of the interventions concerned form part of a key step towards achieving effective internal policy alignment within the greater agricultural domain.

Within this first iteration of APAP, chapter 8 of the initial policy document describes the implementation management, monitoring and evaluation processes of APAP, stating that; “the success of APAP lies in our capacity to institutionalise the planning, monitoring and evaluation thereof,” and that; “our capacity to manage this process is critical to the success of APAP,” (DAFF, 2014c). Whilst previously discussed polices originating from the DAFF may have offered similar such processes, albeit vague in detail and ill-represented, APAP appears to offer effectually representative processes and mechanisms with the necessary detail orientation to help underpin effective policy alignment. Chapter 8 continues to further state that; “as a consensus document between government, the sector, labour, and civil society, APAP provides a platform of engagement through which the sector and other stakeholders are able to identify binding constraints and required interventions,” (DAFF, 2014c). Such a platform includes various stakeholders central to the success of APAP, including and not limited to; provincial departments of agriculture, government, sector organisations, labour and civil society. Through the established forums initiated and facilitated by APAP, the various stakeholders are able to interact, table their concerns, and reach a relative consensus with regards to the state around Agriculture, Forestry and Fisheries, and further on what should be addressed both nationally and provincially. Further examples of multi-stakeholder engagement are illustrated through APAP’s structured planning process, whereby various national departments identify several Key Action Programmes (KAP) that are translated down into Provincial Key Action Programmes. Overall, the process entails national-wide engagement between the: District Land and Agricultural Committee (DLAC); Provincial Technical Committee (PTC); Provincial Land and Agricultural Forum (PLAF); National Land Allocation and Agricultural Assessment Committee (NLAAAC); various extension officers and the beneficiaries of the programmes concerned (DAFF, 2014c). Taken as a whole, APAP’s planning process indicates a meaningful attempt at departmental internal alignment within the greater context of the policy planning process.

Although APAP holds real promise in helping to achieve a more equitable and efficient food system, significant short-comings remain. Despite significant improvements in the mechanisms required to underpin effective policy alignment within the greater agricultural domain of South Africa’s food policy environment, the plan stops short of effectively guiding a system-wide transformation from conventional to sustainable agriculture (Drimie, 2016). For example, both the NDP and NGP encourage innovative policy responses with regards to climate change and the subsequent risks associated with agriculture and the environment as a whole. Consequently, APAP highlights the importance of climate-smart practice and the conservation orientated agriculture, yet it still operates with the leading, predictable standard to agricultural policymaking. Instead of emphasising a change of the system and the status-quo of agricultural policy , APAP rather emphasises a change in the control of the given norm.

Concluding Remarks

Whilst the importance of the role of South Africa's agricultural sector in the country's socio-economic sector cannot be denied, a well-developed, thriving agricultural sector has the potential to further support many of the government's 14 outcomes. The sector is however, directly associated to that of outcome 7: vibrant, equitable, sustainable rural communities with sufficient food for all. The given accompanying outputs help to ensure that rural communities remain connected through the support provided to farmers and other rural communities (RSA, 2017). One of the NGP's main priorities is maintaining and supporting the agricultural value chain, through the direct targeting of opportunities for smallholder producers and agro-processing, as discussed in section 4.3.3. In addition, the NDP aims to achieve a food trade surplus through which one-third must be produced by small-holder farmers or general households, in order to assist in achieving household-level food and nutrition security (RSA, 2017).

Whilst the primary focus of agricultural production and subsequent marketing programmes in South Africa has shifted largely to smallholder production, Hendriks (2014) argues that the various legislative and policy measures necessary to create an enabling environment for smallholders to establish both competitive and sustainable production and marketing systems have simply not been provided. This is evident through the general lack of provision of many of the elements and mechanisms that help to establish commercial producers and ensure national food and nutrition security , such as: input subsidies; credit and public research; infrastructure; security of tenure; development and extension; and market protection. There has largely been little policy consideration with respect to the provision of said elements and mechanisms, whereby they are non-functioning or simply no longer available to both the commercial and smallholder sectors (Hendriks, 2014). In order to ensure viable growth within smallholder production, there needs to be a degree of policy consensus that the expansion of the smallholder farmer sector must build on South Africa's significantly large subsistence sector (Aliber & Hall, 2012). Essentially, policy should by large promote the development of subsistence producers in order for them to earn a sustainable income as commercial smallholders- a concept that appears to be largely missing from current agricultural policy.

Further contradictions emerge within South African agricultural policy. Despite the strong rhetoric surrounding the commitment to smallholder agriculture in policy documents such as the NDP, NGP and APAP, the other policies discussed within this assessment tend to favour medium or large-scale emerging black producers. Such contradictions form part of the many atypical examples of misalignment of policy vision, goals, recognition of interdependencies and the general lack of co-ordination mechanisms that have emerged through this assessment thus far. Drimie (2016) argues that the general lack of coherence within the broad range of current agriculture- and food-related polices can partly be attributed to a lack of clear vision of a future agrarian system and how to

subsequently achieve it. The recent policy review by Hendriks *et al* (2015) further supports this argument, and additionally found that within the South African food and nutrition security environment it is difficult to coordinate existing policies- given that most agricultural policies do not actively promote food and nutrition security .

What remains unclear is the impact of the numerous policy plans (for example Festa Tlala, Llima Letsema and MAFISA) on household-level food and nutrition security . Many of the policies simply offer once-off assistance, and lack the operational will-power and resource capacity to equip farmers with the skills and support necessary to successfully operate in commercial markets. By large, household-level food and nutrition security depends on constant, secure year-round access to sustainable food sources in sufficient quantities and quality standards (Henriks, 2014). As a whole, despite a degree of superficial alignment and focus on transformation, existing agricultural and food polices by large have failed to engage with the mechanisms required to underpin real policy alignment and good governance. Together with the failure of understanding and appreciating the rapid transformations within the processing and retail environments, said polices arguably have failed to address the structural underpinnings of the agrarian system (Drimie, 2016).

4.3.5 Environment Domain

Containing at least 17% of the world's total biodiversity, South Africa is the third most biologically diverse country in the world (DEA, 2015a). This biological diversity provides an important basis in the provision of food and nutrition security and clean air and water for the South African people, which is consequently reflected through much of South Africa's policymaking. South Africa has also began to place significant emphasis on the effects of global climate change on the environment. In 2011, South Africa hosted the 17th Conference of the Parties (COP 17) of the United Nations Framework Convention on Climate Change (UNFCCC) in Durban. In recognition of the potential effects of climate change on the environment, member countries sealed a new agreement to create new climate deal that will result in a reduction of their countries' carbon emissions (RSA, 2017).

At present, all environmental affairs in South Africa are jointly managed and administered by the national Department of Environmental Affairs (DEA) and the nine provincial departments within the country. The provincial departments implement both their own policies in addition to those formulated by the national department. Furthermore, all other government departments (both national and provincial) are constitutionally bound to ensure that South Africa's environment is protected and preserved. The DEA's legislative mandate is derived from Section 24 of the Constitution of the Republic South Africa, whereby; "everyone has the right to an environment that is not harmful to their health or well- being; and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that: 1) prevent pollution and ecological degradation; 2) promote conservation; and 3) secure ecologically sustainable development and use of natural resources while promoting economic and social development,"

(DEA, 2015b). In addition, the DEA is both the lead department and secretariat of outcome 10 (protect and enhance our environmental assets and natural resources) of the MTSF 2014-2019. Environmental policy in South Africa is largely influenced by leading global environmental threats such as climate change; declining land productivity impacting on food and nutrition security ; air quality and the degradation of ecosystem services (including water quality and quantity).

The over-arching goal of most of South Africa's environmental policies is the conservation of natural resources and the protection of biodiversity, with particular reference to land, air and water. Thus most of the policies focus on the creation of protected areas, the restoration of destroyed environments, control of invasive species and public awareness drives to reduce consumption and waste. The majority of the polices further provide guidelines for environmental impact assessment and various regulations for the sustainable use of natural resources in urban development, leisure, mining and agriculture (DEA, 2015a). From a broader food and nutrition security context, most food related policies that focus on enhancing food production have largely focused on the supply of input resources and human capital development in the primary production and processing sectors. As a result, there is little, if any, overlap with environmental policies. However, three over-arching themes remain predominant within the environment domain of polices: climate change action, conservation and waste management. Whilst the DEA has implemented policies that cover waste management, the policies chiefly focus on proposing interventions to reuse and recycle waste. Thus, despite the growing global focus on the issue of food waste there is no explicit mention of food waste in these polices. Therefore, from a food-security perspective these policies are of little use and were subsequently left out of the policy matrix and assessment. In order to provide a sufficiently extensive assessment of the environmental domain given the two remaining overarching themes of climate change action and conservation, the policies that fall within these two themes will be analysed through the following three broad focal areas of: 1) *Climate Change*; 2) *Oceans Economy*; and 3) *Water Management*, given their proximity to achieving food and nutrition security related policy outcomes.

Climate Change

The National Climate Change Response White Paper represents the South African government's vision for an effective and sustainable response to the challenge of climate change, and the corresponding transition to a climate resilient and lower-carbon economy. Essentially proving the framework for addressing the issue of climate change, the white paper outlines two main objectives for South Africa's response. The first is to; "effectively manage inevitable climate change impacts through interventions that build and sustain South Africa's social, economic and environmental resilience and emergency response capacity," followed by the second of; "make a fair contribution to the global effort to stabilise greenhouse gas (GHG) concentrations in the atmosphere," (DEA, 2011). The framework outlined by the white paper is steered by the principles illustrated in the

Constitution of the Republic of South Africa; the Bill of Rights; the Millennium Declaration; the United Nations Framework Convention on Climate Change and the National Environmental Management Act. In essence, the policy proposes various measures such as the investment in renewable energy and efficient technology; the development of resilient urban infrastructure and the implementation of a carbon tax to reduce greenhouse gas emissions.

Whilst the Carbon Tax policy was enacted in 2013, the recent drought in the Western Cape and the general shortage of water supplies across South Africa (largely due to *El Niño* which has additionally affected the summer rainfall parts of the country) have highlighted the need to critically engage on issues surrounding the relationship between climate change and food and nutrition security within policymaking. Whilst the study by Gulati, Jacobs, Jooste, Naidoo & Fakir (2013) indicates that this has been the focus for many NGO's within South Africa for some time, at national level policy uptake remains minimal. Furthermore, most policy studies examining the relationship between global food and nutrition security and climate change have narrowly focused onto a limited number of aspects. Examples of said aspects include: impacts on food access (specifically relating to food prices) (Nelson *et al*, 2010); impacts on food availability focusing on crop production (Kurukulasuriya & Rosenthal, 2013); and the impacts on utilisation focusing on nutrition outcomes (Thompson & Cohen, 2012). However, what is missing from the environmental policy sphere is a holistic translation of this research into policy-relevant food and nutrition security outcomes.

Ocean Economy

Based on a results-driven approach, the Operation Phakisa initiative was designed to fast track the implementation of solutions on critical development issues, such as the Ocean Economy. "Phakisa" means "hurry up" in Sesotho, indicating the South African government's urgency to deliver results in this regard (DEA, 2015b). The initiative is based upon an intensive problem solving methodology, which entails bringing together all the key role players in one-setting to jointly develop and agree on solutions (DEA, 2015b). Through this sequential, detailed orientated approach, Operation Phasika aims to; "implement an overarching, integrated ocean governance framework for sustainable growth of the ocean economy that will maximise socio-economic benefits while ensuring adequate ocean environmental protection within the next five years," (DEA, 2014). The Methodology of Operation Phakisa consists of eight sequential steps, which aims to bring key stakeholders from both the private and public sectors, in addition to academia and various civil society organisations in order to collaborate in: 1) detailed problem analysis; 2) priority setting; 3) intervention planning; and 4) delivery. Through the implementation of the policy, the government of South Africa aims to increase the oceans economy's GDP contribution by R20 million, and to thus further lead to the creation of 22 000 new jobs by 2019 (DEA, 2014). Subsequently, the policy is well aligned to the NDP goals of economic growth and poverty reduction, as well to the NGP's vision of placing jobs and decent work at the centre of policy formulation.

In South Africa, the fisheries sector plays an important role in both the economy and through the provision of food and nutrition security for local communities. Nationally, coastal goods and services estimated to contribute 35% to South Africa's GDP alone. Furthermore, commercial fisheries are estimated to provide 27 000 direct employment opportunities, with a further 100 000 indirect opportunities (WWF-SA, 2016a). At the local level, the fisheries sector provides not only vital employment opportunities but additionally contributes significantly towards food and nutrition security for many of the traditional fishing communities along the South African coastline. Thus, a policy such as Operation Phakisa is of vital importance not only for the protection of South African marine life but also in the provision of food and nutrition security outcomes. Of particular concern however, is the absence within policy of an account as to the importance of small-scale fisheries for livelihoods and food and nutrition security, given that on average 230 South African coastal communities participated in the small-scale fishing sector in 2016 (WWF-SA, 2016a).

Water Management

Rainfall patterns vary significantly across South Africa. The highest rainfall areas are in the high mountainous areas such as the Drakensberg in Kwa-Zulu Natal and in the mountains of the Western Cape. These mountains act as headwaters (i.e. water source areas) that collectively constitute only 10% of South Africa's land area, yet they deliver 50% of the countries river flow. Of South Africa's total rainfall, 9% goes into rivers and surface water, and 4% recharges ground water supplies (WWF-SA, 2016b). The ongoing drought in the Western Cape (following from an El Nino event in 2014-2016 that led to subsequent droughts across South Africa) has served to further highlight the precarious nature of South Africa's water management situation, and thus the related threat to ensuring food and nutrition security .

Aside from the national Department of Water and Sanitation, within the public sector 9 provincial departments, 13 water boards, two CMAs, the Water Research Commission, 167 Water User Associations and the TransCaledon Tunnel Authority assist in the management of South Africa's water supplies. Furthermore, there are three main water polices that cover water management in SA that directly align to environmental protection objective are: 1) *National Water Resource Strategy (NRWS)*; 2) *Drought Management Plan*; and 3) *Ground Water Strategy.* Of particular concern is the implementation date of the polices. Whilst the second iteration of the *NRWS* was implemented in 2013, the current *Drought Management Plan* was implemented in 2005, and the *Ground Water Strategy* in 2010. Given the effects of climate change and an ever growing increasingly urbanised population on South Africa's already precarious water supplies, one wonders if newer, more cohesive and updated water management policies are required. Furthermore, efficient policy coordination between the various government departments, private companies, NGO's and private landowners is required, which thus far appears to be lacking. Given the effects of the drought in the

Western Cape and large parts across the country, clearly more needs to be done with regards to long-term, sustainable water management within South Africa.

Concluding Remarks

Although South Africa has extensive environmental policy, it appears to be largely developed in isolation from core food and nutrition security outcomes, given there is little (if any) reference to food systems within the policies concerned. The ongoing drought in the Western Cape and in other parts of South Africa serves to further highlight the inadequacies of the country's water management strategies, as well as the country's vulnerabilities to climate change as a whole. Environmental implications such as these pose a serious threat to future food and nutrition security . More integrated polices that adequately cover the necessary environmental dimensions are required to ensure the development of a sustainable food system.

