

# **FOOD INSECURITY IN SOUTHERN AFRICA**

Causes and emerging response options from  
evidence at regional, provincial and local  
scales

Alison Anne Misselhorn

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## **Declaration**

I declare that this thesis is entirely my own work, except where otherwise stated in the text. It is being submitted for the Degree of Doctor of Philosophy in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination by any other university.

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**(Signature of candidate)**

\_\_\_\_\_ day of \_\_\_\_\_ 2006

## ABSTRACT

The overarching objective of this thesis is to determine causes of food insecurity in southern Africa, and how it can best be addressed. This objective is addressed through a number of research questions and methods at three geographic scales: the regional, through a technique of meta-analysis which is used to synthesise 49 local-level household economy case studies; the provincial, through a Delphi panel of practitioner experience; and the local, using multiple research techniques, including participatory methods.

An extremely diverse range of factors contributing to food-insecurity are found at all three scales, indicating that community- and household-specific dynamics give rise to forms of food insecurity. Two common processes, however, are argued to be common across all the case-study communities in the regional-scale research. These are the closely related processes of cycles of intensifying vulnerability associated with livelihood 'trade-offs', and of community-level social capital changing into forms that undermine resilience to food insecurity - such as the decline in two-parent families.

A further probing of social capital at the local level suggests that while social capital takes multiple forms, and further remains in many respects a problematic concept, it nevertheless provides a valuable lens through which powerful social dynamics might be examined in developing responses to food insecurity. Policy makers and change agents should carefully consider their role in building community social-capital that might enhance the ability of vulnerable communities to overcome livelihood constraints and adapt to the tremendous challenges posed by changing economic environments in southern Africa.

Drawing on the research at all scales, a framework is provided that calls for a re-conceptualisation of food-security interventions to focus on intervention processes, applicable at all scales and in all contexts across the region. The development of *social capital*, *participation*, *co-ordination* and *learning interactions* are explored as central elements in these processes. The framework asks for closer attention to both the appropriate *mechanisms* (such as policy) necessary to effect change, and the human dimensions that give these mechanisms agency.

The findings of the thesis represent an additional shift in understanding food security to acknowledge that the value of a political economic interpretation of food security is limited independent of an understanding of the cross-scale social networks and relational interactions that ultimately configure and reconfigure it.

*From everyone who has been given much,  
Much will be demanded  
And from the one who has been entrusted with much  
Much more will be asked (Luke 12:48)*

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All mainland countries in Africa south of the equator are included in the SAfMA analysis. This geographic scope framed the initial focus in this thesis on regional-level food insecurity which was explored through synthesising community-level case studies using a technique of meta-analysis. This portion of the research also resulted in the publication of a paper, from which much was learned (Misselhorn, 2004). At the outset, an early assumption in this work was that understanding more about what causes food insecurity in southern Africa would assist in developing scenarios for decision-makers about the future of food insecurity in the region. My understanding of food insecurity, however, quickly evolved into a more sophisticated recognition that responding to food insecurity requires more than a narrow consideration of causes. There are a number of reasons for this, including, first, the problem that some causes are very difficult to address, such as those that lie in the macro-economic and historical roots of food insecurity (such as apartheid in South Africa). Second, it became clear that interventions may also address food insecurity through increasing people's resilience to withstand or overcome the factors that cause it. Third, the great complexity of food-security causation, and the community-specific nature of food-security driver combinations found at the regional level, called for an exploration into food-security causality, as well as responses, at a smaller spatial scale in pursuing my initial objectives.

These reflections led to an extensive interview process in a Delphi-panel survey in the province of KwaZulu-Natal, South Africa, in order to probe food insecurity causes and responses at a smaller spatial scale. I owe a huge debt of gratitude to the 35 panellists who

participated in the panel, for giving up hours of their time and sharing their experiences with so much concern and integrity. Among the many insights into food insecurity gained through the Delphi Survey, was the insight that the impacts of food-security interventions (such as policy) over time are indivisible from the myriad of social, political and economic factors giving rise to food insecurity.

The concept of social capital emerged as a strong theme in both the regional and provincial-level research, which suggested value in probing the role of social capital in thinking about food-security interventions still further in a case-based community study. A non-profit organisation working in a marginalised community of KwaZulu-Natal greatly assisted me in establishing relationships within the case-study community. Without the introduction of Dr Anna Voce and Emily Mbhele, I would have struggled to find entry into the community, and I thank them enormously for their warmth and support. Rich qualitative data was gathered from key informants in the community, whom I thank for generously giving of their time without the promise of any immediate benefits. I was further aided through permission from the traditional leader, to move freely in the community and to implement a formal questionnaire survey among 50 households who provided invaluable information. For the community case-study research I owe much to my research assistant and interpreter, Lethiwe Gumede, who worked with great dedication in the field. Her commitment to helping others and her sustained vision of hope are an inspiration to me.

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I pray that all the people who have touched me in this work, both mentioned and unmentioned, may be blessed.

Finally, as I let go of this thesis, I pray and that the imperfect endeavours of this research might help strengthen efforts to reduce the bewildering suffering that surrounds me in this country that I love.

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## GLOSSARY OF KEY TERMS AND CONCEPTS<sup>1</sup>

<b>Anthropometry:</b>	Measurements of height and weight in children that can identify growth faltering which is accepted as an indicator of undernourishment
<b>Delphi:</b>	The objective of Delphi techniques is to gather facts and reach decisions through group consensus. Policy Delphi, however, is more focused on gathering the opinions, options and supporting evidence from experts for further consideration by decision makers, and group consensus is not a primary objective.
<b>Dietary diversity:</b>	Refers to the sum of the different foods consumed by an individual over a specified time period.
<b>Famine :</b>	Understood in this research as a series of processes embedded in the very structure of society, rather than an anomalous outcome at a particular point in time.
<b>Focus groups :</b>	Are a form of qualitative interview, the difference being the interview is conducted with between about seven and twelve people. The aim is to generate group interaction and discussion, and in this way to stimulate participants to pursue new (and deeper) lines of thought and observation.
<b>Food security:</b>	Food security is the physical or economic access of all people at all times to sufficient safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.
<b>Food-security intervention:</b>	Policies, projects and programmes at all scales, and all other human activities intended to mitigate food insecurity.
<b>Human capital:</b>	The capability of individuals residing in their knowledge, health, skills.
<b>Institutions :</b>	Broadly defined in this thesis as organizations founded either formally or informally for a particular body of work, as well as social rules, customs, precedents or constant practices that characterize society.
<b>Livelihood goals or outcomes:</b>	The goals people pursue by drawing on the resources available to them. These goals may include increasing the time available to them for working, poverty reduction, well-being and the improvement of capabilities.
<b>Livelihood strategies:</b>	The way people use the resources available to them in pursuit of livelihood goals. These may include agricultural intensification or 'extensification', livelihood diversification, or migration.
<b>Learning and learning interactions :</b>	Learning is understood as relatively permanent change in human behaviour, resulting from a reaction to an encountered

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<sup>1</sup> The definitions given here have been developed from multiple sources, as well as in some cases from the research process itself. Where relevant, references for these definitions are provided in the main body of this thesis .

situation that cannot be explained by previous natural tendencies or by maturation or temporary conditions such as illness. Learning interactions describes learning that occurs through relational communications between people, and is recognised as a primary process of building, and investing in, social capital.

- Malnutrition:** Defined as deficiencies and imbalances in either the macro- or micro-nutrient dietary content, which may lead to abnormalities and disease.
- Meta-analysis:** Used to synthesise the results of a number of independent empirical case-studies in a systematic and rigorous way
- Natural capital:** All goods and services offered by the natural environment
- Neo-Malthusianism:** Basic tenet of neo-Malthusianism is that population growth is a cause of environmental and associated social crises.
- Participation:** In the context of this thesis, *processes of participation* are seen as the interactions and communications, or the *human relational and behavioural* aspects of participation.
- Physical capital:** Human-made material resources
- ‘Processes’ of addressing food insecurity:** Defined in Chapter Eight of this thesis as those components of change that relate to the planning, designing and implementing of interventions or solutions. Such processes are the ‘how’ of addressing food security, and encompass cross-cutting guidelines applicable at all scales and in all communities.
- Social capital:** A wide range of definitions, including: features of social organisation, such as networks, norms and trust. The sum of resources, actual and virtual, that accrue to an individual or a group by virtue of possessing a durable network or less institutionalised relationships of mutual acquaintance and recognition. Includes ‘bonding’ capital: denoting close relationships such as with family and friends; ‘horizontal’ capital: which may include ties within a community; ‘bridging’ social capital: which denotes more distant relationships, and vertical’ or ‘hierarchical’ relationships beyond the community level.
- Social protection:** Broadly defined, it includes creating an enabling development environment so that people are able to meet their own needs through a variety of means A narrower definition includes transfers of one form of another from the state to the individual.
- ‘Solution’ in addressing food insecurity:** Defined in Chapter Eight of this thesis as being the proposed substantive course of action decided on by all stakeholders to reach the goal. The solution should ideally be identified by stakeholders during the processes described above. The solution is the ‘what’ of addressing food insecurity, which always takes place within the cross-cutting, guiding principles of the processes that are necessary to addressing food insecurity.

- Stokvel:** Common community-level institution in southern Africa. They are groups that usually provide some kind of rotating assistance. For example, in a savings stokvel members contribute a small fixed, usually monthly sum of money which is pooled and allocated as a lump sum to each group member in turn.
- Undernourishment:** The FAO defines undernourishment as food consumption of less than about 1900 kilocalories per day. Undernourishment may lead to malnutrition.
- Vulnerability:** Vulnerability reflects the extent to which a system (or community) reacts adversely to a crisis or hazardous event. Vulnerability denotes both the likelihood of exposure and sensitivity to livelihood shocks, thus having an external component (the shocks or stresses to which a household or community are subjected), and an internal component (inadequate capacity to cope).

## ACRONYMS

AHFSI	Aggregate Household Food-Security Index
ANC	African National Congress
CDC	Centre for Disease Control and Prevention, USA
CSO	Civil Society Organisation
DFID	Department for International Development
FANRPAN	Food and Natural Resources Policy Analysis Network
FAO	Food and Agricultural Organization of the United Nations
FEWSNET	Famine Early Warning System Network
FIVIMS	Food Insecurity and Vulnerability Mapping System
GCM	General Circulation Model
GAEZ	Global Agro-ecological Zones
GECAFS	Global Environmental Change and Food Systems
GDP	Gross Domestic Product
GIEWS	Global Early Warning System
GIS	Global Information Systems
HDI	Human Development Index
HEA	Household Economy Approach
HIV/AIDS	Human immunodeficiency virus/Acquired immunodeficiency syndrome
IDP	Internally displaced person
IFAD	International Fund for Agricultural Development
IFSS	Integrated Food-Security Strategy (South Africa, see Appendix Three)
IFPRI	International Food Policy Research Institute
IIASA	International Institute for Applied Systems Analysis
MA	Millennium Ecosystem Assessment
MT	Metric tonnes
NGO	Non-government organization
OECD	Organisation for Economic Cooperation and Development
ODI	Overseas Development Institute
DPLG	Department for Provincial and Local Government
RDP	Rural Development Programme
REWS	Regional Early Warning System
RHVP	Regional Hunger and Vulnerability Programme
RVAC	Regional Vulnerability Assessment Committee
SACSCC	South African Country Study on Climate Change
SADC	Southern African Development Community
SAfMA	Southern African Millennium Ecosystem Assessment
SAHIMS	Southern African Humanitarian Information Network
SARPN	Southern African Regional Poverty Network
SCF	Save the Children Fund
SGR	Strategic grain reserve
TVT	The Valley Trust
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United Nations Education, Scientific and Cultural organisation
USAID	United States Department for International Development
VAA	Vulnerability Assessment and Analysis
VAC	Vulnerability Assessment Committee
WFP	World Food Programme
WHO	World Health Organization

# **PART ONE**

## **INTRODUCTION, RESEARCH DESIGN AND CONTEXT**

This thesis is divided into three parts. Part One provides an introduction to the research questions and an overview of the methods used in addressing them. It also presents the theoretical and geographical contexts for Parts Two and Three.

## CHAPTER ONE

---

### INTRODUCTION

---

#### 1.1 THE NEED FOR THE RESEARCH

Access to sufficient food is a fundamental pre-requisite to people's physical, psychological and spiritual development and well-being. But for millions of people in southern Africa this basic need for sufficient food is not being met; nearly 25% of the population of children under the age of five years in the region show the physical symptoms of food deprivation through weight stunting<sup>2</sup>. Long before the extreme food deprivation accompanying malnourishment is experienced, however, people experience a situation of insecure food access; where the elements of their lives that allow them access to food are so precarious that food deprivation is always a threat. In this situation people are termed 'food insecure'. Southern Africa faces the most widespread and chronic food insecurity of all world-regions and predictions suggest that the situation is likely to worsen into the future (FAO, 1993; Rosegrant *et al.*, 2001).

At the outset of this research the food insecurity situation in southern Africa framed a number of broad questions: what are the causes of the vast disparities in access to food between regions, countries, communities, households and individuals? What interventions have been undertaken in working towards access to sufficient food for all southern Africans? Are they the 'right' initiatives? Are they improving access to food for individuals, households and communities? Is there anything that could be done better? The overarching objective of this thesis is thus summarised as being **to determine the causes of food insecurity in southern Africa and how it can be best addressed.**

Our understanding of food security has come a long way since its rise to prominence in the development arena in the 1970s. Broadly speaking, food security is no longer seen as *sufficient global and national agricultural food production*, but as *livelihoods that are sufficient to provide enough food for individuals and households* (Maxwell, 2001a) (see Chapter Two, Section 2.3.7). The World Food Summit's 1996 definition of food security, given below, to some extent reflects this access-orientated perspective (FAO, 1996:12):

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<sup>2</sup>WHOSIS data (WHO, 2002), FAOSTAT, 2003 and Macrointernational data: [www.measure.dhs.com](http://www.measure.dhs.com) (see Figure 3.1)

*“Food security is the physical or economic access of all people at all times to sufficient safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.”*

There are four implications for this research of these shifts in perspective on food security. First, the information required to characterise food security has changed, since average national food availability calculated from national food production and food imports does little to inform us of how this food is distributed between communities, individuals and households. Second, following on from this, the targeting of food-security interventions can no longer be based on simple assumptions based on aggregated data. Third, the design, implementation and evaluation of food-security interventions – from national government policy interventions to community vegetable gardens – requires an approach that recognises the multiple factors that have an impact on people’s food security at the level of their individual livelihoods. Fourth, if food security is to be researched and understood as a function of livelihoods at the local level, it is also necessary to explore an ever-escalating number of factors that influence food security as the focus shifts from regional to local, from nations to the households who experience the compound causes of food insecurity at multiple scales.

The overarching objective of this thesis is addressed using a ‘nested’ approach through research conducted at three scales; the regional, the provincial and the local. The purpose of looking at the complex issue of food insecurity at multiple scales and using different methods is to integrate a wide spectrum of theory, practice and research findings towards developing some effective solutions to the food insecurity that affects southern Africa’s communities. This thesis is thus an attempt to develop an integrated perspective on livelihoods-level food insecurity, toward the development of better responses at all scales. It is important to note at the outset, however, that the approach and methodologies employed in this thesis involve the aggregation of local-level data. While the term ‘nested’ is used, such an approach cannot systematically or explicitly capture cross-scale or multi-scale linkages in causal factors or responses<sup>3</sup>.

## **1.2 RESEARCH OBJECTIVES**

The three-scaled ‘nested’ nature of the research in this thesis means that the research questions addressed at the provincial level were shaped by findings at the regional level, and similarly

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<sup>3</sup> Such as attempted, for example, in the work of Polsky and Easterling (2001).

the research at the local-level was shaped by findings at the regional and provincial levels (see Figure 1.1). Social capital emerges as an important theme in both the regional and provincial-level research, and since it was decided that only one research question could be effectively addressed at the local-level (see in particular Fetterman, 1998; Handwerker, 2001; deMarrais, 2004), social capital was selected as the primary focus of this question<sup>4</sup>.

The following five subsidiary objectives are shaped in addressing the overarching objective of determining the causes of food insecurity in southern Africa and how it can be best addressed:

1. To determine the characteristics and causes of food insecurity in southern Africa at the **regional scale**, so that the priority local-level causes of food insecurity across the region can be identified (Chapter Five).
2. To determine the causes of food insecurity at **the provincial scale of KwaZulu-Natal**, so that the priority local-level causes of food insecurity in the province can be identified (Chapter Six).
3. To determine the characteristics of successful food-security interventions in **KwaZulu-Natal**, and to determine what this suggests about addressing food insecurity from the experience of practitioners who work to alleviate food insecurity in communities daily (Chapter Six).
4. To determine, at the **local level**, how household social capital influences the approach to food-security interventions in a community in KwaZulu-Natal (Chapter Seven).
5. To determine the implications of the findings from addressing the above four objectives for decision makers and practitioners in **developing interventions towards improving food security at multiple scales** in southern Africa (Chapter Eight).

## **1.3 THESIS STRUCTURE**

### **1.3.1 Part One : Chapters One - Four**

Part One of this thesis presents an introduction to the research, as well as the research design and context. It outlines the objectives of the research, the methodologies employed, and the

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<sup>4</sup> See Chapter Seven for the background to this question.

theoretical, as well as social, economic and political contexts. **Chapter Two** addresses the research question: *What does the academic literature say about the theory of food insecurity; its causes and characteristics?*. The chapter provides the theoretical context to the research. In **Chapter Three** the southern African context to the research is profiled. The questions that are explored are: *What is the current state of food security in southern Africa and KwaZulu-Natal? What different kinds of human interventions or response options have been undertaken in southern Africa in addressing food insecurity, and what effect are they having? What is the broad policy environment that is shaping food security in the region? What are the background dynamics of food security for people in KwaZulu-Natal and the case-study community?* In **Chapter Four** the research design for the thesis is presented, addressing the questions: *What criteria should be considered in choosing data and methods in researching food security? What research methods are used in this thesis and how do chosen data and methods measure up against the chosen criteria?*

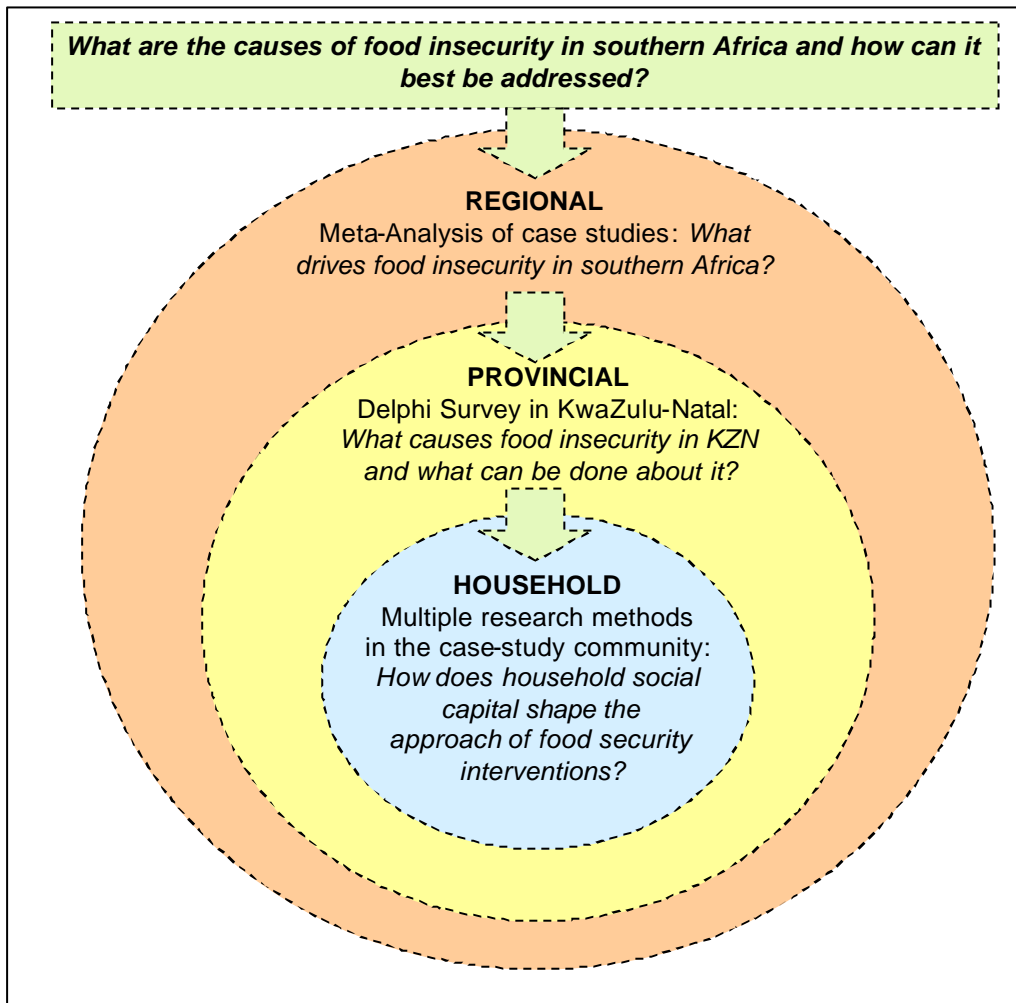
### 1.3.2 Part Two: Chapters Five, Six and Seven

Part Two of this thesis presents and discusses the research undertaken at all three scales in this thesis (Figure 1.1). In **Chapter Five**, presenting the regional-scale research, the first of the subsidiary research objectives listed above is addressed. The research question framing Chapter Five is: *What drives food insecurity in southern Africa?* This question is dealt with through a technique of meta-analysis of case-study evidence. In **Chapter Six** the research focus narrows to provincial-level food-security causality (Figure 1.1), addressing two questions: *What can development practitioners involved in addressing food security in KwaZulu-Natal tell us about the causes of food insecurity in the province?;* and *What interventions should be considered in addressing food insecurity in KwaZulu-Natal?* Chapter Six thus addresses the second and third of the subsidiary research objectives above. Finally, in **Chapter Seven**, the fourth subsidiary research objective for this thesis is addressed (Figure 1.1), which is framed by the research question: *How does household social capital influence the approach to food-security interventions in the selected case-study community?*. Chapter Seven presents and discusses the local-level, case-study research, undertaken in a case-study community in KwaZulu-Natal.

### 1.3.3 Part Three: Chapter Eight

Part Three synthesises the research findings, and concludes the thesis by addressing the final subsidiary objective of this research, expressed in the question: *What are the implications of the findings at all the three scales for decision makers and practitioners in developing interventions towards improving food security at multiple scales in southern Africa?* Part

Three draws together the research findings, discusses their relevance to developing food security responses at multiple scales, and outlines directions for further research.



**Figure 1.1: A visual overview of the ‘nested’ approach to addressing the overarching objective for this thesis.**

**Notes:** The three scales of research are depicted together with the research questions addressed at each scale and the research methods employed in addressing them.

\* \* \* \* \*

Having introduced the broad background to this thesis, and the objectives that it aims to address, attention now shifts in the following chapter to a closer analysis of the literature on food-security definitions and causation.

## CHAPTER TWO

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### THEORETICAL CONTEXT

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#### 2.1 INTRODUCTION

The academic literature on food security is examined in this chapter in order to give an overview of the definitions of food security, and the central theoretical debates regarding famine and food-insecurity causation. This chapter provides a theoretical context for all the research undertaken at the three scales of regional, provincial and local in this thesis. The research question that is addressed in this chapter is: *What does the academic literature say about the theory of food insecurity; its causes and characteristics?*

#### 2.2 FOOD SECURITY: DEFINING TERMS<sup>5</sup>

Three pivotal terms or concepts associated with food security are discussed here: *food security*, *malnutrition* and *famine*. Many of the historical interpretations of these terms allude to the array of debates about the causes and meaning of food insecurity which are explored in the sections that follow.

##### 2.2.1 Food Security<sup>6</sup>

Maxwell (2001a) provides a list of definitions of food security and insecurity propounded between 1975 and 1991 that give valuable insight into the underlying perspectives of the individuals and institutions that have advanced them. Whereas some definitions focus on the acquisition of ‘sufficient’ calories to meet energy requirements, others focus on ‘enough’ food for good health; whereas some are concerned with food security at the national scale, others pertain to food security at the level of the household and individual.

The definition considered most suitable for the purposes of this research, and that is understood to adequately incorporate all the physical, socio-economic and political determinants of the ability to procure and consume food, is the well-known definition adopted by the World Summit in 1996, as follows (FAO, 1996:12):

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<sup>5</sup> A glossary of key terms and concepts is provided at the beginning of this thesis.

<sup>6</sup> Although the meaning of food *insecurity* is no doubt open to debate, in this report it is simply taken to mean the inverse of food security.

*“Food security is the physical or economic access of all people at all times to sufficient safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.”*

The definition addresses the notion of adequate food quantity in terms of kilocalories, food quality in terms of micro- and macro-nutrient content, food acceptability in terms of meeting social requirements, and food safety in terms of storage, processing and preparation. It also requires that food security be understood to apply across spatial scales, down to the community, household, and individuals within the household.

### **2.2.2 Malnutrition**

Malnutrition is defined as deficiencies and imbalances in either the macro- or micro- nutrient dietary content, which may lead to abnormalities and disease (Scherr, 2003). Food insecurity may lead to a state of malnutrition which, at the immediate level, is caused by an inadequate intake of food (in terms of quantity or quality, or both). Food intake in turn is influenced not only by food access, but also by education, culture, food preparation and food preferences.

Malnutrition deeply impacts on human well-being through impairing physical functioning, compromising the ability to work, and affecting processes such as growth (height and weight), pregnancy and foetal development, lactation, and resistance to and recovery from disease. Protein-energy deficiency is the most common form of malnutrition in southern Africa, and gives rise to the clinical disorders of *marasmus* and *kwashiorkor* (Young, 2001). The World Health Organization estimates the minimum adult daily kilocalorie demand at 2100 Kilocalories.cap<sup>-1</sup>.day<sup>-1</sup> (WHO, 1995). Inadequate intake of particular nutrients leads to specific nutrient deficiencies such as iron-deficiency anaemia, which impairs physical and cognitive development in infants and children (UNICEF, 1998; Young, 2001).

The focus of this thesis is on the food security which encompasses the underlying conditions that may indeed lead to malnutrition, but that have a wider range of impacts on people's livelihoods and well-being. Malnutrition is thus seen here as only a symptom of a broader range of issues related to human well-being and food access; it is seen as one indicator of food insecurity. In turn, aside from the disease indicators mentioned above, growth stunting in children is a recognised symptom of malnutrition. Anthropometric experts caution, however, that anthropometric data (indices of undernourishment: under weight-for-age, and for some children under height-for-age) should be viewed as screening tools before looking for further information about the health of a particular individual (or group) for the purposes of

developing and targeting interventions (WHO, 1995). Similarly, arguing for the prevalence of food insecurity based on the prevalence of weight stunting is to some extent problematic given, first, that it is not certain whether weight stunting is due to factors other than low food availability (such as poor food choices), second, that weight stunting does not necessarily capture micro-nutrient deficiencies, and third, that weight stunting also cannot indicate recent or future food-insecurity hazards (WHO, 1995; Victoria, 1992).

The understanding that food security is an abstracted definition of a suite of livelihood conditions that allow sufficient, secure food access clearly makes its measurement particularly difficult, as is discussed further in Chapter Four. All food-security indicators are thus understood in this thesis to be to some extent problematic. Despite the cautionary notes above, evidence of growth stunting due to malnutrition is thus believed to remain a useful tool in the measurement of food insecurity, provided its limitations are well understood<sup>7</sup>.

### 2.2.3 Famine

Traditionally the term famine was seen as a *crisis* of food availability, either resulting from an absolute production deficit, or an inability by some groups to access food (Swift, 1989). The term was usually restricted to refer to intense manifestations of food deprivation which led to mass starvation (Devereux, 2000). In the theoretical world of an open and free trade economy for instance, private markets perform adequately (in the absence of trade barriers) to feed the population (Desai, 1987 in Watts, 1991), and entitlements are secured in such a way as to rule out the possibility of death resulting from an inability to procure food. The experience of famine in such a theoretical world is thus a societal aberration. During the 1980s this 'received wisdom' of famine as an anomaly, resulting in widespread loss of life, was challenged by various writers, such as the economist Sen (1981). The significance of Sen's (1981) writing was to prompt a more evolved debate which has defined the functioning of markets and entitlement exchange as socially and politically determined, and has thus defined the struggle to procure food as an ongoing struggle of power and property rights between actors at various levels (see Section 2.3.4 below). The term famine has thus come to signify a much wider story in which minimum subsistence is not being met for large sections of the population, rather than a tale of temporary perturbations in 'normal' food supply (Watts, 1991). For Walker (1989:6 in Devereux, 2000:4),

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<sup>7</sup> The collection of anthropometric data in the local-level research was one of many methods used in researching food insecurity at this level.

*“famine is a socio-economic process which causes the accelerated destitution of the most vulnerable, marginal and least powerful groups in the community, to a point where they can no longer, as a group, maintain a sustainable livelihood”.*

Famine is understood here as a series of processes embedded in the very structure of society, rather than an anomalous outcome at a particular point in time. This understanding is well illustrated by the application of the term famine in the early 1970s, when it was popularly used to depict a scenario of mass mortality of millions from starvation in the West African Sahel. In reality, however, the succession of harvest failures in the Sahel between 1968 and 1973 resulted in mortality in the order of 100 000 people (Caldwell and Caldwell, 1992; Seaman, 1992; Devereux, 2000). That the crisis did not result in a higher mortality given the severity of food shortages, has been attributed to the ability of people to secure food supplies in the face of severe and recurrent shortages through such means as food storage, wild food usage, sale of assets, migrant work etc. The real lesson, then, was that the food shortages, although particularly severe, were part of an ongoing experience for which people have developed complex forms of socio-economic resilience which they draw on to greater or lesser extents (and which may have various short- and long-term livelihood impacts). For the purposes of this research, the socio-economic and physical processes that determine food insecurity are seen as overlapping significantly with those determining the state of famine or food crisis (Devereux, 2000), differing perhaps only in the acuteness by which the affected livelihoods are constrained.

### **2.3 FOOD INSECURITY AND FAMINE THEORY**

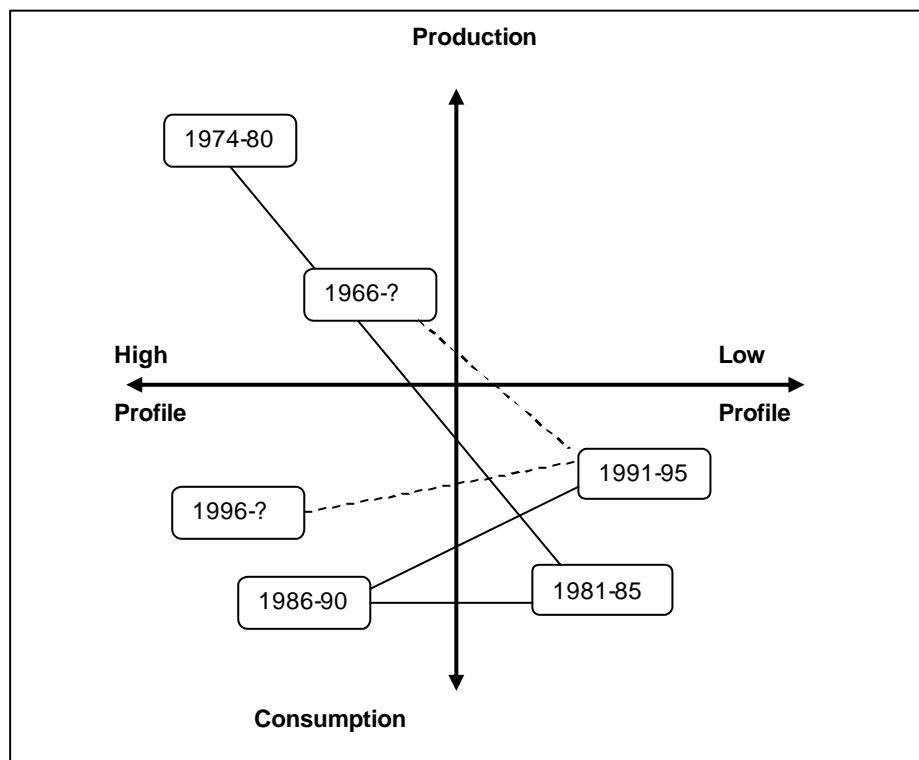
Competent global and national authorities agree that there is enough food produced in the world to feed everyone, yet millions in developing countries are unable to procure even the barest minimum of food (Rosegrant *et al.*, 2001; DIFID, 2002). What are the causes of these tremendous disparities in power over food resources between regions and households? Why are some so prone to acute food crises and/or experience ongoing food shortages?

The introduction of food-security terms in the previous section gives insight into some of the complex issues encountered in the broader landscape of food security and famine theory. This diversity of thinking is amplified in the debate over the causes of famine and food insecurity that has fuelled highly contested viewpoints between the various academic disciplines in science and development thinking over the last few decades, and is characterised by a proliferation of demographic, economic and political theories and perspectives (Devereux, 2000; Maxwell, 2001a).

### 2.3.1 Paradigms of food insecurity causation

Famine and food security have had a high profile in the overall ‘development debate’ since at least the 1970s. Two very broad tendencies have been identified in food-security thinking during this time (Maxwell, 2001a). The first tendency has been for interest in food security to wax and wane, partly due to the influences of the development debate generally and partly because of changes in the reality of food security and famine in the world. The second has been for food security to oscillate between being seen as an issue of supply and being seen as an issue of consumption (Figure 2.1); in other words, between a focus on issues of the availability of cultivated food resources and a focus on issues of access that determine how much people actually consume.

These two loose ‘divisions’ of food-security causality – production versus access - are still clearly evident in food-security theory, development work and policy making today. They frequently reflect an understanding of food security drawn from one or another professional or academic discipline, which can perhaps be broadly divided into the natural and social sciences representing production versus access respectively (Devereux, 2000).



**Figure 2.1: The evolution of thinking about food security (Maxwell, 2001a:14).**

**Notes:** The horizontal axis indicates whether food security has had a high or low profile, while the vertical axis indicates whether the focus was on issues of consumption or of production.

The struggle to secure food has always been central to human experience, and explanations of the causes of food insecurity and famine have been attempted for centuries, often echoing variations in the circumstances and conditions which have led to famine. Biblical famines for instance were often triggered by natural disasters such as insect plagues. Although many writers have either focused on production shortfalls or on the underlying social characteristics that make people vulnerable to famine (e.g. Oram, 1995; Rwelamira and Kleynhans, 1996; Fischer *et al.*, 2002a; Clover, 2003; Scherr, 2003), there have been attempts as early as the 1920s at a ‘systems’ approach to famine theory – holistic analyses recognising that famines have multiple causes (Devereux, 2000). More recently, there has been a return to these ‘systems’ analyses of the early 1900s that were generated at a time before development studies became dominated by ‘specialists’ (Devereux, 2000:16).

To develop the production-versus-access debate further, the following sections explore food security theory under the four broad disciplinary perspectives of famine causation (Devereux, 2001b):

- Demographic.
- Climatic and environmental
- Economic.
- Political.

### **2.3.2 Demographic theories**

A demographic perspective on food insecurity centres on the relationship between the dynamics of demography, particularly population pressure, and the biophysical capacity of ecosystems to provide cultivated food. Interpreting famine and food insecurity as a function of the carrying capacity of the environment essentially assumes that famine is a result of a failure in food production. In the long term, the factors seen to determine a famine are the productivity of the land in yield per hectare, and the constraint of cultivatable land vis-à-vis the population, often in relation to global population and the ability of the planet to feed it (see for example Fischer *et al.*, 2002a).

The origins of the concept of environmental carrying capacity is popularly traced to the work of Thomas Malthus, who in 1798 in “The Principle of Population” postulated that the means of production would not be able to keep pace with population growth. This theme has since been taken up by figures such as Garrett Hardin in his 1968 “Tragedy of the Commons” and 1974 ‘lifeboat ethic’ theory (Hardin, 1974), and Paul Ehrlich’s Zero Population Growth Movement. Hardin and Ehrlich were later to found the Environmental Fund which was

influential in framing USAID policy in 1970s and 1980s. One of the tenets of classic Neo-Malthusianism is that population growth, rather than being a symptom, is seen as a cause of environmental and social crises, a view criticised as having the potential to dangerously overlook important underlying reasons for poverty, food insecurity and environmental degradation (Nichols, 1999). Neo-Malthusianism is often supported by axiomatic ‘stories’, received as truths partly because they suit the political agendas of their tellers, and partly because they are seldom challenged by empirical validation (e.g. Reyna, 1991; Watts, 1991; Escobar, 1996; Leach, Mearns and Scoones, 1997; Lambin *et al.*, 2001). One frequently-cited example of this is the narrative which persisted in blaming famine in Sahelian Africa on ‘overgrazing’, whereas the empirical data have not necessarily supported this deduction (Devereux, 2000); for example, in some areas apparent degradation is argued to be transitory, occurring in the move to adaptive technologies characteristic of higher populations (Leach and Mearns, 1996) (See below).

Neo-Malthusianism, the demographic definition of food security, and the determinism which characterises them, have been repeatedly challenged from many quarters and disciplines over the years. Perhaps one of the most well-known challenges came from the empirical evidence offered by Ester Boserup (1983) in case studies showing that population growth and associated agricultural intensification could be accompanied by an improvement in community resources. The relationship between population growth and economic development was later explored further through case studies in Kenya, in which population density is shown to be the critical component of demography that shapes socio-economic change (Tiffen, Mortimore, Gichuki, 1994; Tiffen, 1995). From this work it is argued that rising population densities allow for more productive agriculture through increased technological adaptation, greater specialisation and exchange; this in turn leads to rising standards of living, higher costs for education and land and changing attitudes to the cost-benefits of family size, resulting ultimately in a slowing in population growth (Tiffen, 1995). Research since on natural-resource use in a number of countries in sub-Saharan Africa, has been drawn on to further support the argument above that farmers in drought-prone areas are highly adaptable, and that the policy focus needs to shift from ‘overgrazing’ paradigms to better support farmer innovations (Shaxson *et al.*, 1997; Tiffen and Mortimore, 2002).

In line with this, opponents of Neo-Malthusianism have argued variously that the theory discounts the ability of people to adapt; that the problem is not insufficient global food production but the uneven distribution of resources which are politically controlled; that the reality of many local-level case studies reveal tremendous and quite varied social resources

which enable people to move beyond pre-determined environmental limits (e.g. Holloway, 1993; Crush, 1995; Devereux, 2001a; Vogel and Smith, 2002). The succession of harvest failures in the West African Sahel between 1968 and 1973 (detailed in Section 2.2.3 above) illustrates the coping capacity of people in the face of famine, and questions the extent to which famines lead to a curbing of population growth. A further uncertainty is whether the curbing of population growth is limited because famine primarily causes mortality of the very old, young or ill, rather than mortality among the bulk of the child-bearing population (Devereux, 2001a). That demographic theories fail to probe any of the political-economic elements of food insecurity is expanded on further in the sections below (Redclift, 1984; Adams, 1990; O’Riordan, 1995; Escobar, 1996; Pepper, 1996).

Neo-Malthusianism is, however, still present in many areas of environmental as well as development thinking today (Adams, 1990; Crush, 1995; Devereux, 2000). At least four implications of a demographic paradigm for development interventions and policy making, including that linked to food security, may be identified from the discussion above :

- Firstly, Neo-malthusianism perpetuates a focus on production failures as the determinant of food insecurity, and thus a focus on increasing food production as the solution to food insecurity.
- Secondly, it stereotypes the characteristics of subaltern classes and communities and places the burden of responsibility for famine and food insecurity on the poor and the vulnerable, without questioning the political dynamics of famine or its multiple underlying causes (see for e.g. Spooner, 1989; Leach, Mearns and Scoones, 1997).
- The third implication is that it easily leads to an over-preoccupation with large-scale food production and overlooks other temporal and spatial scales of analysis and their accompanying data.
- The fourth is that a demographic analysis limits the vision with which a number of critical issues can be adequately addressed, including:
  - Local-level versus national-level food production.
  - Local-level food consumption versus national-level food availability.
  - Short-term, medium-term and long-term risks and opportunities in people-environment interactions at all scales.
  - And issues of sustainability.

### **2.3.3 Climatological and environmental theories**

As illustrated above, the role of the environment has frequently been central to the understanding of food insecurity. Climatological and environmental theories of famine and

food insecurity are primarily concerned with the biophysical components of ecosystems and their capacity to support the production of cultivated food. Devereux (2001a) divides theories of famine based on climatic variability or environmental degradation into two categories: theories based on long-term processes (climatic/environmental determinism), and those based on climate-triggered livelihood shocks ('bad weather events'). The former group's theories in particular have much in common with Neo-Malthusianism, and may be subject to similar criticisms. The second group comprises theories based on short-term climatic shocks such as drought and floods, that range from deterministic interpretations of famine as the direct result of production failures due to climatic events, to more sophisticated recognitions of climatic perturbations as triggering ripples through socio-economic mechanisms that affect livelihoods in different ways (Watts, 1991). An illustration of the latter, for instance, may be the impact of a flood not only creating production shortfalls, but also damaging transport routes and thereby limiting access to markets; forcing people to sell assets; and dissuading people from investing in agriculture the following season.

Both categories, however, hold: a) that environmental degradation is widely evident and is necessarily the result of over-population and/or poor environmental practices, and b) that famine and food insecurity are the direct result of people stressing their environment, or environmental stressors acting on people (though Neo-Malthusians specifically propose that the latter is in response to the former, such as in the case of desertification – see for e.g. Timberlake, 1985).

#### 2.3.4 Economic

Although climate and biophysical stressors are frequently attributed causality in many of the southern African countries currently experiencing famine, the overshadowing economic context is increasingly seen as a powerful causal element of food insecurity across the region (SARPN, 2005)<sup>8</sup>. Hugon and Nanterre (2003) identify three general economic analyses of famine: *lack of availability* (of food), *market failure* and *lack of entitlements*.

The first of these (lack of availability) essentially relates to a production-orientated famine theory, belonging in the realms of the demographic, and climatological and environmental paradigms discussed above.

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<sup>8</sup> 'Economic' here refers to the branch of social science concerned with the production and consumption of goods and services.

The second, macro- and micro-level market failures, relates to food security being dependent on functioning and effective markets where, in simplified terms, food insecurity results from (Devereux, 2000; Devereux, 2001a; Hugon and Nanterre 2003):

- informational inefficiencies and poorly integrated markets
- an absence of food storage systems resulting in volatile food prices and production inputs
- or speculative food hoarding driving food prices up to unaffordable levels.

The failure of markets to distribute food thus occurs over space due to information failures and fragmented markets, or over time due to the effects of too little or excessive food storage (Devereux, 2001a).

The first two economic analyses outlined above, while not concerned exclusively with food production trends, still focus on supply-side market failures. The third economic analysis, lack of entitlements, is a shift in focus from supply to demand-side failures (Devereux, 2001a). Much of the discourse on famine and food security is built around the concept of entitlement, often raised in development studies to explain the acquisition and exchange of property in social systems, and usually credited to the work of Sen in “Poverty and Famines” (1981). Maxwell (2001a) identifies the years 1981-1985 as those in which the notion of food entitlement dominated academic and development thinking on food security.