4.3.6 Social Protection Domain

By large, the primary goals of most social protection policies are to alleviate poverty and to manage vulnerability, by either increasing household incomes (or agricultural production income in the case of farmers) or through stabilising pre-existing incomes in order to reduce livelihood vulnerability. It is important to remember that vulnerability also comprises of a largely social dimension (relating to exclusion and marginalisation), which subsequently can be addressed through policies that focus on the empowerment of people (Devereux & Waidler, 2017). Both poverty and vulnerability are significant drivers of food insecurity, particularly with regards to farming households in rural areas where agricultural production and income levels are closely interrelated. Consequently, it follows that there is a strong interlink between food and nutrition security and social protection. Devereux (2016) serves to highlight this interlinkage, by asserting that social protection specifically promotes food and nutrition security by: 1) stabilising incomes (through the mitigation of seasonal stress, risks and shocks); 2) raising incomes (through the promotion of agriculture and enhancement of rural livelihoods); and 3) enhancing social justice (through the empowerment of poor farmers, pastoralists and landless labourers).

The Department of Social Development (DSD) is responsible for the development, implementation and monitoring of social protection policies in South Africa. The department derives its core mandate from the Constitution of the Republic of South Africa, whereby Section 27(1)(c) provides for the right of access to appropriate social assistance to those unable to support themselves and/or their dependents (DSD, 2017). The DSD has a wide mandate surrounding social protection in South Africa, and thus plays an important role in working towards achieving food and nutrition security in South Africa. Given this mandate the DSD, more than any other national department, is able to facilitate food and nutrition security and subsequent relating policies in a way that is more interconnected to poverty, unemployment, and the other wider social and economic drivers of food

insecurity. The polices within the social protection domain that that relate to achieving food and nutrition security outcomes can largely be categorised into initiatives that promote income generation, price monitoring and the creation of safety nets. These initiatives assist individuals in gaining access to food by increasing both incomes and the affordability of food.

The South African Grant System

Through the Social Assistance Act (2004) the DSD provides various types of cash transfers (more commonly known as social grants) which have become an important source of social support for the poor and marginalised in South Africa. Initially seen as a short-term measure to address poverty, the provision of social grants remains a primary government measure to potentially address food insecurity in the country. South Africa's social grant system comprises of seven unconditional cash transfers, of which five are means tested in order to target poor and vulnerable individuals, such as older persons, children and persons with disability. The social grants are largely dominated by the Child Support Grant (CSG) and the Older Person's Grant (OPG). As of February 2018, the CSG paid R 380 per month and reached 12.2 million children under 18 years of age. The OPG paid R 1600 per month and reached 3.4 million people over the age of 60. Other social grants include: the Disability Grant (R1600/month); the Foster Care Grant (R920/month); the Care Dependency Grant (R1 600/month); the War Veterans Grant (R 1620/ month); and the Grant-in Aid (R 380/ month) (SASSA, 2018). The DSD also supports access to food through a little-know initiative called the Social Relief of Distress Grant, which is more commonly referred to as the distribution of food parcels. The initiative provides 'temporary assistance' through the provision of food parcels or food vouchers to distressed households for a period of three months, with the possibility of extending it for a further 3 months. Applications for grants are processed immediately upon application and successful applicants receive either the food parcel or voucher on the spot. Concerningly however, approval of the grant is solely at the discretion of South African Social Security Agency (SASSA) officials. Thus, the identification of the individuals in distress is inconsistent, and leaves the system open to misuse.

Over the past two decades the coverage of social grants in South Africa has expanded significantly. This expansion (coupled with the ANC's preference for market-friendly orientated economic policies) prompted Devereux *et al* (2017) in their recent review of the grant system to characterise modern South Africa as a 'neoliberal welfare state'. Whilst the social grant system indeed assists many poor and vulnerable households in South Africa to meet their basic needs, by large the assistance provided remains largely insufficient. The cost of the staple food basket has increased by 22% from 2015 to 2016 (BFAP, 2018). Given that the grants paid involve a relatively small amounts of money that cannot sufficiently cover even the most basic of food items, it remains unclear how efficiently they translate into positive food and nutrition security outcomes. Furthermore, poor households in South Africa generally pool their grant income in order to cover the food and non-food needs of all

of their members, not only the beneficiaries themselves. Therefore the grants are often 'diluted' in their impact on food and nutrition security . A further issue worth noting is the tempered reach of the social grant system. Household members who are between the age of 18 and 59 (who are not medically disabled) do not meet the criteria to receive grants. Therefore many of those who are in need of social protection are often excluded, resulting in a critical fracture point in South Africa's social transfer policy (Taylor, 2015).

Other Social Development Polices

Aside from the social grant system, the DSD has outlined a further two polices in order to provide social protection to the poor and vulnerable in South Africa: 1) *The War on Poverty Programme* (implemented in 2008) and 2) *The Household Food and Nutrition Security Strategy* (implemented in 2014). However, both the nature and the continued existence of the policies remains unclear. In addition, it is uncertain by what means one can obtain a final official document for either of the policies. What is known however, is that the *Household Food and Nutrition Security Strategy* is largely a subsidiary programme of the NPFNS, and aims to enhance production entitlements amongst subsistence producers (Aliber, 2015). Conversely, the *War on Poverty Programme* aims to accelerate access to basic social services to specific, identified households in the most deprived wards of South Africa (The Presidency, 2010). Intriguingly, in 2014 the DSD circulated a draft discussion document for a *Household Food and Nutrition Programme*, which confusingly bore no resemblance to the *Household Food and Nutrition Security Strategy* (Aliber, 2015). What happened to the proposed programme is unknown. A further DSD intervention worth noting is the creation of Community Nutrition and Development Centres (CNDCs). As part of the department's efforts in executing the NPFNS, 212 of the centres are currently in existence, feeding a total of 302 357 beneficiaries (DSD, 2017).

Concluding Remarks

By definition, social protection measures ensure inclusive social development through the implementation of protective, preventative, transformative and generative interventions for human well-being across all sectors of society (Taylor, 2015). In South Africa however, social development policies have become conceptually delinked from not only one another, but food and nutrition security as a whole. As a result, said interventions targeting poverty and food insecurity are reduced to a residual relief role. In order to build resilient livelihoods in South Africa, comprehensive and sustainable approaches are required, with strong linkages between social development sectors such as agriculture and health (Devereux, 2016). As a whole, food and nutrition security in South Africa cannot be achieved with a single policy instrument or specific time-bound programme. A more holistic, inclusive approach to social development policy is required.

4.3.7 Health Domain

Chapter 10 of the NDP outlines the vision of "A long and healthy life for all South Africans," through achievement of the following by 2030: an infant mortality rate of less than 20 deaths per 1 000 live births; an under- five mortality rate of less than 30 deaths per 1 000 live births; a life expectancy rate of at least 70 years for both men and women; a generation of under-20s largely free from HIV; a significant shift in the equity, efficiency, effectiveness and quality of health care provision in South Africa; and a significant reduction in social determinants of disease and adverse ecological factors (NPC, 2012). This vision for the health sector in South Africa is further encapsulated in the *MTSF 2014-2019* sub-outcomes which are accordingly aligned to the *Strategic Plan* and the *Annual Performance Plan* of the Department of Health (DOH), the department of the South African government that is assigned to health matters in the country. Health polices in South Africa tend to largely frame food and nutrition security and nutritional well-being from the perspective of malnutrition as a health outcome (Thow, 2018). This includes: micronutrient deficiencies; undernutrition; and diet-related non-communicable diseases. In other words, nutrition is viewed as an immediate outcome of inadequate intake and disease. The underlying and basic causes of malnutrition, as depicted in the well-known UNICEF Conceptual framework on malnutrition, are often neglected or ignored (Nisbett, et al. 2014). Subsequently, policy objectives are largely centred around improving nutritional health through the prevention of non-communicable diseases (NCD's) and promotion of health and wellness.

Two policies have been published by the DoH to address NCD's. In 2013, the *Strategic Plan for the Prevention and Control of NCDs 2013–2017* was implemented. The plan was largely informed by the 2011 Brazzaville Declaration on Non-communicable Disease Prevention, in addition to the Control in the Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Disease; and the South African Declaration on the Prevention and Control of NCDs. The plan aims to tackle the rise of NCD's in South Africa through largely preventative measures, such as the promotion of physical activity and healthy eating habits through affordable and accessible healthy foods. The plan thus holds an important directive to food and nutrition security as a whole. Utilising a comprehensive approach to combating NCD's, the plan has three major components: 1) prevent NCDs and promote health and wellness at all levels; 2) improve control of NCDs through strengthening and reforming the health system; and 3) monitor NCDs and their main risk factors and further conduct innovative research (DoH, 2013a).

Although NCD's are often referred to as 'diseases of lifestyle' and are typically associated with increasing wealth, in South Africa NCD's are equally present in rural and poor socio-economic areas. Thus addressing the various social determinants of food and nutrition security (such as poverty and inequality) are a crucial element in reducing NCD's. Such interventions however, requires extensive engagement with all relevant stakeholders. For example, the promotion of healthy eating habits

requires engagement and significant coordination between the Departments of Agriculture Forestry and Fisheries, Trade and Industry, Finance, Basic and Higher Education- at minimum. The promotion of physical activity further requires the participation of the Departments of Sport and Recreation, Transport, Basic Education, Urban Settlements and Trade and Industry. Further coordination and engagement with NGO's and the private sector is also critical. No mention however, is made by the plan of any interventions and/or mechanisms to facilitate any coordination or engagement with other stakeholders. Nevertheless, by large the plan appears to have effective monitoring and evaluation mechanisms in place. Data concerning the measuring of the implementation and successes of the plan are gathered from a wide variety of sources, such as the National Cancer Registry, Chronic Disease Registry, district health information and StatsSA (DoH, 2013a). The plan further recommends the implementation of a comprehensive monitoring system with a set minimum level of surveillance information in order to establish baselines and monitor progress of set targets, as revealed through this study's policy assessment.

The relationship between NCD's and obesity is well documented, and subsequently forms the basis for the recommendations of the World Health Organisation (WHO) for the prevention of NCD's (WHO, 2000). Thus in a further attempt to address NCD's, in 2015 the DoH implemented the *Strategy for the Prevention and Control of Obesity 2015 – 2020.* The first national strategy for obesity in South Africa aims; "to implement a multi-sectoral approach for the prevention and control of obesity in South Africa," (DoH, 2015). Holding the target of reducing obesity prevalence by 10% in 2020, the strategy proposes a variety of dietary guidelines and regulations on physical activity, food labelling and the marketing and advertising of food. They are however, yet to be fully implemented. Notably however, both the *Strategic Plan for the Prevention and Control of NCDs 2013 – 2017* and the *Strategy for the Prevention and Control of Obesity 2015 - 2020* recommended that government place a tax on sugar sweetened beverages in a further attempt to curb the rise of NCD's in South Africa. In 2016 the National treasury adopted the tax, which subsequently became effective in April 2018. A tax of R0.0229 per gram of sugar was adopted, which was levied on all drinks with added caloric sweeteners.

In 2013 the DoH implemented *The Roadmap for Nutrition in South Africa 2013-2017*. The five-year roadmap aims to, "provide high quality and access to evidence-based nutrition services, particularly for women, infants and children, throughout all levels of the health care system," (DoH, 2013b). The roadmap provides a framework for the DoH to position nutrition (and nutrition-related issues) at the centrefold of the South African health care system. Crucially, the roadmap recognises the multisectoral nature of the challenge that nutrition poses, and thus the necessity of co-ordination and engagement between multiple governmental departments, the private sector and civil society. However, in terms of how to achieve this crucial multisectoral engagement, the roadmap falls back to generalised statements of intent and broad dialogue about the necessity of providing strategic inputs into social development, agriculture and rural development (Drimie, 2016). Consequently, the

recommendations remain vague in detail and without clear direction- atypical of most of the policies discussed thus far. The DoH has further implemented a host of further undernutrition initiatives, including micronutrient supplementation, deworming and therapeutic feeding, fortification of food, nutrition counselling and breastfeeding campaigns. Services are also provided at facilities such hospitals, clinics and schools for the provision of Vitamin A, zinc, iron, calcium and other micronutrients specifically targeting children and mothers.

Concluding Remarks

Policy within the health domain have remained significantly uncoordinated. Hendriks *et al* (2016) states that the wide assortment of guidelines coupled with a lack of coordination inadvertently places a high level of pressure on provincial and local levels, which ultimately leads to general lack of focus. As a consequence, the implementation of the health policies concerned becomes unstable and not cost-effective. It is further worth noting that whilst the NPFNS was implemented in 2014, previous coordination of nutrition interventions in South Africa was almost entirely directed by the DoH. Whilst policies within the health domain are largely well aligned to national overarching polices such as the NDP and MTSF, internal departmental alignment and multisectoral coordination remains a significant issue. Furthermore, there is very little in current South African health policy design that looks at nutrition from a community perspective, or that addresses the underlying causes of malnutrition. McLaren *et al,* (2015) argues that whilst this may best done in coordination with other governmental departments who are better mandated to deal with the many underlying economic and social factors of food insecurity, by large the DoH is not sufficiently equipped to work in an interdepartmental and multisectoral manner. Challenges of implementation and coordination aside, it is simply not sufficient to have health policies that largely frame food and nutrition security from the narrow perspective of the immediate causes of malnutrition. Whilst the DoH has participated in some broader food and nutrition security initiatives (see section 4.3.10), a systematic, coordinated effort is still lacking. After all, food and nutrition security is by nature a multidimensional issue. The complex interlinking of the many environmental, economic and social determinants of health (and ultimately food and nutrition security) requires all government departments to understand their role in health and development. .

4.3.8. Rural Development Domain

Despite the rising tide of urbanisation within South Africa, rural areas remain an important corner stone demographically, economically and politically within the country. Geographically, rural areas account for roughly 80% of South Africa's total land, and is home to an estimated 38% of the population (DRDLR, 2015). Despite significant advances in the development of rural areas since 1994, poverty and inequality (and by extension, food and nutrition security) still pose as significant policy challenges. In 2009 the government rebranded the previous Department of Land Affairs to the new Department of Rural Development and Land Reform (DRDLR) in order to better meet the policy

challenges posed by the rural areas. The mandate of the DRDLR is derived from sections 24, 25 and 27 of the Constitution, through which the department aims to; “create and maintain an equitable and sustainable land dispensation, and act as a coordinator and catalyst in rural development to ensure sustainable rural livelihoods, decent work and continued social and economic advancement of all South Africans,” (DRDLR, 2015). The DRDLR’s commitment to building sustainable livelihoods aligns to chapter 6 of the NDP (an inclusive rural economy) and Outcome 7 of the MTSF 2014-2019 (comprehensive rural development and land reform).

A crucial element of the department’s 2009 rebrand was the implementation of the *Comprehensive Rural Development Programme (CRDP)*, which has subsequently become the DRDLR’s principal, overarching policy. Based on the policy and legislative mandates mentioned above, the CRDP was designed to be; “an effective response against poverty and food insecurity by maximizing the use and management of natural resources to create vibrant, equitable and sustainable rural communities,” (DRDLR, 2009). The CRDP was initially formulated with the intention of being a ‘a cross-cutting’ and ‘comprehensive rural development programme’, grounded in the then MTSF 2009-2014. The policy encompasses three main, distinct components: 1) agrarian transformation; 2) rural development; and 3) land reform. Agrarian transformation focuses on the rapid fundamental change in the relations of land, livestock, cropping & community, whilst the rural development component focuses on the provision of infrastructure in rural areas (namely economic and social Infrastructure, public amenities facilities and ICT infrastructure). It is important to note that the CRDP simply acts as an initiator, facilitator, coordinator and catalyst in the above related rural development interventions.