There are two aspects to Sen’s (1981) approach that are seen to determine an individual’s exchange entitlement. The first relates to the initial endowment, or inherited property rights, and the second to the way in which endowments are shaped through what Sen calls exchange entitlement mapping (Watts, 1991). In Sen’s analysis four ways of acquiring food are recognised: producing or growing it (‘production-based entitlement’), purchasing it (‘trade-based entitlement’), working for it (‘own-labour entitlement’) or being given it (‘transfer entitlement’) (Table 2.1) (Devereux, 2001a). Even when there is no production failure, or where sufficient food is available through markets, starvation may thus still result due to entitlement failure which ultimately determines the acquisition of food amongst populations.

**Table 2.1: Entitlement categories according to Sen (1981) and amplified by Devereux (Devereux, 2001a).**

Category	What it is	In other words..	Types of people
Production-based entitlement	The right to own what one produces with ones' own (or hired) resources.	What one grows	Food crop farmers
Trade-based entitlement	The right to own what one acquires through exchange of commodities	What one buys	Grain merchants Cattle dealers Money lenders
Own-labour entitlement	The right to self-employment or to sell ones' labour power	What one earns	Salary earners Landless labourers
Inheritance and transfer entitlement	The right to own what is willingly given by others	What one is given	Remittance receivers Food aid recipients

### 2.3.5 Political

Finally, the political environment is seen here as perhaps the most powerful underlying determinant of food security. The political analysis of food security extends Sen's entitlements approach to argue that individual and community food security is not determined by economic power, but rather by the political power used to contest and secure entitlements (Watts and Bohle, 1993). Political famines are structured, not according to the laws of production, supply and demand, but according to government policies, conflict and civil insecurity (Devereux, 2001a). Although useful, this view of famine can be followed beyond face-value interpretations of policy and conflict by drawing on the theories of historical and political ecology. Historical ecology is informed by tracing changes in the social and physical landscape through different temporal and spatial scales, and system parameters that are constantly being shaped and reshaped by these changes (Leach, Mearns and Scoones, 1997; de Vries, 2002). Political ecology reflects the belief that nature is socially constructed; more than this, that it is co-opted by social and political processes, which have seen it become another form of social capital moulded by power relations within society, and ascribed different meanings by different actors; meanings which are broadly determined by the cultural scripts of actors' communities (see for e.g. Watts, 1983; Redclift, 1984; Adams, 1990; O'Riordan, 1995; Escobar, 1996; Pepper, 1996).

Whereas demographic, environmental or economic paradigms of food insecurity inherently view 'people' and 'environment' as discrete elements in the food-security debate, a political paradigm of food security sees the interaction between people and environment as part of a dynamic, ever-changing product of historical, technological, political, social and ecological processes. In a political analysis, human actions are no longer seen as eliciting predestined

environmental responses that either disturb or restore the ‘natural balance’ of nature. For Escobar (1996:11) nature is:

*“..neither unconstructed nor unconnected. Nature’s constructions are affected by history, economics, technology, science and myths of all kinds as part of the traffic between nature and culture.”*

What are the mechanisms in society that control power struggles over food or the means to procure it, and which both write and direct ‘cultural scripts’? The concept of institutions is valuable in considering this question. Institutions are broadly defined in this thesis as organisations founded either formally or informally for a particular body of work, as well as social rules, customs, precedents or constant practices that characterise society. The role of both formal and informal institutions is explored by Leach, Mearns and Scoones (1997), and is central to the political perspective on the causes of famine and food insecurity. The authors highlight several distinctions in the literature on institutions that point to the complexity of social structures that evolve over time, and that both shape and are shaped by changing human and ecological environments:

- The first is between institutions as the ‘rules of the game’ on the one hand, and organisations as the ‘players’, or groups of people bound together for a common purpose, on the other.
- The second is between formal and informal institutions; where formal institutions refer to social rules that are exogenously enforced by a third party or organisation, and informal institutions are upheld by mutual agreement between the actors or by the accepted dynamics of power between them.
- The third distinction is where social rules determine the boundaries within which regularised patterns of behaviour develop amongst people in their endowment and entitlement manipulation, which in turn lead to changes in the underlying rules over time.

Endemic to these institutional structures and processes are the relations of power between individuals, households, communities and organisations. There are a number of different forms that power takes in society; in brief these include: power over personal choices and life chances, power over the definition of need, power over ideas, power over institutions, and power over resources (see Ife, 1995).

The political interpretation of famines, then, is that famines are more than a function of a short-term political ‘illness’ infecting the myriad of institutional arrangements at all scales that

shape formal and informal rules (including government policies), and of the conflicts that make communities vulnerable to food insecurity and famine. More profoundly, political famine and food insecurity is embedded in institutional arrangements that have evolved over time in accordance with numerous forces, including cultural influences and relations of power.

The political interpretation of famine causation may be the analysis best able to account for the ‘complex emergencies’ that have characterised the famines in the latter part of the 20<sup>th</sup> century, where food crises have been as much provoked by society and its various institutions, as by natural phenomena (Devereux, 2000). The findings of the research at all scales in this thesis extensively support the political analysis of food insecurity.

### **2.3.6 Holistic perspectives of famine and food insecurity**

The paradigms of food-security theory traced above in general become increasingly sophisticated and holistic in their approach as they are followed from demographic, climatic and environmental, economic, to political. What does it mean to look at famine causation holistically? If holism is the recognition that the whole is greater than the sum of its parts, then an explanation of famine is necessary that transcends the boundaries between disciplinary perspectives such as those discussed, and that attempts to view the ‘whole’ of the famine process as a system. In this section, systemic analyses of the causes of famine and food insecurity are explored through the lenses of some key concepts in contemporary food-security thinking, namely:

- poverty and vulnerability,
- and the relationship between proximate and underlying drivers of food insecurity.

#### *Poverty and vulnerability*

Both the terms ‘poverty’ and ‘vulnerability’ are encountered often in the discussion so far, and are frequently heard in the discourse of famine and food security. Poverty is a term which has different meanings for different people. One of the general characteristics of the poor, however, is that most of their financial resources are frequently expended on purchasing food, or most of their physical and human resources are dedicated to producing food for subsistence (Devereux and Maxwell, 2001). In this case, as poverty increases, food insecurity is likely to increase, while acquiring food becomes an overwhelming priority for survival. Vulnerability to food insecurity and poverty are frequently associated, but not necessarily so. Indeed, people at similar levels of monetary income may experience different levels of susceptibility to food crises (Wisner and Luce, 1994; Scherr, 2003), and although Watts (1991) identifies poverty as one of four axes of vulnerability to famine in Africa, he emphasizes that it is still quite

possible for famine to occur in the midst of plenty. In this case, then, poverty is about an inadequate access to various resources, financial being only one, resulting in a lack of capacity to improve living conditions and increase resilience to hazards. Much of poverty is about powerlessness. Any first-hand experience of the daily reality of the lives of the poor brings home how frequently poverty is associated with an inability to command the wherewithal - the resources - to fulfil needs; whether through lack of finances, or through lack of knowledge, lack of voice, or fear. The point is well illustrated by the recognition that poverty alone cannot explain intra-household discrepancies in food security, where women and children are frequently more prone to malnutrition due to their relative powerlessness within the family (Smith *et al.*, 2002).

The second term, vulnerability, has the potential to encompass the multiple dimensions of famine and food crises and is a pivotal concept throughout this research. In simple terms, the extent to which people are likely to experience food shortages and famine may be described by their level of vulnerability (of which poverty may be a significant element). A conventional definition of vulnerability is that it reflects the extent to which a system (or community) reacts adversely to a crisis or hazardous event (Vogel, 2001). Chambers (1989), however, gives a fuller definition, taken up later by Watts and Bohle (1993), in which vulnerability denotes both the likelihood of exposure and sensitivity to livelihood shocks. Vulnerability therefore has an external component (the shocks or stresses to which a household or community are subjected), and an internal component (inadequate capacity to cope). Importantly, vulnerability may be seen as being determined by the inability of people to mobilise resources in defence against hazards, or in recovering livelihoods following disasters, rather than by the livelihoods strategies themselves (Wisner and Luce, 1994).

Watts and Bohle (1993) identify three broad causal powers operating in the 'space' or 'social map' of hunger and vulnerability:

- Entitlement and capability (command over food).
- Empowerment and enfranchisement (the political and institutional terms of state-civil society relationships).
- And political economy (historical and structural relations between classes, and the appropriation of surplus).

In the entitlement commentary, vulnerability to food insecurity is the result of weakened command over entitlement. The limitations of Sen's entitlements approach raised earlier are echoed in the 1993 work of Watts and Bohle, in which narrow interpretations of entitlements

cannot map the historical and political processes behind entitlement failure. Here the term capability, then, describes an entitlement theory that addresses the rights people have in pursuing command over food. It is thus linked to the second causal power: empowerment and enfranchisement. A lack of empowerment describes the fundamental link between famine and food insecurity and the powerlessness noted above. The term ‘enfranchisement’ specifically frames empowerment in political terms – including domestic (‘patriarchal and generational politics’), work (‘production politics’) and the public-civil sphere (‘state politics’), which together describe a space of political vulnerability. This links then to the third causal power discussed by Watts and Bohle, political economy. Here the focus is on ‘class and crisis’. In their analysis, class is used specifically (and differently to other users) to refer to ‘the appropriation, and distribution, of surplus from direct producers’ (Watts and Bohle, 1993: 51). (‘Producers’ here does not refer narrowly to producers-of-food, but to those offering productive work, or labour in the economic sense of providing goods and services). The ways that assets are distributed throughout society, leading to economic disparities, are linked to the ways in which producers are exploited, which in turn is determined by historical conditions. In a class analysis of food insecurity, historically determined social structures drive relations of labour use, the conditions of labour, and the distribution of surplus. Famine is associated with structural faults or conflicts between the classes – between those whose labour is exploited (in a capitalist society) and those amongst whom the lion’s share of surplus labour is distributed.

The famine analysis based on entitlements is thus extended by Watts and Bohle (1993) to account for how entitlements are distributed under specific circumstances, the associated power relations and conflicts that determine entitlements, and the structural components of the political economy that provoke crises of lack of entitlements resulting in famine. The following excerpt from Watts and Bohle’s (1993:46) captures this socio-political ‘systems’ approach to vulnerability in their own words:

*“... a theory of vulnerability should be capable of mapping the historically and socially specific realms of choice and constraint – the degrees of freedom as it were – which determine exposure, capacity and potentiality. In a narrow sense this is about individual command over basic necessities; in a wider sense it should identify the totality of individual rights and social entitlements. And in a still broader sense it should also speak to the structural properties of the political economy itself.”*

The inadequate capacity to cope that is inherent to a condition of vulnerability, suggests a basket of varying capabilities that individuals, households and communities have that enable them to manipulate and mobilize entitlements, while the extent of these capabilities may be seen as describing their adaptive capacity in the face of ‘external’ vulnerabilities.

*Proximate versus underlying drivers of food insecurity*

If famines are too complicated to be explained by a single factor, then in what way do multiple factors interact to cause famine? In other words, how is this interaction structured? A distinction can be drawn here between proximate and underlying causes of food insecurity, or trigger events versus structural vulnerability (e.g. Swift, 1989; Devereux, 2000; Geist and Lambin, 2001; Vogel and Smith, 2002). A proximate cause acts directly (and to some extent independently of other factors) to set in action a series of processes which lead to food insecurity. A climatic or environmental stress, such as drought, may act in this way. An underlying cause is usually understood to act by means of direct causes. Underlying causes create the predisposing dynamics existing at any time in a household or community that make people unable to avert the impact of such a trigger. Proximate (or intermediary) variables are defined by Swift (1989) as the direct links to famine (for example a failure in household food production), while the indirect factors are the primary, underlying ecological, economic and political processes driving the welfare of communities (such as the inability of farmers to access agricultural inputs due to distance from markets and poor road networks).

Three proximate factors through which the primary or underlying variables act on communities in shaping their vulnerability to food insecurity have been proposed: *production*, *exchange* and *asset* processes (Swift, 1989). The economist Sen's approach is limited in that it assumes household food security to be a direct function of poverty, which Swift (1989) sees as relating to the tangible assets or resources a household has at its disposal. Sen's entitlements analysis does not address the underlying vulnerability of communities, how this changes over time or how sudden food crises can be predicted in terms of entitlements (Swift, 1989). Nor does it explain the 'differential vulnerability' experienced by communities which have similar entitlement structures, or disparities in vulnerability within the same community. Is people's poverty (in terms of physical endowments), the main determinant of their vulnerability (Swift, 1989)? Building on Sen's work, the notion of assets is added to the famine model, meaning a broader range of tangible and intangible stores (food stores, stores of real value such as gold, money or bank accounts) investments (human, such as education; individual productive, such as animals; collective, such as soil conservation) and claims (claims on other households within the community, claims on patrons within the community or on other communities, claims on government, claims on international communities) (Swift, 1989). Since these assets create a 'buffer' between components of production, exchange and consumption, their inclusion makes for a model more able to explain the nature of vulnerability in households and communities. The greatest vulnerability amongst people is often linked to poverty, but not necessarily so; for example while investments and stores may be low (people are poor), the

claims that can be instituted against other actors may ameliorate their vulnerability and food insecurity. In other words, there are other non-material dimensions to endowments that exert control of how people come by entitlements – how they exercise their rights - which are mediated by a range of institutional and political issues (Jenkins, 1997; Watts, 1991). A critical element of food security that may be extrapolated from Swift's (1989) work - and one that emerges as key in this thesis - is that of institutions and the potential role they play in shaping the exchange of entitlements, the utilization of assets, and the extent of people's vulnerability.

### **2.3.7 Recent shifts in food-security thinking and analysis<sup>9</sup>**

Having identified and discussed a number of the major determinants of food security, attention now turns to examine how these have changed over time. Maxwell (2001a) identifies three major, overlapping, paradigm shifts in food-security thinking since the World Food Conference in 1974, namely:

- From global and national to household and individual: a shift from a focus on global and national food stocks, to a focus on how individuals and households access food.
- From a 'food first' perspective to a livelihood perspective: which recognises that the acquisition of food is only one of the livelihood objectives pursued by people. People seek to minimise risk and maximise security in the long term through following a portfolio of livelihood strategies (see the definition of sustainable livelihoods in the following section), which may not necessarily mean always putting food intake above other objectives.
- From objective indicators to subjective perception: conventional quantitative measures of food security, such as available kilocalorie supply, are being supplemented by qualitative measures that attempt to incorporate a measure of socially acceptable conditions of food security, and which take into consideration the 'trade-offs' involved in food acquisition. There is increasing acknowledgement that food security, like poverty, means different things to different people at different times.

These shifts are evident not only in the theory of famine explored so far, but also in the action being taken to understand and address food insecurity amongst development practitioners over the past three decades, which is explored more fully in Chapter Three. The research methods used in this thesis are greatly influenced by these shifts (see Chapter Four).

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<sup>9</sup> The methodology used in this thesis is shaped by these shifts - see Chapter Four.

### **2.3.8 Food security and livelihoods**

The systems approach to understanding famine acknowledges that famine and food security are a process rather than the outcome of a series of linear events. But by what livelihood mechanisms does the struggle by individuals and households for food engage with food insecurity processes at the local level? The very definition of famine and food security as a process underscores the role of human agency in famine; the ability of people to manipulate the means by which they make their livelihoods and adapt to, as well as shape, ongoing food-security processes.

During the 1980s, our understanding of the strategies individuals and households adopt in response to all kinds of stress, including food insecurity, increasingly enabled comparison between localities of the livelihood dynamics that shape the process of food security (Watts, 1991). In the development arena a number of frameworks and associated indicators have been, and continue to be, developed for analysing food insecurity, vulnerability and poverty with the aim of better understanding causes and responses and more effectively being able to design and target various development interventions. Amongst the most influential of these has been the Sustainable Rural Livelihoods (SL) framework, which clearly reflects the shifts in food-security thinking outlined above, and which has grown out of both food-security theory and practice. A brief outline of the SL framework is given here as it has informed many of the perspectives from which this research has been undertaken. It also provides a useful vehicle for directing attention to the mechanisms of an individual's life (many of which are present in one or another form in other analytical frameworks employed in development studies generally) that might determine her options and choices for building the components of her livelihood, and how these are connected to her physical, social, economic and political environment. These connections are closely linked to the wider set of issues that shape food security explored in the academic food-security debate. The SL framework has become so pervasive and influential in development thinking and practice that it is also necessary to introduce it before discussing the various forms of human intervention that have been undertaken in response to food insecurity (e.g. Farrington *et al.*, 1999; Goldman *et al.*, 2000)<sup>10</sup>.

The Institute of Development Studies' (IDS) definition of a sustainable livelihood is as follows (Chambers and Conway, 1991:6):

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<sup>10</sup> The 'interventions context' to this research is discussed in Chapter Three.

*“A livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living. A livelihood is sustainable which can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, and provide sustainable opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels in both the short and the long term.”*

The main components of the SL framework are (Scoones, 2000:3):

- Contexts, conditions and trends - including factors such as history, politics, macro-economic conditions, climate
- The livelihood resources people draw on in pursuing their livelihood goals- including the resources of natural, financial, human, social and physical capital.
- The institutional processes and organisational structures that influence access to resources
- The livelihood strategies or livelihood portfolios people make use of - including agricultural diversification, migration, livelihood diversification.
- And the outcomes and trade-offs of these livelihood portfolios

People essentially draw on their **livelihood resources** or assets, which comprise *natural capital* (nature's goods and services), economic or *financial capital*, *human capital* (the capability of individuals residing in their knowledge, health, skills), *physical capital* (human-made material resources) and *social capital* (intangible collective resources such as trust, networks, norms) in the pursuit of **livelihood goals or outcomes** (Scoones, 2000). These goals include increasing the time available to them for working, poverty reduction, well-being and the improvement of capabilities. The **livelihood strategies** they use may include agricultural intensification or 'extensification', livelihood diversification, or migration. The suite of strategies employed in the pursuit of various outcomes are often termed a **livelihood portfolio**. Two further elements play a powerful role in shaping what assets are available to people and how they are used: the first is the **context** of people's lives, which encompasses historical conditions, policies, macro-economic conditions, terms of trade, climate, agro-ecology, demography and social differentiation. The second element is the **institutional processes and organisations** that have a powerful influence over access to resources and livelihood choices.

Chambers and Conway (1991) draw on three concepts as central to the above SL framework: *capability*, *equity* and *sustainability*, which they see as being useful both for research and analysis, and as tools for practical decision making. **Capability** refers to the ability to cope with stresses and shocks and to find and make use of opportunities – it is both reactive and

proactive. **Equity** refers to the ‘less unequal’ distribution of assets, opportunities and capabilities, particularly amongst the most deprived. **Sustainability** refers to maintaining or improving livelihoods (the social component of sustainability) without undermining the resource base on which those livelihoods depend (the environmental component of sustainability). The management of risk and vulnerability at the livelihoods level, through such processes as production, exchange and asset manipulation, in the pursuit of livelihood goals or outcomes is central to shaping people’s livelihood strategies. The extent to which people are indeed able to maintain or improve their livelihoods sustainably in the face of stresses and shocks may be seen as one indicator of their vulnerability.

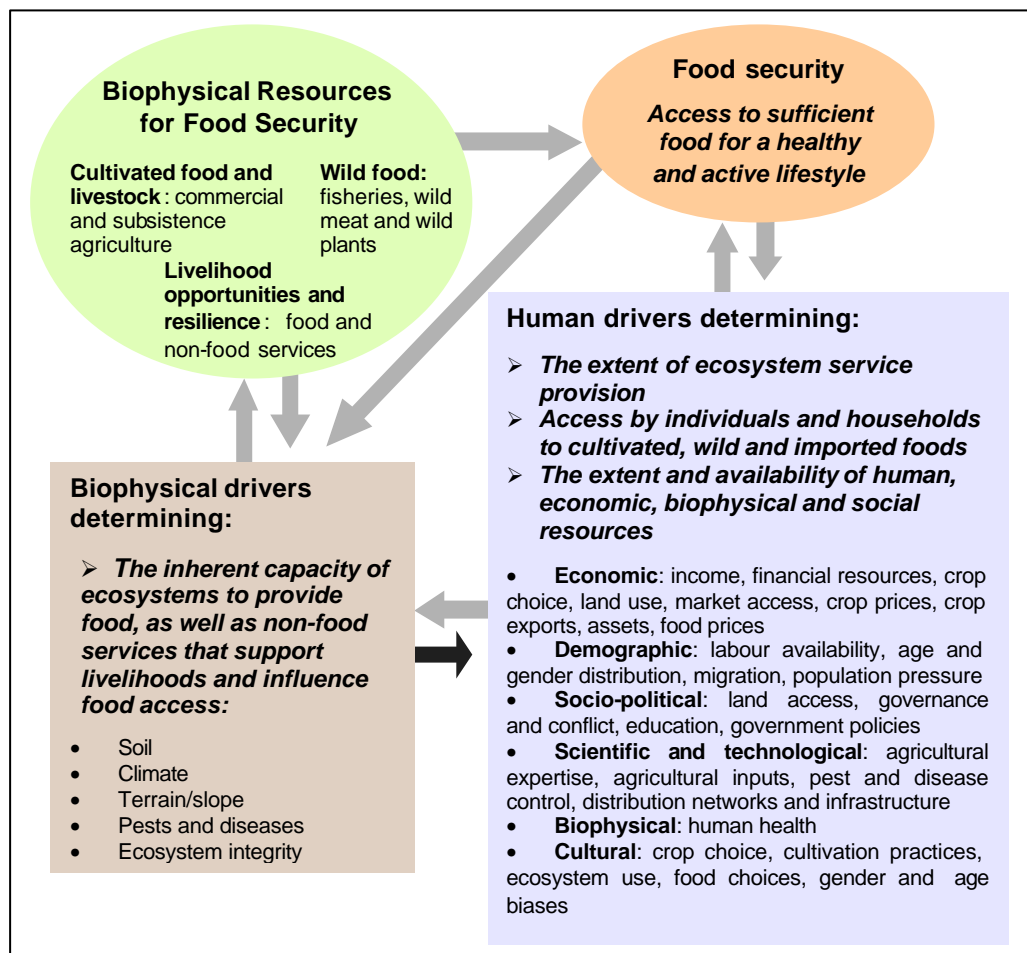
### **2.3.9 Summary of the theoretical determinants of food security**

It is useful at this point to step back from the theoretical debate and sketch the basic elements in the aetiology of food insecurity. There can clearly be no absolute objectivity in such a sketch, particularly from the phenomenological<sup>11</sup> perspective of there being no ‘objective’ reality, and it is furthermore impossible for any individual to be separated from ideological or disciplinary bias (see for example Reyna, 1991). Figure 2.2 nevertheless summarises the elements that are seen here as representing the primary components of people’s food security in order to provide a point of reference in the terrain of food security theory navigated in the remainder of this thesis. The figure presents a ‘skeletal’ aetiology of food insecurity, while the underlying analytical concepts that connect and explain the factors summarised, with varying emphases, have been more deeply explored in the theory of food insecurity causation presented in previous sections of this chapter.

People are ultimately dependent on their earthly environment for all their food. The earth’s biophysical environment sustains commercial and subsistence agricultural food production, as well as wild food sources such as fisheries and ‘bushmeat’ (Figure 2.2). People are also ultimately dependent on biophysical resources to support human livelihood strategies at all levels, derived both from agriculture and non-food ecosystem ‘services’ (such as employment and raw materials), which allow them to access food that they do not acquire from harvesting from their own agricultural and wild food sources. The state of the earth’s environment is inarguably a critical determinant of people’s food security. The biophysical factors which determine the capacity of ecosystems to provide food and non-food ‘services’ include soils, climate, terrain/slope, pests and diseases, and ecosystem integrity and biodiversity.

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<sup>11</sup> An axiom shared by phenomenological thinkers, as a branch of ontology, is that reality is a construction of people’s thoughts, which in turn are a product of cultural and social influences (Reyna, 1991). Escobar (1996) for example provides an excellent environmental perspective on phenomenology.



**Figure 2.2: A graphical summary of the interplay between factors influencing food security at all geographic scales**

People, however, continually both shape and are shaped by the biophysical components of their environment through numerous ongoing physical, psychological and spiritual processes. The extent of the environment's provision of food and livelihood opportunities is therefore continuously influenced by a number of human factors, which function to both alter the biophysical components of people's environment, as well as to determine how these components are utilised. These same human factors also provide livelihood opportunities and resources in their own right, while having a profound influence in determining the nature of people's access to cultivated, wild and imported foods that the ecosystems provide, and the livelihood opportunities ecosystems afford.

The complexity of the social condition of food insecurity is also critical to acknowledge in its examination. Figure 2.2 is an attempt to integrate in one diagram the philosophical paradigms of food insecurity, and to illustrate that there is value in all paradigms, since there are

elements in each that play a role in determining whether people are able to access sufficient food for their well being.

The five capitals of the SL framework that people draw on in pursuit of their livelihood goals (Scoones, 2000), outlined above, are clearly evident among the human drivers of food security depicted in Figure 2.2. One of these five capitals, however, social capital, requires closer examination here, since it emerges as a key concept in the food insecurity causality and responses found in the research undertaken in this thesis, and is central to the research question addressed in the local-level research.

## 2.4 SOCIAL CAPITAL

Social capital is the most abstract of the five capitals in the SL framework, encompassing a number of intangible but valuable resources. There is a recent but burgeoning body of research that finds a correlation between the level of a community's social capital and their ability to manage livelihood shocks (e.g. Woolcock, 2000), the efficiency of their agricultural markets (e.g. Fafchamps and Minten, 1998), their income levels (e.g. Narayan and Pritchett, 1997; Maluccio, Haddad and May, 1999), their well-being (e.g. Isham, 2001), and their economic and social development (e.g. Woolcock and Narayan, 1999; Kliksberg, 2000). In short, there is a vast amount of evidence to suggest that people's stores of social capital play a vital role in not only defining their resilience to livelihood shocks of all kinds, but also in their sustainable development toward economic and social well-being.

A universal definition of social capital has, however, yet to be agreed upon among the many scholars currently seeking to understand it through research and debate. The influential work of Putnam (1993:112), refers to social capital as the *"features of social organisation, such as networks, norms and trust"*, while the earlier work of Bourdieu (1980) defines it as the *"sum of resources, actual and virtual, that accrue to an individual or a group by virtue of possessing a durable network or less institutionalised relationships of mutual acquaintance and recognition."* Social capital is usually taken in current literature to include: relations of trust, reciprocity and exchange, common rules, norms and sanctions; social connectedness - bonding, bridging and linking within, between and beyond communities; and social networks and groups (Adger, 2003; Pretty, 2003).

### **2.4.1 The relationship between institutions and social capital**

These definitions, however, fail to fully capture the multiple dimensions of social capital. Since definitions such as those above suggest that the concept of institutions is almost synonymous with that of social capital, a question that arises is what - if any - is the distinction between 'institutions' and 'forms of social capital'? This question has value in highlighting more nuanced dimensions of social capital, and in alluding to the broader issue of why social capital is important to food security, and what makes it perhaps more useful than other concepts such as 'vulnerability'. While all institutions fall under the general umbrella of 'social capital', the theory of social capital extends to include the relational norms, or the interactions and communications between people that constitute social capital 'in action'. It is these interactions that feed the capacity of communities to build and invest stores of social capital, as well as to shape and re-shape the manifest forms of social capital, that are labelled institutions (see for example Falk and Harrison, 1998; Daubon and Saunders, 2000; Narayan and Cassidy, 2001). A growing aphorism in social capital literature that expresses this neatly, is that social capital is not only the sum of the institutions that shape society, it is the 'glue' that holds them together (e.g. Gittel and Vidal, 1998). This distinction does not preclude the possibility, likelihood even, that institutions reinforce interaction and relational norms, and vice-versa - a 'chicken and egg' situation also noted by Falk and Harrison (1998).

### **2.4.2 Bonding and bridging social capital**

A further distinction drawn by social-capital theorists is between 'bonding' and 'bridging' social capital, where the former denotes close relationships such as those between family and friends, and the latter denotes more distant relationships in which people are tied 'weakly' by very context-specific interaction (e.g. Gittel and Vidal, 1998). Other authors extend this analysis to distinguish between 'horizontal' and 'vertical' (or 'hierarchical') relationships (e.g. Putnam, 1993; Moser and Holland, 1998). Such analyses suggest that a key element of successful community development is the vertical networks beyond the community scale that ultimately determine the political power of communities and their leverage in state-civil society relationships (e.g. Woolcock, 1999). Further, Narayan and Cassidy (2001) claim that indigenous, local-level institutions have value as the safety net that state social security in developing countries fails to provide, but that these alone are insufficient to mobilize great economic or political power.

### **2.4.3 Social capital and relations of power**

Social capital is understood here as being implicit in Watts and Bohle's (1993) 'systems' analysis of vulnerability (above). In the light of Watts and Bohle's (1993) 'map' of

vulnerability, the institutions perspective on social capital speaks of its value in describing state-civil society relationships as well as the social structures that drive relations of labour use, the conditions of labour and the distribution of surplus, in understanding famine and food insecurity. The nature of relations between state and civil society are, in turn, principally about relations of power; how power is accessed, used and articulated and how it mediates between and within social structures. Relations of power between individuals, households, communities and organisations are recognised as endemic to institutional structures and processes (Ife, 1995). Relations of power influence aspects of all human interaction and are thus an inherent component of social capital.

#### **2.4.4 Three general perspectives on social capital**

Three general perspectives of social capital that are evident in the above discussions are highlighted by Grootaert (1998) and summarised by Woolcock and Narayan (1999): the *communitarian* view, the *networks* view and the *institutional* view. The communitarian view narrowly equates social capital with the density of local-level organisations in any given community. The networks view emphasizes that social capital may have positive as well as negative outcomes, the ‘tension’ between which is one of this perspective’s defining properties (Woolcock and Narayan, 1999:7); a tension which is characterised by the balance between ‘bonding’ and ‘bridging’ ties. The institutional view extends the networks view to incorporate the role of a community’s social and political environment; it recognises that a community’s links to formal (external) institutions, particularly state institutions, determine the capacity of its internal institutions to advance collective community well-being.

*“..equitable and sustainable development takes place when representatives of the state, the corporate sector, and civil society establish common forums in and through which they can identify and pursue common goals. This is an inherently contentious and contested - that is to say, political - process, one in which the role of the state is crucial, not marginal.” (Woolcock and Narayan, 1999:9)*

Social capital is clearly more than simply one of many resources that people can draw on in building their livelihood resilience - like natural capital or financial capital; it can theoretically play a far more fundamental role in mediating people’s command over these assets, and in altering the structural context of household and community political economy in the long term. In other words, command over assets, and thus increased capacity for food security, is a possible outcome or benefit of strong social capital.

#### 2.4.5 Problems with the concept of social capital

##### *The 'downside' of social capital*

Through its focus on not only institutions, but interactions and communications that shape institutions, which are in turn influenced by dynamics of power between the relating parties, social capital becomes a potentially powerful concept in deepening both a political analysis of food insecurity and a holistic or systems view of food insecurity. As noted in the networks view of social capital, however, the concept of social capital has been heavily criticized by many scholars (Woolcock and Narayan, 1999). The first area of criticism has been that social capital may have negative outcomes in communities. Research finds that communities which have extensive group membership and solidarity may still fail to overcome crippling structural constraints to development (Portes and Landolt, 1996; Flora, 1998; Woolcock and Narayan, 1999). In some communities social capital has been found to have the capacity to propel 'pathological' community responses where, for example, intra-community ties are so strong that they exclude access to sources of capital external to the community, or if groups are strongly exclusive and homogeneous, leading to ethnic or racial divides, or corrupt and violent community elements (Rubio, 1997; Mohan and Mohan, 2002).

It is clear that different forms of social capital, and the way these forms are used, lead to mixed outcomes from what is understood as 'social capital' in communities. In the United States, for example, forms of social capital have been found to be changing, with civil engagement, such as voter turnout and town meetings, having declined by more than 25% since the early 1960s (Putnam, 2000). Schorr, too, discovered in the 1990s a decline in non-market based social-capital networks in the United States, accompanying the move to dual-career (or single parent) families; the demands on time for the average, urbanised working couple or single parent with children have increasingly ousted participation in institutions for community benefit (Schorr, 1992). Civil society's response in the States to Putnam's first book decrying the collapse of America's institutions was such that, in a sequel, he and Feldstein address the question of how institutions can be rebuilt in communities across the country (Putnam and Feldstein, 2003).

##### *The role of social capital in development policy: lessons from the United States*

A second area of concern is the question of whether (and/or how) policy interventions can foster social capital to the benefit of society (Pelling and High, 2005). The recent civic renewal movement in the United States referred to above further illustrates the complexities of the role of different forms of social capital in community development and problem solving, and highlights this concern (American Civic Reform, 1994; Starr, 1994). Three long-term

trends in the movement for civic renewal have been: first, the emergence of elite-directing modes of civil participation (rather than elite-directed) which have been associated with the disintegration of political parties; second, the impact of the social movements of the 1960s and 1970s on increasing citizen-participation rights; and third, the undermining of the capacity of top-down regulatory approaches (such as social welfare techniques) to deal with interconnected civic problems (such as teen pregnancy and alcoholism) due to the complexity of the challenges (Sirianni and Friedland, 1995). The only major federal policy in the United States that had been aimed at mobilising community participation and new forms of relevant social capital was seen to founder under the load of addressing racial divides and political conflicts; moreover, it was believed to be supported by an insufficient knowledge base of community needs in the face of new challenges (Sirianni and Friedland, 1995). Further, while the capacity and models<sup>12</sup> for community-based organisations for problem solving and effecting neighbourhood change were rapidly increasing, this increase also coincided with the erosion of some forms of social capital (such as civil engagement), as identified by Putnam (1993).

*Using the concept of social capital with caution*

A third area of concern is the highly problematic nature of the concept of social capital itself. Portes and Landolt (1996:18), for example, caution against confusing social capital with the benefits derived from it. In their own words, “*for social capital to mean something, the ability to command resources through social networks must be separate from the level of the quality of those resources*” (emphasis in original). The definitions of social capital and the extent of social attributes which they cover are extremely varied and frequently ambiguous. Pelling and High (2005) similarly challenge the usefulness of the concept of social capital, calling for a more critical analysis so that opportunities for more directed research towards increased social adaptive capacity might be pursued.

That the concept of social capital is problematic and requires more critical research and analysis is confirmed in the findings of this thesis. In particular, social capital is argued in the findings to only have meaning within its context, pointing to the central role of case-study research in using the idea of social capital to understand and address food insecurity.

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<sup>12</sup>For example the highly influential 1940s model of Saul Alinsky’s (Kretzmann, 1996)

#### **2.4.6 A framework for understanding social capital**

Notwithstanding the above problems with the idea of social capital, a simple framework for understanding social capital is offered here, which informed both the research design and the analysis of the results for Part Three of this thesis. Important conceptual issues in developing this theoretical framework are briefly considered in the following paragraphs.

##### *Learning interactions build social capital*

Central to social capital research, as well as most social science enquiry, is the premise that differences in well-being between people and communities are due to differences in the processes that shaped their development. Falk and Harrison (1998), in turn, point out that beneath the process of human change and development is always the process of human learning; more specifically, they propose that learning through interactions ('learning interactions') is the fundamental mechanism for building social capital. Their methods place the nature and quality of interactions as central to the measurement of how social capital is produced, and thus they make use of conversation, or discourse, analysis in their research methods.

Falk and Harrison's (1998) research draws attention to processes and outcomes as distinguishable dimensions of social capital. Learning interactions are a central mechanism in the process of building and accessing social capital, while an example of a social-capital outcome of such processes would be increased membership in groups. An illustration of a livelihoods outcome of increased group membership might in turn be increased knowledge about resources. There is of course considerable interplay between processes and outcomes; group membership for instance feeds increased interaction and learning, and increased interaction and learning encourage group membership. In reality, 'process' and 'outcome' thus do not function as separate entities but are reciprocal. Falk and Harrison's (1998) understanding of social capital processes and outcomes is reflected in the theoretical construct for dimensions of social capital developed in Figure 2.3.

##### *Capital shapes capital*

In a systems view of social capital there are clearly any number of intermediary (as opposed to proximate) variables (over and above empowerment and communication) that function to determine levels and outcomes of social capital. In this research, these intermediary variables, or determinants, are all considered to reside in resources of either financial, human, physical or social capital that in turn play an enabling (or disabling) role in people's ability to build and maintain stores of social capital (e.g. Zeller, 1994). Harpham (2001), for example, identifies

some of these intermediary variables in her research on measuring social capital among children, including variables such as quality of education and the level of financial resources available to parents.

In a more holistic or systems view of social capital there is then clearly a relationship between all forms of capital. This is well illustrated in an ecological economist's view of human-environment relations. Berkes and Folke (1991), for example, see natural, human-made and cultural capital (the latter encompassing social capital) as functioning together as a system. According to Berkes and Folke (1991:1)

*“there exists a fundamental interrelation between natural capital, human-made capital, and cultural capital. Natural capital is the basis, the precondition, for cultural capital. Human-made capital is generated by an interaction between natural and cultural capital. Cultural capital will decide how we will use natural capital to 'create' human-made capital. Therefore, human-made capital is never value-neutral.”*

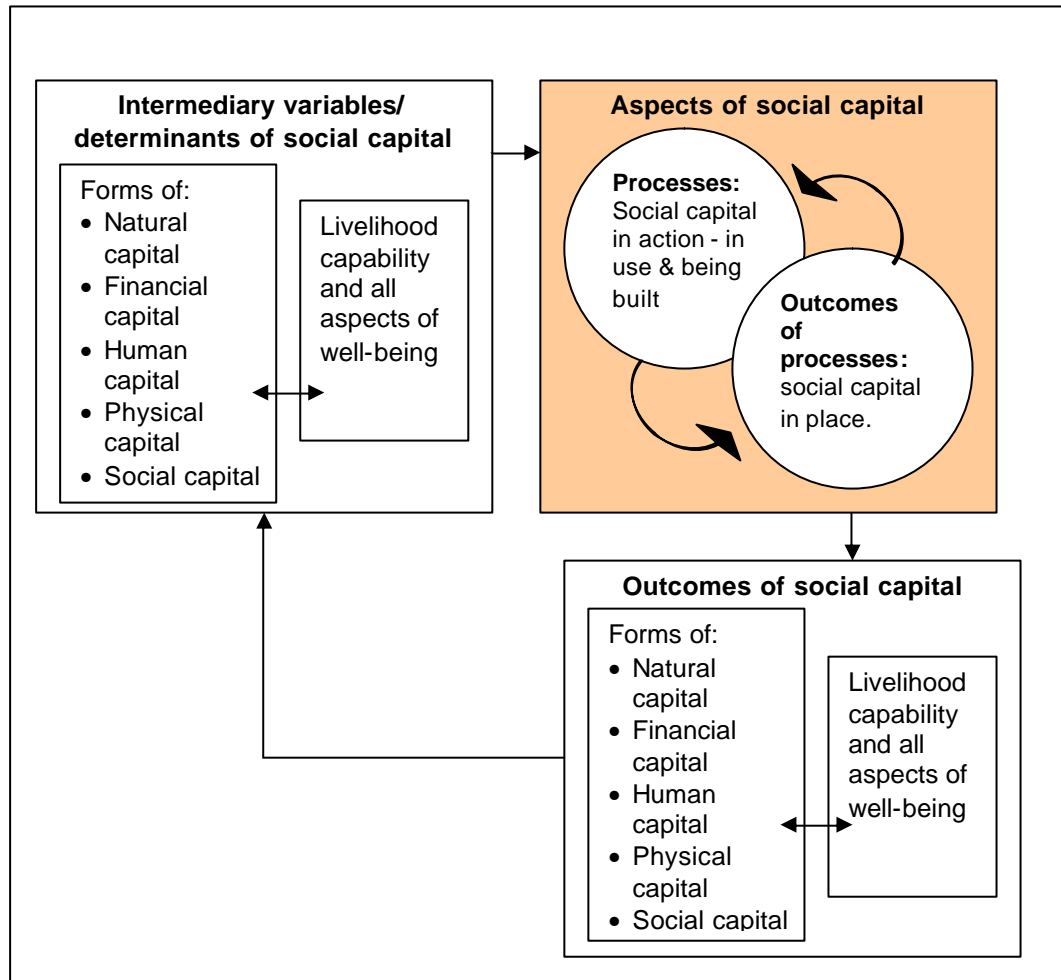
Similarly, forms of capital are conceptualised here as functioning interactively in shaping food security (Figure 2.3).

#### *Social capital ‘in place’ and ‘in action’*

In Figure 2.3 a distinction is further drawn between social capital ‘in action’ and ‘in place’. After Falk and Harrison (1998), who explicitly distinguish between processes and outcomes of social capital, social capital ‘in action’ is seen as comprising the human interactions as indicative of social capital being built and being accessed. Falk and Harrison's relational interactions might be interpreted as representing Gittel and Vidal's (1998) ‘glue’ that not only holds institutions together, but is the social capital ‘in action’ that nourishes all aspects of social capital - both ‘in action’ and ‘in place’.

The discussion of aspects of social capital ‘in action’ and ‘in place’ perhaps confers a misleadingly tangible meaning to social capital, which is worth qualifying. Social capital encompasses various components of social life and human interaction through which personal and collective benefit is thought to be derived, and which can only be accessed through relationships with other people (Grootaert *et al*, 2004). The collective term ‘social capital’ that is used to denote all these aspects of social life that offer a resource remains, however, an idea, a concept, existing only in people's minds. Thus unlike financial capital or natural capital, social capital can strictly speaking only be measured indirectly, by proxy through what are thought to be indicators of its presence (or its being ‘in place’). This makes measuring social

capital an inevitably difficult process (see Narayan and Cassidy, 2001). The framework in Figure 2.3 was used in developing the measurement methods used in the local-level research, which are discussed further in Chapter Four.



**Figure 2.3.: A simple theoretical construct for dimensions of social capital, and how social capital relates to other forms of capital and to livelihood capability and well-being.**

**Notes:** Forms of social capital function as intermediary variables in the creation and/or undermining of further social capital.

#### 2.4.7 Social learning

A human capital element of the intermediary variables that shape social capital and social capital outcomes is the element of social learning, which is in turn mediated by the learning interactions discussed above. Social learning is an implicit assumption on which participatory research and civic participation in development processes is based, since the outcome of participation is ultimately the co-generation of knowledge and solutions through learning (Blackstock, Kelly and Horsey, 2006). Not only is community participation in development processes identified in the Delphi Survey (Chapter Six) as a critical element of successful food

security interventions, but learning interactions are identified in the conclusions of this thesis as a central component of the ‘how’ of interventions - or of intervention processes.

Social learning has been theorised across a broad range of disciplines, including anthropology, psychology, education, and more recently in sustainable development such as climate change and energy policy (Lorenzoni *et al.*, 2000; Darby, 2006). In development and natural resource management studies, social learning has been closely associated with social networks and groups that enable information flow (such as technology transfer) and joint problem solving (e.g. Manski, 1993; Foster and Rosenzweig, 1995). Beyond the community level, social learning has been found to play a fundamental role in sustainable governance in which participation and interaction by and between all actors is key (Rist *et al.*, 2006).