Despite being the DRDLR’s principal, leading policy in rural development, as a whole the policy appears to have had little success. The Department of Planning, Monitoring and Evaluation (DPME) in their 2016 review of the CRDP noted that; “the CRDP has made limited progress in uplifting communities through opportunities to improve their livelihoods,” and that, “there are also low levels of buy-in, and the will to carry out the programme at a local government level is weak because it is seen as a national (top-down) project,” (DPME, 2016). By large, effective coordination and the necessary multi-stakeholder engagement appears to be the over-riding challenge in the CRDP. Interestingly enough, the original CRDP policy document notes that; “inter-departmental collaboration at all spheres of government is essential for the successful implementation of the CRDP,” and that, “projects must be undertaken within a participatory community-based planning approach.” It continues to mention that; “projects must be packaged and coordinated at provincial level in consultation with local level structures,” (DRDLR, 2009). Aside from a brief mention surrounding the need to establish a ‘council of stakeholders’ no actual interventions are proposed to achieve said coordination and multi-stakeholder engagement.

A further issue worth noting is the apparent incongruous shift in outcome priority on behalf of the CRDP. In 2017, the DRDLR (in conjunction with various other national and local governmental departments) launched the Agri-park initiative as a sub-programme of the CRDP. Defined as a; "networked innovation system of agro-production, processing, logistics, marketing, training and extension services located in a District Municipality," the initiative aims to enable a market-driven combination and integration of various agricultural activities and rural development initiatives (DRDLR, 2017). The Agri-park initiative comprises of three distinct but interrelated components: 1) the Farmer Production Support Unit (a rural small-holder farmer outreach and capacity building unit); 2) the Agri-hub (an agribusiness training unit); and 3) the Rural Urban Market Centre. Whilst as a whole the initiative is largely aligned to the overriding goal of the CRDP (the creation of vibrant, equitable and sustainable rural communities), the principal components of agri-parks divert somewhat away from those of the central CRDP policy. Furthermore, it appears that most of the DRDLR's attention and resources have been rerouted to the agri-park initiative. The DRDLR's total budget allocated for rural development amounts to R1.8 billion for the 2018/19 financial year. Over the medium term, R2.9 billion is allocated for Agri-parks, which constitutes 8.9 per cent of the department's total budget (DRDLR, 2017). Thus the department's funding priorities seemingly appear to corroborate this priority refocus.

Concluding Remarks

Like many other countries, South Africa does not have a government-wide, officially accepted definition of 'rural' within policy making. Whilst the important role of rural development in reducing poverty and food insecurity is recognised, the meaning of the concept is sometimes not clearly understood. In addition, the relationship between rural development and inter-connected aspects such as food and nutrition security , unemployment and sustainable livelihoods is ambiguously defined. As a result, this lack of common a definition has led to a general lack of transparency and poorly aligned policies across various government departments, not only with respect to food and nutrition security , but rural development as a whole. Furthermore, the intricacies that result from this concurrency in policy can lead to inertia and duplication of rural development interventions throughout the various levels of government, as noted between the CRDP and agri-park initiative. The apparent lack of coordination and alignment has resulted in a silo-orientated approach to rural development policy, with very little focus on food and nutrition security as a whole. As South Africa faces the challenge of reducing rural poverty and food insecurity, it is worth re-emphasising that rural development efforts should continue to focus on improving the incomes of the poor. However, the achievement of food and nutrition security in rural areas requires not only agriculture and agrarian reforms, but also education, health care, social and economic infrastructure. A multi-faceted approach is required, necessitating proper coordination among all the departments and stakeholders involved.

4.3.9 Land Domain

The nature of land policy in South Africa is inherently complex. The challenges for post-apartheid land policies are twofold- they must both provide redress for historical injustice in addition to creating sustainable livelihoods through agricultural production, employment creation and other various forms of equitable growth (Cousins, 2016). Yet despite being labelled as a largely 'political project', land reform in South Africa has stagnated, leading the process to be described as being 'in crisis', 'at a crossroads', 'at an impasse' or just simply 'stuck' (Hall & Cliffe, 2009). Consequently, political pressure is mounting to find new solutions to what is a fundamentally a long standing issue in democratic South Africa's policy making. As of December 2017, Jacob Zuma was replaced by Cyril Ramaphosa as the president of South Africa. Subsequently, the country underwent a reorientation of policy priorities. At his inauguration, President Ramaphosa stated that the pace of Land Reform would be intensified, in accordance however, to the preservation of food production and food and nutrition security . Thus Land Reform has since become both a key point of debate and contention in the South African parliament, with a potential move from a 'willing seller, willing buyer' policy model to a policy of land expropriation without compensation. Consequently, the potential change in land ownership patterns could have a substantially transformative impact on both the South African food system and food and nutrition security in the country as a whole. In order to fully understand the current debate surrounding land policy in South Africa, one has to examine the land reform programme since its initial inception in 1994 (hence the inclusion of polices from the 1990's as opposed to the previous inclusion criteria of the other focal domains), as outlined below. The post 2017 rhetoric on land policy in South Africa is beyond the scope of this assessment.

The South African land reform programme was first established in 1994 as a central element of the new democratic ANC government's comprehensive programme of economic reconstruction that aimed to remedy past racial injustice, and pave the way forward for more equitable development in the future. In 1994, the election manifesto of the African National Congress declared that: "A national land reform programme is the central and driving force of a programme of rural development…this programme must be demand-driven and must aim to supply residential and productive land to the poorest section of the rural population and aspirant farmers. As part of a comprehensive rural development policy, it must raise rural incomes and productivity, and must encourage the use of land for agricultural, other productive or residential purposes," (ANC, 1994). The ANC government's early vision of land reform accentuated its larger developmental policy objectives: reducing poverty and supporting economic growth; addressing past racial injustice; ensuring the more equitable distribution of land; providing tenure security; and the promoting national reconciliation (Cousins, 2016). Initially managed by the previous Department of Land Affairs, the land reform programme now falls under the mandate of the DRDLR, as discussed previously in section 4.3.8. The DRDLR's mandate surrounding land reform is derived from section 25 of the Constitution of the Republic of South Africa, whereby the principles underpinning the programme are threefold: 1) deracialisation of

the rural economy; 2) democratic and equitable land allocation and use across gender, race and class; and; 3) strict production discipline for guaranteed national food and nutrition security (DRDLR, 2015). The land reform programme can largely be organised into three components, each with differing modalities and aims: 1) restitution; 2) tenure reform; and 3) redistribution.

One of the first laws passed in Parliament under South Africa's new constitution was the Restitution of Land Rights Act (Act 22 of 1994), which paved the way for the restitution component of the land reform programme. Under the Act, any person who lost title to land as a result of past discriminatory laws after 19 June 1913 (the initial date of implementation of the Natives Land Act) was entitled to compensation of either the same land, land of similar value or financial compensation. The cut-off date for the initial claims was December 1998, whereby only a small proportion of the initial 63 455 claims has been settled in the first few years (Hall *et al*, 2009). In this initial restitution phase, all claims were assessed by an independent Land Claims Court. In order to speed up the process, from 1999 onwards the government delegated the assessment of claims to an administrative process through the Commission on Restitution of Land Rights, instead of requiring a separate judicial ruling of each case. Since the early 2000's restitution has received growing political support and greater budget allocations. Politically, the increased priority placed on restitution is a logical move policy wise. Hall *et al* (2009) describes restitution as; "a source of political capital; it symbolises a tangible way in which the post-apartheid government is seen to be successfully engaged in restorative justice." Hence the greater political will and priority surrounding the restitution component of the land reform programme.

The initial aim of the redistribution programme was to improve the livelihoods and quality of life for previously disadvantaged individuals and communities through the transfer of 30% of white owned farm land by 2014. The chief mechanisms for the redistribution of land comprised of share-equity schemes, access to municipal commonages and various grants and subsidies designed to afford access to agricultural land. The first of these grant schemes was the *Settlement and Land Acquisition Grant* (SLAG), which initially provided a grant of R16 000 per household through a means test. SLAG's operations were suspended between 1999 to 2001 by means of a policy review, and subsequently phased out in 2001 in order to give way to the *Land Redistribution for Agricultural Development* (LRAD) programme (Hall *et al,* 2009). LRAD offered larger grants by means of a sliding scale, ranging from R 20 000 to R 100 000, and placed more emphasis on the commercial use of land (DAFF, 2004). In 2004 the *Comprehensive Agriculture Support Programme* was launched as a complementary programme, falling under the jurisdiction of DAFF. The aim of CASP is to; "enhance the provision of support services to promote and facilitate agricultural development targeting the beneficiaries of the land and agrarian reforms," (DAFF, 2004). In 2006 the *Proactive Land Acquisition Strategy* (PLAS) was implemented, which leases 'high-potential' farmland to beneficiaries with the option to purchase at a future date. As opposed to the more application driven approach of the SLAG and LRAD programmes, under PLAS the DRDLR enters the land market

itself, identifies an opportunity to settle small-scale commercial farmers, and proceeds to purchase farm land in the given area (Lyne, 2014). The *Settlement and Implementation Support Strategy* (SIS) was implemented in order to provide further farmer support services. As opposed to CASP, SIS highlights the need to locate land reform projects within local government structures. Cash grants such as SLAG and LRAD formed the cornerstone of the land reform programme in South Africa from 1995 to roughly 2010. They were recommend by the World Bank on the basis that new entrants into the agriculture sector could not finance land with mortgage loans because the market value of land exceeded its 'productive value' (World Bank, 1993). However, Nieuwoudt & Vink (1995) reject this rationale, by arguing that the real problem facing new entrants who financed the purchase of land with mortgages was simply a temporary cash- flow problem caused by inflation. In their opinion, a mortgage loan with graduated repayments would have been a more efficient means to promote access to the land market. Due to the inconsequential value of the grants, in practice beneficiaries had to pool their grants in order to cover the full purchase price of a commercial farm. This lead to many further issues, of which the primary concern was that farms purchased by beneficiaries who pooled their grants were too small to support all the beneficiaries as full-time farmers. Furthermore, beneficiaries could not utilise the grant to leverage a loan as creditworthy farmers did not pass the means test (Lyne, 2014).

The primary objective of the tenure reform component of South Africa's land reform programme was to improve the terms through which people hold, use, occupy and access land. It is based on the reality of the inferior tenure held by individuals from the former homelands. Improving the legal right for occupiers of state, communal and privately owned land was a core element of the White Paper on Land Reform (Hall *et al,* 2009). Various laws have been enacted to achieve this purpose, yet tenure reform remains the least developed component of the land reform programme. This is most notable in the case of communal land, whereby the government has focused on transferring private ownership of communal land to 'traditional communities', as opposed to securing the individual rights of community members. One of the most prominent failures within the tenure reform programme remains the Communal Land Rights Act (CLARA), Number 11 of 2004. Initially designed to transfer the ownership of state land to traditional councils under the chiefs, in 2010 it was ruled by the Constitutional Court to be unconstitutional in its entirety, and was subsequently struck down.

Since the initial three component design of restitution, redistribution and tenure reform, the land reform programme in South Africa has undergone further policy endeavours, to very little success. In 2011 the DRDLR published a Green Paper on Land Reform. The main focus of the paper is on a 'four tier' tenure system, that comprises of freehold with limited extent; leasehold on state land; communal tenure; restrictions on land size and 'precarious' freehold for foreign owners (DRDLR, 2011). The paper itself however is a mere eleven pages long, and only contains general statements of principle (Cousins, 2016). No other framework for land reform policy has appeared since then. The Restitution of Land Rights Amendment Act of 2014 extended land claims for a further five years,

until 2019. The Act however was challenged on both substantive and procedural grounds, and has since been struck out by the Constitutional Court. The *State Land Lease and Disposal Policy* (SLLDP) was implemented in 2013, and identifies four categories of land reform beneficiaries: 1) households with little if no access to land; 2) small-scale subsistence farmers; 3) medium-scale commercial farmers constrained by insufficient land; and 4) high potential large-scale commercial farmers disadvantaged by farm size and location (DRDLR, 2013a). The SLLDP is applied to farms acquired through PLAS. Cousins (2016) argues that the SLLDP is biased towards medium-scale and large black commercial farmers, given that it assumes that there is only one lessee per farm and no mention is made surrounding the subdivision of farms. The *Recapitalisation and Development Policy Programme* ('Recap') of 2013 was implemented to replace all previous forms of land reform funding, including the support grants for restitution beneficiaries. The funding is provided for a maximum of five years, through which beneficiaries must have business partners recruited from either the private sector, within share-equity schemes or through contract farming (DRDLR, 2013b). A mid-term evaluation commissioned by the Presidency in 2013 revealed a significant bias towards the elite within the Recap programme. Large quantities of money have been spent on relatively few beneficiaries, minimal job creation has taken place and market access still poses as a significant constraint for beneficiaries (Cousins, 2016).

Concluding Remarks

Since its initial inception in 1994, the lacklustre performance of South Africa's land reform programme has been well documented. Progress was minimal within the first few years of the programme, with most of the initial targets unmet. For instance, the redistribution rate came nowhere near the initial transfer target of 30% of commercial land within five years. From there on out, initial 'pilot schemes' were regimented into policy, thereby arguably undermining the 'learning process' as a whole (Cousins, 2016). Furthermore, the Land Claims Commission found it difficult to provide the necessary, effective post-settlement support to beneficiaries. However, the land reform programme has not just underperformed with regards to the quantity of land transferred, but also in terms of the quality of policy outcomes. Many projects and/or programmes under land reform have been unproductive and inefficient, with many simply having been discarded. Furthermore, Hall *et al* (2009) notes that land reform; "has been a highly bureaucratic process, which has delayed the disbursal of land acquisition grants (for redistribution applicants) despite some moves towards decentralisation," and that; "there remains a mismatch between the limited and ad hoc market opportunities that arise and the bureaucratic means available to respond to them, neither of which may bear much relation to actual land needs of would-be beneficiaries or rural development priorities."

Misinterpretation and poor implementation of policy have proceeded to further constrain the land reform process, coupled with agricultural polices not having been reoriented and adapted to support land beneficiaries. As a result, policy frameworks lack coherence, with the overriding objectives and

strategic thrust of land reform remaining unclear (Cousins, 2016). Most notably, there is an absence of a wider strategic approach to rural development within the land reform programme. Such an approach would assist in supporting land beneficiaries, in addition to maximising the benefits for surrounding economies (Hall *et al,* 2009). It can be further argued that this absence of a strategic approach can partly be attributed to the lack of vision surrounding land reform as part of the wider process of agrarian reform, particularly with regards to the reconstruction of the rural economy in South Africa. As a whole, land reform is a complex and time-consuming process, especially given South Africa's complex history and socio-economic structures. Thus the capacity of the state is crucial in relation to the process of land reform. Sound and appropriate policies, adequate national budgets, strong leadership, and effective monitoring and evaluation systems are all necessary to ensure the success of the land reform programme. The DRDLR however is widely known to be one of the weakest departments within government, with all of the previous success factors largely absent, most notably with regards to effective monitoring and evaluation systems (Cousins, 2016). Lastly, although South Africa's skew land distribution forms the premise for the land reform programme, few (if any) links are made between the lack of access to land as a constraint to food and nutrition security . As a whole, food and nutrition security is not expressed as a specific policy objective of land reform (Fukuda & Taylor, 2015). Thus one cannot assume that land reform would benefit food-insecure households in South Africa, given this absence in policy objectives.

4.3.10 Education Domain

The National School Nutrition Programme (NSNP) remains one of the most established and well-regarded government programmes, given the programme's contribution to improving food and nutrition security in South Africa despite holding initially different aims. Furthermore, it is the only food-security related policy tied to the domain of education. Initially implemented in 1994 as the *Primary School Nutrition Programme (PSNP)* by the Department of Health, the aim of the of the PSNP, one of the Presidential Lead Projects of 1994, were to address short-term hunger and improve active learning capacity of children in the classroom. In 2004 the programme was expanded and relocated to the Department of Basic Education (DBE) and renamed as the National School Nutrition Policy (NSNP). It is one of two food-security related policy tied to the domain of education; the other being the ECD policy, which aims, among other, to build the foundation for early learning. The NSNP's primary objectives now include: 1) to contribute to enhanced learning capacity through school feeding programmes; 2) to promote and support sustainable food production in communities; and 3) to strengthen nutrition education in schools and communities (DBE, 2013). Through the school feeding programmes, disadvantaged learners in public schools are provided with a nutritional meal consisting of protein, carbohydrates, fruits and vegetables. Nutrition education has now become a well-established element in the academic curriculum in South African schools, and covers aspects such as hygiene practices and healthy diets. The NSNP's third objective of sustainable food production is executed through the *School Food Garden Programme,* a subsidiary of the NSNP. The

primary purpose of the gardens is for education and skill development, not to simply supply ingredients for the school meals (DBE, 2013). As a whole, the NSNP is implemented through a conditional cash transfer to the various provincial government departments who subsequently then execute the programme at provincial and local levels. During the 2013/14 period the conditional funding grant for the NSNP was R5.2 billion, which was subsequently raised to R6 billion for the 2016/17 period (RSA, 2017). Initially originating from the White Paper on Reconstruction and Development in 1994, since the programme's transfer to the DBE there have been numerous guidelines, implementation mechanisms and strategic directives developed in order to enable the effective monitoring and evaluation of the programme at national, provincial and local levels. This has further included several external evaluations in addition to regular briefings in Parliament. Furthermore, as the main policy document underpinning the NSNP, the *Conditional Grant Framework* is adapted annually in order to reflect new funding levels and quality and accounting standards (DBE, 2013).

Concluding Remarks

Since the programme's inception in 1994, the NSNP remains one of the most enduring and successful policy initiatives of the South African government. Its budget and mandate continues to expand, which says much about both the importance of the programme as well as its feasibility with regards to implementation (McLaren, Moyo & Jeffery, 2015). As a whole, the NSNP continues to cover a wide variety of food and nutrition security objectives, despite being essentially a school feeding programme. One possible cause for the programme's relative success may be the DBE's sole mandate over the programme, which subsequently allows for no ambiguity in terms of implementation, budgeting and responsibility. Problems within the NSNP tend to be linked to structural issues that lead to various operating constraints, such as poor supply chain management and record keeping; irregularities in the tendering processes; insufficient staff and a general lack of infrastructure in schools to allow for the efficient storage and preparation of food (McLaren *et al,* 2015). Whilst the school gardens remain a popular initiative of NGO's and corporate social responsibility programmes, it is difficult to obtain complete, reliable information regarding the extent that they are being implemented across South Africa (McLaren *et al,* 2015). Thus it is difficult to fully assess their contribution to achieving food and nutrition security in the country. The success of interventions such as the School Food Garden Programme, and to the larger extent the NSNP itself, requires comprehensive and effective collaboration with other government departments such as the DAFF and the Department of Health (DOH). However, on the part of the DBE there are no inter-sectoral policies or structures to facilitate this. However, schools who have not succeeded with the school gardens cite issues such as poor soil and lack of seeds, water, fencing and committed volunteers as reasons for the lack of success (DBE, 2013). Of further concern is the general reach of the NSNP. The programme is currently open to learners in quintile one to three schools, thus learners in quintiles four to five are excluded, leaving a significant gap in the intervention for children

from food insecure households (DBE, 2015). Therefore despite the NSNP's relative success, there is still much room for improvement, particularly with regards to the promotion of the school gardens as a means of sustainable food production and the various operational constraints within the programme itself. Furthermore, the necessary mechanisms required to ensure meaningful collaboration with all relevant departments must be implemented.

4.4 Conclusion

The formulation and implementation of food and nutrition policy is by no means a simple task. In order to overcome the complex and dynamic nature of the food system, food and nutrition policy must take into account a vast range of interest groups and stakeholders. However, the different opinions and concerns of said interest groups and stakeholders often taint and warp the policy formulation process. Thus, policy efforts are often subdued in their attempts to remedy the food system not only due to its complex nature, but also due to the powerful agendas and interests across the political and corporate system (Drimie, 2016). Given all of the above discussed, it is clear that food and nutrition security and nutrition policy is a political and contested policy space within South Africa. Upon inspection of the policy matrix, internal to the illustrated sectors and domains are a range of sub-sectoral programmes and strategies. Review of these reveals some redundancy, contradiction and internal misalignment. This in turn raises questions around departmental vision and the necessary mechanisms required to ensure the streamlining of directorates which are mandated to provide the overall policy guidance at provincial and local government.

In 2010 the NPC released the Diagnostics Report, which identified policy implementation failure and an absence of broad partnerships as some of the leading reasons for South Africa's slow progress in reaching a number of development goals, including that of food and nutrition security (Hendriks, 2013). The NDP was developed partly to address this issue by aligning future policy activities at the national level. As a whole, the NDP provides an important basis for establishing the mechanisms necessary to address food insecurity in South Africa. The NDP explicitly emphasizes the importance of social dialogue as the most effective means to drive change in the country, through renewed cooperation and engagement between the private and public sector, civil society and organised labour (Pereira et al, 2016). Thus this reflects the acknowledgement ,at least within the NDP, that government alone cannot solve food and nutrition insecurity. Presently however, there is a lack of practical implementation surrounding this vision. Further issues of contradiction, redundancy and misalignment become apparent already within the NPFNS. As noted, the limited engagement with all of the relevant stakeholders has led to a narrow and inadequate understanding of the vast array of complex issues that affect the food system and food and nutrition security in South Africa as a whole. Central to the NPFNS is the recognition of the importance of multi-sectoral co-ordination and alignment. However, due to the limited consultation undertaken within the development process of the policy, one is forced to question the commitment to these intentions, and the ability of the NPFNS

to lead to practical outcomes that are different to those of the previous IFSS. Furthermore, the NPFNS demands that, “national, provincial, and local municipalities will be required to coordinate and partner with existing stakeholders in their spheres of government,” (DAFF, 2014a). However, without considering the pre-existing limitations within the specific government departments and spheres, the implementation plan will be largely ineffective. Contradictions surrounding the focus on employment creation between the NPFNS and the national overarching policies of the NDP and NGP serves as further examples of goal misalignment. As a whole, despite being admirable in its overall vision and goals the NPFNS remains overly ambitious with its set targets, and lacking the necessary co-ordination and implementation mechanisms to effectively align the policy responses across the various sectors and government departments.

Despite a degree of superficial alignment and focus on transformation, existing agricultural and food polices by large have failed to engage with the mechanisms required to underpin real policy alignment and good governance. Together with the failure of understanding and appreciating the rapid transformations within the processing and retail environments, said polices have largely failed to address the structural underpinnings of the agrarian system. The most notable of the many contradictions that have emerged within the greater agricultural policy environment surrounds the proposed commitment to smallholder agriculture. Despite the strong rhetoric surrounding the commitment to smallholder agriculture in policy documents such as the NDP, NGP and APAP, the other policies discussed within this assessment tend to favour medium or large-scale emerging black producers. As noted, Drimie (2016) argues that the general lack of coherence within the broad range of current agriculture- and food-related polices can partly be attributed to a lack of clear vision of a future agrarian system and how to subsequently achieve it. The recent policy review by Hendriks *et al* (2015) further supports this argument, and additionally found that within the South African food and nutrition security environment it is difficult to coordinate existing policies- given that most agricultural policies do not actively promote food and nutrition security . Whilst many publicly funded programmes (such as Fetsa Tlala, Llima Letsema and those initiated by the CRDP) have increased the ownership of productive assets and increased the participation by food insecure smallholders in the agricultural sector, and thus the greater South African economy, employment levels and engagement within the agricultural sector remain lower than anticipated. Thus the programmes have not significantly increased the competitiveness and profitability of farming operations and rural agri-enterprises that are owned and managed by food insecure rural populations- as envisioned by the programmes themselves. The apparent incongruous shift in outcome priority in rural development policy as highlighted within the rural development domain coupled with a lack of common definition surrounding the relationship between rural development and inter-connected aspects of food and nutrition security, unemployment and sustainable livelihoods has led to a general lack of transparency and poorly aligned policies across various government departments. Although South Africa has extensive environmental policy, it appears to be largely developed in isolation from core food and nutrition security outcomes, given there is little (if any) reference to food systems within

the policies concerned. The ongoing drought in the Western Cape and in other parts of South Africa serves to further highlight the inadequacies of the country's water management strategies, as well as the country's vulnerabilities to climate change as a whole. Environmental implications such as these pose a serious threat to future food and nutrition security.

Land policy in South Africa remain a highly contested issue. The lacklustre performance of the land reform programme has provided the back drop for the current highly contested debate surrounding a policy of land expropriation without compensation. The possible ramifications of such a policy on food and nutrition security in South Africa is beyond the scope of this analysis. Current policy rhetoric aside, the failures within the land reform programme are clear. The misinterpretation and poor implementation of policy has largely constrained the land reform process. Coupled with agricultural polices not having been reoriented and adapted to support land beneficiaries, policy frameworks resultingly lack coherence, with the overriding objectives and strategic thrust of land reform remaining unclear. Most notably, there is an absence of a wider strategic approach to rural development within the land reform programme. Such an approach would assist in supporting land beneficiaries, in addition to maximising the benefits for surrounding economies. Furthermore, although South Africa's skew land distribution forms the premise for the land reform programme, few (if any) links are made between the lack of access to land as a constraint to food and nutrition security. As a whole, food and nutrition security is not expressed as a specific policy objective of land reform. Consequently, one cannot assume that land reform would benefit food-insecure households in South Africa, given this absence in policy objectives.

Despite a wide range of established social development policies and large comprehensive grant system, social protection policies in South Africa have by large fallen short in their potential to assist in the achievement of various food and nutrition security outcomes. As illustrated throughout the discussion surrounding the social protection domain, aside from not providing an adequate level of social support social development policies have become conceptually delinked from not only one another, but food and nutrition security as a whole. As a result, said interventions targeting poverty and food insecurity are reduced to a residual relief role. In order to build resilient livelihoods in South Africa, comprehensive and sustainable approaches are required, with strong linkages between social development sectors such as agriculture and health. Such approaches however are lacking, and any notion surrounding the concepts of internal alignment and coordination mechanisms are noticeably absent. One particular policy success story worth highlighting is the NSNP, categorized under the education domain. The NSNP remains one of the most enduring and successful policy initiatives of the South African government. Its budget and mandate continues to expand, which says much about both the importance of the programme as well as its feasibility with regards to implementation. As a whole, the NSNP continues to cover a wide variety of food and nutrition security objectives, despite being essentially a school feeding programme. However, despite the NSNP's relative success, there is still much room for improvement, particularly with regards to the promotion

of the school gardens as a means of sustainable food production and the various operational constraints within the programme itself. There is much scope for the DBE to expand its mandate surrounding food and nutrition security initiatives through meaningful collaboration with other government departments and the various stakeholders concerned.

Whilst policies within the health domain are largely well aligned to national overarching polices such as the NDP and MTSF, as illustrated internal departmental alignment and multisectoral coordination remains a significant issue. Furthermore, there is very little in current South African health policy design that looks at nutrition from a community perspective, or that addresses the underlying and basic causes of malnutrition. As noted by McLaren *et al* (2015), whilst this may best done in coordination with other governmental departments who are better mandated to deal with the many underlying economic and social factors of food insecurity, by large the DoH is not sufficiently equipped to work in an interdepartmental and multisectoral manner. Challenges of implementation and coordination aside, within the greater context of food and nutrition security it is simply not sufficient to have health policies that largely frame food and nutrition security from the narrow perspective of the immediate causes of malnutrition. Whilst the DoH has participated in some broader food and nutrition security initiatives such as the NSNP, a systematic, coordinated effort is still lacking. After all, food and nutrition security is by nature a multidimensional issue.

Overall, it remains clear that throughout the policies discussed there appears to be a lack of attention to solving the problems at hand. As a whole, there is a general silence as to how to how to solve problems that have been identified and articulated -the solutions provided are vague in detail. The South African government needs to grapple with the real issues at hand. The majority of the policies analysed make note of governance difficulties, as well as the importance of internal departmental alignment. Promisingly, a large number of the more recent policies offer a set of interventions and activities to address governance challenges. However, these interventions remain vague in detail and generally represent a lack of real engagement with the mechanisms required to underpin real policy alignment. This has essentially resulted in a policy response that has been effectively limited. This institutional challenge may portray a more serious issue: a lack of political will or impetus to effectively address food insecurity as a political priority. Political will encompasses more than simple statements of intent. It requires a significant level of commitment to coherence across policies to achieve common goals and the subsequent allocation of budgeting and personnel for efficient implementation. Political will is also required to observe the implementation modalities to ensure these coherent policies are in place. Crucially, an effective monitoring and evaluation system is required to ensure efficient allocation of resources and appropriate learning and adaption of policies. An effective coordination mechanism would be clear about a common goal and set of objectives to ensure alignment and coherence of related policies. Furthermore, the associated roles and responsibilities of related departments would be explicit. Coordination mechanisms would also

facilitate the learning and application through an effective monitoring and evaluation system. Lastly, an accountability mechanism is required.

Critically however, one of the greatest challenges facing the implementation of food policies in South Africa is the absence of an effective coordination mechanism that can effectively align the different responses across various sectors and government departments. Once again, where coordination mechanisms are mentioned, they are vague in detail. Although the NPFNS's vision is directly aligned to that of the NDP and is regarded by the government of South Africa as a key policy pillar in achieving the NDP's 2030 vision, the coordination mechanisms (in the form of various inter-governmental forums) are undeveloped and ambiguous. A further cause of concern is the general lack of monitoring and evaluation mechanisms in South African policy making in order to gauge policy impact. This can largely be attributed to an issue surrounding measurement: there is no specific and accepted measure of food insecurity within South African food policy, and no standardised way of monitoring it. Given that food and nutrition security is multidimensional by nature and forever changing, it is naturally difficult to design accurate measurements and policy targets. Thus a comprehensive and wide-ranging food-security monitoring and evaluation system should be developed, supported by a clearly defined and pre-established target/goals for food and nutrition security. The absence of such a monitoring and evaluation system consequently reveals a general lack of attention to learning and adjusting implementation across these complex domains that together constitute food and nutrition security in South Africa.

There have been however, some important progressive developments in food policy in the last few years. Nutrition is increasingly recognised as an important food and nutrition security outcome within policy, the need for inter-sectoral coordination is acknowledged (albeit not practically addressed); and there is improved (albeit still limited) consultation across sectors in the formulation of the latest policies as revealed in the recent NPFNS. What remains however, is the need to shift the discourse on food and nutrition security away from the narrow paradigm of agricultural production and rural development to a broader context that acknowledges the exclusive, ineffective nature of the South African food system, in addition to the prevailing issue of poor economic access to sufficient and nutritious food. In order to be truly effective, this policy vision must include both the national, household and individual nature of food insecurity in South Africa (McLaren *et al*, 2015). One of the greatest policy challenges surrounding the 'wicked' problem of food insecurity is the multiple perspectives, agendas and interests of the various actors within the food system. Thus the need for a thorough understanding surrounding the dynamic, intricate nature of the food system coupled by the adoption of an integrated, transdisciplinary approach to food policymaking by policy makers is fundamental. Real solutions to household food insecurity lie in growth, structural change and fresh, innovative perspectives to food policymaking. Such solutions do not lie within one particular dimension alone. A multidimensional approach is required that includes, above all, the necessary political commitment. Whilst the many complexities surrounding food policy cannot be denied, it is

possible, through the right policy efforts, to create a way forward for a food system that is both sustainable and equitable for all South Africans.