Social learning is not, however, politically- or power-neutral. Like all social processes, the policy and knowledge outcomes of social learning are subject to the relations of power between individuals, households, communities and organisations, as well as between different actors in the policy development process (Peterson, 1997) (see section 2.3.5 above). Peterson’s (1997) model of the social learning process identifies a number of critical elements in that shape the change outcomes of social learning.

\* \* \* \* \*

The demographic, economic and political aspects of famine theory and the shifts in food security paradigms outlined in this chapter reflect that food security is a multifarious issue shaped by numerous biophysical and socio-economic factors. The academic debate around food security is characterised by a number of different perspectives regarding the causes of food insecurity and the forms food insecurity takes. In seeking to understand food insecurity, the evolution of the debate in the literature supports the following:

- A focus on household-level food-security issues.
- An acknowledgment that the pursuit of food security amongst individuals and households is not independent of other livelihood pursuits.
- The need to move beyond conventional ‘objective’ measures of food security to acknowledge that food security is socially construed and hence that qualitative data are also necessary.

Above all, it is clear that in contemporary food-security thinking the balance of power of food-insecurity causation theory lies amongst structural, social phenomena, rather than amongst biophysical aberrations.

The role of social capital in food-insecurity causality and responses is a key theme emerging throughout this thesis, and is the focus of the research question addressed at the local level. It is an abstract concept encompassing a wide range of social resources. There is a vast amount of evidence to suggest that people’s stores of social capital play a vital role in not only defining their resilience to livelihood shocks of all kinds, but also in their sustainable development toward economic and social well-being. However, evidence in the literature and

in the findings of this thesis portends the need for caution in using the idea of social capital, both in research and in developing food-security interventions.

In the following chapter, the focus shifts to explore the food-security context in which the research in this thesis takes place. This context is traced through a review of food security indicators in southern Africa (such as malnutrition), the macro-policy environment that shapes food security, key drivers of the recent food-security crisis in the region, and the food-security interventions environment. Further, in order to contextualise the provincial- and local-level research in greater depth, a description of food insecurity in KwaZulu-Natal is also provided.

## CHAPTER THREE

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### SETTING THE SCENE: SOUTHERN AFRICAN CONTEXT

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#### 3.1 INTRODUCTION

The research methods for this thesis outlined in the following chapter are aimed at a nuanced investigation of the diverse factors that frame livelihoods-level food insecurity in southern Africa. In order to better contextualise the research, this chapter traces the regional, provincial and local landscapes within which the research takes place. First, regional food security statistics are outlined in order to provide an overview of current conventional food-security indicators relevant to the research at all three scales. This is followed by a discussion of the broader regional political dynamics of food security in southern Africa; a policy environment which is then further explored through a review of the key issues driving the 2002-2003 southern African food-security crisis. An examination of the ‘food-security interventions environment’ follows, which discusses selected historically-significant human activities that have been aimed at directly or indirectly addressing food insecurity<sup>13</sup>. Finally, the food security environments of KwaZulu-Natal and the case-study community are described in order to more finely contextualise the provincial- and local-level research.

This chapter addresses four research questions:

- *What is the current state of food security in southern Africa and KwaZulu-Natal?*
- *What different kinds of human interventions or response options have been undertaken in southern Africa in addressing food insecurity, and what effect are they having?*
- *What is the broad policy environment that is shaping food security in the region?*
- *What are the background dynamics of food security for people in KwaZulu-Natal and the case-study community?*

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<sup>13</sup> The interventions discussed in this chapter exclude the ‘informal’ interventions of reciprocity and exchange and coping mechanisms that intervene to promote food security or avert famine and hunger (see for example Devereux, 1999). This is not to say that these ‘informal’ actions are less important, or that ‘formal’ human interventions might not better be aimed at enhancing these strategies, or connections between people and collective actions that may be seen as their own form of food security ‘safety net’.

## **3.2 CURRENT INDICATORS OF FOOD SECURITY IN SOUTHERN AFRICA<sup>14</sup>**

### **3.2.1 Malnutrition: southern Africa the ‘hotspot’ of world hunger**

In 2002, the FAO reported that there were 840 million undernourished<sup>15</sup> people in the world, 196 million of whom were in sub-Saharan Africa. The goal set at the World Food Summit in 1996, and upheld in the Millennium Development Goals, was to reduce by half the number of hungry people in the world by 2015. This objective is far from being met. At the current rate at which hunger is being overcome, it will only be achieved in 2150 (FAO, 2002).

Nutrition trends apparently deteriorated in the 1990s after a period of relative stability between 1980 and 1985 (Young, 2001). During their 1998-2000 assessments, the FAO estimated the southern African region to have the highest prevalence of malnutrition<sup>16</sup> in the developing world in proportion to the total population (FAO, 2002). Anthropometric indices of malnutrition are clearly only symptomatic of the more complex issue of food insecurity. As discussed in Chapter Four, Section 4.2.4, however, they remain as useful indicators, and are frequently focused on in food-security assessments. In southern Africa, that the basic condition of food security - access to sufficient food - is clearly not being met is evidenced by nearly 25% of the population of children under the age of five years in the region showing the physical symptoms of food deprivation through weight stunting (Figure 3.1). Amongst the most food insecure in the region are those that have been displaced by unrest and war; in 1997 there were over 6 million refugees in the Great Lakes region of Burundi, Rwanda and Tanzania alone (Young, 2001) (Table 3.1) .

### **3.2.2 Cereal and non-cereal food sources<sup>17</sup>**

Carbohydrate availability from cereals is commonly considered the primary indicator of whether people have access to sufficient food. Such analyses usually focus strongly on maize production and imports, but also include wheat, rice and millet (Figure 3.2). Estimates of produced, imported and food-aid cereals in southern African countries show that per capita cereal availability from all these sources has declined in recent years. (FAO/GIEWS, 2001) (Figure 3.3).

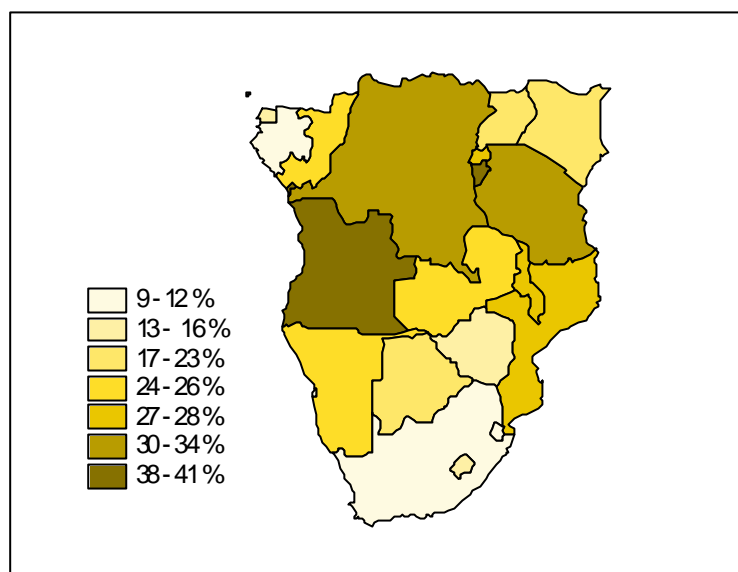
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<sup>14</sup> A brief history of famine and food insecurity across the region is provided in Appendix One

<sup>15</sup> The FAO defines undernourishment as food consumption of less than about 1900 kilocalories per day. Undernourishment may lead to malnutrition (Scherr, 2003).

<sup>16</sup> Malnutrition is defined as deficiencies and imbalances in either the macro- or micro- nutrient dietary content, which may lead to abnormalities and disease (Scherr, 2003).

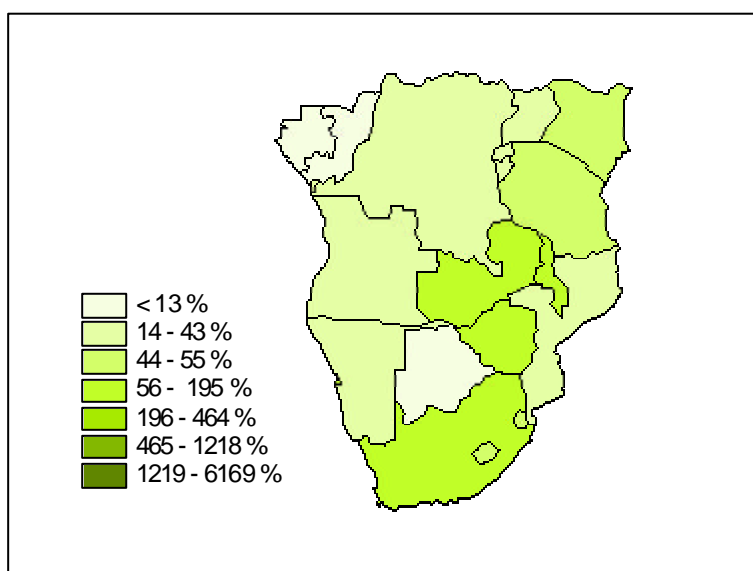
<sup>17</sup> The review of the current state of food insecurity was undertaken early in the research, in 2003 and the review covers the preceding 10 years which include the years 1993 to 2002, since this is the data that was available.



**Figure 3.1: Average prevalence of weight stunting in children under five years in southern African countries, 1992 - 2002.**

**Notes for Figures 3.1 – 3.7** These figures are a synthesis and mapping by the author of available figures between 1992-2002, which do not cover all years and in some instances only one figure was available for a country during the time period.

**Sources for Figures 3.1 – 3.7:** Food and Agriculture Organization of the United Nations Statistical CD Rom database, 2001; Human Development Network online statistics <http://devdata.worldbank.org>; Macroeconomic international online data [www.measuredhs.com](http://www.measuredhs.com); World Health Organization WHOSIS online database [www.who.int](http://www.who.int); Population Division of the United Nations online data <http://esa.un.org/unpp/>.



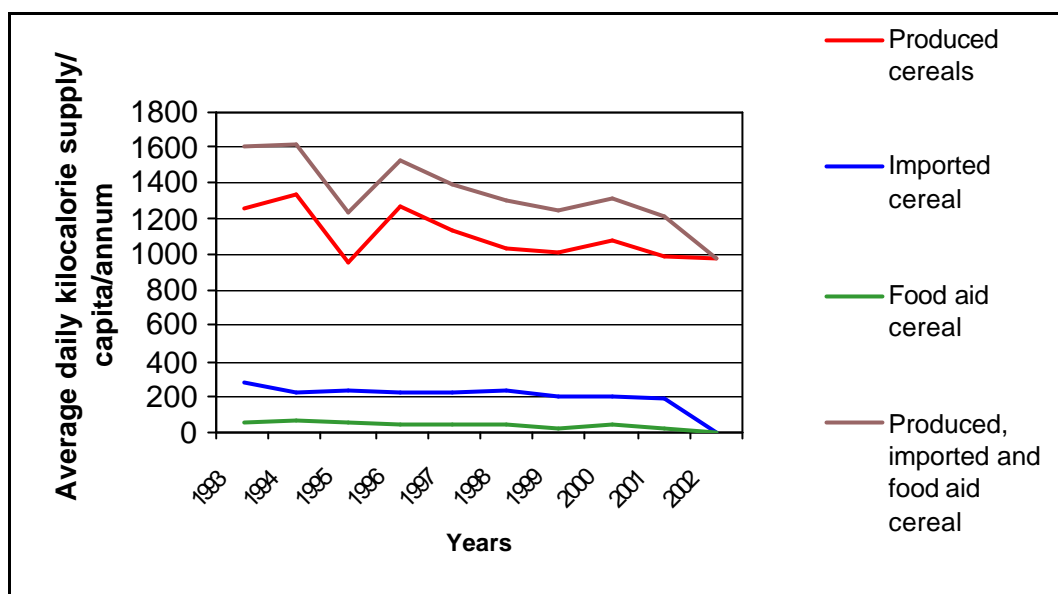
**Figure 3.2: Average annual cereal production (1993-2002) as a % of average cereal demand over the same period**

**Source:** data extracted, synthesised and mapped by the author from the Global Agro-ecological Assessment for Agriculture in the 21<sup>st</sup> Century: methodology and results CD Rom (Fischer *et al.*, 2002a).

**Table 3.1: Levels of under-five mortality, adult literacy and refugees, as well as levels of health, education and income are captured in the Human Development Index (Scholes and Biggs, 2004).**

COUNTRY	<i>Human Development Index</i>		<i>Under-five mortality rate</i>	<i>Adult literacy rate</i>	<i>Refugees in country of asylum</i>
	2001		2001	2001	2001
	<i>value</i>	<i>rank</i>	<i>per 1000 live births</i>	<i>% age 15 and above</i>	<i>thousands</i>
Angola	0.377	164	260	42.0	12
Botswana	0.614	125	110	78.1	4
Burundi	0.337	171	190	49.2	28
Dem Rep of Congo	0.363	167	205	62.7	362
Congo	0.502	140	108	81.8	119
Equatorial Guinea	0.664	116	153	84.2	..
Gabon	0.653	118	90	71.0	16
Kenya	0.489	146	122	83.3	239
Lesotho	0.510	137	132	83.9	..
Malawi	0.387	162	183	61.0	6
Mozambique	0.356	170	197	45.2	..
Namibia	0.627	124	67	82.7	31
Rwanda	0.422	158	183	68.0	35
South Africa	0.684	111	71	85.6	19
Swaziland	0.547	133	149	80.3	1
Tanzania	0.400	160	165	76.0	647
Uganda	0.489	147	124	68.0	200
Zambia	0.386	163	202	79.0	284
Zimbabwe	0.496	145	123	89.3	9

Although much of the focus is on cereals in assessing kilocalorie production trends and deficits under the food balance approach (see Chapter Four, Section 4.2.1), the statistical information is able to indicate the important role of other crops such as roots and tubers and pulses in people's dietary kilocalorie supply, particularly for the northern regions of southern Africa (Figures 3.4 and 3.5). Arid areas sparsely farmed by livestock, and pastoral areas, mixed cereal and root crop farming systems (Maize, sorghum, cassava, yams, livestock and off-farm activities) cover the largest area of land in sub-Saharan Africa, followed by root crop systems (Yams, legumes and vegetables); covering 13% and 12% of the region respectively (Dixon, Gulliver and Gibbon, 2001).



**Figure 3.3: Average daily kilocalorie supply per capita, per annum of produced, imported and food-aid cereals, 1993-2002 in southern Africa.**

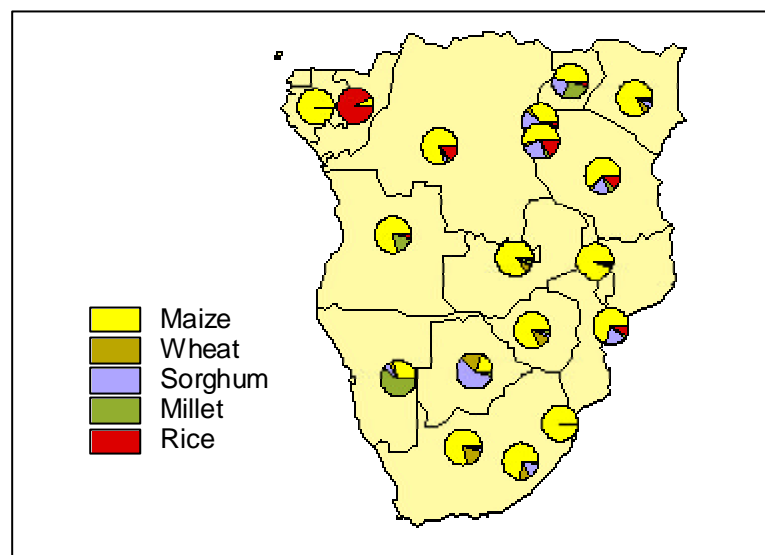
**Notes:** Kilocalorie demand based on the World Health Organization guideline of 2100 Kilocalories.cap<sup>-1</sup>.day<sup>-1</sup>.

**Sources:** Data synthesised by the author from the Food and Agriculture Organization of the United Nations Statistical CD Rom database, 2001; Human Development Network online statistics <http://devdata.worldbank.org>.

Carbohydrates and nutrients from wild plants also play a critical role in food security and nutrition across southern Africa, particularly during times of drought or food insecurity and in arid and semi-arid areas (Gari, 2003). In addition, a significant, though regionally unquantified, portion of southern Africans' protein intake comes from a wide range of wild species ('bushmeat') that are consumed on a regular basis as part of the diets of rural southern Africans. Species documented include antelope, monkeys, rodents and reptiles, as well as a range of invertebrates such as snails, termites and beetles.

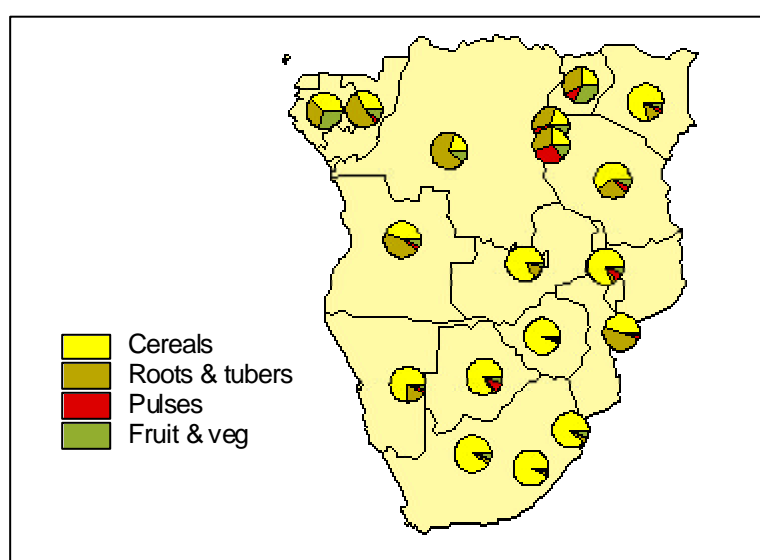
The consumption of bushmeat amongst communities is dictated by a combination of factors including the amount of alternative protein supplies, financial constraints, and cultural and spiritual values and preferences. Estimates of the contribution of bushmeat to the total daily dietary intake of protein range from 0.1% in South Africa to 8.5% in the DRC (FAO, 2001). Estimates are, however, based on very limited data and are not considered to reflect the true intake for many rural communities. The absence of reliable records is in part due to bushmeat being largely consumed within the household or sold through local markets, so that the volumes are not easily captured on formal information systems. Subsistence hunting and gathering of bushmeat is estimated to account for 90% of bushmeat supply on the African

continent, and for many communities it increasingly constitutes a major informal industry critical to livelihoods (Ntiamoa-Biadu, 1997; TRAFFIC, 2000).



**Figure 3.4: Average kilocalorie share of cereals in total tonnage for the region, 1993-2002.**

**Source:** Data extracted and synthesised and mapped by the author from FAO/GIEWS (2001) Africa Report No. 2. <http://www.fao.org/giews>



**Figure 3.5: Average share of cereals, roots and tubers, pulses and fruit and vegetables in kilocalorie intake, 1993-2002.**

**Source:** Data extracted and collated into map form by the author from FAO/GIEWS (2001) Africa Report No. 2. <http://www.fao.org/giews>

The formal wild meat market covers the legal production of game from game ranching and farming, large-scale and community-based cropping schemes, culling programmes, hunting and problem-animal control measures. In 1998 it was estimated that the total annual quantity of game meat produced in these ways between Botswana, Mozambique, Zimbabwe, Zambia, Malawi, Tanzania and Kenya to be about 8 500 metric tons, with a US dollar value of over \$7.5 million (TRAFFIC, 2000).

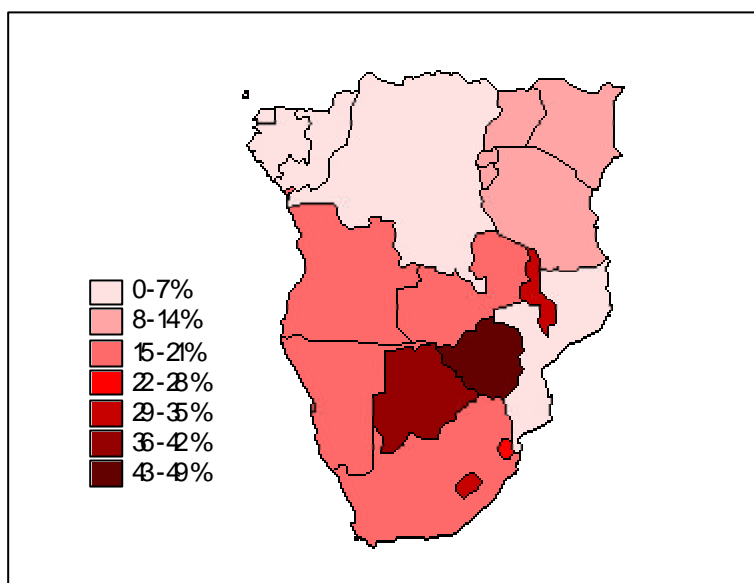
### **3.2.3 HIV/AIDS**

The links between HIV/AIDS and food security are extensively documented (Tembo, 2003). Southern Africa has amongst the highest prevalence of HIV/AIDS in the world, the adult prevalence rates in many countries in southern Africa being in excess of 25% (SADC-FANR, 2002) (Figure 3.6). HIV/AIDS increases vulnerability to food insecurity in a number of ways, some of which are summarised below (Morris, 2002; Mano, Isaacson and Dardel, 2003; USAID, 2003):

- It reduces the capacity of the agricultural labour force, which in turn leads to declines in total agricultural output, changes in crop mixes, a decline in livestock production, poorer post-production food processing and storage methods due to time and food constraints, and reductions in the commercial agricultural sector's output.
- It reduces labour for subsistence agriculture.
- It reduces income available to households for food purchases and agricultural investments.
- In households which have lost adults to HIV/AIDS, not only is income for food and agriculture undermined, but also income for other income-generating activities and livelihood pursuits
- It interferes with the transfer of knowledge and skills from one generation to the next.
- It places increasing pressure on household food resources through the presence of AIDS orphans.

In turn, food insecurity is linked with HIV/AIDS through:

- Increased migration, and therefore increased risk of exposure to HIV/AIDS.
- Alternative livelihood strategies being sought (e.g. prostitution) which increase the risk of exposure to AIDS.
- Resulting malnutrition which weakens immune systems and makes those infected with HIV/AIDS more vulnerable to opportunistic diseases.

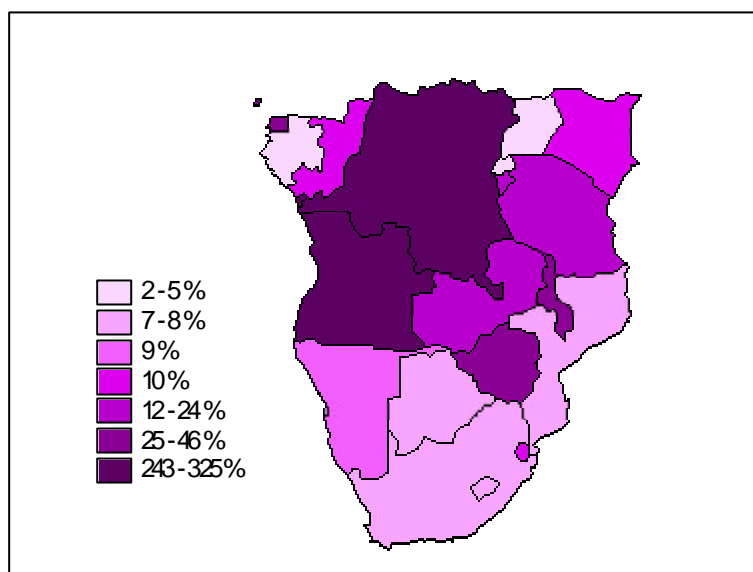


**Figure 3.6: Average prevalence of HIV/AIDS in southern African countries, 1993 - 2002.**

Moreover, the impacts of HIV/AIDS on food security are further exacerbated by inequalities in infection rates between men and women. Women are two to four times at greater risk of becoming infected with HIV/AIDS during intercourse than men (USAID, 2003). They are also socio-economically at greater risk, since they have less control over the use of protection during intercourse, are at risk of sexual abuse, and may be forced to trade sex as an element of their livelihood strategies. While women are at greater risk of contracting HIV/AIDS than men, in sub-Saharan Africa they are also traditionally the purveyors of childcare and food provision, and additionally are considered the principal food producers, thus further jeopardising the food security of their families (USAID, 2003).

### **3.2.4. Poverty, inflation and poor education**

Associated with severe micronutrient deficiencies and low calorie consumption is widespread poverty, amongst the highest levels in the world (von Braun *et al.*, 2003), as well as high levels of infant mortality, low incomes, poor education and illiteracy (Table 3.1). In some countries food insecurity and poverty are exacerbated by high levels of inflation in the cost of living (Figure 3.7).

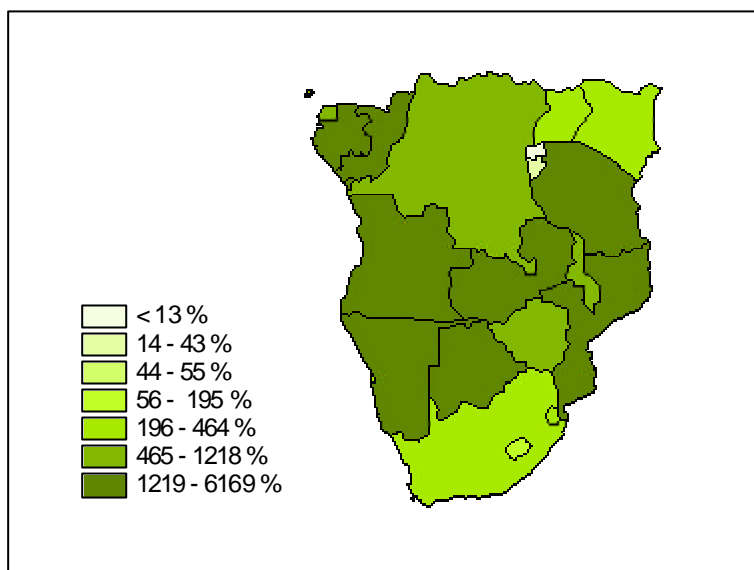


**Figure 3.7: Average inflation rates in southern African countries, 1997 – 2001, using GDP deflators.**

### 3.3 THE FUTURE OF FOOD SECURITY IN SOUTHERN AFRICA

#### 3.3.1 Production potential

The highly theoretical analysis shown in Figure 3.8 indicates that agricultural production potential has the capacity to meet southern Africa's food needs in 2020. Other modelled predictions of food production to 2020, however, paint an exceedingly bleak picture. World food projections simulated under the International Model for Policy Analysis of Agricultural Commodities and Trade (IMPACT), developed by IFPRI since 1992, forecast a 'perilous' situation for southern Africa, with a 6 million increase in the number of children suffering from malnutrition between 1997 and 2020 (Rosegrant *et al.*, 2001). This would bring the total number of malnourished children to 33 million. The IMPACT model projects a needed US\$76 billion increase in investment in roads, irrigation, clean water, education and agricultural research, to bring total investments to US\$183 billion between 1997 and 2020, just to reduce by one-third the number of malnourished children. Crop yields would need to grow by three percent per annum and GDP by 8-10 percent. The FAO estimates that average per capita food supplies in SSA are projected to be at just 2170 calories/day by 2010 (FAO, 1993).



**Figure 3.8: Potential cereal production as a % of demand in 2020, given intermediate levels of agricultural inputs**

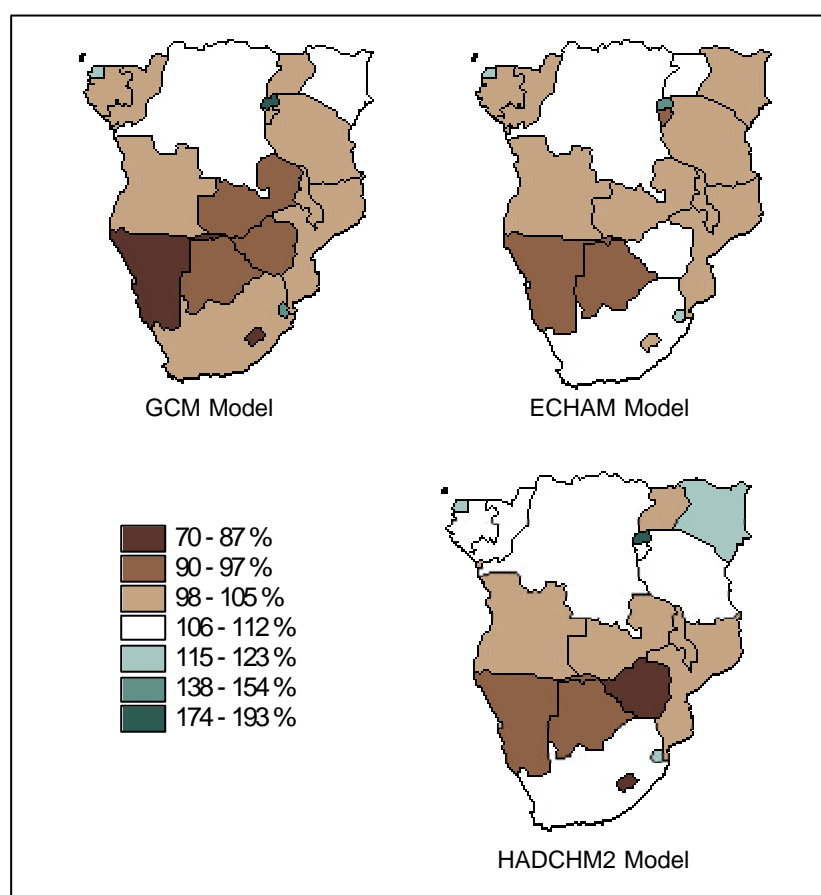
**Sources:** data extracted, synthesised and mapped by the author from the Global Agro-ecological Assessment for Agriculture in the 21<sup>st</sup> Century: methodology and results CD Rom (Fischer *et al.*, 2002a).

### 3.3.2 Climate change

The projected impacts of global environmental change on food security make predictions about future agricultural production potential in Africa even more complex. Global environmental change encompasses all human-induced alterations to the Earth's biophysical systems, including changes in atmospheric composition, climate and land-use (Vogel, 2002; Moore III, 2001). The past decade has seen significant leaps in our understanding of the functioning of the Earth system, which are now recognised to be operating well outside their natural range of variability as a direct result of human-induced global change (Falkowski *et al.*, 2000; IGBP, 2001; Walther *et al.*, 2002). Climate change – just one component of global environmental change - is thought to disproportionately threaten the developing world, and one of the most pressing challenges in meeting world development goals is to strengthen the resilience of the poorest and the most vulnerable in developing countries against climate change and variability (Fischer *et al.*, 2002b).

There have been a number of attempts to model the impact of climate change on world crop yields, including the influential work of Fischer *et al.* (2002a) in the Global Agro-ecological Assessment for Agriculture in the 21<sup>st</sup> Century (Figure 3.9). Projected changes under three different General Circulation Models (GCMs) are presented here, the ECHAM4 model of the Max-Planck Institute of Meteorology, the HADCM2 model of the Hadley Centre for Climate

Prediction Research, and the CGCM1 model of the Canadian Centre for Climate Modelling and Analysis. As a whole the Fischer report indicates that the region might stand to gain in potential cereal production due to climate change, but there are significant inter-country variations. The validity of these scenarios may, moreover, be threatened by some of the assumptions made in the data choice and synthesis (see Chapter Four, Section 4.2.3). Existing vulnerabilities in southern Africa resulting from scarce and/or variable rainfall, and high rates of evaporation and run-off, are further exacerbated in the uncertain impacts that climate change might have on these across the region (Schulze, Meigh and Horan, 2001).



**Figure 3.9: Effects of climate change under three climate change models on total tons per annum of cereal produced in the 2020s as a percentage of production given no climate change.**

**Source:** data extracted and synthesised into map by author from the Global Agro-ecological Assessment for Agriculture in the 21<sup>st</sup> Century: methodology and results CD Rom (Fischer *et al.*, 2002a).

The focus of the impacts of climate change on food security, moreover, has yet to shift substantially towards an acknowledgement that climate change not only effects crop yields, but that it has repercussions for all elements of food ‘systems’; influencing food access,

utilization and food availability (Gregory, Ingram and Brklacich, 2005). In considering the impacts of climate change on food security, an integrated framework is required that can effectively ‘superimpose’ climate change scenarios on top of the numerous other elements in the social environment of food insecurity (GECAFS, 2005). In many respects, then, the resilience of people’s food security in the face of climate change may be similar to the nature of their resilience to all forms of short- and long-term livelihoods shocks. More recently it has been acknowledged that key issues in developing a more holistic understanding of climate change will include: identifying which determinants of food security (such as food production, distribution and economic access) are particularly sensitive to global environmental change (including but not limited to climate change); and identifying how these might be made more resilient into the future (Gregory, Ingram and Brklacich, 2005).

### **3.4 THE MACRO POLICY ENVIRONMENT OF SOUTHERN AFRICAN FOOD SECURITY**

The above discussions provide only a superficial overview of some of the causes and indicators of food insecurity in southern Africa. From the discussions in Chapter Two it is clear that there are multiple human, biophysical and environmental processes that shape food security, and that there are many complex interactions between concomitant drivers. Further, food insecurity is overwhelmingly a social condition which is at least partly rooted in the policy environment that both directly and indirectly shapes it. In the following sections some of these key policy issues are outlined.

#### **3.4.1 Governance and food security**

The potential role of governance in food security is illustrated in those countries in sub-Saharan Africa characterised by authoritarian governments (for example, Niger and Sudan), an ‘ambiguous’ commitment to democracy (for example the DRC and Rwanda), or contested sovereignty (Liberia, Sierra Leone and Somalia) being more prone to famine events in the past three decades than those with stronger commitments to democracy (Von Braun, Teklu and Webb, 1998:19)<sup>18</sup>. Moreover, the macro-policy environment, controlled largely by national governments, plays a powerful role in shaping the success or failure of food-security interventions, and affects the capacity of institutions at all levels for development (Babu *et al.*, 2004). Where, for example, governance is facilitating conflict and war, specific projects,

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<sup>18</sup> Angola stands out as somewhat anomalous in the authors’ generalization, being categorised as having a “moderate commitment to democracy”; yet the country has been racked with conflict and famine.

programmes and policies aimed at alleviating food insecurity are likely to be crippled (Von Braun, Teklu and Webb, 1999).

While governance has deep impacts on food security, the term covers an extremely broad range of issues. In the following section some key policy and governance-related issues are examined more closely through the lens of globalisation.

### **3.4.2 Globalisation and the impact of world trade policies**

Globalisation describes the increasing integration of the world economy and culture. While globalisation has led to an increase in average annual incomes in southern Africa and worldwide, it has also led to an increased disparity between the rich and poor; both in terms of an increased wealth in developed nations over southern African countries, and in terms of an increase in the number of people living in absolute poverty in southern Africa (Sharma, Morley and Diaz-Bonilla, 2001). The impact of globalisation on the poor and the food insecure is largely dependent on the extent to which this sector of the population can participate in the resulting growth of the various economic sectors (Sharma, Morley and Diaz-Bonilla, 2001).

Globalisation has had a tremendous impact on southern African trade, economic policies and markets, which in turn provide the economic context of food security across sectors, including but not limited to agriculture. That countries are less able to follow policy choices that deviate from those of international developments within the context of globalisation (Paarlberg, 2002) has meant that world trade agreements have had particularly profound effects on southern African economies. For example, the net result of the WTO and the Uruguay Round of trade negotiations thus far has been to disproportionately reduce the capacity of poorer countries to protect their markets against the subsidised agricultural products of the richer. This so-called export 'dumping' undermines incentives for local smallholder farmers and destabilizes local markets (Raikes, 2000; Paarlberg, 2002; Diaz-Bonilla and Gulati, 2003; Watkins and von Braun, 2003; IFPRI, 2003a). Moreover, although tariff escalation has decreased due to the Uruguay Round of trade talks, there continue to be high tariffs on the products processed or manufactured from raw materials, which is thought to restrict opportunities for agricultural diversification as well as industrialisation in developing countries (South African Department of Trade and Industry, 2001).

Globalisation has also not led to an equal spread of advances throughout the world; technical advances in transport and communications systems, and economies of scale in industry and

transport, have for example intensified disparities (Nouve *et al.*, 2002). Advantaged geographic areas include nodes of international investment in places with well-developed infrastructure that favour fast-growing new international markets and are also along main high-bulk routes (such as off-season fresh produce) (Raikes, 2000; Sharma, Morley and Diaz-Bonilla, 2001).

Also within the context of globalisation, the real price of agricultural commodities has fallen worldwide significantly since the 1970s. Along with this trend is the decline in the prices of basic foodstuffs (Heisey and Edmeade, 1999). Structural adjustment features prominently among the reasons for price declines, partly because it has led to a focus on export-crop production world wide. South-East Asia in particular has increased production significantly leading to worldwide price declines in commodities that have had a negative impact on regions such as southern Africa where agriculture is a dominant sector (Raikes, 2000; Sharma, Morley and Diaz-Bonilla, 2001). Africa has been disproportionately damaged by price declines, partly due to differences in terms of trade and the fact that agriculture is a dominant economic sector.

Quality standards across the African continent have also generally deteriorated since structural adjustment due to reduced government subsidies and control mechanisms. Importantly, this decline in quality in Africa has occurred concurrently with the global trend towards increased disparity between the prices of basic foodstuffs and high-value goods (Von Braun *et al.*, 2003). Increases in world average incomes, and the increased demand from Northern purchasers for more value-added products and packaging (the effect of 'Engels' Law'), stricter hygiene standards, along with lower prices for basic foods, have put the ability to compete even further out of reach of Africa's producers (South African Dept. of Trade and Industry, 2001).

Finally, the global trends towards industrialisation and urbanisation have heralded changes in food 'systems' that have a significant impact on policy and food-security interventions of all kinds. Food increasingly moves from commercial production through a long supply chain, and through complex market systems, to reach consumers who are increasingly urbanised. Food-security policy has shifted with these trends, moving away from a focus on locally produced and consumed food-supply issues (See Appendices Twelve and Thirteen) (Slater and Maxwell, 2003).

### **3.4.3 Economic policy in southern Africa: the impact of structural adjustment and liberalisation**

Attention now turns from some of the impacts of globalisation and recent world-trade issues, to the historical impact that structural adjustment has had on food security in southern Africa. From the mid-1980s through to the mid-to-late-1990s, the era of structural adjustment in southern Africa brought in changes to the region's agricultural policy that had mixed consequences (Friis-Hansen, 2000). The 1960s and 1970s were marked in agriculture by early advancements of hybrid maize varieties under the agricultural 'modernization' model that dominated the region (Gibbon, 2000). After 1975, the terms of trade for Africa's export crops generally deteriorated, and the focus in agriculture shifted to producer incentives and the interests of trade; a focus that was openly consolidated by the World Bank in 1981. The Bank advocated improving the share of world crop prices received by regional producers through making exchange rates more competitive and reducing public marketing margins. Later in the 1980s, the structural adjustment agenda expanded to include a focus on withdrawing government subsidies, facilitating privatisation, and removing pan-territorial pricing (Kherallah *et al.*, 2004).

Prior to structural adjustment, agricultural marketing in southern Africa was generally monopolised by the state, which controlled processing and transporting, domestic as well as export markets, and pan-territorial and pan-seasonal pricing (Ponte, 2000). Four main paths were followed in agricultural reform under structural adjustment: 1) a rapid withdrawal of the state, 2) a progressive disengagement by the state from the purchasing, processing and exporting of products, 3) relatively little liberalisation or, 4) in the case of exports, liberalisation of crop purchases with export functions remaining under state control. With regard to food crops in southern Africa, the first two occurred almost universally except in those countries where strategic grain reserves remained under the public sector. State control of the maize and rice markets was extensive, and included input subsidies and credit availability for producers, and consumer subsidies, among other controls (Paarlberg, 2002).

Overall food-crop production increases under structural adjustment were disappointing. Between 1990 and 1997 food production over the whole of sub-Saharan Africa increased 2.7 percent per annum, failing to keep pace with a 3% per annum population growth rate (Gibbon, 2000). Agricultural growth in general in sub-Saharan Africa grew only 2.3 percent between 1980 and 1990, and average annual growth rates in per capita gross domestic product were negative over the same period (Kherallah *et al.*, 2004). Further than this, however, the response of agriculture to structural adjustment policies is inconsistent between countries, and

there is no congruency in response between different agricultural commodities, or between export-crops compared to non-exports, which makes drawing general conclusions very difficult. Liberalisation was associated with success in the Ugandan coffee as well as in the Zimbabwean cotton sub-sectors, whereas elsewhere in Africa export successes have occurred where there has been relatively little structural adjustment (Kherallah *et al.*, 2004).

In general across southern Africa, however, one of the negative impacts of market liberalisation and the way it has been applied is thought to have been the removal of institutional supports that previously provided safety nets for the food insecure and smallholder farmers have become more vulnerable to livelihood shocks, particularly in times of market failure (Devereux, 2003). A further criticism of the 1980s policy agenda is that it assumed a high level of price-responsiveness amongst peasant farmers in Africa, whereas factors such as improved infrastructure have been found to have a more marked impact on production (Gibbons, 2000). The theory behind the unsatisfactory results of structural adjustment includes three broad generalizations (Friis-Hansen, 2000): 1) structural adjustment did not go far enough (e.g. Paarlberg, 2002), 2) structural adjustment went too far too fast, and 3) it took place without the appropriate institutional context or support.

#### **3.4.4 Regional and domestic trade policies**

The impacts of globalisation and structural adjustment on food security across southern Africa have provided some context to the regional and domestic trade issues that further shape food security across the region. National trade policies primarily have an impact on food security through food markets, which influence both the national consumption and the production of food at all scales (Baulch, 2001). In simple terms, agricultural-market enterprises undertake marketing transactions and transformations in order for agricultural supplies to be accessed by producers (input markets), and for food to be grown, sold, transferred to markets and purchased by consumers (output markets). Broadly, there are three schools of thought on the role of the public sector in agricultural and food markets (Baulch, 2001). The first holds that the state should confine its involvement to the provision of infrastructure and public goods and services that facilitate food marketing. The second holds that the strategic and political importance of food means it should be entirely controlled by the state. The third school holds that selective state interventions in food markets with regard to trade policy, price stabilization and market development/regulation are needed in certain situations (e.g. Devereux, 2001c). As discussed above, in most southern African countries state-monopolised trading systems were abandoned under structural adjustment; for some grains and export crops, however, parastatals continue to retain a significant element of control (Baulch, 2001). Supporters of

selective state interventions argue for government policy that promotes further liberalisation of markets, while also providing support for the development of private market institutions where these are failing to emerge or to succeed (Friis-Hansen, 2000; Baulch, 2001; IFPRI, 2002). Key areas include the failure of credit markets for farmers, and the provision of public goods such as infrastructure (Von Braun and Kennedy, 1994; Baulch, 2001; Kherallah *et al.*, 2004; Orden, Lofgren and Gabre-Madhin, 2004) (see Box 3.2).