Chapter 5: Framing South African Food and Nutrition Policy within the Social-Ecological System

5.1 Introduction

One of the defining challenges of the 21st century is the battle to reduce poverty and inequality in the face of a rapidly growing world population, whilst ensuring the ability of the environment to meet the needs of both current and future generations (Griggs, Stafford-Smith, Gaffney, Rockström, Öhman, Shyamsundar & Noble, 2013). Food and nutrition security is an inherently complex outcome of multiple factors, operating from international to household levels. It depends not only upon the availability and production of food, but also on a range of entitlements that both enables and/or protects economic and social access to food (Ericksen *et al,* 2010). Poverty and malnutrition have long been correlated with one another, with nutritional value now being firmly embedded in most definitions of food and nutrition security . Thus, any real analysis of food policy within South Africa requires consideration of numerous economic, political and social factors, in addition to the more traditionally noted agronomic issues. The challenges that policy faces consist of finding solutions to food insecurity: policies need to enhance food and nutrition security without compromising environmental and social welfare outcomes.

Such challenges have led some academics, analysts and policy makers to question whether the frameworks and objectives that shaped the food system of the 20th century require revision. Given the ever-increasing interconnectedness of global social, economic, and ecological systems, it is clear that an integrated approach that accounts for the multiple inter-linkages and dependencies between social and ecological systems is necessary (Biggs, Rhode, Archibald, Kunene, Mutanga, Nkuna, Ocholla & Phadima, 2015). Thus, due to the rapid pace at which these interconnected systems are changing, new policy and governance strategies that cater for system uncertainty is required. However, addressing these challenges further requires new and expanded conceptual frameworks and approaches that fully encompass all the dynamics at play. Such frameworks must therefore be based upon understanding the complex nature of these systems, the interactions between the various components and the environment in which it is found, as illustrated through systems-based approaches. Therefore, this study aims to provide such an alternative systems based conceptual framework- as a platform to study the 'food system' as a social-ecological system. By viewing the food system through the social- ecological system 'lens', many of the traditional challenges (and subsequent policy implications) surrounding food provision systems and the greater issue of food

and nutrition security become almost secondary, and new, often overlooked challenges come to the forefront. Sections 5.2 -5.5 of this chapter explores the most prominent of these issues and discusses the implications for policy thereof. Section 5.6 will then proceed to apply the social-ecological systems approach to South Africa's current food policy space outlined in Chapter 4. Section 5.7 concludes.

5.2 The Social-Ecological System

The concept of a social-ecological system first emerged from the field of ecology in the 1960s (Holling, 1973). It can be broadly defined as an integrated system, loosely based upon an ecocentric viewpoint through which humans are viewed as part of nature, and as a result economic, ecological, cultural, social, political and technological components interact (Hodbod & Hallie, 2015). Social-ecological systems are complex adaptive systems, where the various components frequently interact in unplanned and unpredictable ways. These said interactions lead to the rise of broader scale patterns that feedback to the system, which in turn influences the interactions of the agents operating within the system (Levin *et al*, 2013). Thus, due to the interactive nature of the components that form a social-ecological system, a disturbance in one aspect of the system will have repercussions across other elements within the system. Figure 2 below illustrates the interconnectedness of the various elements that comprise the social-ecological system.

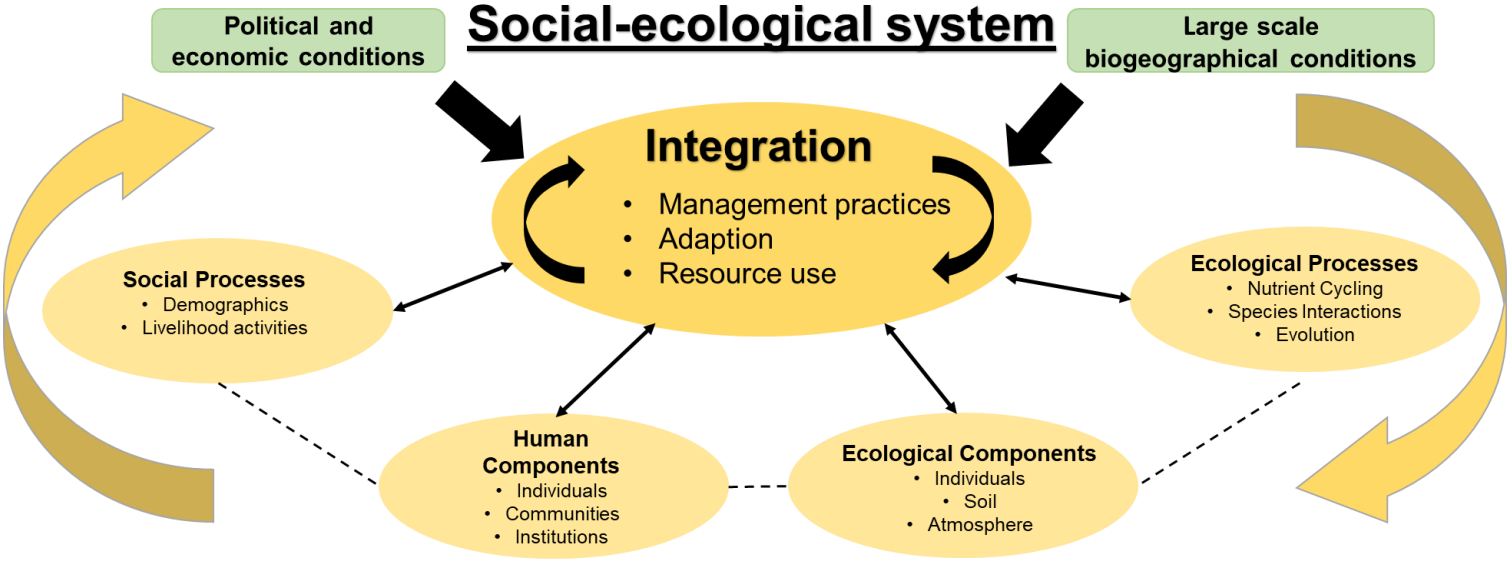


Figure 2. Adapted from Virapongse *et al* 2016

As indicated by figure 2, the social-ecological framework theoretically conceptualises the environment as an open system that consists of various ecological and social processes and components. Examples of social components include managers, policy makers and consumers, whilst ecological components include the biotic and abiotic factors that make up food. Processes refer to the interactions between all these components. These processes are then integrated through various interactions such as management practices, adaptation, and resource use. Such processes

occur through multiple cycles and scales. As a whole, SES components interact within a dynamic, web-like structure that facilitates interdependencies and feedbacks (Folke, Biggs, Norström, Reyers, & Rockström, 2016). In essence, social- ecological systems are inherently dynamic by nature, which means that the systems are in a constant state of flux, thus changing and adapting to and with the environment in which they are situated in.

5.3 Viewing Food Systems as Social-Ecological Systems

As discussed previously, food systems can simply be defined to encompass all of the inputs, outputs and subsequent activities associated with food production, processing, distribution, consumption and waste disposal. Food systems however, are far more complex than simply the material flows that comprises the supply chain (Hodbod *et al*, 2015). Food within itself has significant, diverse social and cultural meanings, which further has both direct and indirect influences in a variety of biophysical and ecological processes (DeFries, Asner & Foley, 2006). Food can further be regarded as symbolic and political- throughout history. Governments or regimes have collapsed due to failures in food provision and food system management (Hodbod *et al*, 2015). Given these various complexities surrounding the food system and the adaptive, dynamic and complex nature of social-ecological systems, food systems clearly fall within the scope of social- ecological systems. As stated by Ericksen (2008), "… food systems incorporate multiple and complex environmental, social, political and economic determinants encompassing availability, access and utilization" which further involve varying spatial, temporal, and institutional scales. Viewing food systems as social-ecological systems entails framing the overall system differently to the static and linear flow model that is often used to describe, for instance, a food supply chain. For example, within the given system variability should be considered as the norm, as opposed to stability (Holling, 1973). Furthermore, change within the system can be either measured or occur sporadically, generated by fast, external shocks (such as price fluctuations or a disease outbreak) or by slower, internal drivers (such as changes in consumer preferences and values or soil nutrient depletion) (Hodbod *et al*, 2015).

Applying the concept of social-ecological systems to food systems has many advantages, particularly with regards to understanding the interconnected dynamics of environmental and societal change within the food system as a whole. According to Fischer *et al* (2015) the concept further helps to facilitate: 1) major policy frameworks that consider social-ecological interactions; 2) increased recognition of humanity's dependence on ecosystems; 3) increased organisational diversity; and 4) improved multi-disciplinary collaborations between science and society.

Whilst food systems can clearly be viewed as social-ecological systems, they are fundamentally still human-designed systems, thus social elements disproportionally influence the ecological elements (Hodbod *et al,* 2015). However, given social-ecological system theory, some form of variability, disturbance and loss is considered as beneficial- it helps to maintain system capacity for learning,

innovation, and adaptability. Nevertheless, humanity's unique capacity for foresight, conscious action and self-organisation in complex social-ecological systems is significantly different to the standard norm of that in straight ecological or physical systems (Ericksen, 2008). As a result, when a particular food system is bound with food production as its main focus or activity, often the aim is to avoid disruption, enhance overall stability and ensure the necessary minimum level of output to achieve the central goal of food and nutrition security (Hodbod *et al*, 2015).

5.4 Interactions across scales and levels

As discussed previously, social–ecological systems are multi-faceted, adaptive systems that are characterized by feedbacks across multiple interlinked scales that either amplify or dampen change. Feedbacks occur when economic, political and social actors respond to change (Holling, 2001). Although feedback processes are considered as a norm within the general nature of social-ecological systems, within the particular scope of food provision said feedbacks are often a cause of concern. This is due to the occurrence of frequent, unintended, negative consequences that are difficult to govern- particularly if they occur across different management levels, as seen within highly globalized systems (Ericksen, Stewart, Dixon, Barling, Loring, Anderson & Ingram, 2010). Within the context of policy making, of particular concern are the feedbacks from food provision activities (such as negative externalities) to ecosystem stocks and services, such as land-change, greenhouse gas emissions and water quality and quantity. Feedbacks can also be of a social nature, for instance when people fall into poverty traps after an external shock or when changes in consumption patterns of European customers affect the incomes of farmers in Africa (Barret & Swallow, 2006). As most policy is not designed with surprise elements as the main going-concern, unanticipated feedbacks create significant policy challenges. As mentioned previously, social-ecological systems are inherently cross-scale and cross-level. Cash, Adger, Berkes, Garden, Lebel, Olsson, Pritchard & Young (2006) define 'scale' as; "the spatial, temporal, quantitative or analytical dimensions used to measure and study any phenomenon," and 'levels' as; "as the units of analysis that are located at different positions on a scale." Food and nutrition security issues for instance, span across a number of different scales (e.g. spatial, temporal, jurisdictional and institutional) and a number of levels along each of these scales (Ericksen *et al*, 2010, Folke, 2016). Household food and nutrition security for example, is influenced not only by factors operating at the household level, but also largely by local, national and even international factors (e.g. maize prices).

Thus, the complexity of interactions and feedbacks within social-ecological systems coupled with the multiple perspectives surrounding food and nutrition security and its various activities and outcomes make it increasingly difficult to agree on solutions to food and nutrition security problems. Therefore, for research and food policy formulation it is essential to analyze the specific contexts across the relevant scales and levels. Globalization for instance, has altered many cross-level and cross-scale interactions within social-ecological systems (Folke, 2016). Changes in system structure or dynamics

may lead to significant shifts in functional outcomes, thus undermining food and nutrition security and ecosystem services in the long-run (Ericksen *et al,* 2010). Therefore, as interactions between ecosystems and people increase in scale, scope and intensity, understanding the dynamics at play within social-ecological systems is becoming increasingly important.

Whilst the primary goal in most generic social-ecological systems might change across different scales, if the primary goal within a given social-ecological system is centered around achieving food and nutrition security , then said core goal must be the same at all scales, from individual to global (Hodbod, 2015). For example, in today's social-ecological systems, governance of food policy tends to occur at national to global scales, focusing on production and trade. However, achieving food and nutrition security requires considerable attention to an array of additional functions within the greater social-ecological system, not the least of which includes food distribution and food access, food quality and safety as well as the cultural dimensions of food utilization and nutritional considerations (Pereira, 2014). Eakin (2010) states that these dimensions are currently not addressed in global governance and require validation at the global scale in order to be maintained at finer spatial scales. Similarly, some ecological functions that are critical for the maintenance of a given social-ecological system require global-wide management (i.e. the climate system) whilst others require concentrated action in local contexts (e.g. soil quality) (Hodbod, 2015). Thus, given the social-ecological systems approach to food and nutrition security, today's failure in meeting food and nutrition security objectives can be interpreted as the failure of current food policy or food governance to consider the full and differential dimensions of food system functions at appropriate scales.

5.5 Policy Challenges and Implications

Aside from the challenges surrounding scale and level mismatch as outlined briefly above, viewing the 'food system' through a social-ecological lens brings many other challenges to the forefront. Such challenges are often over looked when considering the traditional notion of a 'food system' and thus largely ignored in current food policy making. As mentioned previously, applying the concept of social-ecological systems to food systems has many advantages, particularly with regards to understanding the interconnected dynamics of environmental and societal change within the food system as a whole. Considering that 'food' is where many socio-economic and environmental issues converge, such a perspective to system analysis is becoming exceedingly valuable within the greater context of food policy making. Thus, this section will outline the main policy challenges that currently surround social-ecological systems and indicate the implications thereof for policy in general followed by food and nutrition policy, in particular.

Conflicting Stakeholder Worldviews

Many social-ecological management initiatives do reflect the diversity of stakeholder perspectives, which not only threatens the success of these initiatives, but can render the effectiveness of

traditional policymaking and governance null and void (Drimie, 2016). A lack of attention to stakeholder perspectives within social-ecological systems can be linked to feedback loops of power imbalances (Virapongse *et al* 2016). For instance, determinants of successful management outcomes (such as success metrics) are often chosen by powerful stakeholders who are more effective and efficient at driving and achieving their own system management agendas than less powerful groups (Krott, Bader, Schusser, Devkota, Maryudi, Giessen, & Aurenhammer, 2014). For example, government departmental land managers, often view and value the landscape in terms of resource availability. Local communities/land users on the other hand, value the cultural and spiritual aspects of the land, which are consequently rarely considered as metrics in government driven management plans. Virapongse *et al (2016)* states that; "This discrepancy in perspectives and cultural constructions subsequently undermines intended collaborative processes." Thus, new policy approaches are necessary in order to rectify the inclusion of all stakeholders within social-ecological systems in order to overcome problems of power imbalances, cultural miscommunication, accountability for system management outcomes and exclusionary practices (Frame, Gunton & Day, 2004).

Institutional limitations

Globally, it is challenging to integrate social-ecological systems theory into current management initiatives and policy structures because of limitations within existing legal and institutional frameworks. For instance, most natural resource laws and regulations focus on minimizing human impact on the environment in order to preserve both the past and present state of the environment, even though significant and far-reaching issues such as climate change are based on theories that assume dynamic and adaptive processes (Craig, 2010). Governmental departments tend to pay even less attention to social resilience within systems (i.e. the ability of society to learn and adapt to change). Therefore, there is much to be done to reform institutionalized assumptions and regulations in order to incorporate social-ecological concepts into system management.

Lack of empirical evidence

In order to gauge and improve the success of new social-ecological system management approaches the necessary empirical evidence is required before such assessments can be made. As stated by Virapongse *et al* (2016), in order for a social-ecological system management approach to be developed with a degree of success, empirical data on both social and ecological processes are required. Whilst it can be a challenge to collect such data, they are necessary to populate the frameworks that allow for testing and development of new social-ecological system approaches. As a whole, in order for system management approaches to be better developed, monitoring and evaluation must play an important role.

Uncertainity

Most system management approaches consider only steady, set interactions or gradual, continuous change. As a result, such approaches therefore have a limited capacity to predict and manage abrupt changes within the given social-ecological system. Identifying the thresholds for change and drivers that lead to abrupt changes poses a significant challenge for system management as a whole (Virapongse *et al*, 2016). Uncertainty however, is an integral feature of most social-ecological systems and arises from several sources. Biggs *et al* (2015) suggest the following three main sources that give rise to uncertainty:

Firstly, social-ecological systems are self-organizing, evolve continuously and change in response to external shocks and various internal system changes (Levin *et al*, 2013). This implies that understanding the dynamics and interactions within a given social-ecological system is a fluid process, therefore requiring continual learning and the adaptation of system management strategies. Secondly, uncertainty can also arise from the interactions between the components of the system that help give rise to new, emergent properties such as nonlinear behavior that cannot be predicted without understanding the individual system parts. The third main source of uncertainty stems from societal values, which have a significant effect on decisions surrounding the various social and ecological outcomes within the systems, as well as on resolving trade-offs, and influencing tolerance for overall risk and uncertainty. For instance, differences in values amongst South Africa's diverse societal groups and changes in said values over time can create substantial uncertainties surrounding the decisions about which system management goals best meet societal goals.

Mollinga (2010) further states that these three sources of uncertainty give rise to three particular types of complexity within social-ecological systems. Analytical complexity arises from the general difficulty of understanding complex social-ecological systems. Ontological complexity arises from the often unpredictable (nonlinear) behavior of social-ecological systems. Lastly, societal complexity arises from the different purposes, meanings and benefits that various different societal groups attach to social-ecological systems. Acknowledging these different aspects of complexity is crucial in order to develop successful policy to effectively manage social-ecological systems. As stated by Biggs *et al* (2015), "There is growing acknowledgement that managing complex social-ecological systems requires approaches that go beyond a focus on informing management through improved understanding of system components and dynamics and facilitate judicious management in the face of substantial uncertainty and potential risks."

5.6 A Social- Ecological Systems Approach to Food and Nutrition Policy Formulation

Viewing food systems through the social- ecological lens enables one to see that these interactions and relations between the social and ecological components are complex, dynamic and context dependent. Utilizing the framework of a social- ecological system aids by providing structure to an inherently complex system, thereby assisting in understanding the linkages, the important role of relationships within the system and the consideration of both human-driven as well as biophysical drivers. Consequently, such an understanding leads to the acknowledgement of the contribution of the different disciplines at play within the social-ecological framework. However, through the bridging of different disciplines it remains crucial to recognize the importance of framing these systems when designing appropriate policies and development strategies (Thompson & Scoones, 2009). Different framings or narratives surrounding how social-ecological systems function and the outcomes of their various drivers result in the valuation of various, diverse outcomes and the subsequent posing of different solutions. As noted by Ericksen *et al* (2010), "Economists will emphasize markets as key to food and nutrition security , climate scientists worry about the greenhouse gas emissions from intensive agriculture, agronomists emphasize yields, and political scientists focus on governance arrangements as the solution to undesirable outcomes." Thus, policy makers must acknowledge that social-ecological systems serve different functions for different actors within the system, of whom additionally value their policy outcomes differently. This resultingly forms the central basis of the various tradeoffs that are inherent to the interchanging relationship between food and nutrition security and modern food systems (Thompson *et al,* 2009). The above-mentioned framings coupled with the specific given context influence how these tradeoffs are evaluated and subsequently translated into policy decisions.

As illustrated with the policy assessment/summaries and critique in Chapter 4, the institutional framework surrounding South African food policy is fragmented between different policy domains. Each policy domain has its own institutional and regulatory arrangements, and different policy priorities and horizons. Any coherent and efficiently aligned food policy must traverse the domains of agriculture, environment, social protection, health, land, rural development and education. Thus, from a food and nutrition security perspective, a social-ecological systems approach is necessary to translate the various tradeoffs between the different domains in South African food and nutrition policy and the multiple aspects of food and nutrition security into coherent and well-aligned policy that can effectively tackle food and nutrition insecurity in the country. The framework surrounding the assessment of South Africa's food policy through the social-ecological systems lens is simple. The social element of *social-ecological systems* notes the social aspects both present and required within the given policy space under assessment. The ecological element highlights the role of the fundamental ecological sources inherent within food systems, and thus food policy as a whole. Lastly, the systems element underlies the inter-connected, relational and dynamic nature of food policy. Application of this interrelated, three-pronged framework has revealed a general lack of understanding and and/or acknowledgement of the interconnected dynamics of environmental and societal change that drive food governance in South Africa. Issues surrounding the misalignment

and incoherence of SA food policy become apparent, serving to highlight the dis-jointed nature of SA food policy.

One of the more prominent and concerning issues to come to the forefront lies within the NPFNS itself. Central to the NPFNS is the acknowledgement of the complex nature of food and nutrition security, with the policy's own definition of food and nutrition security highlighting the role of both social and physical elements within the attainment of food and nutrition security . However, said complexity is merely mentioned and not actually applied. The social element is strong and well-articulated throughout the policy, with key role players cross-referenced throughout the policy. Yet little attention is paid to the ecological aspects that are inherent to the South African food system. By understanding the food system as a social- ecological system the connection to the environment is emphasized, as well as the set of critical resources whose flow is essential to the sustainability of the food system. Simply put, the food system will not function without the environment. Thus feedbacks from food systems to ecological processes pose a crucial consideration within food policy, given the ever increasing demand for food from a diminishing natural resource base (Ericksen *et al,* 2010).

A matter of concern is that this pattern continues through to the national over-arching policies of the NGP and MTSF. As noted within chapter four, the NGP highlights environmental outcomes as an important measurable indicator for evaluating success in job creation. Yet no reference is made to any forms of ecological factors that are necessary in the attainment of said environmental outcomes. Furthermore, tourism is underlined within the NGP as a high-level action intended to drive labor absorbing growth within South Africa. However, given that the majority of South Africa's success in tourism rides on the country's natural environmental attraction, the absence of any reference of acknowledgment of ecological factors within the policy remains a significant concern. Whilst the MTSF's outcome 10 (protect and enhance our environmental assets and natural resources) strives to fill this ecological gap in South Africa's food policy, the promised environmental development has yet to effectively filter through to any subsequent environmental policy (or otherwise interrelated policy). As illustrated within the *Environment Domain* of chapter four, although South Africa has extensive environmental policy, it appears to be largely developed in isolation from core food and nutrition security outcomes, given there is little (if any) reference to food systems within the policies concerned. The ongoing drought in the Western Cape and in other parts of South Africa serves to further highlight the inadequacies of the country's water management strategies, as well as the country's vulnerabilities to climate change as a whole. Thus environmental policy in South Africa remains disjointed and lacking much needed integrated polices that adequately cover the necessary environmental dimensions that are required to ensure the development of a sustainable food system. A social-ecological systems approach to environmental policy formulation would include the various environmental dimensions at play within the food system, and thus serve to highlight the need for integrated strategies that are developed in relation with food and nutrition security outcomes. As

noted by Ericksen *et al* (2010); “A sustainable food system has the best chance of surviving when social-ecological systems can adapt and change in response to critical signals, have the resilience to withstand shock.” However, it is clear that incorporating ecology into these political and social policy frameworks remains a challenge. Key concepts surrounding the nature of ecological inputs and outputs in the food production–distribution–consumption cycle must be incorporated into food policy formulation.

As noted previously, in order to be regarded as sustainable, it is necessary for a food system to take into consideration all environmental, social and economic factors. The food system is not a simple, linear process that can be governed by conventional, methodical policy. Rather, it is an intricate network consisting of multidimensional, nonlinear relationships that requires dynamic, flexible policy structures and instruments. Thus, the systems element of *social-ecological systems* accounts for this intricate, multidimensional nature, by highlighting the need for multidimensional interaction between various factors across multiple levels- ranging from the production of food to its consumption. Furthermore, it helps to provide a ‘checklist’ to ensure that all issues are properly accounted for within dialogues or interventions aimed at enhancing food and nutrition security and identifies the necessary range of actors who should be party to the process (Ingram, 2011). As illustrated previously within the *Agricultural Domain* of chapter four, despite a degree of superficial alignment and focus on transformation, existing agricultural and food polices by large have failed to engage with the mechanisms required to underpin real policy alignment and good governance. Together with the failure of understanding and appreciating the rapid transformations within the processing and retail environments, said polices have failed to address the structural underpinnings of the agrarian system. By emphasizing the systems element of social-ecological systems, the intricate, multidimensional nature of South Africa’s agrarian system would be better understood and more clearly defined within subsequent food policy formulation. Drimie (2016) argues that the general lack of coherence within the broad range of current agriculture- and food-related polices can partly be attributed to a lack of clear vision of a future agrarian system and how to subsequently achieve it. A more proficient understanding of the various dimensions at play within the greater agrarian that is provided by the social-ecological systems approach will assist in this regard, and thus lead to more coherent agricultural policy as a whole.

The social element of the approach is already largely present throughout much of South Africa’s current food policy, with the majority of role players clearly defined and present within the policy frameworks. Whilst the policies featured within the Social Protection Domain of chapter four clearly articulate the roles of all relevant stakeholders and the subsequent interventions aimed at ensuring social protection within South Africa, said policies have become conceptually delinked from not only one another, but food and nutrition security as a whole. As a result, the various interventions targeting poverty and food insecurity are reduced to a residual relief role. In order to build resilient livelihoods in South Africa, comprehensive and sustainable approaches are required, with strong

linkages between social development sectors such as agriculture and health (Devereux, 2016). As a whole, food and nutrition security in South Africa cannot be achieved with a single policy instrument or specific time-bound programme. A more holistic, inclusive approach to social development policy is required, such as the one provided by the social-ecological systems framework. Altogether, from a social protection perspective, policy in South Africa views the management of food systems as a linear process, and not a system-wide process. Thus once again, by emphasizing the systems element of social-ecological systems, the linkages between social development sectors such as agriculture and health will be better understood and emphasised. This would lead to more conceptually coherent social policies that are aligned to achieving the envisioned food and nutrition security outcomes.

Nevertheless, where the social-ecological approach remains the most constructive with regards to food policy formulation is the strengths of the approach in highlighting the interactions across scales and levels inherent within any given system. As most policy does not take uncertainty into consideration, unanticipated feedbacks within the system create significant policy challenges. The complexity of interactions and feedbacks within social-ecological systems coupled with the multiple perspectives surrounding food and nutrition security and its various activities and outcomes make it increasingly difficult to agree on solutions to food and nutrition security problems. Therefore, for research and food policy formulation it is essential to analyze the specific contexts across the relevant scales and levels. Scale mismatches occur when system elements (at their varying scales and/or levels) misalign, resulting in dysfunctionality (Maciejewski, De Vos, Cumming, Moore & Biggs, 2015). Scale mismatches indicate that one or more functions of the social-ecological system have been disrupted, resulting in the loss of important components and occurrence of inefficiencies. Maciejewski *et al* (2015) further states that scale mismatches can be spatial, temporal or functional in nature. As outlined within chapter four, spatial-scale mismatches are clearly evident throughout the policies included in the environment, land and rural development domains, where differences appear between the physical and geographic extent of the problem and the solution proposed within the given policy. Said policies simply don't have scope or reach required. This is clearly illustrated by the inability of environmental policy in South Africa to cover the necessary environmental dimensions that are required to ensure the development of a sustainable food system, and through the inadequate support offered by land reform policies to land beneficiaries.

Temporal-scale mismatches arise when processes occur over different timescales (Maciejewski *et al,* 2015). For example, the implementation of most food policies forms part of a lengthy process, and the long-term participation of the relevant stakeholders is critical to reflect the intended changes within the greater system, and thereby food and nutrition security as a whole. This has proven to be a significant issue within South African policy making, where political interests and policy agendas are continually shifting. Temporal scale mismatches may also occur when the necessary stakeholders are not involved throughout the entire policy planning and implementation process.

This too has been proven to be rising concern throughout the South African food policy space, most notably by the NPFNS which has been characterized for its lack of consultation and co-development amongst stakeholders across the food system. Further examples have been highlighted and discussed throughout the food policy assessment outlined in chapter four, most notably within the *Health Domain.* As noted by McLaren *et al,* (2015) by large the DoH is not sufficiently equipped to work in the interdepartmental and multisectoral manner required to deal with the many underlying economic and social factors of food insecurity. The complex interlinking of the many environmental, economic and social determinants of health (and ultimately food and nutrition security) requires all government departments to take health into account. Functional-scale mismatches arise in policy when the scope of processes considered for use within the given policy differs greatly from the scope of processes actually used (Maciejewski *et al,* 2015), as illustrated by the poor policy implementation mechanisms discussed throughout this study.

5.7 Conclusion

Applying the social-ecological systems concept to food systems has many advantages, particularly with regards to understanding the interconnected dynamics of environmental and societal issues within the food system as a whole. In turn, this has important implications for policy makers. Given the above, the failure to meet various food and nutrition security objectives can largely be interpreted as the failure of current food and nutrition policy to fully consider the differential dimensions of food system functions at the appropriate scales and levels. More effective policies, practices and governance are needed at a range of levels on spatial, temporal and functional scales.

Aside from the challenges surrounding scale and level mismatch, viewing the 'food system' through a social-ecological systems lens reveals many other challenges. Such challenges are often over looked when considering the traditional notion of a 'food system' and thus largely ignored in current food and nutrition policy making. Considering that 'food' is where many socio-economic and environmental issues converge, such a perspective to system analysis important within the greater context of food policy making. Addressing these challenges requires new and expanded conceptual policy frameworks and approaches that fully encompass all the dynamics at play within social-ecological systems, in order to fulfill food and nutrition security objectives.

Chapter 6: Conclusions and Recommendations

6.1 Introduction

The aim of this study is twofold: firstly to assess the full South African national policy landscape pertaining to the food system in order to understand policy alignment and coherence across and within sectors, and to indicate the implications thereof. Secondly, to provide an alternative way to view the South African food system, and correspondingly provide a framing through which to embrace the complexity of this system and consequently move towards better alignment and coherence in South African food and nutrition policy in order to secure adequate food and nutrition security in the country. This chapter presents a final response to these aims through providing an overview of the study and summarising the major findings, drawing out the implications for policy makers. Recommendations for future research are provided.

The study has revealed three key dimensions that are evidently overlooked in South African food and nutrition policy: 1) the complexity of the food system, as revealed when taking a social-ecological system lens, which subsequently highlights the challenges, assumptions, and expectations of governing this complex system through policy; 2) what appropriate policy responses to the food system would be; and 3) the (mis)alignment of policy (across sectors). Upon inspection of the policy matrix and through use of the social-ecological system approach, results clearly demonstrate significant levels of redundancy, contradiction and internal and external sector misalignment.

This in turn has highlighted issues surrounding departmental vision and the necessary mechanisms required to ensure the coordination of sectors and internal directorates mandated to provide the overall policy guidance at provincial and local government. Furthermore, this study has shown that applying a social-ecological systems approach to food systems has many advantages, particularly with regards to understanding the interconnected dynamics of environmental and societal issues within the food system as a whole. This in turn, has important implications for policy makers in general, and food and nutrition in particular.