The promotion of open trade between southern African countries, requiring the removal of both trade and non-trade barriers, is also seen by many as a necessary policy intervention that will stimulate economic development as well as food production and availability in southern African countries (Van Rooyen, 2000; Mino, Isaacson and Dardel, 2003; Mwiinga *et al.*, 2003; Nijhoff *et al.*, 2003). The development of national trade policies, moreover, needs to be part of a regional strategy of integrated policy development; both for regional economic growth, and in order to enhance the region's position in global agricultural trade (Van Rooyen, 2000).

**Box 3.1: The impacts of domestic trade policy: selected cases**

It has been found that Mozambique's open trade policy is in its national agricultural-sector's interests, and that the ability of its northern farmers to export maize to Malawi makes it possible for them to intensify maize production; in turn, Malawi's food security situation is also thought to benefit from its maize imports from Mozambique.

Source: Arlindo and Tschirley, 2003.

In Zambia the Food Reserve Agency was established in 1995, officially to oversee strategic grain reserves, but the Food Reserve Agency also made subsidised meal available to selected mills, thereby disadvantaging small-scale millers. The Agency also imported maize and sold it at below market prices, depressing the prices of food sold by local traders and destabilizing markets. Ostensibly the aim of the Zambian government was to assist in improving food security by making food more affordable, but in reality maize prices and local maize production suffer which translates to increased food insecurity amongst consumers. The government of Mozambique on the other hand, has very little involvement in domestic maize marketing. Structural adjustment took place early and aggressively and informal marketing and small-scale milling sectors grew rapidly, so that control of the domestic maize market has devolved entirely to the private sector. The result is that Mozambique probably has the most regular availability of maize grain and whole meals of any country in the region.

Source: Tschirley *et al.*, 1999.

Zimbabwe still has the Grain Marketing Board which is heavily involved in the domestic maize trade. The Board practises pan-territorial and pan-seasonal price fixing by government and is the sole legal importer and exporter of maize. There are a number of mechanisms involved, but the net result is that the benefits largely fall to high-end consumers and large-scale millers.

Source: Tschirley *et al.*, 1999.

### **3.5 THE 2002-2003 FOOD-SECURITY CRISIS**

Some of the key issues in the macro-policy environment of food security have been traced above. Reflections on the 2002-2003 southern African food-security crisis in the region further illustrate how it is a combination of factors, in particular structural and political stressors, that 'drive' food insecurity. The crisis has been described as the worst food crisis in southern Africa since the shortages of 1991-1992. In June 2002, the WFP and the FAO announced that some 13 million people in southern Africa were living on the brink of starvation (FAO/WFP, 2002). The countries worst affected by the crisis were Zambia, Zimbabwe, Malawi, Mozambique, Swaziland and Lesotho (Drimie, 2003; Meissner, 2002; Morris, 2002). In July 2002, it was estimated that 3.3 million metric tonnes of food aid was required to close the cereal gap in these six countries alone (Mbaya, 2003).

Although climatic stressors, such as drought throughout much of the region during the 2001–2002 crop season, have been cited as a contributing element in the crisis (Wiggins, 2003; Mbaya, 2003), the crisis has been broadly recognised as being more deeply rooted in a complex suite of interacting socio-economic conditions (Vogel and Smith, 2002). This is well illustrated in estimates that show maize that production in the SADC region during the 2001-2002 cropping season preceding the crisis was only about 5.5% below the previous five-year average (Mano, Isaacson and Dardel, 2002), suggesting that the crisis cannot be solely explained by poor harvests. Macro-economic conditions such as globalisation and trade policies, as well as local market conditions, play a significant role in food security across the region (Vogel and Smith, 2002). Some of these structural dimensions of the crisis are discussed below.

#### **3.5.1 Strategic grain reserves**

Maize production data indicate that during 2000-2001 cropping season in the SADC region maize production was lower than during the 2001-2002 season, but shortages were to some extent offset by the relatively high levels of strategic grain reserves (SGRs) (Mano, Isaacson and Dardel, 2003). Reserves were then depleted during 2001, and at the start of the 2001-2002 season SGRs were insufficient to close the gap in the production shortfall (SADC/FANR, 2003). The underlying premise of the use of SGRs by governments is the smoothing of food deficits in times of low production, as well as the stabilisation of domestic grain prices in times of regional and global price fluctuations due to changes in supply (Von Braun *et al.*, 2003). Maintaining the reserves, however, can be costly to government, and in most countries in the SADC region maintained reserves are well below the levels targeted in policy

guidelines (Mano, Isaacson and Dardel, 2003). While foreign currency reserves provide an alternative to holding grain reserves, for some countries, such as Zimbabwe, this is not viable due to problems with balance of payments (Mano, Isaacson and Dardel, 2003). This, together with the costs and logistical problems in maintaining regional grain reserves, have contributed to the lack of consolidated action on holding regional grain or financial reserves between SADC countries.

### **3.5.2 Food prices**

Accessibility to food, particularly for middle and low-income groups, is dependent to varying degrees on food prices. Even during years of regional surpluses, rural net food-purchasers and urban dwellers rely on market prices to secure some portion of their food needs (Mwiinga *et al.*, 2003). Consequently, sharp rises in the price of staple cereals in Lesotho during the 2002-2003 crisis greatly increased food insecurity for many households<sup>19</sup> (Sawdon, 2002), while in Malawi, the price of maize increased suddenly by 340% in 2002 which, along with prohibitively high costs of fertilizer and seeds, is considered one of the immediate causes of the food crisis in that country (SCF-UK, 2002).

### **3.5.3 Economic and trade policies**

Government policy on trade and market participation, as well as food price control and subsidies, also have a major impact on the price of food (Mano, Isaacson and Dardel, 2003), as they did on the varying ability of countries to fill their food gap during the 2002-2003 crisis. The involvement of the private sector in importing and maintaining food stocks, and the incentives for producers to grow food crops in preference to other cash crops, are largely dependent on opportunities for profit, which are in turn dependent on the extent to which markets are controlled by government interference and policies (Nijhoff *et al.*, 2003; Mwiinga *et al.*, 2003). While trade is generally liberalised in the cash-crop sector in the region, the participation of producers, traders and consumers in the domestic food market is highly influenced by government bodies and policies, such as grain marketing boards, in several of the SADC member states. Nevertheless the relationship between economic and trade policies and food security is by no means straightforward. Structural adjustment, for example, is argued to have had mixed effects across southern Africa, and the outcomes of liberalization are contested amongst commentators (see for example Stevans and Kennan, 2001; Omamo, 2003). It has been observed, however, that during the 2002-2003 food crisis, the SADC countries in which there has been the least government interference in domestic markets

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<sup>19</sup> A household may be defined as the smallest coherent economic unit (SCF-UK, 2000). It is used here to apply to a group of people who share food, income and other resources, often residing under one roof or in close proximity. A household is often but not always a family group.

(Botswana, South Africa, Namibia, Lesotho and Swaziland) have also experienced the highest levels of food security in the region over this time (Mano, Isaacson and Dardel, 2003).

The following three examples illustrate some of the government involvement in trade that apparently exacerbated the 2002-2003 food crisis:

- In Zambia, government subsidies during the crisis were not entirely passed on from the millers to the consumers, which further aggravated the food crisis (Nijhoff *et al.*, 2003). This illustrates the extent of the impact that government policy on trade and market participation, as well as food price control and subsidies, can have on the price of food (Mano, Isaacson and Dardel, 2003).
- In Zimbabwe, government banned the private sector from purchasing maize altogether, ostensibly in an effort to control prices and improve food security. The artificially high exchange rate and hyper-inflation, however, disabled the private sector's ability to cover costs of maize production and make profits, resulting in severe food shortages and corrupt parallel markets, putting food prices even further out of reach of the ordinary consumer. Control of food prices in Zimbabwe has also led to commercial farmers favouring non-food cash crops, the prices of which are not government controlled, further reducing food security in the country (Mano, Isaacson and Dardel, 2003).
- In a USAID analysis of the 2002-2003 crisis in Zambia and Mozambique, the findings were that government-imported maize was preferentially channelled to large-scale mills. Maize became unavailable to the small-scale local hammer-mills, which mill *mugaiwa*, an unrefined, cheaper and more nutritious maize meal. Low-income consumers were forced to buy processed maize, and so to exceed their normal maize expenditure (Mwiinga *et al.*, 2003).

#### **3.5.4 Conflict and war**

Political instability is seen as a further contributor to the food crisis. Instability encourages government policy and action aimed at short-term survival, rather than long-term poverty and food insecurity reduction strategies<sup>20</sup> (Mano, Isaacson and Dardel, 2003; SCF-UK, 2001). In Angola, for example, the 2002-2003 emergency has been associated more with the preceding four decades of conflict than with drought. Poor governance and war have led to millions of internally displaced persons (IDPs), an increase in HIV, inadequate access to healthcare,

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<sup>20</sup> See Appendix Two for the historical impact of conflict on famine and food security in Africa

damaged infrastructure and inadequate access to food and food production capacity (Steinberg and Bowen, 2003). Conflict and unrest have a direct impact on food security, not only through the disruption of production systems and the impact on, and of, refugees and IDPs, but also through the diversion of resources and political priorities. In turn, famine and food insecurity have a powerful impact on political systems and can contribute to increased unrest and conflict (Von Braun, Teklu and Webb, 1998).

### **3.5.5 HIV/AIDS**

The links between HIV and food insecurity are far reaching, and have been discussed in the previous chapter. They are widely acknowledged by development practitioners as playing a powerful role in the 2002-2003 food crisis (e.g. Morris, 2002; SADC-FANR, 2002; Holloway, 2003; Mano, Isaacson and Dardel, 2003; Mbaya, 2003).

### **3.5.6 Chronic food insecurity**

Labelling the recent food-security situation in southern Africa the '2002-2003 food-security crisis' risks the interpretation that the problem was a temporary aberration in an otherwise food-secure region. The structural components of the crisis outlined above emphasize, however, the chronic nature of food insecurity in the region. It is not possible to catalogue here the ongoing food insecurities of varying intensities that continuously arise in southern Africa over differing temporal and spatial scales, and that appear as surface eruptions of the deeper vulnerability - exacerbated in particular by the HIV/AIDS pandemic<sup>21</sup>. The following section provides an overview of the kinds of interventions that have aimed alleviate both short-term and chronic food insecurity through a variety of direct and indirect means.

## **3.6 A TYPOLOGY OF FOOD-SECURITY INTERVENTIONS<sup>22</sup>**

It is clear from the previous discussions that any number of human activities and policies in all sectors might intervene to promote (or inhibit) food availability and access. 'Solutions' or interventions, and 'drivers' or causes of food insecurity, then, become somewhat conflated. Nevertheless, there are a number of human interventions that are intentionally aimed at alleviating food insecurity, either directly or indirectly. An overview of these interventions is provided in this section which not only adds depth to the understanding of food security issues

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<sup>21</sup> See for example: SAHIMS, 2004; [www.reliefweb.int](http://www.reliefweb.int); [www.sahims.net](http://www.sahims.net); [www.wfp.org](http://www.wfp.org); [www.fews.net](http://www.fews.net); [www.sarpn.org.za](http://www.sarpn.org.za); [www.sadc-fanr.org.zw](http://www.sadc-fanr.org.zw).

<sup>22</sup> For an outline of food security policy interventions in South Africa see Appendix Three

in southern Africa, but which also provides an important context to considering the fifth objective of this thesis (Chapter Eight).

Four broad areas of food-security intervention may be identified, and are discussed below<sup>23</sup>:

- Health and nutrition interventions.
- Early warning systems and disaster management.
- Agricultural production interventions.
- Social protection interventions.

### **3.6.1 Health and nutrition intervention programmes**

Nutrition interventions are designed specifically to improve nutritional status, often by providing a form of supplementation in the short- to medium-term to relieve the nutritional symptoms of food insecurity. Nutrition interventions include (Young, 2001):

- *Nutrition and health education*
- *Micronutrient supplementation programmes*
- *Growth monitoring*
- *Nutrition rehabilitation – therapeutic feeding and treatment of micronutrient deficiencies*
- *Supplementary feeding programmes*

The ‘nutrition’ interventions reviewed here are primarily state-funded programmes (such as school feeding schemes). These are not dealt with separately but are discussed below under forms of social protection interventions.

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<sup>23</sup> While the categories outlined in this section are not intended to encompass all kinds of interventions, and while there are frequently overlaps between categories (for example policy often drives the development of disaster management or agricultural interventions), they nevertheless provide a suitable framework for introducing key issues, through a review of some the historical interventions regionally and sub-nationally that have had an extensive impact on both food-security realities and debates. Food-security interventions are not disconnected from the social and political system in which they are located; the welfare state itself – the system in which the government takes the chief responsibility for the provision of the social and economic security of a country’s population – is linked to a system of modern capitalism (Ife, 1995). Even a superficial discussion of the social policy and political literature would be beyond the scope of this thesis, but the point nevertheless needs to be made that, while the interventions canvassed above suggest that the answer to food insecurity lies largely with the welfare state, there may well be interventions or approaches ‘outside the box’, that constitute a different system of social provision altogether. Although this thesis is not a suitable forum to fully explore alternative political systems and social orders, the broader landscape of political and social structures inevitably shapes responses to food insecurity, and thus surfaces in many of the issues discussed in the remainder of this thesis.

### **3.6.2 Early warning and food-security monitoring systems, and disaster management**

The FAO's Global Information and Early Warning System (GIEWS) was established in 1975 to monitor global food supply and demand, to identify regions of imminent severe food shortages, and to quantify emergency food requirements. The famines of the 1970s and 1980s were nevertheless seen in part as a failure in timely and accurate information that would enable famines to be predicted, and the interest of governments, international organisations and NGOs in early warning systems grew in response (Quinn and Kennedy, 1994). The response to the famines of the 1980s, then, was the development of a 'new generation' of early warning systems in Africa, which made use of improved technology – such as remote sensing and electronic dissemination of information. In addition, there was an inclusion of variables influencing food access instead of purely those that were production orientated (Devereux, 2001a). In southern Africa, the Regional Early Warning Unit (REWU) was established under the then SADCC's (the predecessor to the SADC) Food Security Technical Advisory Unit in Harare. Since the 1980s, REWU has continued to co-ordinate regional food-security information. During the 1991-1992 droughts, considered the worst in the 20<sup>th</sup> century, REWU was considered successful in providing the information that led to timely food relief (Rook, 2001; Paarlberg, 2002).

Despite the not-insignificant successes during the 1990s of early warning systems in preventing mass starvation and saving lives, the systems have still been constrained by a number of limitations in addressing food security. The first is that they focus on averting acute food shortages associated with losses in food production due to drought, and thus fail to adequately monitor local-level and chronic food-security conditions, or structural vulnerability (see Chapter Two, Section 2.2 and 23) (Devereux, 2001a). The second limitation is that monitoring systems are usually better adapted to quantitative than qualitative data, and frequently rely on data captured by 'systems', which may not be timely enough (satellite information for example is frequently too late). They thus may be more useful for predicting food crises than for predicting structural food insecurity (Glantz, 2002).

In recent years there have been a number of early-warning/food-monitoring systems and processes that have begun to address these failings. Amongst the most notable are the SCF-UK household food economy approach (HEA) (electronically packaged as 'Riskmap') (SCF-UK, 2000), the Vulnerability Assessment and Analysis (VAA) process and related Vulnerability Assessment Committees (VACs), and the Food Insecurity and Vulnerability Information Mapping Systems (FIVIMS). The first, Riskmap, makes use of the baseline data of food economy zones gathered through semi-structured interviews with key informants in

each zone, where a food economy zone is an area that shares similar agro-ecological, production and trading characteristics. Baseline data capture the components of peoples' livelihoods, their major food shortages, and coping mechanisms in 'normal years', i.e. years 'most frequently occurring' (SCF-UK, 2000). Linkages between variables, and also between zones via shared markets, are included in the package for modelling change - some being dynamic, while others require manual estimation and input. Although failures in some of the methodology and assumptions made in developing the Riskmap approach have been identified (see Moseley and Logan, 2001), Riskmap and the HEA pay attention to issues of food access, representing an important conceptual advance in early warning systems. This focus on food access made the HEA case studies particularly suitable for use in the regional-level Meta-Analysis in this thesis.

The second food monitoring process briefly reviewed here is the SADC Vulnerability Assessment and Analysis (VAA) process, implemented through the Regional Vulnerability Assessment Committee (RVAC), and initiated in 1999 (RVAC, 2005). The RVAC is a multi-agency committee established under the FAO with the support of FEWSNET, the WFP and the UNDP (SADC, 2005). Early on, the RVAC was tasked with *'keeping abreast and encouraging co-ordinated development in the field of vulnerability assessment in the southern African region'* (RVAC, 2005). In 2001, a RVAC conceptual framework was developed that echoed the HEA approach of SCF and FEWSNET, aimed at understanding livelihoods issues, and monitoring livelihoods shocks (SADC, 2005). In 2002, however, the mandate of the RVAC shifted to emergency assessments in the light of the growing food-security crisis in the region. These assessments were implemented through the National VACs, and were heavily influenced by WFP analytical approaches (RVAC, 2005). Among criticisms of RVAC has been those by the National VACs that the RVAC focus has been commandeered by food-aid and emergency response needs, and so has neglected structural issues (Drimie and Vogel, 2005; RVAC, 2005). The forward-looking VAA process has accommodated some of its previous failures in a five-year plan underway (2005-2009) aiming to: strengthen relationships between the RVAC and NVACs and other institutions operating in the area of food insecurity and vulnerability analysis; improve the coordination of vulnerability assessments led by the NVACs; and better inform policy formulation, development programmes and emergency interventions in the SADC region (SADC, 2005).

Finally, the third monitoring system that has begun to address issues of food access and structural vulnerability is FIVIMS. FIVIMS is an inter-agency global move, led by the FAO, to provide decision makers with more reliable information about where the food insecure are,

and the determinants of their vulnerability for monitoring and addressing food insecurity, hunger and malnutrition (Verduijn, 2004). In a response to the 1996 World Food Summit, FIVIMS is currently being piloted in the southern African countries of Namibia, Kenya, Mozambique and South Africa. FIVIMS has recently been piloted in Sekhukhune land South Africa during 2004/2005, as a first attempt to more thoroughly and holistically provide a tool for modelling and monitoring food insecurity, and vulnerability to food insecurity, making use of multi-disciplinary input (Drimie and Verduijn, 2004). Currently in its second phase, it is envisaged that lessons from the pilot can be moved into practical applications at broader scales in South Africa towards strengthening government food-security programmes (DOA, 2005). Some early lessons from the first phase of FIVIMS in South Africa are highlighted here. The first lesson is that the pilot failed to adequately engage all user groups among government Departments, such as Public Works, Education, Social Development and Health (DOA, 2005). Accordingly, a greater focus is planned in the second phase on developing working relationships between government institutions, and with external partners, to share lessons and avoid duplication of efforts and wasted resources. Considering the criticisms in the Delphi Survey (Chapter Six) of the South African Food Security Strategy, it is hopeful that such collaboration might help amend some of the Strategy's key areas of weakness (See Appendix Three). Other institutional challenges met during the first phase of FIVIMS include difficulties with inter- and intra-departmental relations in South Africa, the need for better co-ordination at various levels of government, the need to build capacity in interpreting and sustaining processes such as FIVIMS, the need for better technical support, and the need for greater political will (FIVIMS-ZA, 2005).

The extent and value of the FIVIMS contribution to the development of effective interventions for food security in the long term remains to be seen, but it is - at least conceptually - an important advance from predicting the locality of the next needed disaster response, towards strategically planning for addressing the underlying causes of food insecurity.

The above discussions introduce the broader issue of disaster management in southern Africa. In as far as early warning and monitoring systems have been 'disaster response' systems, they have gone some way in reinforcing a reactive and relief-orientated response to food security in southern Africa, as opposed to building local capacity and resilience. An unintended outcome of the international humanitarian assistance during the 1990s *'may have been to discourage local initiative for the ownership of and responsibility for disaster risk'* (Holloway, 2003:4) One problem that has been identified in this regard is the divide in southern Africa between

mitigating disaster through development strategies that reduce vulnerability (which should be driven by governmental ministries and development NGOs), and managing disaster ‘events’, which is currently driven largely by international operational responses<sup>24</sup> (Holloway, 2003). A second problem is that while financial support locally and internationally is provided for disaster management, this support seldom goes into long-term mitigation of disasters despite mitigation being one element of the disaster management cycle. For example, in the recent 2002-2003 food-security crisis in southern Africa about 65% of total needs have been covered in the food sector, while no contributions have been recorded in the sectors addressing economic recovery, infrastructure, education and non-food items (Holloway, 2003). The real food-security crisis facing southern Africa is a ‘creeping’ vulnerability; rooted in structural socio-economic and political conditions, leading to ongoing livelihoods failures and malnutrition, and lowering resilience to environmental hazards (Devereux, 2001a; Holloway, 2003).

### **3.6.3 Agricultural production interventions and the green revolution**

There are any number of ‘grass roots’ interventions that aim to reduce poverty, improve basic community infrastructure and livelihood opportunities – interventions at the local-level that impact directly on people’s livelihoods and food security. Only agricultural interventions are focused on here, partly because of the still-prevailing development lexicon that sees food insecurity as a crisis of agriculture. This is borne out by the focus on agriculture in development found in the Delphi Survey. At broader scales, one of the principle strategies proposed in halving global hunger under the UNDP Millennium Project, for example, is a ‘doubly green revolution’ – particularly for farmers in higher risk environments (Scherr, 2003).

#### *High yielding varieties of maize and strategies to increase production*

Although there are many farming systems employed in southern Africa, as shown in Chapter Two, the most dominant of these in terms of the agricultural population (but not necessarily the most important to food security), is the ‘mixed maize’ system. This system is characterised by maize and cassava production, cattle pastoralism and remittances from employed household members (Dixon, Gulliver and Gibbon, 2001). Maize is seen as the critical staple crop in the region, and accounts for roughly 74% of the cereal tonnage produced (FAOSTAT, 2003).

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<sup>24</sup> Food aid is one such form of international response to food crises, but is dealt with in Section 3.6.4.

Research into high-yielding varieties (HYVs) of maize began in southern Africa in the former Southern Rhodesia, and Kenya. After 28 years of research, the Southern Rhodesian agricultural service bred the maize hybrid SR52 in 1960, and the brand was adopted by 90% of commercial farmers in Rhodesia and Zambia within 10 years (Eicher, 1995). The impact on productivity of these early successes is considered by some commentators to have been limited due to the lack of location-specific breeding (Evenson and Gollins, 2001). After 1980 the research began focusing on the needs of smallholder farmers, as well as support for improved seed marketing, credit availability and agricultural extension. HYVs that were bred specifically for African conditions were also becoming available. National research programmes in Zambia began in the mid 1970s, and in Malawi in the 1980s. Research programmes in southern Africa were extensively supported by international agricultural research bodies, such as the CIMMYT.

Today, just over one third of the maize area in southern Africa is currently estimated to be under HYVs. Hybrid maize varieties have been found to typically increase yields by 40% over local varieties under farm conditions, and open-pollinating varieties increase yields by 15-25%. Research shows, however, that productivity gains from HYVs in southern Africa were the lowest of all developing regions (such as Asia) - about 28% over 11 major crops (Evenson and Gollins, 2001). Regional disparities have been attributed to a number of factors at the local level, including, first, low rates of adoption amongst farmers. In the case of Malawi, for example, it has been found that local maize still dominates among smallholder farmers. Some of the reasons given for this include the fact that local maize produces more flour per unit from the mortar than hybrids, stores better than hybrids and is more resistant to weevils, and requires lower labour, fertilizer and seed costs (Peters, 1999). The significance of the issue of seed storage capacity is best seen against the background of fluctuating regional and local food availability and prices, and the fact that seed can be used as a food source or for replanting depending on household needs. Additionally, at a broader scale, regional strategic reserves are increasingly less likely to be maintained, in part due to cost (Van Rooyen, 2002), so that on-farm storage is increasingly critical to food security at the household level. The view that local varieties of maize have advantages to small-scale farmers not offered by hybrids was supported by more than one panellist in the Delphi Survey. Other reasons cited for poor results from HYVs, attributed to differences in investment and time lags in research, include inappropriate crop mixes and poor inherited crop knowledge, and weaknesses in the effectiveness of the varieties themselves (Evenson and Gollins, 2001).

Recent varietal developments in the region are, however, considered very promising (Evenson and Gollins, 2001). In the mid- to late-1990s the Southern African Drought and Low Soil Fertility Project (SADLF), and the Africa Maize Stress Project (AMS), were instituted which both aim at developing varieties specifically for African conditions and to reach resource-poor farmers and overcome constraints presented by chronic water stress and nitrogen-depleted soils (Banziger and Diallo, 2000).

For some observers, the failure of the Green Revolution to take hold in southern Africa is due more to regional-scale socio-political and economic circumstances than to failures in the hybrids themselves. Many of these factors are discussed above, and include reductions in government subsidies which is thought in recent years to have contributed to stalls in production gains, weak institutions and government policies, poor market access, low household resources, and lack of education to name but a few (Peters, 1999; Scherr, 2003) (See Box 3.1).

**Box 3.2: The political and institutional failures of Zambia's Green Revolution.**

Beginning in the 1970s, the government of Zambia along with donor organisations invested in enabling smallholder agriculture through higher-yielding maize varieties, as well as by promoting agricultural credit support, and seed and fertilizer availability. By 1992, 60% of small- and medium-farm maize area was under high-yielding varieties. The main impact of price controls and marketing subsidies was, however, to redistribute rather than increase aggregate maize production, from commercial to smallholders in remoter areas. The cost of government support, particularly the marketing costs of transporting inputs to and maize from farmers in remote areas, were unsustainably high. The effects of subsequent structural adjustment and liberalisation of markets were to reduce the extent of planted HYVs to areas less reliant on subsidised market structures, and closer to markets and transport routes. Moreover, there were no incentives for the bodies implementing the maize policies to keep down costs, which led to inefficiencies in the market and a poor transition from public to semi-privatised and privatised marketing structures. Finally, when Zambia became a one-party state, the UNIP ruling party estranged itself from the support of key economic interest groups able to move the country in an economically and politically viable direction.

Source: Howard and Mungoma, 1996.

Cleveland (1991) gives an excellent review of some of the premises on which Africa's Green Revolution have been based, and why they are problematic. Three arguments summarised here include: the ethical debate of control of genetic resources, which in the case of Green Revolution varieties would be in the hands of international organisations such as the International Agricultural Research Centers (IARCs) of the CGIAR - essentially in the hands of the developed nations rather than in the "*gardens and fields of African farmers*" (Cleveland, 1991:300). The second is that indigenous agriculture is discounted, and with it

locally-adapted indigenous varieties which have a high degree of intraspecific variation (i.e. many different varieties occurring under the same species) and thus have the genetic pool to adapt to changing environmental conditions. They are instead replaced by decreased genetic diversity requiring higher external agricultural inputs (see also Heisey and Edmeades, 1999). The trade-off, as Cleveland puts it, is between “(short-term) production on the one hand, and stability and diversity on the other” (Cleveland, 1991: 330). The third argument is that the Green Revolution is based on Western agricultural models which do not account for the mixed and multiple food-cropping systems endemic to African agriculture which, evidence suggests, may produce more food and greater nutritional variety than single-stand cropping systems.

The ‘doubly green revolution’ proposed to meet Africa-specific challenges has the notion of sustainability tacked onto it – in other words it aims at both greater productivity and use of the environment that is more sustainable. Some proponents promise to put economic and social reform and livelihoods-level needs at the forefront of research (Conway, 1997). For other protagonists of a ‘doubly green revolution’, such as the task force for the Millennium Project, sustainable technology and increased commercial production are the central themes (Scherr, 2003). Wherever the truth lies of the potential to increase maize and agricultural production through another green revolution, research indicates that there is a very weak relationship between poverty and the biophysical marginality of agricultural land (Heisey and Edmeades, 1999); poverty and food insecurity are clearly determined by a number of factors over and above poor agricultural production. This view is highlighted in the research that follows in this thesis.

#### *Soil fertility enhancement*

At the heart of international concern over Africa’s agricultural production crisis, are declines in soil fertility in southern Africa that are considered to be a major limitation to gains in maize yields in particular (Kumwenda *et al.*, 1996; Sanchez, 2002), and many regional and international agricultural experts see improved soil fertility as the key to closing food production deficits across the region (Weight and Kelly, 1998; Gabbre-Madhin, 2001). A questionnaire to survey expert opinion on successes in African agriculture found that soil replenishment was an important activity-specific agricultural success (Gabbre-Madhin and Haggblade, 2001; 2003)<sup>25</sup>. There have been a number of soil replenishment advances in the last 10 years (Gabbre-Madhin and Haggblade, 2001; 2003), and tens of thousands of farm

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<sup>25</sup> The criteria for success, set by the respondents themselves, were net welfare improvements (i.e. not just increased food production), sustainability (both environmental and social) and a broad-based impact (i.e. not resulting in an increase in wealth disparity).

households are purportedly using one or more of the approaches that have been developed in southern Africa. In the Zambezi basin alone, for example, around 20 000 farmers are currently employing improved fallow systems (Sanchez, 2002). The challenge now is the development and adaptation of techniques so that they are transferable to a broad range of geographic settings, and can be scaled up to benefit millions of farmers across the region (Sanchez, 2002; Gabre-Madhin and Haggblade, 2003). The simultaneous development of government policies that stimulate southern African farmers to invest new techniques will, however, also be a critical challenge (Weight and Kelly, 1998).

### **3.6.4 Social protection interventions**

While agriculture has far-reaching ramifications for food security at all scales in southern Africa, as has been illustrated in this chapter, food insecurity is embedded in the range of social and economic conditions that shape people's vulnerability and the development environment. Social-protection interventions, defined broadly, do not only cover social-security transfers from the state to the vulnerable, but theoretically include creating an enabling development environment so that people are able to meet their own needs through a variety of means (Norton, Conway and Foster, 2001). Thus the range of interventions that might fall under the banner of 'social protection' is extremely broad and permeates all sectors. Just five social protection interventions that fall under a narrower definition of social protection as transfers of one form or another, however, have been selected here for brief review:

- Government grants
- Public works programmes
- Agricultural subsidies and hand-outs
- School feeding schemes
- Microfinance institutions
- International food aid.

#### *Government grants*

Government grants are a form of social protection in which income transfers are made to certain vulnerable groups within society. In 1990 Mozambique initiated an urban social security cash-transfer programme that was found to have a number of nutritional benefits, and also successfully reached the lowest income portions of the population (Von Braun, Teklu and Webb, 1999). Similarly, South Africa's and Namibia's many years of social pension schemes have sustained millions of poor people, and have in many cases contributed to the education of grandchildren by pensioners (Devereux, 2002). The majority of the poor and most

vulnerable in southern African countries, however, are not covered by any kind of cash transfer or social security system, and frequently, where they are covered, the systems for implementing them may be weak to the point that such transfers never actually reach the most poor or food insecure for a variety of reasons (Norton, Conway and Foster, 2001). Government grants have suffered the same criticism as other transfers (see below), including the drawbacks identified of such grants leading to dependency on state resources and a lack of investment in long-term strategies to mitigate food insecurity (see Delphi Survey results in Part Three).

*Public-works programmes (food-for-work, cash-for-work, food vouchers)*

Public-works programmes require work in exchange for food, cash or other transfers, and aim to alleviate poverty and food insecurity, and/or provide short-term emergency relief from shocks. Public-works programmes can either be aimed at the short-term provision of food or other transfers in times of shock or food crisis, or at contributing to long-term development objectives via two mechanisms. The first mechanism is through smoothing the impacts of coping strategies employed in times of crisis that have long-term negative trade-offs leading to deeper livelihood vulnerability (e.g. Haddad and Frankenberger, 2003). The second mechanism is by allowing beneficiaries to invest or convert assets that would otherwise have been needed in ongoing livelihood strategies that have a better return on investment, such as farming inputs versus food expenditure (Devereux, 2002; Barrett, Holden and Clay, 2004).

Difficulties and drawbacks in public works programmes of all kinds that prevent them from having a meaningful impact on food insecurity, frequently relate to one or more of the following issues (Devereux, 2002; Barrett, Holden and Clay, 2004):

- Means testing, geographic targeting and self-selection based on work requirement have been found to be the most successful methods of selecting or targeting beneficiaries (Coady, Grosh and Hoddinot, 2004). There are, however, drawbacks and costs associated with all targeting mechanisms, including the popular mechanism of self-selection.
- The choice between cash versus other kinds of transfer, such as food or agricultural
- Whether the assets created by work meet project objectives in terms of quality, or in terms of intended impact on poverty, vulnerability or food insecurity
- Whether the transfers themselves meet the needs of the beneficiaries
- The extent of transfer costs – in terms of administration of the programme
- Sustainability.

Food-for-work (FFW) programmes have become increasingly popular in southern Africa in recent years (Von Braun, Teklu and Webb, 1998), and aim to provide beneficiaries with at least the minimum of their nutritional requirements in exchange for work, while to some extent decentralising the identification of beneficiaries and the control over development projects (Barrett, Holden and Clay, 2004). Ethiopia has the largest investment in FFW in Africa, most of which has been channelled into natural resource conservation and road building. Although evidence is mixed and dependent on a number of factors, there is evidence to support the following lessons in Ethiopia (Barrett, Holden and Clay; 2004):

- The food provided is frequently of international food-aid origin, rather than sourced locally, and this sometimes has the negative impact of depressing local food demand and food prices.
- While the process of self-selection employed in food-for-work programmes is one of its greatest strengths, not only because of the saving in administrative costs of identifying beneficiaries, but also because it results in a strong devolution of benefit to the poorest and most needy, the self-selection process has also led to significant errors in programme targeting. In brief these may include errors of inclusion (where the non-poor participate), exclusion (where the most needy do not), and situations where beneficiaries do not conduct the work required to receive food. Such errors are influenced by the physical ability to work (influenced by factors such as age, health, HIV/AIDS, responsibility for children), the criteria for eligibility such as wages (the threshold wage below which individuals can choose to participate), assumptions around household values in relation to pre-programme wages, and corruption in implementation.
- In Ethiopia programmes have provided disincentives for farming and have led to decreases in labour and land productivity. These disincentives appear to be highly dependent on the kind of public goods produced as well as local market conditions, among other things.
- ‘Crowding out’ of private transfers between community members has occurred, thereby reducing community cohesion and interfering with internal coping mechanisms. The process of self-selection does not necessarily increase social capital – as has been conjectured – and can actually lead to impoverishment in social capital through exclusions of one or another group within the community. Moreover, once community services have been rendered for a fee, participants are less likely to want to make unpaid investments in building community assets, undermining what may previously have been a functioning system of social-capital investment by community members.

- Consideration must be given to the quality of the public good produced by such programmes. Evidence from research in Ethiopia, for example, found no long-term improvement in food security resulting from the public assets created on food-for-work programmes there.

Key conclusions include, first, the need for solid planning so that they are timed either to be ready to run in the event of an emergency, or to meet development needs as they emerge (Barrett, Holden and Clay; 2004). Second, food-for-work programmes cannot meet both short-term and long-term objectives effectively, as there are distinct trade-offs involved in the methods of each, and project objectives need therefore to be absolutely clear. Thirdly, the programmes are best implemented when the private market demand for labour cannot meet the supply of surplus labour in times of crisis or shock. Finally, the programmes work best in areas in which vulnerability is not defined by ill health, such as HIV/AIDS, or physical disability (see also Devereux, 1999). An approach to bridge the 'food gap' that will increase food production, or increase opportunities for farm sales or off-farm activities, may be preferable to bridging the gap through food transfers which are not aimed at improving livelihood systems for long-term benefit. There is, moreover, a risk of dependency, which further curtails the likelihood of self-help initiatives and may lead to distortions in the labour market (Devereux, 1999).

#### *Agricultural subsidies and hand-outs*

A further form of social protection lies in agricultural subsidies such as the 'starter packs' programmes in Kenya, Malawi, Zambia and South Africa (Devereux, 2003). The acknowledgement that the withdrawal of government agricultural subsidies under structural adjustment (particularly for inorganic fertilizers) has not been replaced by effective privatised support, has led to government hand-outs such as agricultural starter packs which include basic agricultural inputs such as seed and fertilizer, and may also include tools such as hand hoes. Starter pack programmes require a thorough needs analysis, careful timing, good extension services to assist in their use, as well as careful targeting of beneficiaries (See the Delphi Survey results, Chapter Six). Moreover, like supplementary feeding schemes (discussed below), starter pack programmes pose questions of sustainability (Devereux, 2003). The starter pack programme in Malawi, for example, has been credited with improving both household and national food security since its inception in 1998, but conversely is seen as contributing to the 2001 production failure after it was significantly scaled back (Devereux, 2003).

*School feeding schemes*

School feeding schemes are intended to have the double impact of raising child nutrition status while increasing school enrolment and attendance rates; though in 1995 the World Food Programme excluded the former objective of raising child nutrition status from their food aid policies (Devereux, 2002). Research indicates both positive impacts on nutritional status, cognitive ability and school attendance (e.g. Adato, Ahmed and Lund, 2004), as well as no impact, depending on the target groups. Apart from the drawbacks of emergency relief for short-term food crises (discussed above), one argument against long-term nutritional support, such as school feeding schemes, is the fiscal and logistical constraints to implementing them that are faced in developing and undeveloped countries (Devereux, 2001a).

*Microfinance institutions*

Microfinance institutions provide the poor with financial services that may be used to reduce livelihood risks. They may provide access to credit or loans which can be used in times of acute need in order avert coping strategies that have long-term negative impacts on livelihoods (such as removing children from school to purchase food) (Norton, Conway and Foster, 2001). Microfinance may also provide access to saving facilities which have the potential to create a buffer to financial shocks. The success of microfinance institutions in improving livelihoods and food insecurity is largely dependent on the state of the macro-economic environment, as well as on the quality of the institution itself (Zeller, 2000).

Research shows that the provision of microfinance services to the rural poor in Malawi, as well as in a number of developing countries worldwide, increases the ability of households to continue with essential expenditures in the aftermath of shocks, and can successfully reach the poorest quintiles of the population (Sharma, 2000; Zeller and Sharma, 2000; Zeller, 2000; Lapenu, 2000). Researchers acknowledge, however, that it is difficult to account for the exact processes by which poverty is affected, that generalisations may be dangerous, and that a supportive policy environment is needed, along with innovative developments that make it increasingly possible for institutions to cover their costs in offering services in remote or poorly-integrated areas (Sharma, 2000).

*International food aid*

In 2001, food-aid cereal comprised about 15% of southern Africa's total cereal imports (See Figure 3.3). Although food aid in southern Africa in recent years represents a smaller proportion of total imports than in the 1970s and 1980s, it continues to be an important source of regional food supply. Its sustainability as such, however, is questionable because the trend

of food-aid supplies dropping, not only as a percentage of all imports, but also in absolute tonnage imported (Stevens and Kennan, 2001). It has also been an unstable source of regional cereal since, irrespective of need, international price volatility, food stock levels, and changing donor budgets have made its supply highly variable (Clay, 2000).

A question that arises is, ‘what impact does food aid have on the functioning of markets and local-level livelihoods’? In the case of markets the impact will be influenced by whether food aid acts to depress either the production of food (at any time scale) or food prices, which will be partly determined by the targeting of food aid and the availability and price of food on local markets (SADC/FANR, 2003). For local-level livelihoods, issues of negative dependency, disincentives for long-term strategies and even dietary risks have all been raised in the argument against food aid (Von Braun, Teklu and Webb, 1999). Food aid has undoubtedly played a fundamental role in providing emergency relief from hunger through both relief (food aid in times of famine) and developmental food aid (food aid provided to governments for sale), but what role has it played in building livelihoods and mitigating food insecurity? Clay (2000) finds that there is a lack of robust evidence to support its impact on reducing poverty or food insecurity, and that financial aid for investment in long-term development strategies may be a more powerful way of addressing these needs.

A complicating issue is that of genetically modified food. The debate is complex and cannot be fully examined here, but there is a valid concern that local gene pools may be contaminated by genetically modified (GM) imported agricultural commodities, with long-term detriment to the environment and to agriculture. There are also other highly controversial issues around biotechnology and GM foods related to issues of ethics and property rights (e.g. Odame, Kameri-Mbote and Wafula, 2003). During the 2002-2003 food crisis, the GM controversy was enough to cause significant delays in supply, higher costs of transfer and an overall decrease in food aid deliveries in many southern African countries; although at the onset of the crisis only South Africa had a clear policy on importing GM commodities, and only Zambia had completely banned genetically modified food aid (Mano, Isaacson and Dardel, 2003).

### **3.7 THE FOOD INSECURITY LANDSCAPE OF KWAZULU-NATAL AND THE CASE-STUDY COMMUNITY**

The above sections have provided an overview of indicators associated with food insecurity, a sense of the policy environment that is understood to be an underlying determinant of food security across southern Africa, and a profile of the food security ‘interventions environment’.

In this section the food-security environment in KwaZulu-Natal and the case-study community is traced in order to further contextualise the provincial and local-level research.

### **3.7.1 Rationale behind the selection of KwaZulu-Natal**

Among southern African countries the statistical indicators show that more people in South Africa are able to fulfil their basic food needs than in other countries, and that compared to the rest of the region, South Africa has the lowest prevalence of malnutrition in children under five years - about 9.2% (Figure 3.1). The country also has a relatively high level of average per-capita food availability and income in comparison to its regional neighbours. Even in South Africa, however, average food availability and consumption, and average income do not reflect the experience for hundreds of thousands of South Africans for whom extreme poverty, food insecurity and hunger are a daily reality. Moreover, South Africa does not function in isolation from the rest of southern Africa. Food crises that are felt more severely in other countries in the region have multiple implications for food security realities, planning and policies amongst South African people (HSRC, 2003a). Food insecurity in the country is such that it has been acknowledged as a national priority for government policy development and public spending since 1994 (Department of Agriculture, 1997; See Appendix Three).

Within South Africa, the province of KwaZulu-Natal has the highest prevalence of HIV/AIDS, together with poverty characteristics that indicate a particularly high risk of food insecurity compared to South Africa's other eight provinces; together, these indicators suggested the province for the focus of the provincial and local-level research. The recent South African National HIV Survey put the prevalence of HIV/AIDS among people 2 years old and older in KwaZulu-Natal at 16.5% (HSRC, 2005). The multiple links between HIV/AIDS and food insecurity discussed above suggest that the effect of HIV/AIDS on food insecurity will be greater in coming years in KwaZulu-Natal than in other provinces in South Africa. The following quote highlights some of the key issues arising in recent research on the impact of HIV/AIDS in KwaZulu-Natal (Cross, 2002):

*".. perhaps the main consequence of the AIDS pandemic (in KwaZulu-Natal) has been a rising level of economically non-viable households left adrift in rural communities to support themselves as best they can. Many of these are structurally weak households – groups of people thrown together by the effects of disease. Because rural communities require marriage as the basic condition to hold land and community citizenship, and because marriage is difficult and expensive to arrange, takes time and normally comes fairly late in life, many of these households are not seen as legitimate in their communities, even if all the members are born there."*

Aside from the risks associated with HIV/AIDS, KwaZulu-Natal has the second-highest concentration of poor rural residents after the Eastern Cape (HSRC, 2003a). Almost 87% of the 'chronically poor' in KwaZulu-Natal reside in rural areas (Aliber, 2003), and the rural poor in South Africa are seen as experiencing food insecurity more acutely than urban areas of the country (Statistics South Africa and UNDP, 2003). The extent of those affected by poverty in the province has also increased from 26.8% in 1993 to 42.5% in 1998 (IFPRI, UKZN, and UWM, 2003), and unlike in other provinces the severity of the poverty of those classified as poor rose over the same period from 27 to 33% (Carter and May, 2001, in Adato, Lund and Mhlongo, 2004). A further characteristic of poverty in KwaZulu is that it also has by far the widest aggregate poverty gap of all provinces in South Africa (at 18.1 billion rand), which is the aggregate measure of the gap between each poor household's income and the poverty line; in other words it is a measure of the depth of the province's poverty, rather than just the breadth (HSRC, 2004).

### **3.7.2 Political history**

The above indicators of HIV/AIDS and poverty in KwaZulu-Natal serve to introduce two important socio-economic dimensions of the current food-insecurity environment of the province. There are, however, a number of other important dimensions to this environment that might be considered. Biophysically, the nature of KwaZulu-Natal's predominantly rural areas vary considerably, from extremely hot sub-tropical coastal areas, through savannah grassland, to inland areas that have harsh, cold winters (Ross, 1999). Accounting for about 25% of South Africa's water supply and receiving about 690mm of rainfall a year (Lehohla, 1999), the agricultural potential of the province's vast rural areas is thought to be grossly underutilised (DOA, 2003). The food security of the rural poor in KZN, however, has been mapped less by the agricultural potential of the land than by the political history, which has been inimical to the well-being of the majority of KwaZulu-Natal's black, rural residents. Years of racially divided development and black 'homelands' under apartheid have largely shaped the current state of poverty, low agricultural inputs and scattered families due to migrant labour that characterise these areas (Glaser, 2001).

On top of the enormous challenges above facing the rural poor and arising in South Africa's history of apartheid, is a legacy in KwaZulu-Natal of widespread political violence. According to some sources, violence in KwaZulu-Natal, driven by political tensions, has claimed the lives of as many as 20,000 people since 1984 (Glaser, 2001). The reasons for this political violence are multifaceted and cannot be explored fully here. One powerful dimension of this history, however, was the support that the Inkatha Freedom Party (the IFP, which remains the

dominant party in KwaZulu-Natal in terms of electoral support) received from the apartheid state and its security forces, in opposition to the United Democratic Front (UDF) and the African National Alliance (ANC) with its armed wing Umkhonto we Sizwe (MK) - under the old apartheid dictum 'divide and rule' (Ross, 1999). Conflict between party supporters has, however, continued since the moves to democracy in South Africa, and is complicated by being conflated with local-level issues such as tribal affiliation and land disputes (Taylor, 2002). The ongoing threat of conflict is reflected in fatality estimates; more than half the conflict-related fatalities in KwaZulu-Natal are estimated to have occurred since 1990 (when the South African ruling party, the National Party, un-banned the ANC and committed itself to democratic change), and since the first democratic elections in 1994, around 2,000 people are estimated to have been killed in political violence in the province (Taylor, 2002).

### **3.7.3 Other important institutional considerations**

Against this background of HIV/AIDS, poverty, apartheid, and tumultuous conflict and violence, a further significant contemporary institutional issue in KwaZulu-Natal is briefly introduced here, particularly since it is reflected in the findings of the research in the local-level research. This dimension is the tension between authority over community leadership and land administration residing in the traditional tribal structures on the one hand, and government institutions on the other.

In brief, traditional or indigenous black leadership exists in many (but not all) rural communities in KwaZulu-Natal. In this structure the chief is the most senior political power under the Zulu king, while community 'headmen' are the next in the line of authority (DPLG, 2003b). Tribal structures are officially recognised by the South African Government under the White Paper on Traditional Leaders in Local Government, wherein traditional leaders are cited as the 'custodians of tradition and culture' who should play an 'advisory, promotional and supportive role' in local governance (DPLG, 2003b:72).

On the other hand, government institutional arrangements include a system of wards (a ward is a demarcated constituency allowed under certain types of municipality) (DPLG, 2003a). Ward committees, which are community-based advisory bodies legislated to report either to government through the ward councillor, or to the metro or local council and/or other government bodies (IDASA, 2002; DPLG, 2003a). All community interest groups are intended to be represented on the ward committee, although the number is limited to ten members excluding the ward councillor; these interest groups are explicitly legislated to include traditional leaders. Ward councillors are in turn intended to represent community

needs and chair the ward committees, which comprise elected members from the communities falling into a ward. The Municipal Structure Act 117 of 1998 defines the institutions necessary to democracy within municipalities, wherein ward committees are identified as the lowest legal government structures intended under the post-apartheid dispensation to promote participatory democracy (DPLG, 2003a).

Many of the tensions between traditional and government structures are rooted in the history of colonial and apartheid government's encouragement of traditional institutions at the local level to fulfil or facilitate functions such as services administration, welfare provision, conflict resolution and land administration, which are in fact the legal duty of government departments at other levels (Alcock and Hornby, 2004). The pursuit in South Africa of 'marrying' indigenous structures with the westernised government institutions has been fraught with difficulties (Glaser, 2001; Chimbuya et al, 2004; Alcock and Hornby, 2004). The absence of specific guidance given in government documents as to exactly how traditional leaders should be integrated with government bodies, or how they should be represented at ward level (Chimbuya et al., 2004) has contributed to these difficulties. Further, community-elected development committees, such as the Civic Association in the case-study community, may hold significant leadership roles in communities in KwaZulu-Natal, but their role is undermined through their having no legislative standing (Chimbuya *et al.*, 2004). In the local-level research, the dynamics of a leadership 'triangle' - the traditional leader, ward councillor and community development committee - are found to undermine the sustainable development of the case-study community towards food security.

#### **3.7.4 Previous research in KwaZulu-Natal and social capital findings**

A brief review of research that has been undertaken on development issues in KwaZulu-Natal serves to further contextualize the research at the provincial and local levels. There have been numerous development studies undertaken in the province, including extensive research into the impacts of HIV/AIDS (e.g. Cross, 2002). Other work indicates that larger households in the province, and further that those households headed by women, may be among the most at risk of poverty (Shinns and Lyne, 2004).

One of the most influential of studies in KwaZulu-Natal has been the KwaZulu-Natal Income Dynamics Study <sup>26</sup> (KIDS), which has yielded a wealth of data about livelihood dynamics and

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<sup>26</sup> The KIDS data were drawn from two comprehensive, quantitative household surveys conducted in 1993 and again in 1998, which together have constituted a unique benchmark for household poverty surveys in South Africa (Adato, Lund and Mhlongo, 2004). The first survey, the Project for Statistics

has been used in a number of secondary analyses. These analyses together offer a greater understanding of food insecurity and social capital in the province for the local-level research of this thesis. Among the many analyses, key findings around social capital that are most relevant to the local-level research are summarized briefly here:

- Trust is a critical determinant of membership in financial groups; group membership generates trust in non-local agents; and group membership leads to greater well-being (Haddad and Maluccio, 2002).
- Social capital (as measured by characteristics of group membership) can have a positive and significant impact on per capita total expenditure (Maluccio, Haddad and May, 1999).
- While the positive effects of social capital on expenditure are large, they are still less than the effects of education on expenditure (Maluccio, Haddad and May, 1999).
- Households in communities in KwaZulu-Natal with more social capital seem better able mitigate the negative impact of shocks on child nutrition status (Carter and Maluccio, 2002). Evidence from this analysis suggests ‘that informal insurance’ (or social capital-derived ‘insurance’) functions most effectively for idiosyncratic shocks, rather than community-level or covariant shocks, the latter of which tend to strike all households in an area similarly. Households thus apparently have greater access to bonding social capital (social capital within the community) than to bridging social capital (vertical relationships with people and institutions outside the community) (see Chapter Two, Section 2.4.3).

### **3.7.5 The selected case-study community in KwaZulu-Natal<sup>27</sup>**

#### *Basis of selection*

Against the background of the numerous dynamics outlined above shaping food insecurity in rural KwaZulu-Natal, the Delphi Survey undertaken in this thesis provided a further understanding of food insecurity issues in the province, and led to the selection of a

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on Living Standards and Development, surveyed 1354 households from all demographic groups in KwaZulu-Natal (IFPRI, UKZN, UWM, 2003). The survey collected a broad array of information on socio-economic conditions of households. Among other issues, it addressed household demographics, household environment, education, food and non-food expenditures, remittances, employment and income, agricultural activities, health, and anthropometry (weights and heights of children aged six and under). The second survey, the KwaZulu-Natal Income Dynamics Study (KIDS), resurveyed 1132 of the same households in 1998. It addressed the same issues as the 1993 study, as well as added greater focus on individual ownership and control over assets and on individuals not living in the household but economically linked to it, as well as new sections addressing issues such as economic shocks and social capital.

<sup>27</sup> In order to preserve informant confidentiality, references to the name and exact location of the case-study community have been excluded from this thesis; see ethical issues discussed in Chapter Four, Section 4.6.9.

community within the province for the case-based local-level research. In the wider experience of authors writing on research methods in the social sciences, an introduction into the community is seen as important, if not indispensable, in building trust with community members and gaining access to informants (Fetterman, 1998; Handwerker, 2001). Access to communities for the purposes of research is frequently a difficulty in conducting case-study research, and introductions into KwaZulu-Natal communities are known to be particularly difficult to secure. An introduction, or 'sponsorship' (Handwerker, 2001), offered by a non-profit organization in a previously disadvantaged community in the province was thus viewed as a valuable opportunity for the case study in this thesis. The community is, moreover, within the greater Durban metropolitan area which made it a financially and logistically feasible location for researchers to access in carrying out the study.

The case-study community is in a valley some kilometres from Durban, and just a few kilometres from the urban centre of Pinetown. Formerly part of the KwaZulu-Natal 'homeland' under apartheid, it now falls under the Ethekwini Metropolitan area, thus being legally classified as urban after the Municipal Demarcation Act, No.27 of 1998 (Lehohla, 1999). Although classified as urban, in reality the community is semi-rural in character with about 80% of households engaging in some form of agriculture (see Table 7.1). Estimates by community members put the total number of households in the community at between 300 and 500. Although a few houses are built of brick, most household homes are rudimentary 'wattle and daub' structures.

#### *Assumptions about the case-study community*

At the outset, some general suppositions about livelihoods in the case-study community were: First, that in settings close to urban areas opportunities for diverse 'informal' income-generating activities were likely to be greater than in rural areas due to the greater accessibility to markets of all kinds. Second, it was also anticipated that there were likely to be a greater incidence and diversity of 'formal' employment given the geographic accessibility to suburban and urban employment markets. Third, it was supposed that the household economies of people living in the case-study community were likely to include some rural livelihood pursuits (such as vegetable gardens), while also being strongly linked to urban livelihood dynamics. Fourth, the assumed higher incidence of 'formal' and 'informal' activities, the anticipated diversity of these activities, together with the mix of rural/urban livelihood activities were seen as likely to offer more opportunity for examining interactions between various components of the economic sector than might be the case in a purely rural setting.

All four of these assumptions were later largely refuted by the research findings, but *ex ante* they affirmed the choice of the selected community as a research location.

\* \* \* \* \*

The broad country- and regional-level sketches of food-security indicators given in this chapter provide a cursory illustration of food-security issues in sub-Saharan Africa, which is identified as the hunger and vulnerability ‘hotspot’ of the world (DFID, 2002). These indicators say little, however, of the underlying reality of southern African food insecurity for individuals and households, or of the dynamics that shape it.

A fuller sense of the reality of food insecurity has been attempted in the discussions of some key macro-policy issues, the southern African food security crisis of 2002-2003, as well as of the ‘interventions environment’ that shapes food security across the region.

At the provincial level of KwaZulu-Natal, food security is partially defined by extremely high levels of HIV/AIDS, deep levels of poverty - particularly among the predominantly rural poor, the province’s history of apartheid, and its legacy of largely politically-motivated conflict and violence.

Set in this KwaZulu-Natal context, the selected case-study community within the province lies on the urban boundaries of Pinetown and a stones throw from three wealthier suburbs. In character, however, it remains a semi rural, economically marginalised community.

Some key dimensions of the southern African research context have been outlined in this chapter. In the following chapter the ‘nested’ research design and methods for the regional-, provincial- and local-level research are presented.

## CHAPTER FOUR

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### RESEARCH DESIGN: RATIONALE AND METHODS

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#### 4.1 INTRODUCTION

The food-security theory and realities discussed in the previous chapters clearly show that any understanding of food insecurity is complicated by the diverse nature of the social, political, economic and biophysical environments in which people experience it. The choice of data and methods for the research in this thesis must therefore clearly take cognizance of these complexities, while also being suitable in meeting thesis objectives. Accordingly, as outlined in Chapter One, the examination in this thesis of food insecurity is undertaken at three scales, and using different methods, with the aim of integrating a wide spectrum of research findings towards suggesting some effective responses that might take into account the complex nature of food insecurity in southern Africa.

In this chapter, the following research questions are considered: *What criteria should be considered in choosing data and methods in researching food security? What methods are used in this thesis and how do chosen data and methods measure up against the chosen criteria?*

In the discussions below, criteria for selecting research methods are first considered through critiquing different kinds of food-security information and analyses that have frequently been employed elsewhere in food-security research. Drawing on these critiques, as well as on the food-security theory in the previous chapter, a discussion is then given of the development of guiding criteria for selecting data and methods for researching food insecurity. The discussion of the research methods that follows details the multiple methods selected for the regional, provincial and local-level research undertaken in this thesis. The selected methods are then briefly evaluated against the stated criteria.

The complexity of the notion of food security as well as the fact that it does not relate to any objective outcomes, makes researching and measuring food security particularly difficult. As outlined in the discussions below, the many food-security indicators and research methodologies have been attempted reveal extensive limitations in their capacity to capture the multidimensional and multiple understandings of food security. The methods chosen in

this work, therefore, have been selected on the basis of a number of criteria developed through reviewing the literature but all methods continue to imperfectly investigate food security causality.

## **4.2 DISCUSSION OF DIFFERENT DATA AND RESEARCH METHODS**

There have been various techniques employed by researchers in defining, characterising and addressing food security. Among the approaches commonly used by researchers to generate data, or to synthesise existing data, are:

- The food balance approach.
- The agricultural production analysis of food security.
- Statistical data.
- Food-security indices.
- Methods for vulnerability analysis and targeting

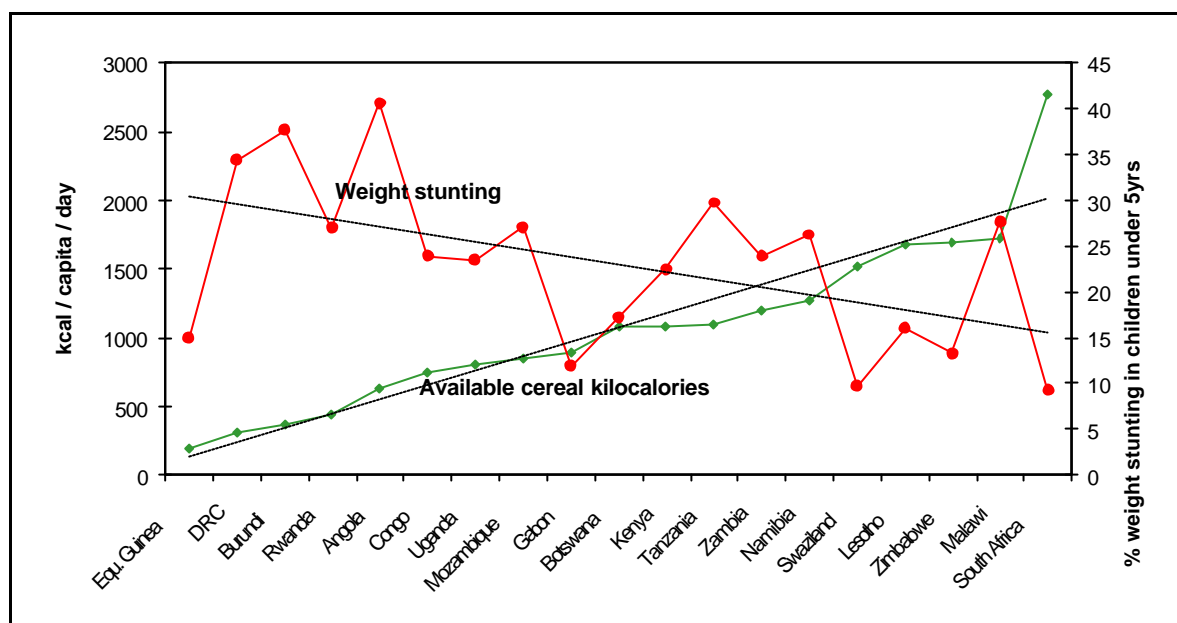
These approaches are outlined below by way of contextualising the development of criteria for the research methods selected for this work

### **4.2.1 The food balance analysis of food security**

The ‘food balance’ analysis of food security compares national food availability (production + stocks – post-harvest losses + commercial imports – exports), with food requirements (national population x subsistence kilocalorie requirements) (see Figure 3.3). The emphasis is on agricultural production and national food availability. It assumes an equal distribution of food amongst the population and so ignores issues of access; it cannot reveal who is getting how much of the food produced and imported or why (Devereux, 2001a). The food balance approach also focuses on the production of cereal crops, whereas in many southern African countries there is a high dependence on root and tuber crops such as cassava and plantain, in kilocalorie dietary intake (see Figures 3.3 and 3.4). For example, the FAO/GIEWS (2001) estimates roots and tubers to contribute 40% to calorie intake in the Congo, 61% in the Democratic Republic of Congo, and 85 % in Uganda.

The absence of a closer relationship between national-scale cereal per-capita kilocalorie production and weight stunting amongst children illustrates the limitations of the ‘food balance’ approach (Figure 4.1). The weak correlation between the two data sets may be attributed, firstly, to the malnutrition data being averages of a few local-level studies and therefore not representative of national averages, and/or secondly to local-level access to food

being incongruent between communities and mediated by numerous factors in addition to national cereal availability. In both instances, the inability of the ‘food balance’ approach to capture food-security dynamics is illustrated.



**Figure 4.1: The relationship in southern Africa between national-scale per capita kilocalorie availability from cereals, and stunting.**

**Notes:** The two data sets have a correlation coefficient of  $-0.56$ , the absence of a closer relationship suggesting that issues other than national kilocalorie supply may be important in determining local-level malnutrition. Kilocalories and weight stunting are averages for 1993-2002. The black dotted lines are trend lines for the two data sets.

**Sources:** Collated by the author from FAOSTAT, Human Development Network Online Statistics: <http://devdata.worldbank.org>. WHOSIS online data: [www.who.int](http://www.who.int) and Macrointernational online data: [www.measure.dhs.com](http://www.measure.dhs.com).

#### 4.2.2 The agricultural production analysis of food security

A second focus in researching and understanding food insecurity is on agricultural production. Per capita food production in Sub-Saharan Africa has remained static (or declined, see Figure 3.2) over the past 40 years, while in the developed world it has risen (Sanchez, 2002). In the developing world, about 37 countries expend over a quarter of their export earnings on food imports, and more than half these countries are in sub-Saharan Africa (Fischer *et al.*, 2002b). Raising agricultural production to meet food needs in sub-Saharan Africa, however, is considered increasingly possible given the tools of agricultural technology, biotechnology, genomics, Global Information Systems (GIS), and natural resource and agricultural modelling techniques now available (Rwelamira and Kleynhans, 1996; Fischer *et al.*, 2002a; Fischer *et al.*, 2002b; Scherr, 2003) (See Figures 3.8 and 3.9). The focus of the Hunger Task Force commissioned by the United Nations is on reducing food insecurity in ‘higher-risk’

environments, which include areas of low, unreliable or excessive rainfall; poor soil quality; mountainous areas; and areas remote from markets and public services (Scherr, 2003).

While there is undoubtedly value in raising agricultural potential or production amongst rural farm households, it primarily addresses the production component of food security, whereas in South Africa, for example, food security has been cited as primarily a function of total household income, rather than of household food production (HSRC, 2003a). The role of agriculture in food security in southern Africa is furthermore more than simply one of food supply. The agricultural sector contributes to livelihood strategies, markets, raw materials, foreign exchange and surplus, and employs more than two-thirds of the region's labour force and accounts for one-fifth of the economy (Maxwell, 2001b). The role that agriculture plays in food security and livelihoods is furthermore not homogeneous across southern African countries. Not only is there a multiplicity of socially, culturally and environmentally influenced farming systems and output mixes, but the contribution of agriculture to Gross Domestic Product (GDP) varies considerably between countries. In 1995, for example, contribution to GDP varied from over 50% in Burundi, Tanzania and Uganda to 10% in Botswana, Congo and Lesotho (Maxwell, 2001b; Devereux, 2001a).

### **4.2.3 Statistical data<sup>28</sup>**

#### *The validity of statistical data sources*

Even if the 'food balance' and agricultural production approaches above were conceptually sound, they are both heavily dependent on the validity of the statistical data they draw on in characterising food security. The accuracy of collated regional and national statistical data is dependent on the accuracy of the original data sources. All methods of crop-production estimation, for example, neglect the influences of variable access of farmers to agricultural inputs, intercropping, minor food crops or 'garden' crops such as vegetables, on-farm storage levels and yearly adjustments in cropping patterns (Devereux, 2001a). Further, in a World Bank assessment of Nigerian agricultural performance it was found that estimates of national output differed by up to 100 percent from various credible sources (Watts, 1989). Such figures (and often an absence of data altogether) of agricultural production, population estimates, and nutrition and disease indicators may lead to highly inaccurate and misleading interpretations

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<sup>28</sup> Global and regional statistical data sets were explored early on during this research in order to collate a statistical representation of current knowledge about food production, population energy requirements, agricultural potential, food imports, food aid, and health and nutrition indicators over the last ten years in the southern African region (see Chapter Three). This exploration contributed substantially to an understanding of the quality, depth and potential of data available, and so to the critique offered in this section.

of food-security conditions and response options. Devereux (2001a:205) observes, in relation to the food-balance analysis of food needs that:

*'a ten per cent underestimation of either food supply or food needs would result in a shortfall of 800 000 tonnes of staple cereals in a chronically food insecure country like Ethiopia, which needs an average of 8 million tonnes per annum'.*

Large statistical data sets, covering broad spatial scales, are, moreover, frequently manipulated by various modelling techniques in order to project future scenarios, making their value dependent on the techniques used in aggregation and the nature of the assumptions made. The data projecting the effects of climate change on agricultural yields provide a good example of some of the fundamental assumptions made that must be taken into account when considering the application of results. Figure 3.8 in Chapter Three, for example, showing production potential gives an apparently powerful and informative picture of the future of agricultural production. One of the many assumptions on which these data are based, however, is that all land in each country calculated to be *'very suitable'*, *'suitable'* and *'moderately suitable'* for agriculture is placed under cultivation (Fischer *et al.*, 2002a). This does not account for any other land uses, or land under non-cereal crops, which by the authors' own estimation may be in the region of 10-30% of land! Such calculations assume that relocation of agricultural areas and land-use cover changes is both possible and acceptable to mitigate the impacts of climate change on cereal production.

#### *Limitations in understanding local-level food security*

Further, while statistical data sets may give a generalised overview of some aggregated indicators of food security (as reviewed in the previous chapter), it is argued that they mask significant country-level and local-level variations. The scalar distinctions between local-level household food security through to regional and global food security are critical, since reducing food insecurity at the regional level, as indicated by national data sets, does not necessarily translate into a reduction at the local level (Watts and Bohle, 1993; Wisner and Luce, 1994). For example, reported figures on national cereal availability in Zimbabwe between April and November 2002 indicated a national surplus, which directly conflicted with community-level assessments indicating severe shortages (SADC/FANR, 2003).

The figures that emerge under all three General Circulation Models (GCMs) in Chapter Three (Figure 3.9) are a further illustration of the potential limitations of statistics. While the region as a whole is found to potentially gain in agricultural yields as a result of climate change, country-level figures show that in Lesotho, for example, a 42 % loss in yield is predicted

during the 2050s under the CGCM1 model, while at the other extreme, a 136% increase in yield is predicted in Rwanda (Figure 3.9). Regional response options for mitigation and adaptation to climate change would be very different for evenly distributed increases in yields, compared to options for dealing with significantly disproportionate losers and winners between countries.

While statistical data certainly have value for some analyses, such as identifying broad trends in food exports and imports, the above discussions illustrate some of their limitations in understanding the local-level, situational dynamics of food insecurity.

#### **4.2.4 Food-security indices**

Finally, there have been a number of attempts to develop food-security indices in analysing and addressing food insecurity. As emerges in Chapter Two, food security is associated with multiple socio-political and environmental conditions, such as malnutrition, high rates of infant mortality, low income, inflation, poverty, poor agricultural productivity, HIV/AIDS, conflict and policy failures to name a few. These multiple indicators make it extremely challenging to develop a list of indices that are comprehensive enough to capture the multiple dimensions of food insecurity, while also being simple enough to model. In the work of FIVIMS in South Africa, for example, one of the key first phases has been the identification of food insecurity and vulnerability indicators (see Chapter Three, Section 3.6.2), for which a task group has specifically had to be commissioned.

There are a number of profiles that have been developed using various indicators to describe or predict poverty and other aspects of human well-being at a national scale. The UNDP's Human Development Index (HDI) (see Table 3.1), is one of the most well known and well developed of these. The HDI is a measurement of a country's average achievements in three aspects of human development: longevity, knowledge and a 'decent' standard of living (UNDP, 2003). Longevity is measured by life expectancy at birth; knowledge is measured by a combination of adult literacy rates and school and tertiary education enrolment rates; and standard of living is measured by the country's per capita Gross Domestic Product (calculated in terms of purchasing power to enable comparison between countries). There is no intention by the UNDP that the HDI should capture all aspects of human development, and by their own acknowledgement GDP per capita cannot measure sub-national income distribution. Further, like all indices, the HDI is dependent on statistical data, which aside from questions of validity is also in many instances incomplete (UNDP, 2003).

Indices that are aimed specifically at measuring food security are less well developed (Devereux, 2001a). The FAO's Aggregate Household Food Security Index (AHFSI) was developed by the FAO and is used by the World Food Programme of the UN as part of a framework for assessing food-aid needs (FAO, 1997). The AHFSI has attempted to incorporate food availability, stability of food supply and food access in acknowledgement of a broader understanding of food security, and calculates the food gap between the undernourished and the average national requirements, the instability of the national food supply and the proportion of the total population who are undernourished (Ntiemoa-Baidu, 1997). The AHFSI has been the subject of technical criticism on the basis of the statistical methodology and data used in its calculation (see for e.g. Gabbert, Sidique and Weikard, 2003). It has also been criticised for having a national food-production bias, rather than adequately representing issues relating to distribution and consumption of food (Devereux, 2001a).

A narrower approximation of food security status is attempted in dietary diversity indices, which are widely used to assess household food access by organisations such as the International Food Policy Research Institute (IFPRI) (Hendriks, 2005). While the quantity of food consumed by an individual is seen as directly relating to that individual's nutritional status (Scherr, 2003), there is also a well-documented positive relationship observed between the diversity of foods eaten in households in developing countries and the adequacy of their nutritional intake (both in terms of calories and micro-nutrients), child growth and energy consumption (Ruel, 2002). Dietary diversity refers to the sum of the different foods consumed by an individual over a specified time period and may be associated with sufficient food access, caloric quantity and food quality, all of which are requirements of household food security (FAO, 1996). Although food security is a broader concept than nutritional status (since the latter is current or historical rather than dynamic or able to take into account future risk), nutritional status is nevertheless considered one measurable indicator of food insecurity. Notwithstanding the limitations of the technique it also offers some advantages (discussed further in Section 4.6.8 below) over other indices, and an index of household dietary diversity was thus employed in the local-level research in this thesis.

While food-security indices have their place in food-security analyses, as with all research techniques, their limitations need to be well understood to maximise their usefulness. The main intended use of well-being and food-security indices is for comparing relative average national conditions between countries (UNDP, 2003). National indices, however, have very little capacity to capture complex issues such as political vulnerability, nor do they have the

capacity to include sub-national food-security issues. Moreover, indices have limited application in predicting and explaining food insecurity, a fact which is underscored by the inability of the USAID Food Security Index to predict impending famine in Sudan in 1991 (Devereux, 2001a).

#### **4.2.5 Methods for vulnerability analysis and targeting**

An overview of early warning and food security and disaster management systems was given in Chapter Three (Section 3.6.2) since these were viewed as a form of food-security response or intervention. These approaches make use of a broad range of methodologies in investigating household level food security and vulnerability, often undertaken with the aim of improving the targeting of interventions. As noted, in recent years early warning and vulnerability assessments have begun to address some of their previous failings (a focus on factors that precipitate food crises rather than issues of food access) and many have been informed by an analysis of livelihoods based on the Sustainable Livelihoods Framework (Chapter Two, Section 2.3.8). These more recent vulnerability assessment methods also represent a conceptual advance from the four approaches outlined above. The SCF-UK household food economy approach (HEA), the Vulnerability Assessment and Analysis (VAA) process and related Vulnerability Assessment Committees (VACs), and the Food Insecurity and Vulnerability Information Mapping Systems (FIVIMS) were among some of the intervention approaches briefly reviewed in Chapter Three.

There is a great range in the level of sophistication of vulnerability assessment techniques, which extends from those that exclusively employ qualitative methods such as household interviews and field methods such as Participatory Rural Appraisal (PRA) and Rapid Rural Appraisal (RRA) (e.g. Pretty, 1994; Maxwell, 1998; Dietz, 2006), to those that are more technologically-dependent and undertake secondary statistical and modelling analyses of data. The latter includes software packages such as RiskMap (SCF-UK, 2000) and the Classification and Regression Tree (CART) statistical software developed by IFPRI (Yohannes and Hoddinot, 1999). Stephen and Downing (2001) review and compare RiskMap, CART as well as Artificial Neural Networks (ANNs) in terms of their ability to account for multiple processes of vulnerability (social, political, economic), their ability to include a wide range of variables, their accuracy at the household level, their theoretical basis, and the logic used in scale choices. The authors conclude that the theoretical frameworks (such as the construction of scale) driving the development of these packages powerfully shapes their utility. Further, while the advantages of these programmes are their ability to include multiple indicators of vulnerability and aggregate and manipulate these in identifying vulnerable

populations, they are nevertheless subject to the same limitations around assumptions that are outlined in Section 4.2.3 above.

### 4.3 CRITERIA FOR CHOOSING RESEARCH METHODS AT ALL SCALES

Guiding criteria for selecting data and methods in this thesis are shaped by the theoretical standpoint that is developed in previous chapters, the limitations of traditional food-security data and analyses discussed in the first section of this chapter, and by the primary and secondary objectives of the thesis outlined in Chapter One. The salient issues that emerge are summarised below.

First, there is a need to incorporate issues of access to food at the local, household level, where food insecurity is experienced. The definition of food security, given in Chapter Two (Section 2.2.2), was access orientated – access by all people (down to individuals) – to enough food in terms of both calorie and nutritional content, for human well-being. The first of Maxwell's (2001a:14) three major paradigm shifts in food-security thinking – *“from global and national to household and the individual”* – underscores this data need.

Second, data and methods must be able to look at food security from a livelihoods perspective, recognising that people do not necessarily pursue the acquisition of food above all other livelihood needs. The second of Maxwell's (2001a:14) paradigm shifts in food-security thinking relates to this point – *“from a ‘food first’ perspective to a livelihood perspective”*. Since food-security interventions are ultimately about expanding people's resource base and resource access, an understanding of the different priorities households and communities pursue in making choices about using their resources is critical if interventions are to be effectively designed and implemented.

Third, conventional measurements or indicators of food insecurity that focus on national food production (in particular cereal production) are not sufficient to fully characterise food insecurity at the local level, determine its socio-political and economic causes, or describe how people construct their livelihoods. This assertion is supported by not only by the third of Maxwell's (2001a:14) paradigm shifts noting that qualitative data are a necessary component of food-security information – *“from objective indicators to subjective perception”* – but also by the commentary in the literature on the recent food-security crisis in southern Africa (2002-2003) in which the crisis is acknowledged as being rooted in structural failures rather than in failed harvests alone.

Aside from the above issues, in selecting criteria consideration is also given to the rich resource of under-utilized knowledge and data held amongst development practitioners working in southern Africa. It has been noted in the literature that the valuable contribution that development organisations in southern Africa can make to understanding and addressing food insecurity is partly lost due to a lack of resources allocated to data synthesis. In the words of Devereux (2001b: 214):

*“Not all of these data sources are fully exploited for their usefulness in food security monitoring terms. An important task facing any food policy analyst or policy maker is to examine systematically all existing sources of data such as these, to assess their relevance and comprehensiveness, identify data gaps, and avoid costly duplication of effort... Unfortunately, data collection and reporting tend to be as territorially divided between government ministries as they are among the international donors, and coordination of databases and information bulletins is rarely achieved.”*

Within the region, there are numerous global and regional organisations conducting and/or funding research and collating reports on issues relating to food security. Some of these include: the South African Regional Poverty Network (SARPN), International Food Policy Research Institute (IFPRI), the United Nations Development Programme (UNDP), the Save the Children Fund (SCF), CARE International, the Famine Early Warning System Network (FEWSNET), Global Environmental Change and Food Systems (GECAFS), the World Food Programme (WFP), the United States Department for International Development (USAID), and the SADC Food and Natural Resources Development Unit (SADC-FANR). Many of these organizations provide joint funding for initiatives, or work together in some capacity. This list is not exhaustive, but it points to the vast body of knowledge of southern African food security amongst people who work with the reality of food-insecure and hungry people, ‘at the coalface’, on a daily basis. The shift in Maxwell’s (2001a) food-security paradigms is evident in the literature and reports available from these organisations, which have the potential to provide a wealth of nuanced, politically aware and livelihood-orientated food-security knowledge in the region.

Drawing on the above, six criteria apply in selecting data and methods for the research at the regional, provincial and local levels undertaken in this thesis.

Data and methods must:

1. Not only be able to explain food insecurity and its causes, but also be useful in the development of well-directed and relevant responses.

2. Address issues that influence people's access to food; thus they must go beyond examining food production trends and biophysical issues affecting food production, and also be able to uncover socio-economic and political issues.
3. Be relevant to local-level livelihoods, looking at the way people construct their livelihoods and make use of the resources available to them.
4. Go beyond macro-indicators of food insecurity both to consider how macro-level issues manifest themselves at the local level, and to capture locally-specific issues, so that the impact of interventions at all scales can be better evaluated in terms of mitigating local-level food insecurity.
5. Include qualitative measures of food insecurity, provided that these are clearly defined and, as with all data, their limitations acknowledged.
6. Tap existing, under-utilized knowledge bases, such as the knowledge and data held amongst development practitioners in southern Africa

Research methods for this thesis are determined by the six criteria given in Section 4.3 above, as well as by the thesis objectives and research questions. Recalling that research in this thesis is undertaken at the regional, provincial and local levels (Figure 1.1), in each of the following sections the methods that are used at each scale of analysis are discussed in more detail.

#### **4.4 RESEARCH METHODS AT THE REGIONAL SCALE**

##### **4.4.1 Meta-analysis: an overview**

A technique of meta-analysis of food-security case studies was used to address the first of the five objectives of this research (to determine the characteristics and causes of food insecurity in southern Africa<sup>29</sup> at the regional scale). Techniques of meta-analysis are useful in synthesising the results of a number of independent empirical case-studies in a systematic and rigorous way (Hough and Hall, 1994; van den Bergh and Button, 1997). Meta-analysis thus offered a method of synthesising local-level data across the region that reflect livelihood-level issues, and that also form part of a valuable body of information in the development arena that is under-utilised (Devereux, 2001b).

There are a number of different methods associated with meta-analysis, which has a long history of use in collating case-studies in the medical sciences but has only recently gained

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<sup>29</sup> This research was undertaken in contribution to the southern African portion (SA/MA) of the Millennium Ecosystem Assessment (MA). Under the MA all mainland African countries south of the equator are included in 'southern Africa'. See Appendix Four for the full list of these countries.

ground in the environmental and social sciences (Matarazzo and Nijkamp, 1997). While the term has historically referred to statistical analyses of case study data, it is increasingly used more broadly to include data syntheses that are more closely related to literature review (Pillemer 1984; Matarazzo and Nijkamp, 1997; van den Bergh and Button, 1997; Geist and Lambin, 2001; Kevale, 2001; Rosenthal and DiMatteo, 2001). In a recent application of meta-analysis in the field of land-cover change, Geist and Lambin (2001), dissatisfied with the limitations of cross-national statistical analyses, examined 152 case-studies in looking for causes of tropical deforestation. The authors found synergistic combinations of direct and indirect factors causing deforestation amongst which economic, institutional and political factors were prominent. In applications of meta-analysis such as Geist and Lambin's (2001), a theoretical framework is first developed, from which categories of variables are created; a similar, though simpler, methodology was adopted in the research presented here (Misselhorn, 2004).

#### **4.4.2 Case-study data used**

Case-study data suitable for this research were identified in the Household Economy Approach (HEA) case studies, which apply a standard methodology in analysing vulnerability to food insecurity. HEA was developed between 1992 and 1997 by Save the Children Fund (SCF) in collaboration with the FAO and GIEWS, with the intention of capturing issues of access to food, and in doing so to address some of the shortcomings of early warning systems in mitigating food insecurity (SCF-UK, 2000). HEA aims to establish the ability of people who are faced with a shock to obtain enough food, and to quantify the components of their food access and asset manipulation, in order to suggest appropriate and targeted interventions (SCF-UK, 2000; Sawdon, 2002).

Three organizations in particular have been conducting household and community level vulnerability assessments using the HEA methodology in the southern African countries of the SAfMA: the SADC-FANR Vulnerability Assessment Committees, SCF and FEWSNET. For the purposes of this research, 49 local-level HEA case studies were taken from 30 reports produced by these organizations<sup>30</sup>. In almost all cases, each study presented the findings of the HEA methodology in a community or communities of one food economy zone, which is defined as an area that has common agro-ecological, production and trading characteristics (SCF-UK, 2000). The exception was reports that gave only the collated regional results for all zones; there were seven of these reports, which were not weighted in the Meta-Analysis in any

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<sup>30</sup> For the distribution of these studies see Appendix Five

way differently from those presenting a single zone since there was no way to determine how often each of the drivers cited recurred through each of the zones (Appendix Five). Twelve of the nineteen countries included in this research were represented by the case studies.

The Household Economy Approach (HEA) case-study data are primarily qualitative and descriptive in nature, and were particularly suitable for recent applications of the technique of meta-analysis more closely related to a literature review than to statistical analysis (Pillemer 1984; Matarazzo and Nijkamp, 1997; van den Bergh and Button, 1997; Geist and Lambin, 2001; Kevale, 2001; Rosenthal and DiMatteo, 2001). The techniques used in the research presented here accordingly describe a similar review or synthesis approach.

#### **4.4.3 Techniques of meta-analysis used in the regional scale research**

Six general categories of ‘drivers’ (causes) of food insecurity were identified by drawing on both the framework of the key theoretical determinants and outcomes of food insecurity (Figure 2.2), and from the 49 selected case studies themselves. These categories of drivers were: economic; socio-political; scientific and technological; cultural and religious; physical, biological and chemical; and demographic. Sub-categories within these categories were then identified, which resulted in the development of a list of 33 theoretical drivers, or categories of food insecurity causation (columns one and two, Table 4.1)<sup>31</sup>.

Working from this theoretical list of drivers, a simple classification system was devised that would categorise the way causes of food insecurity functioned in southern Africa. For this system, drivers were considered to act either over the short or long term (acute versus chronic drivers), and to act either directly, or indirectly by initiating other drivers of food insecurity. Broadly speaking, people were considered to experience food insecurity either because their access to food had been negatively affected, or because of a reduction in production of their own food resources.

Working on these underlying assumptions of the way drivers operated, a spreadsheet was created for each case study (Table 4.1). Each of the 49 case-studies was then individually examined. Every factor that was cited as having a negative impact on food security in the community was tallied against the appropriate category on the theoretical list of drivers on the spreadsheet for that study. Each factor deemed to have had a direct negative impact on food

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<sup>31</sup> It is important to note that the absence of a driver being cited in a case study does not necessarily mean that it had no effect in that community, which introduces a further limitation of the analysis of secondary data. This also draws attention to the limitation presented by the author’s subjective imposing driver categories through reading the case studies.

security was further classified as being either an issue of access or of production (in some cases as both), and as either a shock or a chronic condition. Shocks were classified as those stressors occurring unpredictably and over a short time period such as a flood, while ongoing or chronic conditions describe conditions such as persistent or recurrent droughts which are ongoing features of people's lives. Each time a cause of food insecurity was cited in the case studies as acting through another listed driver to have indirect negative impact on food security, it was also tallied as such.

The 49 spreadsheets from the examination of each of the studies were then collated into one set of results, showing only the totals for each cell. The theoretical direct-driver categories were then ranked in descending order according to the number of times a driver was tallied. The final column, showing indirect driver actions, was separately ranked in the same way (Table 4.1).

Of the 49 case studies reviewed, 43 assessed both the relative wealth of households in the community and their food sources. The number of households classified in these 43 studies as 'poor' was also noted during the case-study examination, along with the percentage of their food requirements that were met through food purchase.

#### **4.4.4 Potential sources of inaccuracies and biases in the Meta-Analysis**

The possible limitations of the Meta-Analysis methods used in this research are outlined in the following paragraphs.

First, the HEA case studies synthesised through the Meta-Analysis focus mainly on rural areas of southern Africa where households depend to varying degrees on producing their own food. While the focus cannot represent the whole southern African population, however, the reports cover the areas where vulnerability is seen to be at its highest by the development practitioners confronting and addressing food insecurity in the region (Boudreau, 1998).

Second, as has been shown in previous chapters, there is no universal definition of food security; its definition is open to different interpretation by different practitioners. This makes it difficult to find adequate, measurable and consistent indicators of food insecurity. Malnutrition indicators, such as stunting, can only indicate the longer-term effects of food insecurity and require monitoring over periods of time. There is insufficient research in southern Africa using malnutrition indicators to make such studies useful to this Meta-Analysis. The problem this poses is that the focus of the Meta-Analysis is primarily on calorie

acquisition, rather on macro- and micro-nutrient intake. In this way it provides no forum for addressing the state of nutrition in terms of diet diversity amongst protein, fat and carbohydrates, or the state of micronutrient deficiencies. The Meta-Analysis therefore cannot fully cover all the features of food security encompassed in the definition given in this proposal.

**Table 4.1: A sample of the spreadsheet used in recording factors cited as causes of food insecurity in each of the 49 case-studies.**

**Notes:** The two columns on the left show the list of 33 theoretical drivers under the six general driver categories. Each of the remaining columns from the left show respectively: the number of times a factor was cited as having a negative impact on food security; whether that factor had reduced food security by affecting food production or food access (sometimes it acted in both ways); whether it acted as a shock or was an ongoing or chronic condition; and the number of times it acted through another listed driver to negatively impact food security.