6.2 Summary of Major Findings and Implications for Policy Makers

Given the intricate, dynamic nature of the food system and its relation to food and nutrition security, it is important to consider the various trends that are currently shaping the system, as illustrated in chapter 2. As argued, these trends have structural implications for household food and nutrition insecurity problems, which are largely underpinned by widespread poverty and unemployment. Thus food and nutrition insecurity within South Africa is not a short term phenomena, but rather a long-term, chronic threat that is grounded within various economic, political, social and institutional aspects of society. The causes and what to do about it remain highly contested. Therefore on the part of policy makers, there is a need for a thorough understanding surrounding the dynamic, intricate nature of the system, in order to fully tackle the ‘wicked’ problem of food and nutrition insecurity in South Africa.

As argued in chapter 3, policy makers should be compelled to incorporate an integrative approach to food and nutrition policy and base their policy efforts upon a transdisciplinary approach. Such an approach entails collaborating and engaging society through knowledge creation including scientific research, which in turn produces new, socially relevant knowledge and insights. Thus, the approach recognizes that social and political knowledge is as important as scientific knowledge in the formulation and implementation of food and nutrition policy. Due to the food system being a convergent point for the many socio-economic and environmental issues facing society today, the development of the transdisciplinary approach within the policy environment is vital in the creation of sustainable and effective policy.

As discussed throughout this study, it is clear that food and nutrition policy is a political and contested space within South Africa. Together with the failure of understanding and appreciating the rapid transformations within the food system, many polices have largely failed to address the system's structural underpinnings. Through use of the policy matrix in Chapter 4, clear evidence emerges of misalignment, incoherence and redundancy in South Africa's food and nutrition policy. Limited engagement with all of the relevant stakeholders has led to a narrow and inadequate understanding of the vast array of complex issues that affect the food system. Despite some degree of alignment and acknowledgement of the need for transformation, existing food and nutrition polices by large have failed to establish and implement the mechanisms required to underpin real policy alignment and ultimately contribute to good governance of the food system.

Building on this, the study converges into a final argument outlined in chapter 5 that the South African food system can be characterized as an intricate network consisting of multidimensional, nonlinear relationships that requires dynamic, flexible policy structures and instruments. Due to their increasing interconnectedness and dynamic nature, food systems are becoming exceedingly more vulnerable to a range of both local and global shocks and stressors.

Overall, it remains clear that throughout the policies discussed there appears to be a lack of attention to solving the problems at hand. As a whole, there is a general silence as to how to solve problems that have been identified and articulated -the solutions provided are vague in detail. The majority of the policies assessed make note of governance difficulties, as well as the importance of internal departmental alignment. Promisingly, a large number of the more recent policies point to a set of interventions and activities to address governance challenges. However, these interventions remain vague in detail and generally represent a lack of real engagement with the mechanisms required to underpin real policy alignment. They also do not reflect a transdisciplinary approach that would deepen the knowledge base of such policies and contribute to more effective governance. This has essentially resulted in a policy response to food and nutrition security that has been effectively limited. These challenges may portray a more serious issue: a lack of political will or impetus to effectively address food and nutrition insecurity as a political priority. Political will encompasses more

than simple statements of intent. It requires a significant level of commitment to coherence across policies to achieve common goals and the subsequent allocation of budgeting and personnel for efficient implementation.

Critically, however, one of the greatest challenges facing the implementation of food and nutrition policies in South Africa is the absence of an effective coordination mechanism that can effectively align the different responses across various sectors and government departments, and even within departments. Once again, where coordination mechanisms are mentioned, they are vague in detail. An effective coordination mechanism would be clear about a common goal and set of objectives to ensure alignment and coherence of related policies. Coordination mechanisms would also facilitate the learning and application through an effective monitoring and evaluation system.

A further cause of concern is the general lack of monitoring and evaluation mechanisms in South African policy making in order to gauge policy impact. This can largely be attributed to an issue surrounding measurement: there is no specific and accepted measure of food and nutrition insecurity within South African food and nutrition policy, and no standardised way of monitoring it. Given that food and nutrition security is multidimensional by nature and forever changing, it is naturally difficult to design accurate measurements and policy targets. Thus a comprehensive and wide-ranging food- and -nutrition- security monitoring and evaluation system should be developed, supported by a clearly defined and pre-established target/goals for food and nutrition security. The absence of such a monitoring and evaluation system consequently reveals a general lack of attention to learning and adjusting implementation across these complex domains that together constitute food and nutrition security in South Africa.

Food and nutrition security is an inherently complex outcome of multiple factors, operating from international to household levels. It depends not only upon the availability and production of food, but also on a range of entitlements that both enables and/or protects economic and social access to food. Poverty and malnutrition have long been correlated with one another, with nutritional value/quality now being firmly embedded in most definitions of food and nutrition security . Thus, any real analysis of food and nutrition policy within South Africa requires consideration of numerous economic, political and social factors, in addition to the more traditionally noted agronomic issues. The challenges that policy faces consist of finding solutions to food insecurity: policies need to enhance food and nutrition security without compromising environmental and social welfare outcomes.

In order to address these challenges, new and expanded conceptual frameworks and approaches that fully encompass the dynamics at play are required. Such frameworks should be based upon understanding the complex nature of these systems, the interactions between the various components and the environment in which it is found, as illustrated through systems-based approaches. This study provided such an alternative systems based conceptual framework. By

viewing the food system through the social-ecological system approach, many of the traditional challenges (and subsequent policy implications) surrounding food provision systems and the greater issue of food and nutrition security become secondary, and new, often overlooked challenges come to the forefront.

Considering that 'food' is where many socio-economic and environmental issues converge, such a approach to system analysis is important within the greater context of creating food and nutrition policy. As illustrated in Chapter 5, the failure to meet various food and nutrition security objectives can largely be interpreted as the failure of current food and nutrition policy to fully consider the differential dimensions of food system functions at the appropriate scales and levels. More effective policies, practices and governance are needed at a range of spatial, temporal and functional scales. It is thus argued that real solutions to challenges in the food system, including household food insecurity, lie in structural change and fresh, innovative perspectives to the development of policy that embrace the complexity of the food system as a social-ecological system. Such solutions do not lie within one particular dimension alone. To conclude, whilst the many complexities surrounding food and nutrition policy cannot be denied, it is possible, through the right policy efforts, to create a way forward for a food system that is both sustainable and equitable for all South Africans.

6.3 Recommendations for Future Research

The content of this study will be shared with relevant policy makers via various communication streams, such as: the publishing of a paper in a peer reviewed journal; presentations to relevant government departments and via the creation of infographics/ summary information pages. In addition, the content of this study will also be utilised and shared to various stakeholders through the UNU-WIDER Young Scholars Programme. Conversely, there is much scope for further research on this topic of study. The primary challenge faced in this study was the difficult, time intensive nature of sourcing the full extent of food and nutrition policy. Consequently, this limited the scope of the overall study -only national food and nutrition security policies were assessed. Thus using national-level assessment as a basis, there is much scope to continue the study through to provincial and local levels, in particular to further investigate issues of alignment and coherence and thereby contribute to deeper understanding of local level governance of the food system. As highlighted throughout this study, the South African food system is an intricate network consisting of multidimensional, nonlinear relationships. Consequently, there are a diverse array of features worth noting in the context of policy making, many of which were not mentioned specifically within this study due to analytical limitations. For instance, the roles surrounding informal trade markets and food waste within food supply are worth investigating further. They were, however, beyond the scope of this thesis.

Reference List

Aliber, M. & Hall, R. 2012. Support for Smallholder Farmers in South Africa: Challenges of Scale and Strategy. *Development Southern Africa*. 29(4): 548-562.

Aliber, M. 2015. Household-level Food Insecurity and Agriculture in South Africa, In Fukuda, S. & Taylor, V (eds.). *Food Insecurity in South Africa: Human Rights and Entitlements Perspectives.* Cape Town: UCT Press.167-189.

Altman, M., Hart, T. & Jacobs, P. 2009. Household Food and nutrition security Status in South Africa. *Agrekon.* 48 (4): 345-361.

ANC (African National Congress). 1994. Reconstruction and Development Programme: A policy framework. Johannesburg: Umanyano Publishers.

Barling, D., Lang, T. & Caraher, M. 2002. Joined-up Food Policy? The Trials of Governance, Public Policy and the Food System. *Social Policy and Administration*. 36 (6): 556-574.

Barrett, C. B. & Swallow, B. 2006. Fractal Poverty Traps. *World Development*. 34(1): 1–15.

Biggs, R., Rhode, C., Archibald, S., Kunene, L.M.,Mutanga,S.S., Nkuna, N., Ocholla, P.O. & Phadima, L.J. 2015. Strategies for Managing Complex Social-Ecological Systems in the Face of Uncertainty: Examples from South Africa and Beyond. *Ecology and Society.* 20(1): 52-67.

BFAP (Bureau for Food and Agricultural Policy). 2018. Baseline Agricultural Outlook 2018-2027. Pretoria: BFAP.

Candel, J.J.L. & Pereira, L. 2017. Towards Integrated Food Policy: Main Challenges and Steps Ahead. *Environmental Science and Policy*. 73: 89-92.

Carant, J.B. 2017. Unheard Voices: A Critical Discourse Analysis of the Millennium Development Goals' Evolution into the Sustainable Development Goals. *Third World Quarterly*. 38(1): 16-41.

Cash, D.W., Adger,W., Berkes,F., Garden,P., Lebel, L., Olsson,P., Pritchard, L. & Young, O.2006. Scale and Cross-Scale Dynamics: Governance and Information in a Multilevel World. *Ecology and Society*. 11(2): 8-19.

CFS (Committee on World Food and nutrition security). 2012. Coming to Terms with Terminology. Thirty-ninth Session, Rome, Italy. 15-20 October.

Chapman, J. 2004. System Failure: Why Governments Must Learn to Think Differently. Demos, System Stewardship. London, United Kingdom.

Charlton, K. 2016. Food and nutrition security , Food Systems and Food Sovereignty in the 21st Century: A New Paradigm Required to Meet Sustainable Development Goals. *Nutrition & Dietetics*. 73(1): 3-12.

Cousins, B. 2016. Land reform in South Africa is sinking. Can it be saved? Paper commissioned by the Nelson Mandela Foundation, the Centre for the Advancement of the South African Constitution, and the Hanns Seidel Foundation.

Craig, R.K.2010. “Stationarity is Dead” Long Live Transformation: Five Principles for Climate Change Adaptation Law. *Harvard Environmental Law Review.* 34(1): 9-73.

DAFF (Department of Agriculture, Forestry and Fisheries). 2004. Progress Report on the implementation of the Comprehensive Agriculture Support Programme (CASP). Pretoria: South Africa.

DAFF (Department of Agriculture, Forestry and Fisheries). 2008. National Agricultural Research and Development Strategy. Pretoria: South Africa.

DAFF (Department of Agriculture, Forestry and Fisheries). 2010. Flyer for Micro Agricultural Financial Institutions of South Africa. Pretoria: South Africa.

DAFF (Department of Agriculture, Forestry and Fisheries). 2012. Agriculture , Forestry and Fisheries Integrated Growth and Development Plan. Pretoria: Government of South Africa.

DAFF (Department of Agriculture, Forestry and Fisheries). 2014a. The National Policy on Food and Nutrition Security for the Republic of South Africa. Pretoria: Government of South Africa.

DAFF (Department of Agriculture, Forestry and Fisheries). 2014b.The AgriBEE Fund. Pretoria: Government of South Africa.

DAFF (Department of Agriculture, Forestry and Fisheries). 2014c. Agricultural Policy Action Plan. Pretoria: Government of South Africa.

DAFF (Department of Agriculture, Forestry and Fisheries). 2015. Fetsa Tlala: Production Plan 2014/15. Pretoria: Government of South Africa.

DAFF (Department of Agriculture, Forestry and Fisheries). 2017. Annual Report for the 2016/17 Financial Year: Department of Agriculture, Forestry and Fisheries. Pretoria: Government of South Africa.

DBE (Department of Basic Education). 2013. Case Study of the National School Nutrition Programme in South Africa. Pretoria: Government of South Africa.

DEA (Department of Environmental Affairs). 2011. National Climate Change Response White Paper. Pretoria: Government of South Africa.

DEA (Department of Environmental Affairs). 2014. Unlocking the Economic Potential of South Africa’s Oceans. Marine Protection Services and Governance Executive Summary. Pretoria: Government of South Africa.

DEA (Department of Environmental Affairs). 2015a. Strategic Plan 2015/16 – 2019/20. Pretoria: Government of South Africa.

DEA (Department of Environmental Affairs). 2015b. Annual Report 2015/16. Pretoria: Government of South Africa.

DED (Department of Economic Development). 2011. The New Growth Path: Framework. Pretoria: Government of South Africa.

DeFries, R., Asner, G. P. & Foley, J. 2006. A Glimpse Out the Window: Landscapes, Livelihoods, and the Environment. *Environment*. 48(8):22–36.

Devereux, S. 2016. Social Protection for Enhanced Food and nutrition security in sub-Saharan Africa. *Food Policy.* 60: 52–62

Devereux, S & Waidler, J. 2017. Why does Malnutrition Persist in South Africa Despite Social Grants? *Food and nutrition security SA Working Paper Series No.001*. DST-NRF Centre of Excellence in Food and nutrition security , South Africa.

DoH (Department of Health). 2013a. Strategic Plan for the Prevention and Control of Non-Communicable Diseases 2013-2017. Pretoria: Government of South Africa.

DoH (Department of Health). 2013b. Roadmap for Nutrition in South Africa 2013-2017. Pretoria: Government of South Africa.

DoH (Department of Health). 2015. Strategy for the Prevention and Control of Obesity 2015 – 2020. Pretoria: Government of South Africa.

DoH (Department of Health). 2017. Annual Report for the 2016/17 Financial Year: Department of Health. Pretoria: Government of South Africa.

DPME (Department of Planning, Monitoring and Evaluation). 2014. Medium Term Strategic Framework (MTSF) 2014-2019. Pretoria: Government of South Africa.

DPME (Department of Planning, Monitoring and Evaluation). 2016. Policy Brief: Evidence-Based Policy-Making and Implementation. Pretoria: Government of South Africa.

DRDLR (Department of Rural Development and Land Reform). 2009. The Comprehensive Rural Development Programme Framework. Pretoria: Government of South Africa.

DRDLR (Department of Rural Development and Land Reform). 2011. Green Paper on Land Reform. Pretoria: Government of South Africa.

DRDLR (Department of Rural Development and Land Reform). 2013a. State Land and Lease Disposal Policy. Pretoria: Government of South Africa.

DRDLR (Department of Rural Development and Land Reform). 2013b. Policy for the Recapitalisation and Development Programme. Pretoria: Government of South Africa.

DRDLR (Department of Rural Development and Land Reform). 2015. Strategic Plan 2015-2020. Pretoria: Government of South Africa.

DRDLR (Department of Rural Development and Land Reform). 2017. Agri-parks Narrative. Pretoria: Government of South Africa.

DRDLR (Department of Rural Development and Land Reform). 2018. Annual Performance Plan 2018/2019. Pretoria: Government of South Africa.

Drimie, S. & Ruysenaar, S. 2010. The Integrated Food Strategy of South Africa: an Institutional Analysis. *Agrekon.* 49(3):316-337

Drimie, S. & McLachlan, M. 2013. Food and nutrition security in South Africa- First Steps Toward a Transdisciplinary Approach. *Food and nutrition security* . 5(2): 217-226.