	DRIVER CATEGORY	No. times cited	Affects production	Affects access	Shock	Chronic	No. indirect actions
Demographic	Population pressure	1			1		
	In- and out- migration						
	Low availability of labour						
	Age distribution						
	Gender distribution						
Economic	Inflation						
	Increase in food prices	1		1	1		3
	Poor access to financial capital/ credit						
	Unavailability of employment	1	1	1		1	3
	Poverty	1					4
	Poor market access						
	Sale of assets						
Socio-political	Social and political unrest or war	1	1	1		1	5
	Low availability of food imports/ aid						
	Formal / informal government policies						
	No property rights and/or land access	2	1		2		1
	Illegal residency status						
	Poor social networks	1		1		1	2
	Lack of education						
	Ltd alternative livelihood opportunities						
Scientific and technological	Insufficient agricultural expertise	2	2			2	
	Poor dist. networks / infrastructure	2	1	1	1	1	1
Cultural and religious	Gender biases						
	Age biases						
	Traditions and cultural preferences						
Physical, biological and chemical	Poor human health						
	Prevalence of HIV/AIDS	2	1	2	1	1	5
	Climate and environmental stressors	3	2	2	2	1	2
	Poor agricultural potential of land						
	Insufficient agricultural inputs						
	Pests and diseases of crops / livestock						
	Other livestock losses	1	1	1	1		1
	Low regional availability of cereal						

Third, the HEA case studies do not employ a standard measure of poverty. Poverty is a measure of relative wealth as perceived and defined by community members. It does not necessarily correspond to monetary wealth, has no common definition between the communities, and can not be positioned on any external yardstick of wealth for the purposes of comparison.

Fourth, the HEA studies were conducted in the development rather than academic arena and the studies were not subjected to a peer review process prior to publication. It is important to emphasise, however, the dearth of academic work of this nature and extent that has been conducted in southern Africa, as well as the pressing need to develop improved frameworks for understanding and addressing food insecurity issues in the region. Testing this fusion between development research generated with the aim of providing directed, practical information to decision makers, and the scientific method of meta-analysis, was considered to be a useful approach in potentially furthering an understanding of food security in southern Africa.

Fifth, there was no way of weighting or ranking drivers in terms of their relative extent of impact; the figures given in the results of the Meta-Analysis (Chapter Five) therefore do not denote exact measures of the relative importance or scale of driver impact on food security.

Finally, with the benefit of hindsight, the Meta-Analysis techniques employed in this study could be further refined to capture more accurately the specific co-occurrence and linkages between drivers, so that regional generalisations about these relationships might be extrapolated.

#### **4.5 RESEARCH METHODS AT THE PROVINCIAL SCALE**

The second and third objectives of this thesis are addressed through a Delphi Survey of practitioner experience in KwaZulu-Natal. A research method was needed that would allow a more operational understanding of food-security causation than that found in the Meta-Analysis, and that would make use of the extensive reality-based expert opinion of food-security practitioners in KwaZulu-Natal. Two rounds of the Delphi Survey were implemented. Although there is overlap between the two rounds in addressing objectives two and three, the first round focused primarily on the first objective (determining food insecurity causation), and the second primarily on the third objective (how best to respond to food insecurity in KwaZulu-Natal).

#### **4.5.1 An overview of the Delphi technique**

The Delphi technique has been used since the 1950s to collect the opinions and knowledge of experts in a wide variety of disciplines (Mitchell, 1991). In original Delphi applications, the development of consensus among the selected group of experts for the purposes of decision-making was a distinguishing feature (Hasson, Keeney and McKenna, 1994). There are, however, many variations in Delphi methods more recently employed (Stewart, 2001). The use of Delphi to harness group (or panel) knowledge, opinion and expertise in decision-making processes and applied research is widely considered in the literature to offer the following research advantages (Moore, 1987; Mitchell, 1991; Clayton, 1997):

1. Complex problems that are difficult to define are best addressed by ‘pooled intelligence’.
2. In researching social phenomena it is particularly desirable to exploit group knowledge and opinion since the views of experts in the field themselves are obtained
3. Questionnaire responses are circulated anonymously, so that the influences of group pressure and conformity are avoided, and the effect of dominant individuals on the discussion and findings of the panel that are associated with techniques such as the Nominal Group Technique (NGT) and the Interacting Group Method (IGM) are eliminated.
4. Since Delphi elicits input from panel members through individual communications, the time, cost and practical constraints of getting the panel to meet at the same time and place associated with the NGT, IGM and other group methods are eliminated.

Whatever form Delphi takes, there are a number of features typically found in its application (Dalkey, 1969; Mitchell, 1991; Clayton, 1997; Hasson, Keeney and McKenna, 1994; Stewart, 2001).

1. The survey sample goal is to include participants who have the appropriate expertise which sets Delphi apart from other forms of survey in which the goal is to gather a representative population sample through random sampling strategies. An ‘expert’ for the purposes of Delphi is anyone with knowledge and experience relevant to the research. Thus panellists might include medical doctors if the issue concerns the management of disease, or community residents if it concerns community needs and goals.
2. The panel size varies from between 15 and 30 for a homogeneous population - that is experts from the same field; and five to 10 people for a heterogeneous population - people with expertise on a particular topic, but coming from different disciplines and

different social or professional stratifications (who are more likely to represent a greater range of experience and opinions).

3. The selection of the panel and their commitment to the outcome of the process are critical to the value of the results.
4. The process consists of two to three rounds of questionnaires, or more, depending on the objectives of the research; if group consensus is required, recirculation of the results for feedback a number of times is usually necessary.
5. The first questionnaire is usually designed to stimulate experienced judgements and opinions on the research issue. The responses to this are then interpreted by the individual or group directing the Delphi process, and collated into a list of generic statements, eliminating duplicate responses.
6. The synthesised list of responses is re-circulated to the Delphi panel, who are required to accept, reject, rank or rate the statements in some way. The results may or may not be collated and re-circulated through further rounds depending on research objectives (see point 4).

In this research, a 'policy' Delphi approach was employed, in which two rounds of Delphi questionnaires were circulated to the selected panellists in order to gather their opinions, and develop some options for further consideration by decision makers; group consensus was not the primary objective (Clayton, 1997).

#### **4.5.2 Selecting the Delphi panel**

A 'snowball' method of sampling was employed in which a key informant was identified (in this case the Director of the Food-Security Programme at the University of KwaZulu-Natal) and once this key informant had an understanding of the issues being investigated, she provided communication links to other potential informants (Hall and Hall, 1996; Handwerker, 2001).

Two criteria were set for selecting Delphi panellists:

1. Their work had to either directly or indirectly address food insecurity.
2. Following the guidelines of Mitchell (1991), they had to have been involved in development work in KZN for at least three years.

Thirty-five panellists<sup>32</sup> in total were included in the Delphi panel, well exceeding the literature guidelines of a minimum of eight to 10 members (Clayton, 1997; Mitchell, 1991). Although having varying designations, all panellists held positions of responsibility within their organisations (Table 4.2), and most had many more than the three years of required experience in development work.

Panellists came from five categories of organisation working in KwaZulu-Natal (Table 4.3), and all but two panellists (who were based in Gauteng but worked in KZN) were physically based in the province. The five categories comprised:

1. Non-governmental organisations (NGOs)
2. State officials: from the departments of Agriculture, Health and Education
3. University or research institutes
4. Independent consultants consulting to NGOs, Government departments and CBOs, in the implementation of development projects, needs-analyses, capacity building and conflict resolution
5. International NGOs

Since, as illustrated in Chapter Two, food security is determined by a number of interrelated issues pertaining to the whole of people's livelihoods, there are a number of different types of intervention that might have an impact on food security (see Chapter Three, Section 3.6). Panellists were thus chosen from as many areas of development as possible in order to represent a range of perspectives on interventions that directly and indirectly address food insecurity. The types of work that made up the broad areas of development within which panellists or their organisations operated, may be divided into nine categories (Table 4.3):

1. General healthcare:
  - Improving general health and nutrition knowledge in communities
  - Decreasing the impact of HIV/AIDS through education, provision of food or supplements for HIV/AIDS-affected households, and other support services
  - Reduction of infant and child mortality rates through education and training of community members, volunteers and health workers
  - Care of the elderly, sick or frail.
2. Feeding and food supplement schemes: improving food security and/or nutritional status through the provision of food, or nutritional supplements such as vitamins and nutritionally reinforced food.

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<sup>32</sup> The identities of the panel members have been withheld for ethical reasons.

3. Agricultural: improving all forms of agricultural production or management (including livestock) within the community, either for own consumption, or for sale, or both.
4. Natural resource management: improving the management of the whole of the communities' biophysical resource base in an integrated way.
5. Skills and capacity building: the development of all types of skills within communities, conflict resolution and process facilitation.
6. Land access and land redistribution: securing the tenure or access to land for agriculture and facilitating the land reform process.
7. Child care:
  - Improving the general care of children in the community
  - Training and capacity building of care-givers
  - Care of orphans and vulnerable children, such as the provision of foster care, shelter and food
8. Hard infrastructure development: the delivery of housing, schools, sanitation facilities and water.
9. Social awareness: addressing gender issues, awareness of human rights and conflict resolution.

**Table 4.2: The number of panellists belonging to each category of organisation as well as their corresponding levels of responsibility.**

Level of Responsibility	Category of organisation					TOTALS
	NGO	State	University / Research Institute	Independent Consultant	Int. NGO	
Director/ manager CEO	7		3			10
Senior management	1	1			1	2
Researcher or specialist researcher	1	1	1			3
Project manager	8	4	1			14
Independent consultant				6		6
<b>TOTALS</b>	<b>17</b>	<b>6</b>	<b>5</b>	<b>6</b>	<b>1</b>	<b>35</b>

**Table 4.3: The number of panellists working in each of the nine broad areas of development in mitigating food insecurity, poverty and vulnerability.**

**Notes:** Many panellists or their organisations had multiple areas of focus in their development work, thus the totals do not add up to 35.

Area of development work	Number of Panellists
Agricultural	20
Skills and capacity building	14
Natural resource management	12
Nutrition and healthcare	7
Hard infrastructure development	5
Social awareness	4
Feeding and food supplement projects	3
Land access and land redistribution	3
Child care	3
<b>TOTAL</b>	<b>71</b>

Of the areas of development amongst the Delphi panellists, those of natural resource management, skills and capacity building, land access and redistribution, child care, and hard infrastructure development do not fall precisely into any of the four broad types of intervention discussed in Chapter Three<sup>33</sup>. Child care, for instance, addresses issues of health and nutrition as well as, in some cases, disaster management.

### 4.5.3 Questionnaire One<sup>34</sup>

#### *Structure and content*

The first questionnaire was a structured questionnaire, making use of pre-determined, standardised questions (Young, 1986). Though most questions were ‘open’ questions, inviting free response from participants, some ‘closed’ questions (i.e. categorical or requiring a ‘yes’ or ‘no’ answer) were asked in the section on specific project details (Bateson, 1984). Questions were designed around the thesis objectives that the Delphi survey aimed to address and comprised the following four parts:

1. Identifying and prioritising *causes* of food insecurity.
2. Identifying *institutional issues* shaping food security.
3. Identifying the characteristics of food-security *interventions* that make them more effective.

<sup>33</sup> These are: 1. health and nutrition, 2. early warning systems and disaster management, 3. agricultural production interventions, and 4. policy interventions.

<sup>34</sup> See Appendix Six for a full copy of Questionnaire One

4. Identifying what could have been done better, or *missed opportunities* for enhancing food security.

The first questionnaire was conducted in a focused<sup>35</sup>, face-to-face interview with each of the 35 panellists between June and September 2004. The time taken to complete each of the questionnaires varied from between one-and-a-half to three hours. The format<sup>36</sup> of the questionnaire was found to be an invaluable tool in engaging participants in the questions and eliciting their sustained interest over a relatively long interview.

#### *Collating data from Questionnaire One*

Data from the questionnaires were recorded in matrices under the following seven categories:

1. Background information
2. General causes of food insecurity
3. Institutional causes of food insecurity
4. Project information:
  - Obstacles to project success
  - Project success factors
  - Missed opportunities

Once all the questionnaire results had been placed in data matrices, the data were grouped into two broad categories. The first category was ‘problem-focused’ data, representing constraints to food security; the answers to the sections on *causes of food insecurity*, *institutional causes of food insecurity* and *obstacles to implementing projects* fell under this category. The second

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<sup>35</sup> Focused interviews target people known to have been involved in specific situations (in this case development work in KwaZulu-Natal) for more than three years, making use of carefully constructed questions that are relevant to the objectives of the research, and employing a standardised way of recording answers (Young, 1986).

<sup>36</sup> A key tool during each interview was the use of a large 30 x 55cm format for each of the five pages of the questionnaire, with questions printed in size 18 Arial font and ample space left for participants’ answers. The questionnaire was laid out on the largest available surface during the interview, which was usually a conference table (in some cases the floor was used) so that the whole questionnaire could be viewed throughout the interview. This unique method facilitated the participation and commitment of each panellist in the interview process by allowing him/her to:

- see the structure and direction of the questionnaire at the outset so that he or she knew the purpose of each question and what to expect from the interview
- see what was being written by the interviewer so that the interviewer’s interpretation of responses could be guided and corrected
- correct and guide the wording of responses recorded by the interviewer
- have the opportunity to see what had been written in previous questions and reflect on and add to answers at any stage during the interview

category was ‘solution-focused’ data, which included the answers to the sections asking for *success factors* and *missed opportunities* in projects cited by panellists.

The latter category of grouped data, focusing on solutions to food insecurity, comprised a list of 94 statements which were then translated into a set of generic statements and further screened to avoid duplication (Clayton, 1997; Dalkey, 1969; Stewart, 2001; Hasson, Keeney and McKenna, 1994; Mitchell, 1991)<sup>37</sup>. The final synthesised list of 44 statements represented potential food security interventions suggested amongst all panellists in round one, and formed the basis for Questionnaire Two (See Appendix Seven).

#### 4.5.4 Questionnaire Two

##### *Structure and implementation*

The synthesised list of 44 statements from Questionnaire One was distributed for ranking by panellists in Questionnaire Two against the following three criteria:

1. The potential positive impact each might have on food security
2. The power of the panellist and/or non-government organisations to influence each.
3. The power of government or government bodies have to influence each.

The rating scale panellists used in ranking the interventions against the above criteria was as follows:

- 0 = none
- 1 = a little
- 2 = fair
- 3 = high

(See Appendix Seven for a full copy of the questionnaire and the 44 interventions).

Questionnaire Two was a self-enumerated, mail questionnaire, circulated via electronic mail where possible (29 panellists), and surface mail where panellists did not have access to electronic mail or were uncomfortable with this method (three panellists). One panellist of the original 35 was not contactable for inclusion in the second round of questionnaires, and two

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<sup>37</sup> This meant, for example, that two statements such as “our team were sent for training in management skills which helped make the project successful” and “those of us teaching the agricultural skills were taught valuable agricultural techniques overseas” fell, in the final list of 44 statements, under the statement “capacity building amongst project team to enhance their team work and their ability to implement projects and build relationships with beneficiaries”.

panellists declined to be included due to demanding work loads; there were thus 32 panellists of the original Delphi panel of 35 included in the second round of the Delphi Survey. The questionnaire took between 20 and 25 minutes of panellists' time to complete, meeting the suggested limit of time commitment per Delphi round of 30 minutes (Mitchell, 1991), and received a seventy-eight percent response rate within the set research deadlines (25 of the 32 participating in the second round).

*Methods of processing results of Questionnaire Two*

The results of the returned questionnaires were entered into a single matrix and the following was calculated:

1. The summed totals of ratings 0-4 for each intervention against each criterion
2. The percentage of the maximum possible score that the each of the summed totals in (1) represented against each criterion
3. The number of times each of the possible ratings was selected for each criterion against each intervention as a percentage of the total number of the maximum possible number of ratings. In other words, this represents the percentage distribution of selections for each possible rating among all 25 panellists for each intervention

*Calculation of indices of the value of interventions*

Two indices were calculated for each intervention. The first, index one, represented the potential value of the intervention in enhancing food security if used by panellists or their organisations. The second, index two, represented the potential value of an intervention in enhancing food security if used by government or government bodies.

The extent of agreement, or consensus, between panellists was factored into both indices. For consensus-focused Delphi research the results of each survey are re-circulated until consensus is reached among the panel (Clayton, 1997; Dalkey, 1969; Stewart, 2001; Hasson, Keeney and McKenna, 1994; Mitchell, 1991). Absolute consensus was not the primary objective of the Delphi Survey conducted for this research, however, but interventions over which there were 'higher' levels of agreement between panellists were taken to have greater value as potential response options. The percentage distribution of the selected rating of 'high' among the 25 panellists was thus included in the indices, which is representative of the extent of consensus between panellists on a 'high' rating for each intervention.

The two indices were calculated by multiplying the score for the intervention's potential positive impact on food security by the score for the power of panellists' own organisations

(Index One) or government's (Index Two) potential to influence it, by the score for the extent of group agreement. The indices do not have any absolute independent meaning. They were calculated purely for the purposes of ranking and comparing interventions with one another.

The formulae used for calculating the two indices for each intervention may be expressed as follows:

Index one (for the value of the intervention if used by panellists or their organisations) =

$$\frac{\left[ \frac{C1}{75} \times \frac{100}{1} \right] \times \left[ \frac{C2}{75} \times \frac{100}{1} \right] \times \left[ \frac{\%HC1 \oplus \%HC2}{2} \right]}{10000}$$

Index two (for the value of the intervention if used by government or government bodies) =

$$\frac{\left[ \frac{C1}{75} \times \frac{100}{1} \right] \times \left[ \frac{C3}{75} \times \frac{100}{1} \right] \times \left[ \frac{\%HC1 \oplus \%HC3}{2} \right]}{10000}$$

Where:

1. *C1*, *C2* and *C3* are the summed total of all panellists' ratings for an intervention against criterion one, two and three respectively
2. 75 is the theoretical maximum possible score if all panellists had assigned a rating of 'high' to that intervention (i.e. 3 on the scale of 0-3) x 25 which is the total number of participating panellists, which equals 75)
3. *%HC1*, *%HC2* and *%HC3* are the number of times a rating of 'high' was selected for a intervention against criterion one, two and three respectively, expressed as a percentage of the maximum possible number of 'high' ratings for that intervention (i.e. 25: the total number of participating panellists).
4. The denominator of 10000 is used simply to reduce the index to a manageable figure for the purposes of ranking and comparison among interventions

#### 4.5.5 Validity of data and possible sources of inaccuracies in the Delphi Survey

Survey data are considered valid to the extent that they both meet the objectives of the research, and accurately represent the social world (Bateson, 1984). The kind of data collected through a Delphi questionnaire process differ, however, from data in conventional social surveys in that the research questions in Delphi seek to collect expert opinion rather than to

establish social facts (such as age or income). The data can thus not be validated through conventional techniques, such as by the use of cross-checking questions to check for inconsistencies and enable comparison of the data against themselves, or checking the data against externally generated, observed or theoretical values (Chambers and Skinner, 2003; De Vause, 1991; Bateson, 1984). It must be noted, moreover, that the opinions of a panel who work at the community level may be biased toward locally functioning factors, rather than broader economic processes.

Piloting Delphi questionnaires in a trial round is one way to increase the validity and reliability of the questions (Mitchell, 1991). A true pilot questionnaire round was not, however, employed in either the first or second Delphi questionnaire of this research. This was due to uncertainty over the ease of securing willing panellists, and thus the fear of losing valuable potential input by precluding panellists in the pilot questionnaire from the final Delphi panel<sup>38</sup>.

## **4.6 RESEARCH METHODS AT THE LOCAL LEVEL**

### **4.6.1 Overview of the local-level methodological approach**

Throughout the findings of the regional and provincial-level research there is a prevailing centrality of social and political issues, rather than biophysical, in shaping people's food security. This together with the fifth criterion for selecting research methods above (that of gathering qualitative information focused on local-level issues) pointed to research methods for Part Four that required an understanding of social science case-study enquiry. Even though the analysis of 'cases' is one of the central principles of social science methodology (Ragin, 1992), 'case studies' comprise so many different analytical approaches that the application of case-study research in this thesis asks for brief clarification.

*What is meant by case study?*

The local-level case study was broadly bounded and defined by the geographic limits of the selected community (see Chapter Three on location), as well as, more importantly, by the

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<sup>38</sup> After completing each interview of the first round of questionnaires, the interviewer rated each panellist on a scale of 1 = poor, 2 = good, 3 = excellent, against two questions:

1. Understanding of questions and ability to engage with the issues.
2. Relevant knowledge of projects and consequent ability to answer questions.

Since this rating was clearly the subjective view of the interviewer, it could not be used to weight or validate the results in any way; rather it was employed to further the understanding of the strengths and weaknesses of the questionnaire and reflect on the overall quality of panellist response, albeit subjectively (Appendix Eight, Figure 6).

theoretical constructs inherent in the research question. The latter point is significant because the depth of the analysis of social capital in the local-level research was considered at least as important as representivity or breadth. Although, in the discussions, the findings of the research in terms of what they might suggest about social capital and food-security interventions at wider geographic scales are considered, no claim is made that the case-study findings are directly transferable outside the study community.

#### *Multiple research methods*

Multiple research methods were used in the local-level research. There were a number of reasons for this. The first was that there is recognised value in choosing at least one method that is “suited to exploring the structural aspects of the problem and at least one which can capture the essential elements of its meaning to those involved” (emphasis added) (Fielding and Fielding, 1986:34). There is also recognised value in using a combination of qualitative research techniques, to add depth to case-study research findings, and quantitative techniques, which can add breadth to ethnographic research (Hammersley and Atkinson, 1983; Hall and Hall, 1996; Schutz, Chambless and De Cuir, 2004). The value of social science research that makes use of both qualitative and quantitative methods is highlighted by Ragin (2000:64), who notes that *“the meaning of...scores is shaped by context”*<sup>39</sup> (emphasis added). Further, for research objectives concerned with a small target population, and with the internal validity of the data within that population, ‘merging’ or using a ‘mixed suite’ of formal and informal techniques from different traditions is preferable (Marsland *et al.*, 2001:7); both these characteristics applied to the local-level research. Finally, the use of multiple methods met the fifth research criterion for this thesis above (of including qualitative measures).

#### *Ethnography*

The multiple methods used in the case-study research are considered to fall very broadly under the umbrella of ethnography. Ethnography studies social life - whether its focus is an understanding of the internal experience of culture, patterns of interaction, or holistic analyses of whole societies - and draws on a range of sources of information in doing so (Hammersley and Atkinson, 1983; Harper, 1992). The aim of classic ethnography is to *“understand cultural phenomena from the viewpoint of the people who create and use them, looking from the inside out”* (Handwerker, 2001:4), and in this sense is fundamentally reflexive and phenomenological in nature; what is observed by the researcher is understood as inseparable from his or her response to what is observed (Harper, 1992; Fetterman, 1998; Handwerker,

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<sup>39</sup> Ragin’s earlier (1987) work is devoted to an analytic technique for taking research beyond the split between qualitative and quantitative strategies in comparative social science research.

2001; Preissle and Grant, 2004). Ethnography is also a naturalist (as opposed to positivist) approach to social science since it holds that contextual reality has greater validity than a-priori theoretical or methodological principles; a philosophy characteristically allowing for greater flexibility in research design (Hammersley and Atkinson, 1983; Handwerker, 2001).

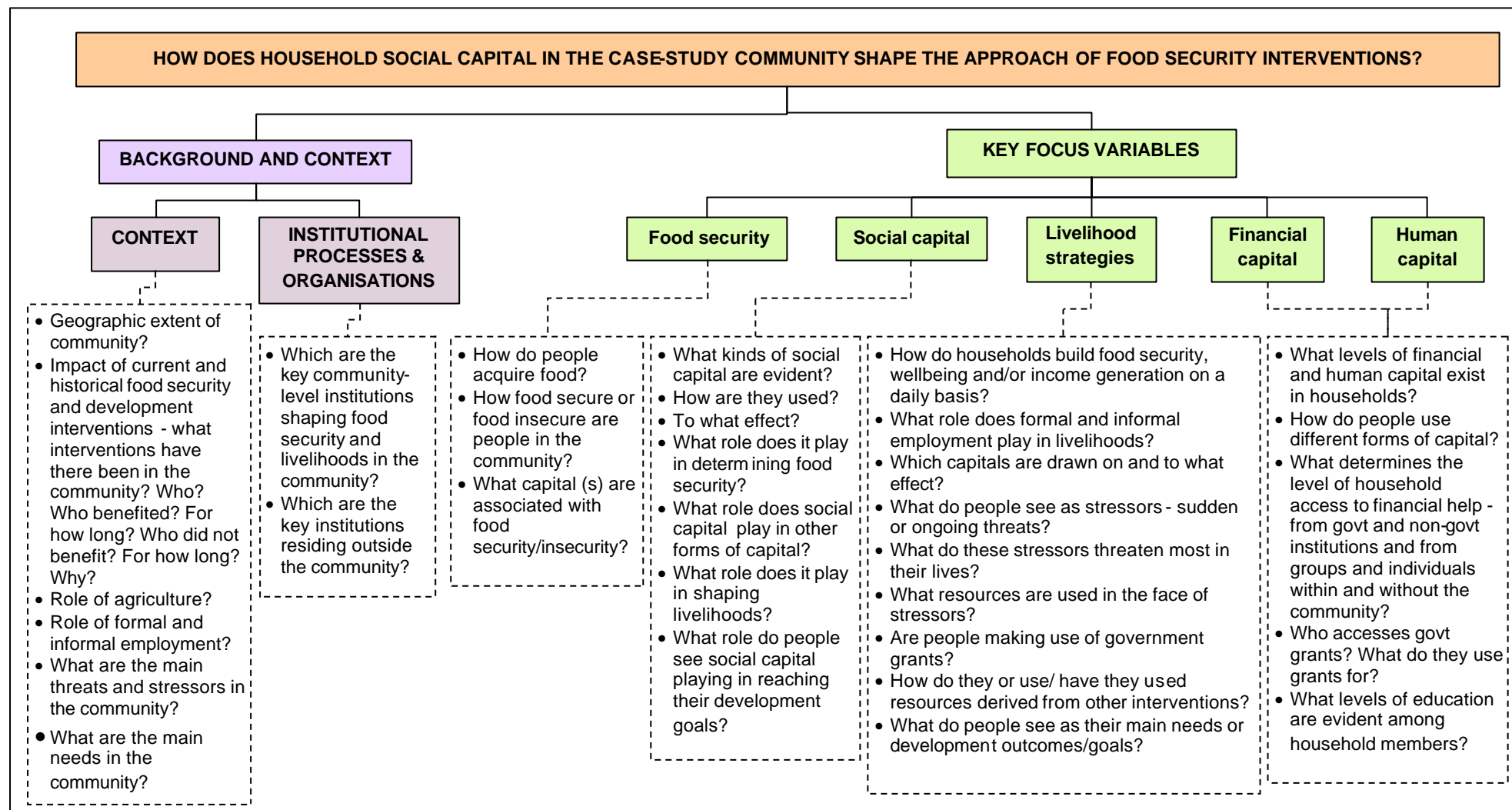
Given the time constraints for the local-level research, methods were selected that were suited to recent ethnographic approaches in which the research is conducted over relatively short time frames using an array of social science research techniques (Handwerker, 2001; Preissle and Grant, 2004).

#### *Framework for the research design*

The main contextual components that framed the research design for the local level are summarised in Figure 4.2. The elements and questions included in the framework were driven by the primary research question for the local-level research: *how does household-level social capital influence the approach to food-security interventions?*

The framework draws partly on the theoretical constructs of the dimensions of social capital (Figure 2.3), as well as on the Sustainable Livelihoods (SL) framework (Chapter Two, Section 2.3.8). Five focus variables were decided on after Handwerker (2001), omitting the SL framework's natural capital which was felt not to be strictly central to the research objectives. Under the five focus variables, illustrative questions seen as important amplifications of the over-arching research question are listed (Figure 4.2). These preliminary questions in reality offered a point of departure in the fieldwork since, particularly in the interviews, it was necessary to remain open to new lines of questioning based on findings as they emerged and on the community's own experience of food insecurity and social capital.

Four principle research techniques were drawn on in exploring the five focus variables (Figure 4.2). These were a *questionnaire survey*, *qualitative interviews*, *focus groups*, and *narrative enquiry*. The following sections outline the application of these selected techniques in the case-study community.



**Figure 4.2: A framework for developing the focus of questions for the interviews and the questionnaire survey in the case-study community**

**Notes:** The development of the framework was influenced in particular by the work of Handwerker (2001). Guidance was also provided by Hammersley and Atkinson (1983), Harper (1992), Platt (1992), Hall and Hall (1996), Fetterman (1998), Tisdale (2004), deMarrais (2004), Kleiber (2004), Kramp (2004), Johndon-Bailey (2004), Preissle and Grant (2004), Schutz, Chambers and De Cuir (2004)

#### 4.6.2 Developing the questionnaire survey<sup>40</sup>

The questionnaire survey is regarded by both Harper (1992) and Handwerker (2001) as a valuable aid to ethnographic research (See also Bateson, 1984; De Vause, 1991). Questionnaires are, moreover, a principle tool of research into social capital (see Chapter Two, Section 2.4). The five focus variables were not given equal emphasis in the questionnaire survey, the variables of social capital and food security being afforded the greatest emphasis because of their centrality to the research question. The development of the questions addressing social capital and food security are discussed further below (See Appendix Nine for a full copy of the survey).

##### *Social capital*

Research into social capital is an established field, conducted in a wide variety of communities and cultures, and aimed specifically at developing and refining indicators of social capital. Indicators of social capital commonly used in research usually relate to aspects of social capital ‘in place’ - in terms of the simple theoretical framework presented in Figure 2.3. Emphasizing this common kind of indicator choice, Collier (1998), as reviewed by Haddad and Maluccio (2002), distinguishes only between the location of social interactions (such as groups) and the mechanisms that might generate external benefits - such as trust, reciprocity, norms<sup>41</sup>.

Two rigorously researched social-capital survey questionnaires were drawn on in the design of the survey; those of Grootaert *et al.* (2004) and Narayan and Cassidy (2001). Both surveys provide an explicit list of questions distilled from literature reviews and pilot studies. There were a number of similar and/or identical questions among the sets of ‘core<sup>42</sup>’ questions. Referral to both sets of core questions in the two surveys was felt to offer a more thorough approach to the development of questions in the survey for this research, although Grootaert *et al.*’s (2002b) phraseology and order of questions in their core set were largely followed in preference to those of Narayan and Cassidy (2001). Questions were, where necessary, modified or adapted in accordance with the specific objectives of this research, and in the light of community-specific dynamics gleaned from earlier interviews in the community (see Section 4.6.5).

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<sup>40</sup> See Appendix Nine for a full copy of the survey

<sup>41</sup> Note that in terms of the theoretical framework provided in Figure 2.3, trust can be seen both an internal component of social capital generating external benefits or outcomes, and as an outcome. This is because social capital itself is an intermediary variable *and* an outcome of its own processes and presence.

<sup>42</sup> Those considered by the authors to be most critical to the measurement of social capital

Seven broad aspects of social capital were covered by the survey questions, namely: 1) groups and networks, 2) trust and solidarity, 3) collective action and cooperation, 4) information and communication, 5) social cohesion and sociability, 6) conflict and violence, and 7) empowerment and political action. Since trust and membership in groups are the aspects of social capital that are found to be the most well-researched measures of social capital in the research literature (Falk and Harrison, 1998; Narayan and Cassidy 2001; Grootaert *et al.* 2002b), these aspects of social capital were emphasised in the questionnaire survey<sup>43</sup>. No indicators for social capital ‘in use or being built’ were included since this is not a well-researched area of enquiry in the social capital literature (Falk and Harrison, 1998).

In addition to the above surveys, four secondary analyses of an extensive longitudinal survey, the KwaZulu-Natal Income Dynamics Study<sup>44</sup>, offered valuable insight into social capital and food security in KwaZulu-Natal and informed the research design. In particular a rich, qualitative approach adopted by Adato, Lund and Mhlongo (2004) made use of the KIDS dataset to identify households that had moved into deeper poverty between 1993 and 1998 for an analysis of the dynamics shaping these transitions. The authors made use of a combination of interview and participatory techniques to explore many similar questions to those explored in the local-level research. Their further work guided the research design to make use of the local-level social-capital survey to identify households which were particularly food secure, and particularly food insecure in the community for in-depth interviews.

#### *Food Security indirectly measured by dietary diversity*

Dietary diversity was selected as a widely used and effective measurable indicator of food security for the local-level survey based on favourable reviews in the literature (Hendriks, 2005) (See Section 4.2.4 above). Dietary diversity refers to the sum of the different foods consumed by an individual over a specified time period and may be associated with sufficient food access, caloric quantity and food quality, all of which are requirements of household food security (FAO, 1996). An examination of data from ten developing countries shows that on average a 1% increase in dietary diversity is associated with a 1% increase in household

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<sup>43</sup> In the light of the conceptually abstract nature of the term ‘social capital’, it is debatable whether trust and group membership are *dimensions* or *indicators* of social capital. In this research ‘dimensions’ of social capital, and ‘indicators’ or measures of social capital (at least for the reality of social-capital research) are seen as somewhat conflated. What is considered more important than semantic precision here is that rigorously tested aspects of social capital broadly understood to be meaningful are included in the local-level research.

<sup>44</sup> The KwaZulu-Natal Incomes Dynamics Study (KIDS), 1993-1998: A collaborative effort between the International Food Policy Research Institute, the University of KwaZulu-Natal, and the University of Wisconsin, Madison. See Chapter Three, Section 3.7.4.

per capital consumption of food, and a 0.7% increase in household per capita caloric availability - irrespective of whether the setting is urban or rural and independent of seasons (Hoddinot and Yohannes, 2002). Similarly, a comparison of dietary diversity against three other methods<sup>45</sup> of measuring household food-security outcomes found that the index compares favourably statistically, and is relatively inexpensive, quick to analyse, executable by relatively unskilled researchers, and as has a low susceptibility to misreporting by respondents (Hoddinot, 1999). Although potential drawbacks of the dietary diversity score have been identified (see Ruel, 2002 and Webb and Lapping, 2002) the costs of using alternative indicators of food security in the community-level survey (such as height- and weight-for-age, or calorie consumption) were considered prohibitively high due to the time and skill required to implement them.

The work of a number of authors was used as a guideline in designing the dietary diversity question in the case-study survey (Drewnowski *et al.*, 1997; Krebs-Smith *et al.*, 1987; Hatloy, Toreheim and Oshaug, 1998; Hoddinot, 1999). The dietary diversity question required the respondent to record the number of unique foods consumed over a period (as opposed to the number of food groups). Respondents were asked to state how many times they had eaten each food item on a pre-coded list of 36 items during the previous 14 days (Kant, 1997). The possible answers were categorical, as follows: 1 = none, 2 = 1-3 days, 3 = 4-10 days and 4 = 10-14 days. Each of the choices for the 36 items was then summed to give a composite household dietary diversity score. In the case-study community, moreover, foods were selected in accordance with knowledge about commonly consumed foods drawn from interviews (see Section 4.6.5 below).

### 4.6.3 The survey sample

#### *Sample size*

The sample size of a population for questionnaire surveys is determined largely by the degree of variability in the characteristic(s) being investigated in the population of interest; the more variable the characteristics, the larger the sample required (Kaplan, 1987; Barahona and Levy, 2002). Since there were a number of focus variables, and since there was no way of determining beforehand the extent of homogeneity of the population of the case-study community with regard to these variables, there were few statistical guidelines as to the minimum number of households that should be interviewed. Although the size of the population *per se* has little bearing on the size of the sample that will be statistically

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<sup>45</sup> The other methods were: individual food intake (calories or nutrients over 24 hours), household caloric acquisition over seven days, and indices of household coping strategies

representative thereof, there is considered to be a 'slight' increase in statistical representivity of the sample when the sample size comprises a very large proportion of the population; namely 10% or more (see Gregory, 1970 and De Vause, 1991). The estimate of the total number of households in the case-study community (350-450) given in interviews led to a sample size of 50 households being decided on in order to include at least 10% of the total population. This was also the maximum number that could be included within financial and logistical constraints.

#### *Selecting the participants*

There was no existing record available of each of the households in the case-study community, and thus a modified stratified or multistage sampling technique was instead employed (Gregory, 1970; De Vause, 1991; Carletto, 1999; Lehtonen and Pahkinen, 2004). A map of the community was created during field visits and the area was divided into five sections that were estimated to encompass similar numbers of houses. More densely populated areas of the map thus comprised geographically smaller divisions than those that were sparsely populated. The interviewer was simply required to draw from each of the five sections a sample of 10 households. Households that were selected by the interviewer participated on a voluntary basis, which precluded any further systematic random selection of households within each mapped subdivision of the community.

The interviewer was instructed to interview the head of the household whenever he or she was available, with the assumption that he or she would have the most accurate knowledge about household characteristics such as food consumption and income. This was achieved in 29 of 50 questionnaires. Seven of the respondents in the remaining 21 questionnaires were the wife of the head of the household. There were thus fourteen respondents who were not the head or his/her spouse, but who were all both members of the household and relatives of the household head. Of these fourteen respondents, four were under the age of 21 (one each of age 17, 18, 19 and 20 years) and the average age of the remaining ten was 38 years. This led to concern that minors might not be as conscious of household characteristics as older respondents. In an attempt to explore this possibility, the correlation was tested between the food-security indices of the 46 households in whom the respondent was over the age of 21 years against employment indices, to check for the influences of respondent age on reported food security. The product moment correlation coefficient of this relationship was found to be approximately 0.004 higher than the same correlation in the whole of the sample population (0.124 versus 0.12 respectively). Households in which the respondent was under the age of 21 years also did not exhibit scores of standard deviation from the food-security index mean

above or below  $\pm 2$  standard deviations. These two tests were taken to indicate that the effects of respondent age did not significantly alter reported food security in any way that was detectable through statistical analysis.

#### *Translation and piloting*

The survey was initially written in English and translated into Zulu by a professional translator. It was piloted by a Zulu speaking interviewer in ten households in the case-study community, and with minor changes implemented three months later by the same interviewer in the 50 selected households in the case-study community.

Indices for each of the variables, or aspects of variables, in the survey were created by summing the scores of the relevant questions - where necessary categorical scales were inverted, so that scores for each question were either positively or negatively consistent with all other questions for that variable or its aspect<sup>46</sup>. These indices were used for looking at the association between focus variables and food security through a number of statistical analyses.

#### **4.6.4 Statistical methods used to analyse the survey data**

Sixteen analysis indices, including the food-security index, were collated from the questions to represent the five focus variables, or aspects of the five focus variables (Table 4.4). The relationship between food security and each of these analysis indices was calculated through a number of statistical techniques. For the purposes of addressing the research question for Part Four, the relationships between forms of social capital and food security were of particular interest. The methods used are briefly outlined below.

#### *Pearson's $r$ and Kendall's tau*

Pearson's product moment correlation coefficient (Pearson's  $r$ ) reflects the degree to which a change in two coexisting datasets (in this case linked by household number) change together. Pearson's  $r$  becomes, however, less reliable if the data sets do not have equal variances, or have extreme non-normality (Howell, 2002). Kendall's tau, a non-parametric measure of correlation that is less sensitive to outliers than parametric statistics such as Pearson's  $r$ , is ideal for use with ordinal data, and holds up better than Pearson's  $r$  to extreme non-normality in data sets (Lindgren, 1976; Sheskin, 2000). Given, first, the number of outliers in the

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<sup>46</sup> For example for the aspect of trust and solidarity, panellists were asked to select from 1-5 where 1=agree strongly and 5=disagree strongly in answer to two questions of 'neighbourhood help likely' and 'in this neighbourhood you have to be alert or someone will take advantage of you'. The answers on the latter scale were inverted, so that '2' would have been changed to '4' for the purposes of the index, so that the high levels of trust in the index were consistently indicated by smaller numbers.

relationships between each of the variables and food security (see Appendix Ten for the scatterplots of each of these relationships), second, the ordinal nature of the data, and third, (of less concern since sample size was above 50 - Hogg and Tanis, 2001), the imperfect distribution of many of the variables (see Appendix Ten for Histograms), both Pearson's  $r$  and Kendall's tau were calculated for each of the relationships using SPSS<sup>47</sup>.

#### *ANOVA analysis*

Analysis of variance (ANOVA) tests the differences between sample means and offered a method of determining whether each of the variables had an impact, or otherwise, on the mean of the variable of food security. ANOVA rests on, firstly, assumptions of homogeneity of variance, secondly, independence of observation, and thirdly, on a normal distribution of the data (although this not as critical as the other two prerequisites) (Howell, 2002:323). A parametric ANOVA analysis is considered more reliable than Kendall's tau in looking at the relationships between all variables and food security, given that the above data requirements be met (Sheskin, 2000). With regard to the third requirement of normal distribution of the data, since the sample size in the community survey was 50 it was well over the minimum size of 30 required in order to be able to assume normality of distribution in the variables (see the Central Limit Theorem, Hogg and Tanis, 2001). The second requirement, i.e. of independence of observation, was assumed to be met since this rests on survey design and implementation rather than purely on the characteristics of the results. Levene's Test tests for the first requirement, homogeneity of variances, the null hypothesis being that the variances are homogeneous, and if the p-value is less than 0.05 the null hypothesis is rejected (Howell, 2002). There were eight analysis variables that had homogenous variances according to Levene's test, of the original sixteen, and on which ANOVA was calculated.

#### *Regression analysis*

A regression analysis was undertaken in SPSS to look at the extent to which all variables together (as predictors) functioned to affect food security (as the dependent variable), and also to look at their individual impact on food security (Howell, 2002).

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<sup>47</sup> Discerning and handling outliers is a vast area of statistical study, the application of which is beyond the scope of this work (see for example Barnett and Lewis, 1978). For the purposes of this analysis, the relationship between food security indices and other variables of interest were tested statistically after the exclusion of Z-scores above and below 2SD from the mean, and also after the exclusion of outliers evident in the scatterplots in Appendix Ten. Correlations were not found to significantly change with any of these exclusions.

*Multivariate analyses: cluster and factor analyses*

Cluster analysis is a tool used to explore and classify data with the aim of arranging respondents into groups or clusters that have a high degree of association between them in the way they responded to questions. Clusters might show the different ‘groups’ to which respondents belong given their similarity in responses (Giudici, 2003). A cluster analysis of the sixteen analysis indices in the community survey was undertaken in SPSS.

**Table 4.4: The sixteen analysis variables synthesised from the survey results and the focus variables they represent**

**Notes:** The focus variable listed on the left is considered the primary variable represented by the analysis variable on the right. Some of the sixteen variables represent more than one focus variable; for example crop volume and crop diversity pertain to both food security and livelihood strategies.

FOCUS VARIABLES REPRESENTED	SIXTEEN ANALYSIS VARIABLES
FOOD SECURITY	Dietary diversity score
	Number of meals
SOCIAL CAPITAL	Groups and networks
	Trust and solidarity
	Collective action and cooperation
	Social cohesion
	Sociability
	Conflict and violence
	Empowerment and political action
HOUSEHOLD LIVELIHOOD STRATEGIES	Gender of household head
	Family size
	Crop volume
	Crop diversity
FINANCIAL CAPITAL	Ratio employed to family size
	Ratio grants to family size
HUMAN CAPITAL	Adult education index

Questions in a questionnaire survey may be inter-correlated and thus may be reduced to a few combinations of questions called factors or components (Kline, 1994). Factor analysis allows a focus on separate groups of variables in analysing questionnaire surveys or in re-designing them for further implementation. Cronbach’s alpha is a statistic used to test whether the resulting groups, or factors, from a factor analysis form a reliable scale to measure a single concept. A Cronbach’s alpha value of greater than or equal to 0.7 is usually considered to indicate enough internal consistency and inter-correlation between questions to conclude that the scale is reliable, although values above 0.65 are often considered to be a good indication of a reliable scale (Bland and Altman, 1997). The indices from the community survey were extracted into factors using principal component analysis in SPSS. In addition to undertaking a factor analysis on all the indices calculated in the survey, all the individual survey questions were also extracted into factors (excluding the indices that were made up of the results of a number of questions) using principal component analysis in SPSS.

### *Descriptive statistics*

After creating indices for the questions representing measures of the focus variables for comparison between variables, descriptive statistics were generated for each index (Table 7.9) using SAS 9.1 (Appendix Ten). The coefficient of variation was included in the descriptive analysis in order to enable more meaningful comparisons between variables since they are measured on different scales (Howell, 2002).

### **4.6.5 Qualitative interviews**

Unlike questionnaire surveys, the goal of unstructured, or qualitative, interviews is not to elicit data that are comparable between respondents (Handwerker, 2001; Bateson, 1984). Qualitative interviews have been used with great effect in previous social-capital research (see for example Rajan, 2005; Markuseen, 2002).

### *Qualitative interviews before and after the questionnaire survey*

Qualitative interviews with key informants were used at the outset of the field work in the case-study community, which were followed by in-depth interviews with households selected after the questionnaire survey was implemented, based on the survey results (Handwerker, 2001).

Key informants are people actively involved in the community who are able to offer valuable insights into community life (Fetterman, 1998). Finding these key informants initially flowed from relationships with the sponsor organisation<sup>48</sup>. Through the sponsor organization research in the community was given the formal permission of the headman, who also acted as a key informant and was able to open access to other key informants within the community. In total, ten key informants were interviewed in the case-study community<sup>49</sup>. An interview guide was used in all the key-informant interviews (de Marrais, 2004). For one of these interviews it was necessary to communicate through a translator since the informant did not speak fluent English. Interviews were recorded in handwritten notes, and with a dictaphone which enabled the capture of information that might otherwise have been missed.

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<sup>48</sup> An organisation that provides entry and/or introduction for 'outside' researchers in a community (Fetterman, 1998).

<sup>49</sup> Key informants included: the headman, three members of the Community Civic Association, a teacher at the primary school, a community health care worker, a church leader, a member of the sponsor organization who also acted as translator and field assistant, and the principal of a crèche. All informants live in the case-study community with the exception of the church leader whose house is in a bordering suburb.

In addition to key-informant interviews numerous interactions with people were recorded and informed the understanding of the community gathered during the research. For example, several conversations with a member of a Development Committee proved a particularly valuable source of information. A number of other valuable interactions occurred, for example, while waiting in public places for scheduled key-informant interviews.

Four in-depth interviews were conducted with householders who had participated in the questionnaire survey. Two of these households had the highest food-security indices of all participating households, and two had the lowest food-security indices. The purpose of these interviews was to gain a deeper understanding of the survey results, and to this end an interview guide was employed in the household interviews that explored issues arising in the discussion of the survey results (see Harper, 1992).

#### **4.6.6 Focus groups**

Focus groups are a form of qualitative interview, the difference being that the interview is conducted with between about seven and twelve people (Handwerker, 2001). The intention of focus groups is to generate group discussion, and in this way to stimulate participants to pursue new lines of thought and observation, thus making it possible to elicit more than the sum of the opinions of the individuals that might have been elicited by interviewing them separately (Handwerker, 2001; Kleiber, 2004). Focus groups are also considered a less threatening context for sharing views and information than one-on-one interviews, particularly if members of the group are known to one another (Hall and Hall, 1996). Although two focus groups were planned, only one focus group interview was successfully conducted. This group consisted of health workers and home-based carers in the community.

#### **4.6.7 Narrative enquiry**

The method of narrative enquiry is seen as an effective method of analysing and presenting the results of ethnographic research in order to tell the 'story' of the case study without silencing the voice of the story-teller (see Hammersley and Weber, 1949; Hammersley and Atkinson, 1983; Harper, 1992; Platt, 1992; Blaikie, 1993; Hall and Hall, 1996; Kramp, 2004). The key-informant interviews, focus groups and in-depth household interviews in the local-level research are thus presented in narrative style and in the present tense and first person (Appendix Eleven).

#### 4.6.8 Anthropometric data from crèches

Measurements of height and weight in children can identify growth faltering which is accepted as an indicator of undernourishment<sup>50</sup> (Scherr, 2003) (See Chapter Two, Section 2.2.2). Weight-for-age represents body mass relative to chronological age, and is influenced by both the height of the child and his or her weight. In communities that do not show significant wasting, similar information is provided by weight-for-age and height-for-age in that they both reflect the long-term health and nutritional experience of an individual or population (WHO, 1995).

Unfortunately, there is a dearth of reference data that are specific to black southern Africans, which is partly because it is difficult to ascertain whether or not these populations have been affected by conditions that have adversely affected their growth (Whati *et al.*, 2005). In populations where there are no adverse influences on growth, it has been found that the growth patterns of children in different ethnic groups result in a worldwide height variability of about 1cm in 5 year old children (WHO, 1995). Notwithstanding the debates over the validity of using data from ethnic groups other than that being measured as reference data, until better alternatives are developed the NCHS/WHO reference data are considered to be the best alternative in anthropometric analyses (WHO, 1995; CDC, 1999).

Height-for-age and weight-for-age indices can be calculated for individuals up to 18 years of age. A designated 'cut-off point', either for the scores of standard deviation from the reference population's median, or for percentiles, is then used to identify individuals or populations showing evidence of poor growth who are thus at risk of malnutrition. The Z-score, or standard deviation (SD) score, is the deviation of the value of an individual's score from the median value of the reference population, divided by the standard deviation of the reference population (CDC, 1999). Percentile is the rank position of an individual on a given reference distribution, stated in terms of what percentage of the group the individual equals or exceeds (WHO, 1995). For example, a child of a given age whose weight falls into the 10<sup>th</sup> percentile weighs the same or more than 10% of the reference population of the children of the same age. In general, abnormal anthropometry is defined statistically as an anthropometric value below -2 SD or Z-scores (<2.3<sup>rd</sup> percentile), or above 2SD (or the 97.7<sup>th</sup> percentile) relative to the reference mean or median (WHO, 1995). A child whose growth status falls within these designated cut-off points relative to that of the reference population's (whether expressed as a Z-score or percentile), represents only a probability of that child being part of a healthy

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<sup>50</sup> The FAO defines undernourishment as food consumption of less than about 1900 kilocalories per day. Undernourishment may lead to malnutrition (Scherr, 2003).

distribution (Victoria, 1992). Similarly, a child who falls anthropometrically below or above the cut-offs represents only a probability that that child falls into an unhealthy portion of the population. Further, such data should only be seen as a preliminary screening; whether or not children below the cut-off should be considered stunted due to undernourishment is dependent upon a number of conditioning factors, including other health indicators such as height and prevalence of disease (WHO, 1995).

Ideally, in order to get an idea of the possible prevalence of undernourishment in the case-study community, a representative sample of children's anthropometric data should have been considered (WHO, 1999). In addition, during the fieldwork, the Chair of the Civic Association expressed a need by the Association for more data on child growth patterns. These data were, however, not available from secondary sources, and to measure all children of the households included in the questionnaire survey, for example, was beyond the time and financial constraints of the research. As a logistically feasible alternative, the weights of children at the two crèches in the community were measured and their ages noted.

The software package ANTHRO Version 1.02 was used to process the data. ANTHRO makes use of the WHO/CDC International Growth Reference<sup>51</sup> for the calculation of weight-for-height, height-for-age and weight-for-age (CDC, 1999).

#### **4.6.9 Ethical issues**

Engaging with the moral principles, or ethical considerations, of research involving human participants is increasingly a fundamental element of social science research (ESRC, 2005). The cardinal principles of contemporary research ethics include: respect for human dignity; the right to privacy and confidentiality; and the requirements of free (voluntary) and informed participation by research subjects (conveying to subjects an understanding of the purpose and methods of the proposed research) (Parker, 1999; NABAC, 2001; PWGS, 2005). Accordingly, all participants and institutions that participated in the formal questionnaire survey and informal interviews within the case-study community were informed of the research objectives and the methods that were to be employed, and having been informed, they consented to participate on a voluntary basis. Further, care has been taken throughout this work not to name, or specifically locate within the greater Durban metropolitan area, the selected case-study community; thus ensuring anonymity of all participants and implementing a stricter ethical standard of the principle of confidentiality required above (NABAC, 2001).

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<sup>51</sup> World Health Organisation (WHO) and Centre for Disease Control and Prevention (CDC), United States.

In the light of the research results, anonymity of the community was considered particularly necessary due to the specific risks of individuals, households and institutions within the community associated with threats to their dignity and privacy, their social standing within the community, and their linkages to other communities (Almond, 1999; ESRC, 2005) (See Chapter Seven).

#### **4.6.10 Planning the fieldwork**

Appendix Twelve provides a visual outline of the research methods discussed above and their planned chronology. It also shows an estimation of the time needed to complete each research task. As anticipated, although the chronology of the research methods was roughly adhered to, some plans had to be abandoned and new plans adopted as the field work progressed.

#### **4.6.11 Possible sources of inaccuracies in the local-level research: the validity of the dietary diversity score**

The validity of the dietary diversity score as a measure of food security emerged as a particular concern in the local-level research. The index was based on the assumption of a high association between dietary diversity and volume of food consumption, which is in turn an indicator of food security (albeit a static and incomplete indicator). Although it is clear from the theoretical discussions in this thesis that food security is understood to be a complex and somewhat intangible concept, and thus difficult to define and even more difficult to measure, there is much research evidence to support the association between dietary diversity and adequacy of food intake, and the design of the questions was based on the previously tested survey questions of Drewnowski *et al.* (1997), and others (Krebs-Smith *et al.*, 1987; Hatloy, Toreheim and Oshaug, 1998; Hoddinot, 1999). However, apparent discrepancies between informant data sources and the reported high frequency of meat consumption and apparently diverse diets in the survey raises questions about the validity of dietary diversity as an indicator of food security in the community. Did the index actually measure food security in the case-study community - as opposed to some other variable or nothing at all?

A possible cause of unreliability of the index in this regard is that variety does not automatically confer nutritional quality in the diet (Ruel, 2002). This concern is validated in research by Webb and Lapping (2002) who find that in urban centres diversity does not necessarily translate to sufficient food in terms of calorie or nutrient content.

A second relevant issue in considering whether dietary diversity is indicative of food security in the case-study community is that at higher calorie consumption levels, food variety is less

associated with calorie consumption since, as incomes increase, food is chosen for reasons beyond calorie requirements (e.g. taste, texture etc), and furthermore calorie consumption increasingly is derived from non-staples rather than staples (Deolalikar, 1987, in Hoddinot and Yohannes, 2002; Hoddinot and Yohannes, 2002). Similarly, it has been found that the magnitude of the association between calorie availability and dietary diversity increases at higher levels of calorie availability (Hoddinot and Yohannes, 2002). In other words, households which get more calories are more likely to have a greater dietary diversity, but are also likely to get more of their calories from non-staple foods rather than staple foods. This evidence could only explain the apparently high levels of dietary diversity found in the survey if the index is indicative of relatively high levels of calorie consumption in the community. As will emerge in the light of other local-level research evidence, this scenario is considered unlikely.

A third issue is that the widely grown crops in the community, including maize and mango, are summer crops, while the questionnaire survey in the case-study community was conducted in mid-winter. It is possible that a survey during summer might substantially alter the reported dietary diversity and relative food group consumption, since almost all of what is grown in the community is reported as being for subsistence consumption rather than commercial gain (see Table 7.1). It is reasonable to assume, for example, that the consumption of grown maize would increase the relative frequency of carbohydrates reported to be consumed among households. Although beyond the resources of this research, re-surveying communities to generate time-series data might help capture how food security changes during the year in response to seasonal livelihood patterns (Hoddinot and Yohannes, 2002; see Hendriks, 2005). This underscores the important point that single surveys are also limited in their ability to capture vulnerability to future food insecurity, and highlights the value of food-security indicators that are multi-dimensional, being developed to take into account not only current food security, but vulnerability to future food insecurity. Christiaensen, Boisvert and Hoddinot (2000) illustrate this point with data from northern Mali, showing that without using such ‘forward-looking’ indicators that take into account both current food insecurity and future vulnerability to food insecurity, food insecurity may be severely underestimated.

#### **4.7 EVALUATION OF METHODS AT ALL THREE SCALES AGAINST CRITERIA**

Table 4.5 evaluates the methods used at each level of research against the six criteria set above, showing that all techniques partially or fully meet all the criteria.

**Table 4.5: Evaluation of the research methods at the regional, provincial and local levels against the six criteria set in Section 4.3**

CRITERION	Regional - Meta-Analysis	Provincial - Delphi Survey	Community - Multiple Methods
<b>1. Ability to fully explain food insecurity and inform well-directed responses</b>	<ul style="list-style-type: none"> <li>• Ability to establish priority causes of food insecurity</li> <li>• Limited ability to <i>fully</i> explain food insecurity due to local-level focus</li> <li>• Limited ability to inform well-directed responses through an improved understanding of regional food security problems</li> </ul>	<ul style="list-style-type: none"> <li>• Ability to establish priority causes of food insecurity</li> <li>• Limited ability to <i>fully</i> explain food insecurity across region due to provincial-level focus</li> <li>• Ability to inform provincial-level responses</li> </ul>	<ul style="list-style-type: none"> <li>• Potential to establish community-specific causes as well as possible community-specific responses to food insecurity</li> <li>• Partial ability to inform responses at multiple scales</li> </ul>
<b>2. Ability to address issues determining food access and uncover socio-economic and political issues</b>	<ul style="list-style-type: none"> <li>• Issues of access to food are explicitly elicited by the HEA methodology of the collated case-studies</li> <li>• Through the development of a classification system that distinguishes between issues of access and of production, the <i>extent</i> to which food insecurity is an issue of <i>access</i> can also be identified</li> </ul>	<ul style="list-style-type: none"> <li>• Ability to use open questions about the causes of food insecurity early in the questionnaire leaves respondents open to identifying social, economic and political issues driving food insecurity</li> <li>• Ability to use questions focusing on institutional issues later in the questionnaire encourages a focus political issues</li> </ul>	<ul style="list-style-type: none"> <li>• Primarily examine issues of household food access</li> <li>• Food production issues are also explored</li> </ul>
<b>3. Ability to look at livelihoods issues and the way people make use of their resources</b>	<ul style="list-style-type: none"> <li>• The HEA methodology specifically focuses at the livelihoods level, and at the way people make use of their assets, though the full extent of these dynamics are lost in the process of synthesising the data</li> </ul>	<ul style="list-style-type: none"> <li>• Development practitioners working at the community level deal daily with livelihoods issues</li> <li>• Due to practical limitations on questionnaire length, in-depth questions on resource use and manipulation of assets are difficult to include</li> </ul>	<ul style="list-style-type: none"> <li>• Specifically address household livelihood issues and the way resources are used</li> </ul>
<b>4. Ability to go beyond macro-level indicators of food security and consider local-level dynamics</b>	<ul style="list-style-type: none"> <li>• The case-studies are conducted at the local-level, examining local-level dynamics, though the full complexity of dynamics are lost in the process of synthesising the data</li> </ul>	<ul style="list-style-type: none"> <li>• The questionnaire is able to focus on local-level food-security dynamics</li> </ul>	<ul style="list-style-type: none"> <li>• Explicitly consider local-level dynamics, but is situation-specific and may have limited application at other scales</li> </ul>
<b>5. Ability to include well-defined qualitative data related to food insecurity</b>	<ul style="list-style-type: none"> <li>• The HEA case-studies rely on household interviews and thus on qualitative data captured in a consistent way between studies</li> </ul>	<ul style="list-style-type: none"> <li>• Data are captured through a structured questionnaire eliciting qualitative data from respondents</li> </ul>	<ul style="list-style-type: none"> <li>• Include both well-defined qualitative and quantitative data in informal, semi-structured interviews and structured survey</li> <li>• Address objective indicators in addition to subjective perception</li> </ul>
<b>6. Ability to make use of input from underutilized knowledge bases of development practitioners</b>	<ul style="list-style-type: none"> <li>• Makes extensive use of data generated by development practitioners</li> </ul>	<ul style="list-style-type: none"> <li>• Makes extensive use of knowledge held by development practitioners</li> </ul>	<ul style="list-style-type: none"> <li>• Limited exploration of practitioner knowledge in interviews</li> </ul>

\* \* \* \* \*

In summary, the criteria selected for choosing data and methodology in researching causes of and responses to food insecurity must have value in informing responses to food insecurity, be able to incorporate issues of access to food, look beyond macro-level indicators at food-security dynamics at the local level, acknowledge a livelihoods perspective of food insecurity, include the use of qualitative information, and tap into the cumulative knowledge held amongst development practitioners in southern Africa.

The critiques of information and data analysis given in this chapter demonstrate in a less abstract way the constraints of the demographic, environmental and food-production paradigms of food security discussed in Chapter One. While the research approaches discussed in Section 4.2 do have value in enhancing the understanding and addressing of aspects of food insecurity, they are fundamentally flawed in their inability to acknowledge that food security is a social condition, determined largely by social, economic and political issues at all scales.

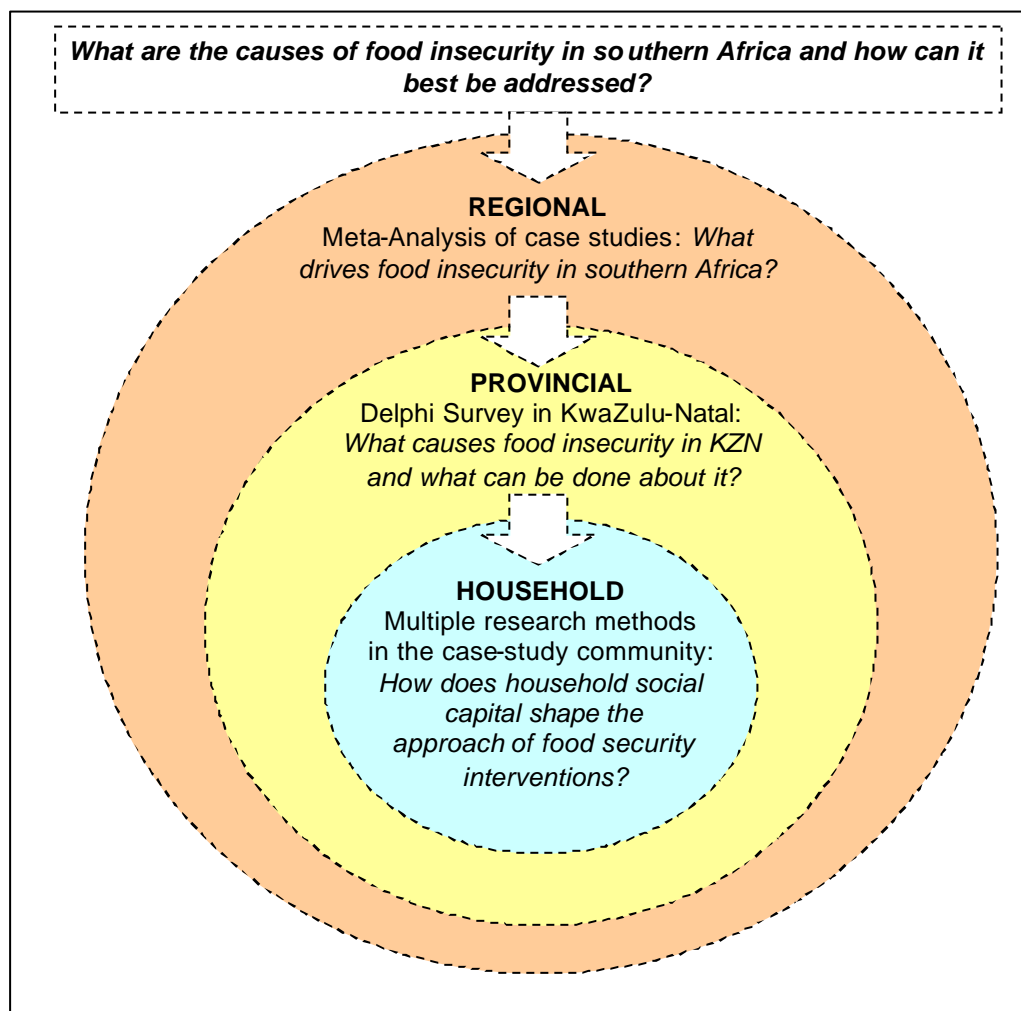
The research methods used in addressing the objectives at the three scales of research in this thesis are selected on the basis of meeting many of the criteria set for research methodology, and on the basis of the objectives and research questions themselves. The methods detailed in this chapter are: the Meta-Analysis at the regional level, the Delphi Survey at the provincial level, and multiple social science techniques at the local level, including a questionnaire survey, key-informant interviews, a focus group interview and the collection of anthropometric data from two crèches.

The research methods used in this thesis have been described in this chapter. In the following chapter, the first of Part Two, the findings of the research at the first of the three scales of analysis are presented.

# PART TWO

## INVESTIGATING FOOD INSECURITY CAUSES AND RESPONSES THROUGH RESEARCH AT THREE SCALES

Part Two presents and discusses the findings of the research undertaken at the regional, provincial and local levels, as shown in Figure 1.1 and recalled here below.



## CHAPTER FIVE

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### WHAT DRIVES FOOD INSECURITY IN SOUTHERN AFRICA?

#### A Meta-Analysis of Household Economy Studies

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## 5.1 INTRODUCTION

In the theoretical debates around food security, in the discussions on southern African food-insecurity dynamics, and in the interventions outlined that have been aimed at alleviating food insecurity in the region, it emerges clearly that food insecurity causes and responses are embedded in a multitude of conditions. In order to probe this complexity with integrity in pursuing the overarching objective of this thesis, related subsidiary objectives are addressed through a ‘nested’ approach; research conducted at three scales using multiple research methods, as outlined the previous chapter. The first of these subsidiary objectives, expressed in the question ‘*What drives food insecurity in southern Africa?*’, is addressed in this chapter. Using a technique of meta-analysis, this question is explored through collating the empirical evidence from 49 case studies, generated by humanitarian field agencies which make use of the Household Economy Approach (HEA) in analysing vulnerability to food insecurity.

### 5.1.2 Community-specific drivers, common processes

That food security causation is highly complex, and that it is a social condition embedded largely in social problems, is underscored in the results of the Meta-Analysis research presented in this chapter. Further, the broad range of ‘drivers’ of food insecurity that emerge clearly point to local-level specificity in the combination and impact of individual drivers across southern Africa communities. Important common thematic processes are, however, identified in the results. The first of these is described by cycles of intensifying vulnerability, with common features such as HIV/AIDS and coping strategies that increase long-term vulnerability. The second process, linked with the first, is a process of diminishing social capital argued to be operating throughout food-insecure communities in the region.

These central issues, together with other important findings of the research at the regional level, are more closely examined in the discussions and related research results in the remainder of this chapter. The discussions below frame the importance of the questions addressed in the provincial-level research, presented in the chapter that follows.

## 5.2 MULTIPLE DIRECT AND INDIRECT STRESSORS

### 5.2.1 Direct causes of food insecurity in southern Africa

The results (Table 5.1) indicate that 80% of direct driver impact is covered by a very broad range of causal factors (17), with ‘climate and environmental stressors’ featuring prominently in direct food insecurity causation, tallying 12% of all driver tallies (Misselhorn, 2004).

In general terms, the food insecurity described in the case studies was found to be the outcome of the interaction between environmental stressors and socio-economic conditions over various time scales. The number of times drivers were cited as acting as either as *shock* or *ongoing*<sup>52</sup> elements in the lives of the communities, is expressed as a ratio in Table 5.2; this ratio shows that the majority (67%) of direct drivers were ongoing stressors amongst communities, functioning over extensive temporal scales. ‘Poverty’, ‘climate and environmental stressors’, ‘absence of property rights and land access’, ‘poor market access’, ‘poor human health’, ‘unavailability of employment and poor distribution networks and infrastructure’, together accounted for 52% of the chronic driver-tallies. Short-term drivers (such as food price increases and a sudden drop in regional cereal availability) acted as shocks applied on top of these chronic stressors, to further intensify food shortages through a variety of direct and indirect mechanisms.

Sixty five percent of the direct causes of food insecurity that covered 80% of total tallies affected food security through limiting access to food, rather than limiting food production directly. In terms of frequency of occurrence, increases in food prices received a relatively high tally (third highest at 5% of the total citations). In the case studies, food prices usually increased following either local and/or regional food shortages. Those already affected by a loss in food production due to an environmental stressor often experienced a simultaneous increase in poverty due to the synergistic action of direct and indirect drivers, making purchasing food at higher prices even more difficult.

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<sup>52</sup> Shocks occur over much shorter time periods than ongoing or chronic conditions; the former being short term stressors such as floods, while the latter describing conditions such as persistent or recurrent droughts which are ongoing features of people’s lives.

**Table 5.1: The 17 direct drivers of food insecurity that together accounted for 80% of the impact of all 33 drivers in the Meta-Analysis (Misselhorn, 2004).**

**Notes:** The percentages in the column labelled ‘% Total’ are expressed as the number of tallies for that driver over the total number of tallies for ALL driver citations.

The percentages in the ‘% Ratio’ columns are expressed as the number of tallies counted each under ‘Production’ and ‘Access’ over the total number of tallies for both (recalling that a driver may have been recorded as acting to reduce both food access and food production).

The **highlighted cells** draw attention to the extent of occurrence of *climate and environmental* stressors and *poverty* as determinants of food insecurity (coloured orange), which together accounted for just under 20% of the total impact of all drivers. The cells coloured yellow draw attention to the high proportion of drivers that acted to restrict food access, while those coloured blue highlight the significant proportion that acted over the long term as chronic stressors in people’s lives.

Direct drivers of food insecurity	Frequency		% Ratio		% Ratio	
	Tallies	% total	Access	Production	Shock	Chronic
Climate and environmental stressors	65	12	33	67	43	57
Poverty	41	7	72	28	15	85
Increase in food prices	30	5	100	0	70	30
Absence of property rights and land access	30	5	15	85	7	93
Unavailability of employment	28	5	93	7	29	71
Lack of education	25	5	92	8	8	92
Poor market access	24	4	100	0	0	100
Pests and diseases of crops and livestock	23	4	44	56	39	61
Poor human health	22	4	77	23	9	91
Low regional cereal availability	22	4	100	0	95	5
Poor distribution networks and Infrastructure	21	4	91	9	10	90
In- and out- migration	20	4	50	50	15	85
Inflation	20	4	82	18	25	75
Social and political unrest or war	19	3	59	41	32	68
Sale of assets	18	3	82	18	83	17
Insufficient agricultural inputs	18	3	0	100	39	61
Formal and informal government policies	17	3	76	24	41	59
<b>TOTALS</b>	<b>443</b>	<b>80%</b>	<b>65%</b>	<b>35%</b>	<b>33%</b>	<b>67%</b>

### 5.2.2 Underlying causes of food insecurity in southern Africa

‘Poverty’, ‘climate and environmental stressors’, and ‘conflict’ featured prominently as functioning to indirectly drive food insecurity through initiating other causal factors, tallying 21%, 17% and 12% of the total indirect driver tallies respectively (Table 5.2).

Indirect drivers accounted for 40% of the cumulative direct- plus indirect-driver impact. Given that there was no weighting of drivers in terms of the extent of their impact, this figure does not mean that indirect, structural drivers of food insecurity are together less powerful in

driving food insecurity than the direct drivers. In most instances, moreover, a single indirect driver precipitated the action of a number of direct drivers which undermined food security.

**Table 5.2: The 11 indirect drivers of food insecurity that together accounted for 80 % of the impact of all 33 indirect drivers in the Meta-Analysis (Misselhorn, 2004).**

Notes: Poverty is highlighted since alone it accounted for over 20% of the total impact of all 33 indirect drivers (coloured orange).

Indirect drivers of food insecurity	Frequency	
	Tallies	% total
Poverty	77	21
Climate and environmental stressors	61	17
Social and political unrest or war (conflict)	42	12
Prevalence of HIV AIDS	18	5
Formal and informal government policies	17	5
In- and out-migration	16	4
Poor human health	14	4
Sale of assets	14	4
Low regional cereal availability	13	4
Lack of education	11	3
Population pressure	10	3
<b>TOTALS</b>	<b>293</b>	<b>81</b>

### 5.2.3 Reliance of the poor on food purchases

In the 43 studies that classified both the relative wealth of households and their sources of food, a high proportion (46%) of the populations were classified poor, and amongst the poor, almost half of their food intake was met through purchase in a ‘normal’ year. Typically, the high reliance on food purchases to meet calorie requirements in a normal or baseline year increases in a year of food crisis.

## 5.3 WHAT DRIVES FOOD INSECURITY IN SOUTHERN AFRICA?

While the results of the Meta-Analysis indicate that the causes of food insecurity across southern Africa arise in a broad array of stressors among communities, a number of important common themes may be identified; these are discussed below.

### 5.3.1 Climate, environmental stress and agriculture production

‘Climate and environmental stressors’ on food security acted primarily to reduce the production of food (67%), while 33% acted to prevent food access (Figure 5.1). It is important here to note that no distinction was made between national food production deficits due to climate, or own-production deficits. In retrospect this is a weakness in the methodology, since

food insecurity resulting from national food shortages occurs through a variety of mechanisms that effect food access. Nevertheless, failures in agricultural production due to climate and environmental stressors are a significant element of food insecurity in the case studies.

### **5.3.2 Food access versus own production**

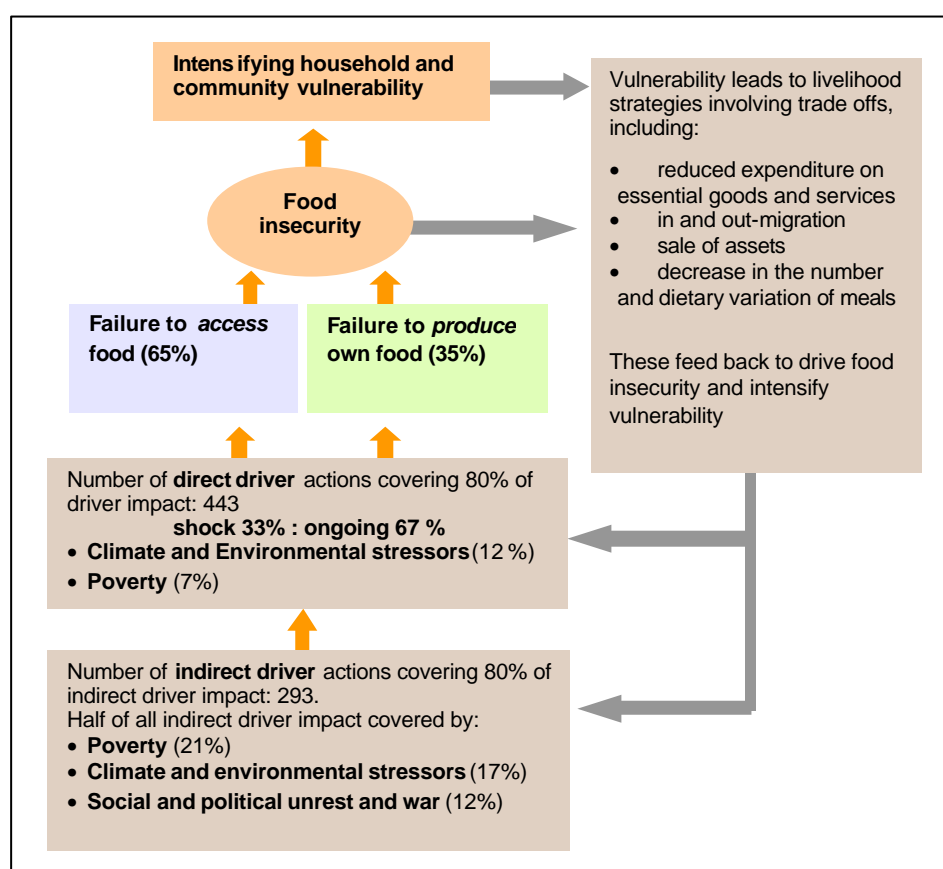
Sixty-five percent of direct driver actions (of those covering 80% of total driver impact), however, acted by restricting food access (Figure 5.1). The results suggest that at the level of the community and household, food shortages are determined less by local production deficits, than by failures in the ability to access food, largely through food purchase; though exchange (such as food for work) or gift are also a means to meet food requirements amongst communities. The processes mediating in people's access to food are well illustrated in Sen's (1981) conceptual framework of entitlements in famine theory, and since echoed frequently in varying forms through food-security literature resources (see Chapter Two, Section 2.3) (e.g. Boserup, 1983; Swift, 1989; Leach, Mearns and Scoones, 1997; Vogel and Smith, 2002). In essence, the entitlements framework proposes that people's food security is heavily tied to market forces, which in turn are prejudiced by the socio-economic and political conditions of the society in which they live (Wisner and Luce, 1994; Van Rooyen, 2000; Von Braun, Hazell, Hoddinot and Babu, 2003). The results of the Meta-Analysis support the entitlements analysis, which suggests that interventions aimed at drought mitigation and increased agricultural output will not alone ensure food security for southern Africa's rural poor.

### **5.3.3 Intensifying vulnerability**

The findings of the Meta-Analysis support much of the current thinking on food security and give prominence to the notions of vulnerability which are extensively articulated in the literature (e.g. Swift, 1989; Watts and Bohle, 1993; Adger, Kelly, 2002; Vogel, 2001; Vogel, 2002; Winkels, Loung and Locke, 2002), and were discussed in Chapter Two, Section 2.3. In general terms, vulnerability and social resilience have been similarly defined as the ability of a system or community to resist or absorb adverse conditions. Both short-term and long-term climatic and environmental stressors are endemic to the livelihoods of rural poor southern Africans; their ability to absorb and adapt to such stress is, however, dependent on their levels of resilience and vulnerability. Vulnerability is in turn determined by the environmental stressors themselves, as well as a number of other factors amongst which poverty and social unrest feature prominently.

The fact that people are both food-insecure and vulnerable affects the way they make use of resources and manipulate their assets. These livelihood strategies are discussed under the

Sustainable Livelihoods framework in Chapter Two (Section 2.3.8), which outlines the range of strategies people pursue in attempting to increase their income and asset base ('accumulation strategies'), spread or reduce risk (increase security through 'adaptive strategies'), mitigate the impact of shocks ('coping strategies'), and at the extreme, ensure survival through 'survival strategies' (Devereux, 1999; Scoones, 2000). Vulnerable communities, where people are unable to buffer themselves from hazards for a number of reasons, have a low ability to cope with short-term shocks (such as drought) and to mitigate chronic stressors, which in turn means that the negative impacts on livelihoods resulting from coping and survival strategies are very high.



**Figure 5.1: The processes driving food insecurity and vulnerability in southern Africa identified through the Meta-Analysis of 49 local-level HEA case studies undertaken across the region (Misselhorn, 2004).**

Some of the livelihood coping strategies commonly encountered in the studies included: decreased expenditure on essential goods and services (education, staple foods, healthcare, agriculture and livestock inputs), in- and out-migration (return to the community due to retrenchment or a search for work elsewhere), sale of assets (such as livestock at reduced prices), as well as a decrease in the number and dietary variation of meals. Many of these

‘trade-offs’ feed back to further exacerbate the vulnerability of the community to food insecurity. Although the state of food insecurity itself is not listed amongst the theoretical drivers developed for the Meta-Analysis, the coping strategies employed in conditions of acute and/or chronic food insecurity feed back to decrease resilience to food insecurity (Figure 5.1). The consumption of seeds in times of scarce food, for example, was a common means to combat hunger. Seed reserves for the following planting season became depleted, a state of poverty and/or inaccessibility to markets made procuring new seed difficult, and agricultural production the following season was in turn compromised, leading to increased food insecurity.

Food insecurity in the communities described by the case studies may thus be conceptualised as one element in an entrenched and escalating cycle of vulnerability (Figure 5.1), in which food insecurity is determined predominantly by an inability to access food, rather than to grow it, in which poverty and environmental stressors feature prominently, and in which the livelihood strategies people pursue necessarily involve trade-offs that feed back to drive food insecurity and vulnerability.

The state of vulnerability in southern Africa’s food insecure communities found in the study is widely supported in the literature and reports on food security in the region, and is latent in many of the conventional indicators of food insecurity presented in Chapter Three. HIV/AIDS emerges as one of these indicators that have a strong association with food insecurity (Chapter Three, Sections 3.2.3 and 3.5.5). Conflict and poverty, however, are perhaps more difficult to capture in statistical data, but these together with HIV/AIDS are proposed here to be driving a particular state of vulnerability in which the social capital of communities is being damaged (Figure 5.1).

### **5.3.4 Conflict, HIV/AIDS and poverty: the demise of social capital?**

A review of the regional food-security literature in conjunction with the Meta-Analysis elucidates a fundamental issue related to food security that only tacitly emerges amongst the tabulated results; that of the disintegration of traditional social capital into forms characterised by greater vulnerability and poverty (See Chapter Two, Section 2.4 for a full discussion on social capital).

While there is considerable inter-country variation in the causes and characteristics of food insecurity in southern Africa, it is suggested here that the drivers of ‘poverty’, ‘conflict’ and ‘HIV/AIDS’ (and associated poor human health) in particular are linked to a decreasing social

coherence and social capital in the case-study communities. This decreasing social capital, it is argued, is likely to be one of the fundamental determinants of the escalating vulnerability across the region. In the food-security literature, it is noted that in some cases a loss of social capital is occurring that is specifically associated with ‘depeasantisation’, described as the breakdown of family units and social structures that may occur when communities diversify out of traditional farming livelihoods in the face of economic uncertainty (Bryceson, 2000; Drinkwater, 2003).

The family is one of the primary units of common values, shared knowledge and collective action in any community, and as such may be seen as the building blocks of social capital (Parcel and Menaghan, 1993). The breakdown of family units amongst the case studies was frequently precipitated during war and political unrest, leading to in- and out-migration, the establishment of refugee camps, physical separation of families and the loss of family members through death. In the case studies, political and economic instability and conflict, together with poor financial resources and poverty, and HIV/AIDS, led to disinvestment by families in farming activities and a move towards livelihood strategies more adaptable to unstable and insecure circumstances. HIV/AIDS has multiple impacts on the family unit and on social capital (see Chapter Three, Sections 3.2.3 and 3.5.5); it interferes with relations of trust between family members and between families, results in high proportions of child-headed households in affected communities, hinders access to and control over property [for instance widows and their children are often dispossessed of their deceased husbands’ property and land (Drinkwater, 2003)], and impedes the transfer of skills and knowledge between generations as well as the transfer of norms of behaviour.

### **5.3.5 The value of synthesising local-level evidence**

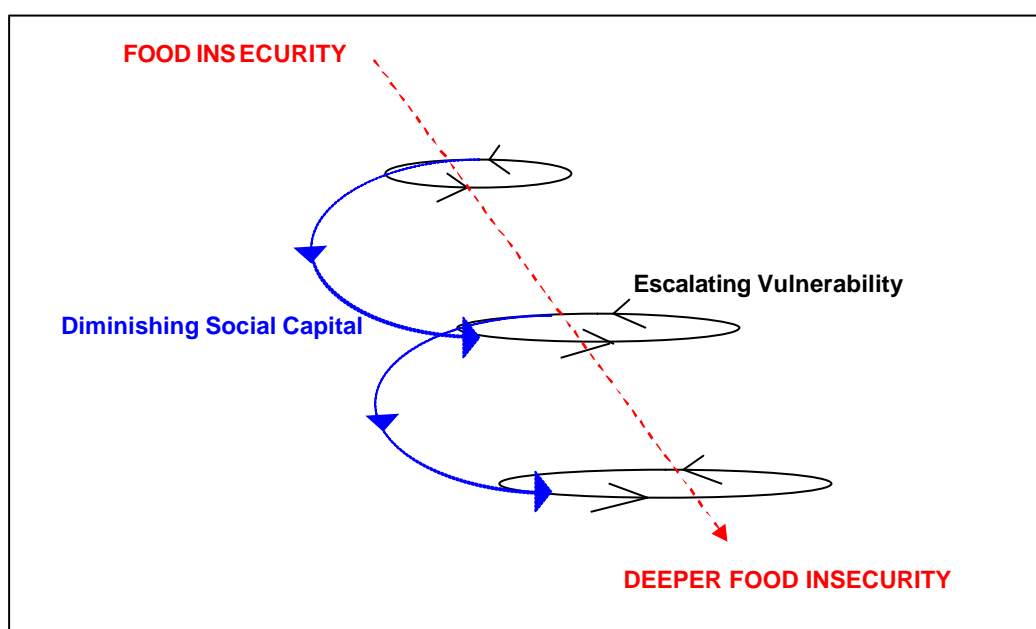
In all case studies, rather than single dominant factors, a number of co-occurring factors together act in complex ways to drive food insecurity<sup>53</sup>. The combination of factors in each case-study, however, varied significantly. Importantly, this may be partly attributable to the broad geographic coverage of the research, and the resulting highly variable socio-political landscapes of the countries included. Local-level empirical case-study data cannot provide a distinct and static list of causes of food insecurity, nor can they hope to represent the specific dynamics of every food insecure community across the region. There are at least two valuable lessons in this. The first is that the data collated from an analysis such as that undertaken in this research have value in suggesting common processes that take specific forms in particular

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<sup>53</sup> Such co-occurring ‘drivers’ of change have also been found to cause tropical deforestation in Asia, Africa and Latin America (Geist and Lambin, 2001).

communities (see Omamo, 2003). Two such processes of food insecurity functioning in communities across southern Africa have been identified; intensifying vulnerability, or ‘cycles’ of vulnerability, and disintegrating social capital which is in turn driving the process of vulnerability in the case-study communities (Figure 5.2).

The second is that evaluating the outcomes of alternative policy responses to food insecurity requires not only that the underlying common processes driving food insecurity are understood, but also how these processes manifest themselves spatially amongst different communities. For this, more situation-specific and local-level research is required, and is further pursued in the Delphi Survey and local-level research of Part Two.



**Figure 5.2: The processes of escalating vulnerability and diminishing social capital identified in the Meta-Analysis.**

**Notes:** As vulnerability escalates, many of the factors causing it also cause a decrease in social capital. Increasing vulnerability and diminishing social capital lead to a ‘downward spiral’ of food insecurity.

### 5.3.6 Overview of lessons from the Meta-Analysis

Measuring dynamic human processes, particularly at the regional and national scales, poses a tremendous challenge. Simply aggregating what is comparatively straightforward to measure (such as national agronomic data), however, does not make for a holistic interpretation of food security. The coupling of meta-analysis with local-level case studies engages with biophysical, demographic, socio-economic and political perspectives, at a livelihoods level. The technique enables causality to be assigned to direct drivers, as well as indirect, structural drivers, thus enabling food-security dynamics to be scaled up to reflect the most commonly

encountered local-level drivers across the region. The technique of meta-analysis used here also affords an opportunity to mine some of the knowledge held amongst development practitioners in the region, and extract findings useful to the scientific community regarding food security, and relevant to regional decision makers in seeking appropriate response options. Regionally synthesised local-level empirical evidence is valuable in revealing common processes that drive food insecurity and that are necessary to understand in developing responses; but both the common processes and how these processes manifest themselves differently in different communities are critical to linking the theory of food insecurity with the practice of mitigating it at all scales.