Drimie, S. 2015. Aligning Policy to Address Food Insecurity: Institutional Challenges and Political Will in South Africa, In Fukuda, S. & Taylor, V (eds.). *Food Insecurity in South Africa: Human Rights and Entitlements Perspectives.* Cape Town: UCT Press. 227-245.

Drimie, S. 2016. Understanding South African Food and Agricultural Policy: Implications for Agri-food Value Chains, Regulation and Formal and Informal Livelihoods. *Working Paper 39*. Cape Town: PLAAS, UWC and Centre of Excellence on Food and nutrition security .

DSD (Department of Social Development). 2017. Annual Report for the 2016-2017 Financial Year: Department of Social Development. Pretoria: Government of South Africa.

DTI (Department of Trade and Industry). 2016. Industrial Policy Action Plan 2016/17 – 2018/19. Pretoria: Government of South Africa.

Eakin, 2010. What is Vulnerable? In Ingram, J., Ericksen, P. & Liverman, D. (eds.). Food and nutrition security and Global Environmental Change. London: Earthscan. 25-45.

Ericksen, P.J. 2008. Conceptualizing Food Systems for Global Environmental Change Research. *Global Environmental Change*.18(1):234–245.

Ericksen, P.J. Stewart,B., Dixon, J., Barling, D., Loring, P., Anderson, M. & Ingram, J. 2010. The Value of a Food System Approach in, Ingram, J., Ericksen, P. & Liverman, D. (eds.). *Food and nutrition security and Global Environmental Change.* London: Earthscan. 25-45.

FAO., IFAD. & WFP. 2015. The State of Food Insecurity in the World: Meeting the 2015 International Hunger Targets: Taking Stock of Uneven Progress. Rome, Italy: Food and Agriculture Organization of the United Nations.

Fischer, J., Gardner, T.A., Bennett, E.M.,Balvanera, P., Biggs, R.,Carpenter, S., Daw, T., Folke, C., Hill, R., Hughes, T.P., Luthe, T., Maass, M., Meacham, M., Norström, A. V.,Peterson, G., Queiroz, C., Seppelt, R., Spierenburg, M. & Tenhunen, J. 2015. Advancing Sustainability Through Mainstreaming a Social-Ecological Systems Perspective. *Current Opinion in Environmental Sustainability.* 14:144–149.

Folke, C., Biggs, R.,Norström, A.V., Reyers, B. & Rockström, J. 2016. Social-Ecological Resilience and Biosphere-Based Sustainability Science. *Ecology and Society* 21(3):41-56

Frame, T.M., Gunton, T. & Day, J.C. 2004. The Role of Collaboration in Environmental Management: an Evaluation of Land and Resource Planning in British Columbia. *Journal of Environmental Planning and Management*. 47 (1): 59-82.

Fukuda, S. & Taylor, V. 2015. Food Insecurity in South Africa: A Human Rights and Entitlement Perspective, in Fukuda, S. & Taylor, V (eds.). *Food Insecurity in South Africa: Human Rights and Entitlements Perspectives*. Cape Town: UCT Press. 227-245.

Greenberg, S. 2006. Urban Food Politics, Welfare and Resistance: A Case Study of the Southern Johannesburg Metro. CCS grant report. Pietermaritzburg: University of KwaZulu-Natal.

Griggs, D., Stafford-Smith, M., Gaffney, O., Rockström, J., Öhman, M. C., Shyamsundar, P. & Noble, I. 2013. Policy: Sustainable Development Goals for People and Planet. *Nature*. 495: 305-307

Gulati, M., Jacobs, I., Jooste A., Naidoo, D. & Fakir, S. 2013. The Water–Energy–Food and nutrition security Nexus: Challenges and Opportunities for Food and nutrition security in South Africa. *Aquatic Procedia.* 1 :150–164.

Hall, P.A. 1993. Policy Paradigms, Social Learning, and the State: The Case of Economic Policymaking in Britain. *Comparative Politics*. 25(3): 275-296.

Hall, R. & Cliffe, L. 2009. Introduction, In Hall, R (ed). *Another Countryside? Policy Options for Land and Agrarian Reform in South Africa.* Cape Town: Institute for Poverty, Land and Agrarian Studies, University of the Western Cape. 1-23.

Harris, J., Drimie, S., Roopnaraine, T. & Covic, N. 2017. From Coherence Towards Commitment: Changes and Challenges in Zambia's Nutrition Policy Environment. *Global Food and nutrition security .* 13: 49-56.

Hendriks, S.L. 2013. South Africa's National Development Plan and New Growth Path: Reflections on Policy Contradictions and Implications for Food and nutrition security . *Agrekon*. 52 (3): 1-17.

Hendriks, S.L. 2014. Food and nutrition security in South Africa: Status Quo and Policy Imperatives. *Agrekon*. 53 (2):1–24.

Hendriks, S.L. & Olivier, N.J.J. 2015. Review of the South African Agricultural Legislative Framework: Food and nutrition security Implications. *Development Southern Africa*. 32 (5): 555-576.

Hendriks, S.L., Mkandawire, E., Hall, N., Olivier, N.J.J., Schönfeldt, H.C., Randall, P., Morgan, S., Haggblade, S. & Babu, S. 2016. Micronutrient Policy Change in South Africa: Implications for the Kaleidoscope Model for Food and nutrition security Policy Change. Feed the Future Innovation Lab for Food and nutrition security Policy. *Research Paper 18.*

Hendriks, S.L. 2018. Food Policy and Nutrition Economics in the SDG Era. *Tomlinson Commemorative Lecture*. 22 February 2018.

Hodbod, J. & Hallie, E. 2015. Adapting a Social-Ecological Resilience Framework for Food Systems. *Journal of Environmental Studies and Sciences*. 5(3):474-484

Holling, C. S.1973. Resilience and Stability of Ecological Systems. *Annual Review of Ecology and Systematics*. 4:1– 23

Holling, C. S. 2001. Understanding the Complexity of Economic, Ecological and Social Systems. *Ecosystems*. 4: 390–405

Krott, M., Bader, A., Schusser, C., Devkota, R., Maryudi, A., Giessen, L. & Aurenhammer, H. 2014. Actor-Centered Power: The Driving Force in Decentralised Community Based Forest Governance. *Forest Policy Economics*. 49: 34-42.

Kurukulasuriya, P. & Rosenthal, S. 2013. Climate Change and Agriculture: A Review of Impacts and Adaptations. Environment Department Papers no. 91. Climate Change Series. World Bank, Washington, DC.

Lang, T., Barling, D. & Caraher, M. 2001. Food, Social Policy and the Environment: Towards a New Model. *Social Policy and Administration*. 35(5): 538–58.

Levin, S., Xepapadeas, T., Crepin,A.S., Norberg,J., de Zeeuw, A. Folke,C., Hughes,T., Arrow, K., Barrett,S., Daily,G., Ehrlich, P., Kautsky,N., Mäler,K.G., Polasky, S., Troell, M.,Vincent, J.R. &

Walker,B. 2013. Social-Ecological Systems as Complex Adaptive Systems: Modeling and Policy Implications? *Environment and Development Economics.* 18:111-132.

Lindquist, E. 2011. Grappling with Complex Policy Challenges. Discussion Paper for HC Coombs Policy Forum Roundtables, Australian National University.

Lyne, M. 2014. The F.R. Tomlinson Memorial Lecture: Two Decades of Land Reform in South Africa: Insights from an Agricultural Economics. *Agrekon*. 53(4) : 1-15.

Maciejewski, K., De Vos, A., Cumming, G.S., Moore, C. & Biggs, D. 2015. Cross-scale Feedbacks and Scale Mismatches as Influences on Cultural Services and the Resilience of Protected Areas. *Ecological Applications.* 25(1): 11–23

May, J. 2017. Food and nutrition security and Nutrition: Impure, Complex and Wicked? DST-NRF Centre of Excellence in Food and nutrition security . Conference Paper.

McLaren, D., Moyo, B. & Jeffery, J. 2015. The Right to Food in South Africa: An Analysis of the Content, Policy Effort, Resource Allocation and Enjoyment of the Constitutional Right to Food. *Working Paper 11*. Studies in Poverty and Inequality Institute.

Meyer, D. 2013. The New Growth Path (NGP) for South Africa: Can the Policy be Applied in the Local Government Sphere? *African Journal of Public Affairs.* 6(1): 15-28.

Mollinga, P. P.2010. Boundary Work and the Complexity of Natural Resources Management. *Crop Science*. 50(2):S1-S9.

NAMC (National Agricultural Marketing Council). 2018. *Food Basket Price Monthly*. Issue 29-May 2018.

Nattrass, N. 2011. The New Growth Path: Game changing Vision or Cop-out? *South African Journal of Science.* 107(3):1-8.

Nelson, G.C., Rosegrant, M.W., Palazzo, A., Gray, I., Ingersoll, C., Robertson, R., Tokgoz, S., Zhu, T., Sulser, T.B., Ringler, C., Msangi, S. & You, L. 2010. Food and nutrition security , Farming, and Climate Change to 2050: Scenarios, Results, Policy Options. IFPRI, Washington, D.C.

Nieuwoudt, W. L. & Vink, N. 1995. Financing of land purchase by small-scale farmers. *Development Southern Africa*. 12(4):509–517

Nkwana, H.M. 2015. The Implementation of the National Food and Nutrition Security Policy in South Africa: Strategies for Multisectoral Coordination. *Administratio Publica*. 23 (4): 272-289.

NPC (National Planning Commission). 2012. National Development Plan: Vision for 2030, Our Future – Make it Work. Pretoria: Government of South Africa.

Oladele, I. & Ward, L. 2017. Effect of Micro-Agricultural Financial Institutions of South Africa Financial Services on Livelihood Capital of Beneficiaries in North West Province South Africa. *Agriculture and Food and nutrition security .* 6(1): 1-13.

Pereira, L.M. 2014. The Future of South Africa's Food System: What is Research Telling Us? Southern Africa Food Lab, South Africa.

Pereira, L.M. & Drimie, S. 2016. Governance Arrangements for the Future Food System: Addressing Complexity in South Africa. *Environment: Science and Policy for Sustainable Development*. 58(4): 18-31.

Rayner, J. & Howlett, M. 2009. Introduction: Understanding Integrated Policy Strategies and Their Evolution*. Policy and Society*. 28: 99-109.

Regeer, B. & Bunders, J. 2009. Knowledge Co-creation: Interaction between Science and Society-a Transdisciplinary Approach to Complex, Societal issues. Holland: Athena Institute, VU University Amsterdam.

RSA (Republic of South Africa). 1996. Constitution of the Republic of South Africa. Available [Online]: http://www.info.gov.za/documents/constitution/1996/a108-96.pdf. Accessed 31 July 2017.

RSA (Republic of South Africa). 2015. Food and Nutrition Security Draft Implementation Plan. Pretoria: Government of South Africa.

RSA (Republic of South Africa). 2017. Provincial Budgets and Expenditure Review: 2010/11-2016/17. Pretoria: Government of South Africa.

SASSA (South African Social Security Agency). 2016. A statistical summary of Social Grants in South Africa. *Fact sheet: Issue no 2 of 2018*

StatsSA (Statistics South Africa). 2017. South Africa Demographic and Health Survey 2016: Key Indicators Report. Pretoria; Statistics South Africa.

StatsSA (Statistics South Africa). 2018. General Household Survey 2017. Statistical release P0318. Pretoria: Statistics South Africa.

Stockholm Resilience Center. 2015. Applying Resilience Thinking: Seven Principles for building Resilience in Social-ecological Systems. Stockholm University. Freely accessible at: www.stockholmresilience.su.se

Taylor, V. 2015. Achieving Food and nutrition security Through Social Policies: Comprehensive Social Protection for Development. In Fukuda, S. & Taylor, V (eds.). *Food Insecurity in South Africa: Human Rights and Entitlements Perspectives.* Cape Town: UCT Press.167-189.

The Presidency. 2010. Annual Report 2009-2010. Pretoria: Government of South Africa.

The Southern Africa Food Lab & Reos Partners South Africa. 2015. The Future of Food in Southern Africa: Four Scenarios Examining Possible Futures of the Food System in South Africa. The Southern Africa Food Lab, South Africa

Thompson, J. & Scoones, I. 2009. Addressing the Dynamics of Agri-food Systems: An Emerging Agenda for Social Science Research. *Environmental Science and Policy.* 12 (4): 386–397.

Thompson, B. & Cohen, M.J. 2012. The Impact of Climate Change and Bioenergy on Nutrition. Rome: FAO.

Thow, A. M., Greenberg, S., Hara, M., Friel, S., duToit, A. & Sanders, D. 2018. Improving Policy Coherence for Food and nutrition security and Nutrition in South Africa: A Qualitative Policy Analysis. *Food and nutrition security .* Available: https://doi.org/10.1007/s12571-018-0813-4. Accessed 11 July 2018.

Tregenna, F. 2011. A New Growth Path for South Africa? *Review of African Political Economy*. 38(130): 627-635.

Twala, C. 2004. The 'Letsema / Llima' Campaign : A Smokescreen or an Essential Strategy to Deal with the Unemployment Crisis in South Africa? *Journal for Contemporary History*. 29(1): 184-198.

UN (United Nations). 1948. *Universal Declaration of Human Rights*. New York: UN.

UN (United Nations). 1966. *International Covenant on Economic, Social and Cultural Rights*. Office of High Commissioner for Human Rights. New York: UN.

UN (United Nations). 2015. Transforming Our World: The 2030 Agenda for Sustainable Development. Available: https://sustainabledevelopment.un.org/content/documents/7891Transforming%20Our%20World.pdf . Accessed 3 March 2018.

UN (United Nations) .2017. The The Sustainable Development Goals Report. Available: https://unstats.un.org/sdgs/files/report/2017/TheSustainableDevelopmentGoalsReport2017.pdf. Accessed 3 March 2018.

UN (United Nations). 2017. Global Responsibilities: International Spillovers in Achieving the Goals. SDG Index and Dashboards Report 2017. Available: http://www.sdgindex.org/assets/files/2017/2017-SDG-Index-and-Dashboards-Report--full.pdf. Accessed 4 March 2018.

Virapongse, A.,Brooks, S., Covelli, E., Zedalis, M.,Gosz, J., Kliskey, A. & Alessa, L. 2016. A Social-Ecological Systems Approach for Environmental Management. *Journal of Environmental Management.*178: 83-91.

Webb, P., Coates, J., Frongillo, E.A., Lorge Rogers, B., Swindale, A. & Bilinsky, P. 2006. Measuring Household Food and nutrition security : Why it's So Important Yet Difficult to Do. *Journal of Nutrition*. 136: 1404S-1408S.

WHO (World Health Organisation). 2000. Global Strategy for NCDs Prevention and Control. Geneva: World Health organisation.

World Bank. 1993. Options for Land Reform and Rural Restructuring in South Africa. Unpublished World Bank report, World Bank, Southern Africa Department.

WWF-SA (World Wildlife Fund South Africa). 2016a. Oceans Facts and Futures: Valuing South Africa's Ocean Economy. Available:http://dtnac4dfluyw8.cloudfront.net/downloads/wwf_oceans_facts_and_futures_report_oct16.pdf?23821/Oceans-facts-and-futures-Valuing-South-Africas-ocean-economy. Accessed 23 September 2018.

WWF-SA (World Wildlife Fund South Africa). 2016b. Water Facts and Futures: Rethinking South Africa's Water Future. Available: http://awsassets.wwf.org.za/downloads/wwf009_waterfactsandfutures_report_web__lowres_.pdf%. Accessed 23 September 2018.