There are limitations that arise in synthesising local-level data, such as the failure of the Meta-Analysis to explain some of the broad-scale mechanisms that restrict local-level access when there are national or regional food production deficits (including those due in part to climatic stressors). It is, however, at the level of the household and individual that all factors at all scales that determine a state of food insecurity are ultimately experienced. Because of this, and because food insecurity is spatially fragmented across a region, micro-level analyses must inform macro-level research. Investigating the dynamics of food insecurity at the local level captures spatially proximate drivers (often quite specifically), while also pointing to drivers originating at broader geographical scales (such as policy; see Friis-Hansen, 2000; Devereux, 2003), which shape and are shaped by local-level factors.

The Meta-Analysis has provided a means to systematically review what is already ‘known’ about food security, but not verified across the region; namely, that it is impossible to see hunger in simple linear terms of cause and effect, and until it is conceptualised as a multi-dimensional process, it cannot be effectively understood or addressed. The findings suggest that the future determinants of food insecurity in southern Africa lie primarily outside the domain of subsistence agricultural production. A focus on improving crop yields alone would neglect those economic (e.g. poverty, lack of employment, inflation and market failures) and socio-political factors (e.g. conflict, property rights, education and HIV/AIDS) that are creating increasingly vulnerable and food-insecure communities, as well as undermining the coherence of the family unit and reducing social capital resources. According to Watts and Bohle (1993), addressing the state of vulnerability, which encompasses multiple drivers as well as livelihood strategies, is as fundamental an objective as poverty reduction in addressing hunger and food insecurity.

## **5.4 DIRECTIONS FOR PROVINCIAL-LEVEL RESEARCH**

The findings of the Meta-Analysis provide invaluable information for better understanding the many dynamic causes and processes underpinning food insecurity. It is clear from the findings, however, that developing ‘solutions’ to food insecurity will require further steps. First, situational (or context-specific) analyses are necessary to develop an understanding of the specific dynamics of food insecurity in a community or province. Second it is clear that, some common causes having been found, there are still many questions to be asked about how to go about treating the causes. Not all causes, for example, may be easy to address directly (such as unrest and war, and climate stressors), and in many cases it may be more effective to build people’s resilience in coping with causes instead of or in addition to treating causes - particularly those causes that are not treatable, or are treatable only over very large time scales. In the provincial research discussed in the following chapter, both causes of and responses to food insecurity in KwaZulu-Natal are examined.

\* \* \* \* \*

Food insecurity in southern Africa’s poor rural communities is one element in an entrenched and escalating cycle of vulnerability. The social capital of communities is also argued to be diminishing due to HIV/AIDS, poverty and conflict. The top 80% of causes of food insecurity primarily act through limiting people’s access to food (mainly through food purchases) rather than preventing them from growing it for themselves. It is therefore suggested that while climate and environmental stressors feature prominently in the causes of food insecurity, the future determinants of food security may lie largely outside the domain of subsistence small-holder agricultural production.

The results of the Meta-Analysis suggest that, despite the fact that environmental stressors significantly undermine food security, these and other drivers function largely to limit food access through a variety of mechanisms, rather than directly reduce food availability through affecting household or community crop production. This question of the role of agriculture in food security recurs in the findings of Part Three, the regional-scale research, and is discussed again in Part Five, the concluding chapter of this thesis.

In the following chapter the provincial-level research is presented. This research, undertaken through a Delphi Survey, not only scales down the research focus to probe the situational dynamics of food insecurity in KwaZulu-Natal, but also examines how food insecurity might be better addressed in the province.

## CHAPTER SIX

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### FOOD INSECURITY CAUSES AND RESPONSES IN KWAZULU-NATAL

#### A Delphi Survey of Practitioner Experience

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## 6.1 INTRODUCTION

Building on the findings of the Meta-Analysis, in which evidence from across southern Africa was examined, interactive research methods were used at the provincial level that enabled deeper lines of enquiry around food-security causes and responses at a more focused geographical scale. Accordingly, the insights of 35 food-security ‘experts’ in KwaZulu-Natal - practitioners experienced in addressing food insecurity in the province - were probed through two questionnaire surveys using Delphi-panel techniques (See Chapter Four, Section 4.5 for a detailed outline of the Delphi Survey methods).

The research objectives addressed in this chapter are expressed in the questions: *‘What can development practitioners involved in addressing food security tell us about the causes of food insecurity in KwaZulu-Natal?’* And *‘What can be done better in addressing food insecurity in KwaZulu-Natal?’*. The causes of food insecurity in KwaZulu-Natal emerging in the Delphi survey are dealt with first in this chapter. These are organised into important themes, including HIV/AIDS, the role of agriculture, institutional constraints to food security, and the role of human and social capital. The priority responses identified by panellists in the survey are then discussed in the second part of this chapter.

### 6.1.1 Complex social problems indivisible from intervention failures

Echoing the Meta-Analysis findings, in the provincial research a high level of heterogeneity is found among the causes of food insecurity in KwaZulu-Natal identified by food-security practitioners participating in the Delphi Survey. Unsurprisingly, some causes of food insecurity emerge prominently in both the Meta-Analysis of the previous chapter and the Delphi results below, including poverty, unemployment, and HIV/AIDS. Moreover, the Meta-Analysis findings are amplified in the Delphi in the many food security causes identified that relate to failures in social capital.

In the discussions it is clear that food-insecurity causation is a complex, socially-driven problem. Importantly, however, policies and programmes at all scales that are aimed either

directly or indirectly at mitigating food insecurity, themselves immeasurably shape the social environment, so that the impact of interventions is virtually indivisible from other elements of food insecurity causation. Panellists themselves did not draw a distinction between ‘causes’ and human action and policy that have had a negative impact. The social, political and development environment (particularly as shaped by the state) is apparently seen by panellists as a fundamental and a rightful determinant of people’s well-being and food security. Many interventions (including policies), moreover, have had direct negative impacts on peoples’ food security, and others have contributed towards social and economic conditions that undermine people’s food security and livelihoods in a more indirect way (such as globalisation)<sup>54</sup>.

### **6.1.2 The importance of considering intervention processes**

Reinforcing the finding that interventions themselves are an integral part of the social environment framing food insecurity, the core priority responses to food insecurity in KwaZulu-Natal that are identified by panellists focus heavily on changes to human-systems processes in food-security interventions. The relevance of food-security interventions is thus argued in the discussions below to be enhanced not only through better understanding and addressing the multiple causes of food security, but through consciously reflecting on the impact that their planning and implementation processes have on social dynamics at various scales, and on how these dynamics in turn shape short- and long-term food security.

## **6.2 KEY CAUSES OF FOOD INSECURITY ARISING IN THE SURVEY**

The most-cited cause of food insecurity in KwaZulu-Natal was ‘unemployment and lack of income’; cited by 22 of the 35 panellists in the first part of Questionnaire One (Table 6.1). In response, there is strong focus on the ‘generation of income’ in development in KZN, which was the most common project objective (24 projects) (Figure 6.1). Further, eight of the 97 projects reviewed were agricultural and non-agricultural business enterprises, and market garden projects (3) and many of the agricultural crop production projects (23), in addition to aiming to provide food, also aimed to generate income through sale of surplus produce (Figure 6.1).

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<sup>54</sup> Some of these conditions were discussed in Chapter Three.

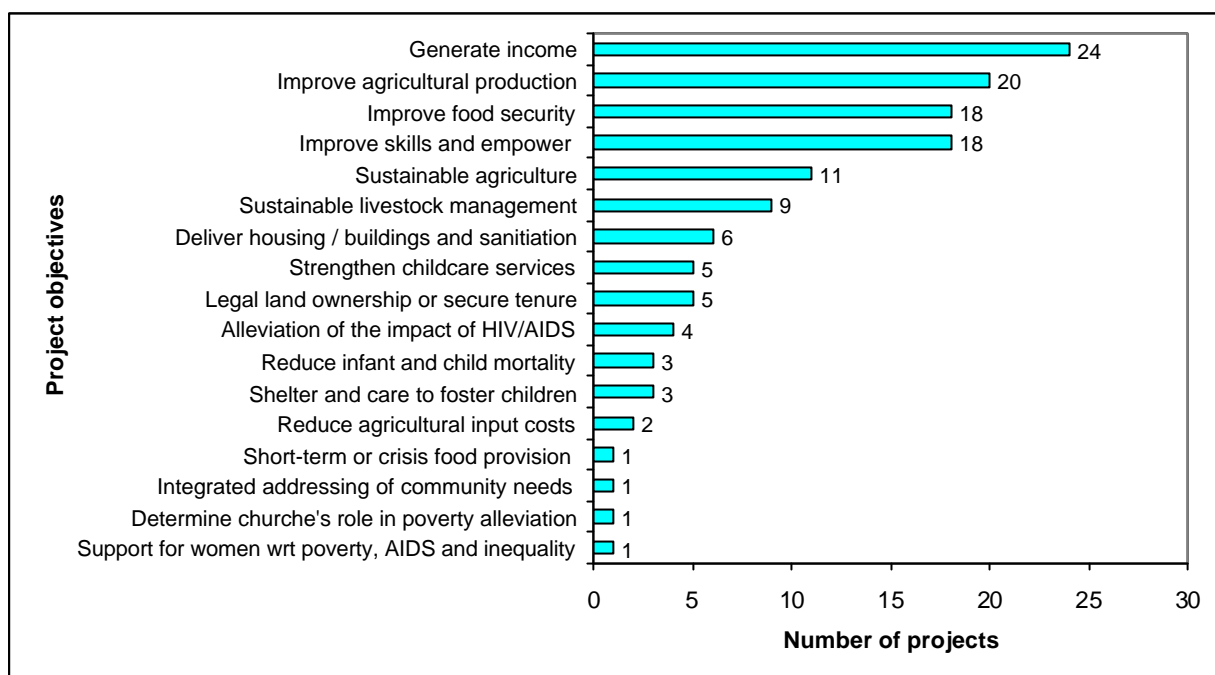
**Table 6.1: Factors cited most frequently by panellists as general causes of food insecurity.**

**Notes:** The table covers 20% of the most-frequently cited factors. For the full list of 81 causes refer to Appendix Eight. Although 16 factors would have denoted approximately 20% of the causes, factor 17 received the same score as number 16 and was thus included.

	GENERAL CAUSES OF FOOD INSECURITY	Number	% of total number of citations
1	Lack of income and unemployment	22	6.9
2	HIV/AIDS	19	6.0
3	Lack of desire to farm - move away from agriculture towards a focus on wanting urban employment	15	4.7
4	Poor hard infrastructure (e.g. roads)	15	4.7
5	Lack of access to farming inputs	14	4.4
6	Marginal agricultural land, including poor soil	12	3.8
7	Lack of skills and knowledge with regard to markets and economics	12	3.8
8	Lack of agricultural knowledge	10	3.1
9	Government policies based on incorrect / inaccurate/ outdated assumptions about how people construct their livelihoods	9	2.8
10	Poor water resources, or poor access to existing water resources	9	2.8
11	Lack of integration - isolation economically, socially, politically	8	2.5
12	Lack of state support for small-scale agriculture re. black farmers	7	2.2
13	State social grants systems disincentivising farming and taking responsibility for livelihoods	7	2.2
14	Poor extension services - e.g. based on first world agric principles	7	2.2
15	Lack of knowledge with regard to nutritional information/education and crop nutrient supply	6	1.9
16	Unreliable rainfall or low rainfall	6	1.9
17	People fail to see potential of their land and have lost their connection with it	6	1.9

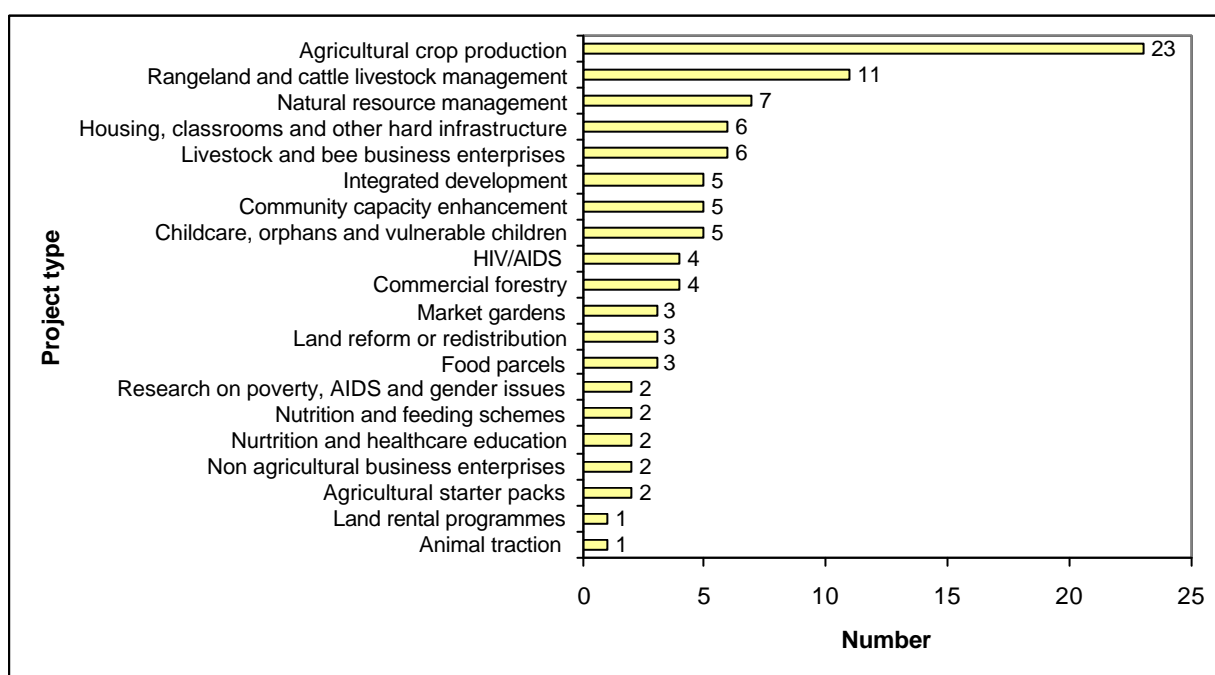
Beyond being the most frequently cited cause of food insecurity, however, unemployment did not emerge as a focus theme among the survey answers as a whole. The key dimensions of food insecurity that emerged across the results, and which are explored further in this chapter, are:

- HIV/AIDS
- The role of agriculture in food security in communities in KZN and constraints to agricultural production
- A wide range of institutional constraints, both at the community and at broader levels, including inadequate attention to appropriate intervention processes, inappropriate content and focus of interventions, and poor hard infrastructure development
- Failures in human and social capital, which, together with institutional constraints, create increasingly weakened social resources and an environment conducive to food insecurity in KwaZulu-Natal



**Figure 6.1: Key objectives of development projects in KwaZulu-Natal**

**Notes:** Among the 97 projects reviewed by panellists, there were 17 different categories of project objective; the distribution of projects among these 17 objectives is shown here.



**Figure 6.2: The means by which project objectives are met in projects in KwaZulu-Natal**

**Notes:** The 97 projects reviewed by panellists fell into 20 different project categories or types (the means for addressing the project objectives of Figure 6.1); the distribution of the projects amongst these 20 types is shown here.

## **6.3 HIV/AIDS<sup>55</sup>**

### **6.3.1 The extensive impact of HIV/AIDS in KwaZulu-Natal**

‘HIV/AIDS’ was the second-most cited cause of food insecurity in the Delphi Survey, being seen by the majority of panellists as directly precipitating food insecurity in the province (19 of 35 panellists) (Table 6.1). Further causes of food insecurity related to HIV/AIDS that were cited included ‘single-parent households, child-headed households, aged-headed households’ (4), ‘breakdown of family structure’ (4), ‘poor health and disease’ (3), and ‘only older people involved in agriculture due to AIDS’ (1) (See Appendix Eight). Four of the 97 projects reviewed, moreover, addressed HIV/AIDS directly, and five addressed childcare, orphans and vulnerable children (Figure 6.2).

Similarly, under community-level institutional causes of food insecurity, eight panellists identified that the tradition of not being allowed to work the soil after the death of a family member or community leader was having a negative impact on food security given the rapid increase in HIV/AIDS-related deaths in communities (Appendix Eight, Table 2). The stigma attached to HIV/AIDS was seen by panellists to be making it more difficult to address the pandemic (four panellists), and one panellist found that the illness and death of project beneficiaries (due to HIV/AIDS) was the biggest obstacle that had to be overcome in implementing their work (Appendix Eight, Table 5).

The hopelessness that HIV/AIDS is engendering amongst people in KwaZulu-Natal, as well as the growing number of AIDS orphans, the burden on grandparents, and the general negative impact that HIV/AIDS is having in KZN communities, is described by panellists in the following quotations:

“People feel there is no point in trying to improve their lives when everyone around them is dying from AIDS, and they are sure they will be the next to get AIDS and die.”

*Independent Community Dietician*

“So many elderly people are responsible for their grandchildren when their parents have died of HIV/AIDS. You will find this grandmother is working in the garden and you look at the size of the garden and wonder how will this feed all these children? They are making such an effort - and this woman is old.”

*Project manager, NGO*

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<sup>55</sup> The relationship between HIV/AIDS and food security is discussed in Chapter Three, Section 3.2.3

“So many old people are looking after AIDS orphans, and they have limited resources.”

*Development Consultant*

“HIV/AIDS in KZN is causing the disintegration of family units and social structures.”

*Director, NGO*

The Delphi findings support the extensive links between HIV/AIDS and food insecurity detailed in the literature (e.g. Morris, 2002; Tembo, 2003; Man, Isaacson and Dardel, 2003; Drinkwater, 2003; USAID, 2003), as well as the severity of HIV/AIDS pandemic in KwaZulu-Natal which is reported to have the highest prevalence of HIV infections in South Africa at 36.2% of the adult population (HSRC, 2002).

### **6.3.2 Government institutional dynamics of HIV**

The Delphi findings that relate to HIV/AIDS also point to the institutional dynamics that emerge throughout the survey results as a key dimension of food insecurity in KwaZulu-Natal. The difficulty people have in accessing government resources, including social grants such as the HIV/AIDS grant, was a concern raised by a number of panellists in relation to mitigating the impact of HIV/AIDS on food security. Three cited this as a direct cause of food insecurity (Appendix Eight, Table 1), three as an institutional cause (Appendix Eight, Table 4), and two panellists cited this as the biggest obstacle to the success of their projects (Appendix Eight, Table 5).

“Government programmes and systems limit quick access – though children are paramount in the white paper on social development, there are so many restrictions in place for pre-schools to become registered – so many loops to jump through before they can get registered and be eligible for government grants. Once registered they are eligible for teacher salaries, food subsidies of R4.50 per child per day, and health services. The idealism of these systems needs to give way to more flexibility. We need emergency ways to respond to the crisis; because we are living with a crisis - of poverty and HIV/AIDS.”

*Development Consultant*

## **6.4 AGRICULTURE**

### **6.4.1 The move away from rural livelihoods**

The focus on the role of agriculture in food security that marks the food-security and interventions literature (Chapters Two and Chapter Three, Section 3.6) is echoed in the findings of the Delphi survey, which like HIV/AIDS emerged prominently in the results. Fifteen of the 35 panellists identified the ‘lack of desire to engage in agriculture and the move amongst rural people towards wanting urban employment’, as a direct cause of food insecurity

(the third-highest cited cause) (Table 6.1), and one panellist cited this as an institutional cause of food insecurity (Appendix Eight, Table 2). Six panellists also noted that the failure of rural people to see the potential of their land, and losing their ‘connection’ with it was a further cause of food insecurity in KwaZulu-Natal. The panellists’ experiences of people’s attitude towards engaging in agriculture are summed up well in the following quote:

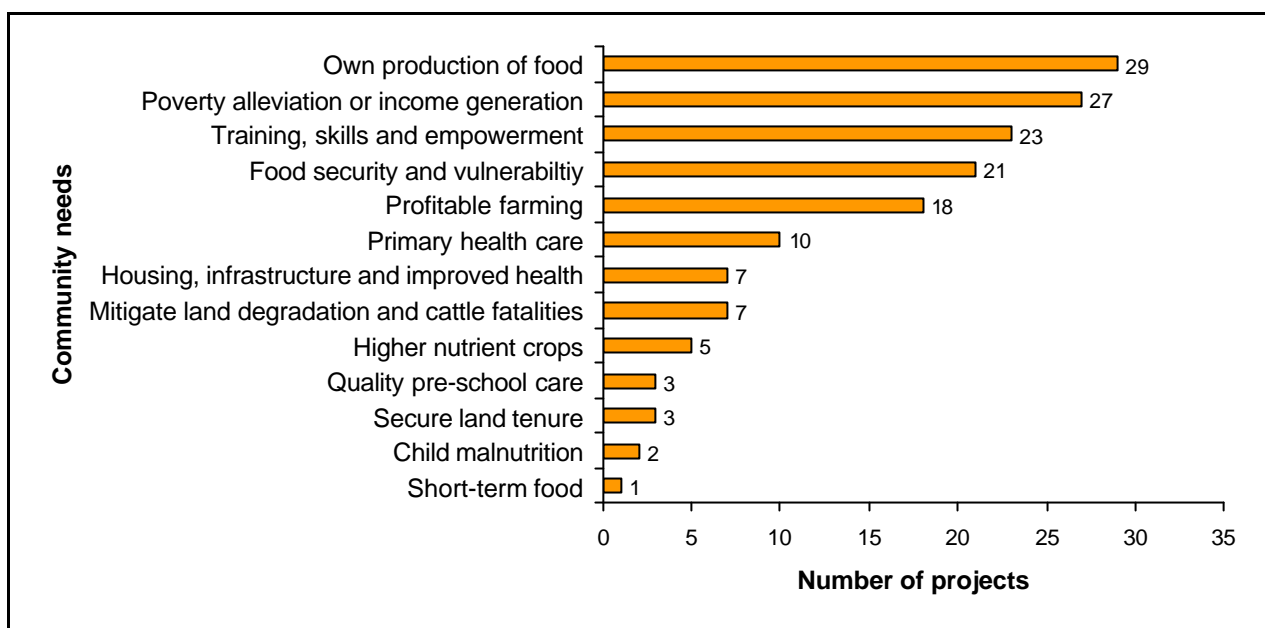
“People are looking to employment as the only solution and there is a lack of motivation to work the land and use resources – perhaps this is due to a lack of understanding of the opportunities existing in the land for a well-balanced diet and the needs of sick people, but there is also a negative perception of working the land and agriculture is seen as the work of the poor.”

*Independent Community Dietician*

This perceived lack of will to engage in agriculture must be seen in the context of panellists’ direct field experience of agricultural projects that have failed or had limited impact. Some projects were cited as being hindered by a lack of interest among beneficiaries in committing the time and other resources required. This is important because it suggests that the lack of will to farm the land is possibly a more fundamental hindrance to local-level agriculture than the numerous other more direct constraints to agriculture that were listed by panellists. These constraints included: ‘poverty’, ‘lack of access to farming input and output markets’, biophysical constraints such as ‘poor soil and water resources’, ‘lack of agricultural skill’, ‘lack of labour’, and (via a number of mechanisms, including poor extension services and unfavourable policies) an ‘undermining of small-scale agriculture by the state’ (Appendix Eight). The Delphi results suggest that in KwaZulu-Natal people’s subsistence food production, as well as small-scale commercial agriculture to generate income, is playing a decreasing role in their food security and livelihoods.

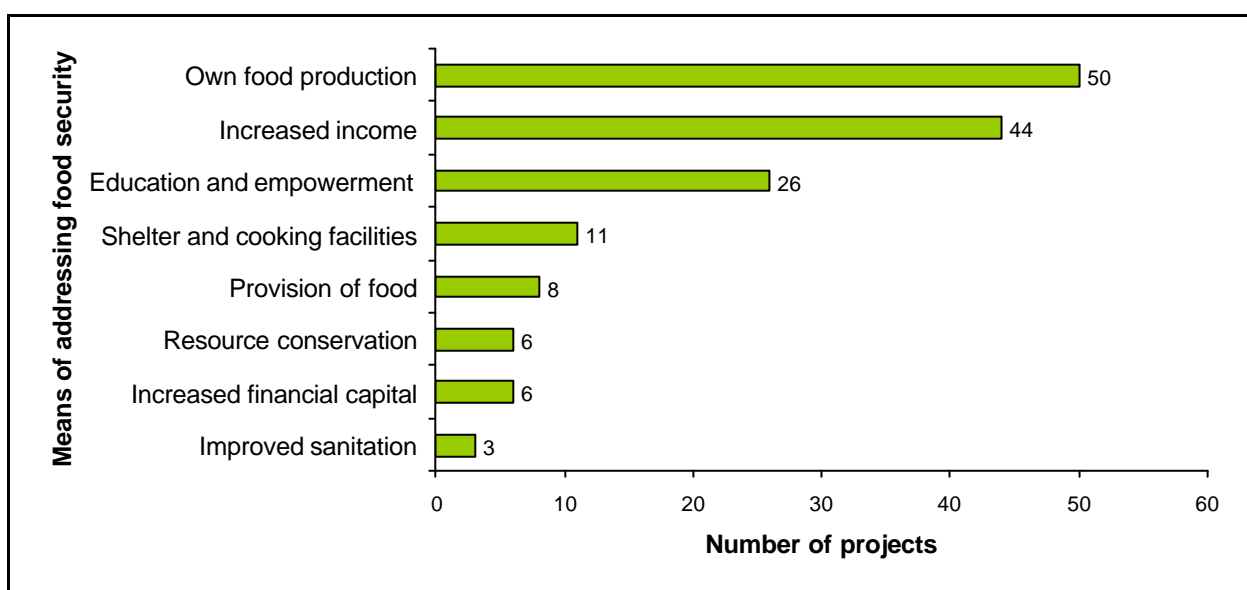
#### **6.4.2 A focus on agricultural production in interventions in KwaZulu-Natal**

Despite the perceived orientation by rural people in KwaZulu-Natal away from agriculture towards urban employment, the majority of project interventions reviewed by panellists (50 of 97) were nevertheless aimed directly (28) or indirectly (22) at enhancing community agriculture. Of the former, 23 were agricultural crop-production projects, three were market garden projects, and two were agricultural starter pack projects. Those indirectly aimed at enhancing agriculture were ‘cattle, rangeland and natural resource management’, and ‘land reform and land rental projects’ (see Figure 6.2). Further, the distribution of projects amongst the different types of project objective, the needs projects aimed to address, and the means of addressing needs, also reflect the high emphasis placed on enhancing agriculture in development work in KwaZulu-Natal (Figures 6.1, 6.3 and 6.4).



**Figure 6.3: The community needs that development projects in KwaZulu-Natal aim to address**

**Notes:** The 97 projects reviewed by panellists addressed 13 different categories of community need; the distribution of projects amongst these 13 needs is shown here.



**Figure 6.4: The means by which development projects in KwaZulu-Natal aim to alleviate food insecurity**

**Notes:** While the 97 projects reviewed by panellists aimed to improve livelihoods in different ways (Figure 6.1), the means by which they were intended to improve food security fell into 8 categories; the distribution of the projects among these 8 categories is shown here.

The targeting of agriculture as a development need in KwaZulu-Natal is understandable, if not necessary, given that the land as a farming resource is one asset that poor rural communities do have. An important question that needs to be asked, however, is whether farming interventions can succeed in view of the apparent prevailing sentiment toward agriculture, and

whether the underlying causes of a lack of desire to farm do not need to be better understood if agriculture is to play a more effective role in alleviating food insecurity in the province. In the words of one panellist:

“The lack of desire to farm presents a dilemma because there is agricultural opportunity but no desire ... do you invest in it or not?”

*Programme Manager, NGO*

### **6.4.3 Institutional constraints to optimising agriculture for food security**

The findings of the Delphi survey suggest that state interventions are a long way from acknowledging that agriculture is not necessarily a desired part of people's livelihoods in KwaZulu-Natal. Government agricultural interventions, moreover, appear to have been fraught with poor planning and implementation. In listing causes of food insecurity, nine panellists cited 'government policies based on incorrect, inaccurate or outdated assumptions about how people construct their livelihoods', as a cause of food insecurity (Table 6.4); seven cited a 'lack of state support for small-scale agriculture amongst black farmers'; seven said that the state 'social grants system has provided a disincentive to farming'; and seven said that 'agriculture extension services were poor and inappropriately based on first-world agricultural principles' (Appendix Eight, Table 3). Similar findings emerged in the section asking panellists to list the institutional causes of food insecurity residing outside the community up to provincial and national levels (Appendix Eight, Tables 4). The following selected quotes highlight these criticisms:

“The seed pack programme<sup>56</sup> in KZN was badly implemented; no training of farmers was undertaken, no NGOs were involved and it was done very unsustainably – again the mobilization of the programme was disastrous.”

*Project Manager, NGO*

“The timing of the agriculture starter packs<sup>56</sup> project was poorly planned – they had to be handed out before Christmas but we had no time to do a proper needs-analysis and identify appropriate beneficiaries, or to do any farmer training. Also, December is too late to plant maize, onions and most other vegetables.”

*Manager, Department of Agriculture*

“Both subsistence and commercial agriculture are hindered by the government grants system and 'hand outs'.

*Chief Executive Officer, NGO*

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<sup>56</sup> Agriculture starter packs, or seed packs, usually consisted of seed (carrots, dry beans, butternut or pumpkin, cabbage, maize), fertilizer, lime and a hand hoe. About 1200-1400 packs were allocated to one Region of KwaZulu-Natal in 2003, with very little time to effectively identify and deliver them out to potential users.

“Extension services are mainly aimed at mobilizing groups of farmers and do not cater for individual subsistence farmers who become marginalised.”

*Development Facilitator, NGO*

“Farmers are encouraged (by extension officers) not to use their own varieties of maize, which are more understood by them. Local varieties require fewer inputs, can be stored more easily for the following year than the hybrid varieties, and also have spiritual and cultural value.”

*Manager, Department of Agriculture*

“What are the critical differences between South Africa and other southern African countries who have less financial resources, but who are doing more with agriculture?”

*Programme Manager, NGO*

The question of the future role of agriculture in people’s food security livelihoods in KwaZulu-Natal is clearly further confused by weak and/or inappropriate institutional supports, particularly amongst government institutions.

**Table 6.2: Factors cited by panellists as institutional constraints to food insecurity among community-level institutions.**

**Notes:** These are the 20% most-frequently cited factors. There were a total of 40 in the original list. Eight would have covered 20%, but factors 9 and 10 received the same score as number 8 and were thus included. For the full list refer to Appendix Eight.

	<b>Causes of food insecurity among INSTITUTIONS OPERATING AT THE COMMUNITY LEVEL</b>	<b>Number</b>	<b>% of total number of citations</b>
1	Gender inequality	10	9.3
2	Weak community institutions and breakdown of social networks	10	9.3
3	Tradition of not being allowed to work the soil after death of a family member or a community leader, particularly given the impact of HIV/AIDS	8	7.4
4	Decay of community institutions protecting land and crops	6	5.6
5	Poor human capacity with regard to business and economic skills	5	4.6
6	Destruction of crops by cattle and other livestock	5	4.6
7	High expenditure on funerals	5	4.6
8	Community norms driven by no sense of the future	4	3.7
9	No sense of 'place' due to high rates of migrancy and movement between areas	4	3.7
10	HIV/AIDS not openly discussed – the stigma attached to it makes addressing it difficult	4	3.7

## **6.5 INSTITUTIONAL CONSTRAINTS TO FOOD SECURITY**

A wide range of institutional issues emerge in the roles described above of HIV/AIDS and agricultural constraints in driving food insecurity in KwaZulu-Natal. The extensive institutional dynamics of food insecurity are further profiled in an overview of the general

causes of food insecurity cited in Questionnaire One; 30 of the 81 general causes cited by panellists relate to the negative impact of institutions that operate outside the community to provincial and national levels. The majority of these 30 describe failures in state institutions (Appendix Eight, Table 8).

After they had considered general causes of food insecurity, among which a number of institutions constraints were independently identified, panellists were more specifically led to consider institutional causes within their experience. These were considered at three levels: at the community level, among community leaders, and external to the community to provincial and national levels. The results of these questions comprise many citations similar to those already cited by panellists under general causes (Appendix Eight, Tables 2-4). Of the 40 institutional causes at the community level, 'gender inequality', and 'weak community institutions and breakdown of social networks' were the two causes cited most frequently (Table 6.2). Of the 18 institutional causes of food insecurity amongst community leaders, the 'political affiliation of leaders' and the politicisation of issues' were the two most frequently cited causes (Table 6.3). Finally, of the 40 causes of food insecurity related to institutions residing outside the community, the following three were cited most frequently by panellists (Table 6.4):

- 'no linkages between national-level policies such as the integrated food security strategy (IFSS) and local/provincial initiatives - no forum to transfer knowledge or communicate either way'
- 'ineffective government extension services'
- and 'lack of networking between NGOs, between Government departments and between NGO and Government departments - wasting resources and duplicating efforts'.

**Table 6.3: Factors cited by panellists as institutional constraints to food insecurity amongst leaders of the community and leaders of community institutions.**

**Notes:** The 20% most-cited factors are listed. There were a total of 18 in the original list.

	<b>Causes of food insecurity among COMMUNITY LEADERS</b>	<b>Number</b>	<b>% of total number of citations</b>
1	Political affiliation of leaders and politicizing of issues	15	23.8
2	Conflict between traditional leaders, councillors and political parties in community	8	12.7
3	Lack of vision and management capacity amongst leaders	8	12.7
4	Differential preference in granting access to resources based on relationships with chiefs - corruption	4	6.3
5	It suits leaders for their communities to be vulnerable - leaders interested in power rather than community well-being	4	6.3
6	Leaders suspicious of interventions and resistant to interventions	4	6.3
7	Having to deal with leaders and get permission slowed the progress of the project	4	6.3

**Table 6.4: Factors cited by panellists as institutional constraints to food insecurity amongst institutions residing beyond the community level.**

**Notes:** The 20% most-cited factors are listed. There were a total of 41 in the original list. For the full list refer to Appendix Eight.

	<b>Institutional causes of food insecurity OUTSIDE THE COMMUNITY</b>	<b>Number</b>	<b>% of total number of citations</b>
1	No linkages between national-level policies such as the integrated food security strategy (IFSS) and local/provincial initiatives - no forum to transfer	9	7.3
2	Ineffective government extension services	9	7.3
3	Lack of networking btw NGOS, btw Govt departments and btw NGO and Government departments - wasting resources and duplicating efforts	9	7.3
4	Lack of integration between government departments and policies	9	7.3
5	NGOs and Govt interventions that are not participatory - 'top down'	8	6.5
6	Government policies based on incorrect assumptions – e.g. first world farming practices; the assumption that people have a desire to farm	6	4.8
7	Government does not support or protect small-scale agriculture – such as by granting some sort of protected trade	6	4.8
8	NGO and Government not having the sustained community involvement necessary for capacity building	6	4.8

### 6.5.1 Poor networking and integration in policies and programmes

A number of the institutional causes external to communities (Table 6.4) describe a lack of integration and communication between departments, programmes and policies. These results, together with panellists' other observations recorded during interviews, give a strong sense that the programmes and policies developed at provincial and national levels are not devised with any understanding of 'grass-root' realities, and further that the policies themselves are often less to blame for state intervention failures than the way they are (or are not) mobilized

to grass roots level. For example, when asked about the Integrated Food Security Strategy (IFSS) (See Appendix Three), a researcher within the KZN Department of Agriculture was quite candid in saying he knew nothing about the IFSS; neither the purpose of it or its strategies and programmes!

The following quotes underscore the perception amongst many panellists that, first, the vision behind government policies fails to be conveyed to those implementing policy, and, second, that there is an overwhelming lack of integration and communication within and between government sectors that is severely hampering efforts to address food insecurity in KwaZulu-Natal:

“No vision was handed to us by the Department of Health when we opened – they just dropped us here with nothing to do. We had to go out and work out how to find these children– just six of us for all these schools, and no transport.”

*Manager of a centre addressing the needs of orphans, Department of Health.*

“There are no official mechanisms for coordination between the Department of Health and the Department of Agriculture; for example the agriculture starter packs were to be handed out by Health without consultation with Agriculture.”

*Manager, Department of Agriculture*

“On paper SA has good policies across the sectors. The gap is in how to get these translated into something that can be implemented, and implemented sustainably.”

*Project Manager, NGO*

“The PSNP<sup>57</sup> has now collapsed in the Eastern Cape due to corruption, and the same will happen in KZN if things continue the way they are. Often the service provider and the school principal will claim for the service but share the money rather than give the food to the children. The payment of service providers takes three months, which makes it nearly impossible for contractors to buy and deliver the food to the schools, and also makes the food much more expensive because services providers cannot pay cash for it. The main problem is that the government do not *hear* what service providers on the PSNP have to say about the practical problems of running the programme. I have written numerous letters, but nothing happens.”

*Non Profit Organisation PSNP Contractor*

“We need more integration between government departments. For example the Department of Health has assessment tools for pre-school children, but so does the department of Education – they ask the *same* questions of pre-schools but they do not pool their resources; information is not optimally utilized or gathered.”

*Development Consultant*

“We need a policy in KZN for integrating development at all levels, and between all roleplayers, and between government departments. For example the district-level

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<sup>57</sup> The Primary Schools Nutrition Programme (PSNP) costs about R182 million per year (April to March), and in KZN there are a total of about 2800 schools to Std 5 level who are on the programme. About 80% of schools participate. It has been running since about 1994 in KZN. The programme provides one meal a day at school for children attending, usually around mid-morning. Food deliveries consists of rice, samp, beans, soya, vegetables and salt. See Appendix Three.

offices are not aware of what the ADSS<sup>58</sup> are doing” (both Department of Agriculture) “or what resources they can offer, and we are resented as a result.”  
*Researcher, Department of Agriculture*

Not only was lack of networking and communication seen by panellists as a key cause of food insecurity within state institutions, but nine panellists cited the lack of networking between all stakeholders as an additional causal factor (Table 6.4).

### **6.5.2 The difficulty in meeting both short- and long-term needs**

What are the greatest difficulties change agents face in addressing food insecurity in KwaZulu-Natal? One major challenge identified in the Delphi, faced by both government and non-government institutions, is that of ‘addressing both short- and long-term needs in communities’ (Table 6.5). While only one project reviewed by panellists had the explicit objective of providing food in the short term (until other mechanisms of alleviating food insecurity became functional) (Figure 6.1), a number of panellists found that people’s needs were so immediate that beneficiaries were unable or unwilling to invest in strategies for longer-term food security. This is well illustrated in a small-scale commercial agricultural project reviewed by a panellist that failed because the beneficiaries ate the produce rather than selling it, thereby failing to secure their output market for the following season. In the words of the panellist who was overseeing the project:

“It is very hard to alleviate poverty without relieving short-term food security, and vice-versa.”

*Director, NGO*

Similarly, many government interventions were seen as primarily offering short-term relief while causing long-term negative impacts. The social grants system was criticised by panellists for creating a disincentive to agriculture and to individuals taking greater responsibility for challenges, thereby inhibiting the development of long-term livelihood strategies (Appendix Eight, Table 4). The state was also criticized for stalling the development of interventions that have a more sustainable impact, through focusing on short-term delivery ‘for political window-dressing’, and for a social grants system that is ‘at odds with the local economic development policy of self-sufficiency’ (Appendix Eight, Table 4).

The following quotes serve to emphasise the dilemma faced by change agents in developing interventions that address both short-term and long-term needs:

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<sup>58</sup> Agricultural Development Support Services (ADSS)

“The protein-energy malnutrition scheme may have the negative effect of creating a dependence on hand-outs. This is why it should be closely linked to longer term solutions (to food insecurity).”

*Independent Community Dietician*

“Though the existing social security approach has given people another means, it has created an environment where food security responsibilities can be shifted to the state.”

*Programme Manager, NGO*

“Government initiatives call for *delivery* as the focus – there is no focus on long term, sustainable community development.”

*Project Manager, NGO*

**Table 6.5: Factors cited most frequently by panellists as obstacles to project success for the 39 most successful and most unsuccessful projects of the 97 projects reviewed.**

**Notes:** The 20% most-cited factors are listed. Two projects were selected by panellists from their own list of projects which they ranked as most and least successful. The number of projects ranked by all panellists in this way came to 39. Panellists were asked to list the biggest obstacle to project success for each of the top and lowest ranking. For a full list of obstacles refer to Appendix Eight. Seven obstacles would comprise 20%, but obstacles 8-13 scored the same as number 7 and were thus included here.

	OBSTACLES TO PROJECT SUCCESS cited by panellists	Number	% of total number of citations
1	The difficulty in meeting both immediate and long-term needs	5	6.58
2	Difficulty in getting buy-in from whole community	4	5.26
3	Lack of capacity within agent of change	4	5.26
4	Slowness in working through and getting approval from community institutions	4	5.26
5	Constraints due to stipulations of funders - including government-funded projects	4	5.26
6	Conflict between government departments	4	5.26
7	Getting community members to talk about livestock issues	3	3.95
8	To engender an understanding of what it takes to run a business	3	3.95
9	To get people who have nothing else in common to work successfully in groups	3	3.95
10	Communicate a clear understanding of what was being offered by the project	3	3.95
11	Getting past the political or selfish agendas of those involved	3	3.95
12	Difficulty in getting commitment and involvement from dept of agric	3	3.95
13	Poor project vision, conceptualisation and planning	3	3.95

### 6.5.3 Inappropriate focus and processes: capacity building and participation

A further challenge that faces change agents is that of more effectively developing people's skills and capacity - both within their own organisations, and among the beneficiaries of the food-security interventions. This was a key institutional feature of food insecurity that emerged in the Delphi Survey. Three panellists cited a 'lack of attention to skills development

before hard infrastructure development’, and three a ‘lack of time spent on project preparation and feasibility analyses’ as institutional causes of food insecurity (Appendix Eight, Table 4). Mirroring this perceived area of inappropriate focus in interventions, was the identification of inappropriate intervention processes, in which change agents fail to build sustainable food security by developing people’s skills and problem-solving capacity through participatory approaches, rather than providing ready-made ‘solutions’. Eight panellists cited ‘NGO and Government interventions that are ‘top down’ and ‘not participatory’. Further, five panellists said there was a ‘need to start looking at people as the subject of development, rather than at material goals’, five said that there was a ‘need to help people more with skills development and capacity building’, and four cited a need to ‘recreate social capital and a sense of community and self-worth’ (Table 6.6). Similarly, seven panellists said that ‘working with existing community initiatives/resources’, and four that ‘facilitating people to come up with their own solutions, in their own time, rather than providing ready made answers’, were critical success factors for change (Table 6.7).

**Table 6.6: Factors cited most frequently by panellists as missed opportunities for enhancing food security.**

**Notes:** The 20% most-cited factors are listed here. For the full list of 47 see Appendix Eight. Nine factors would comprise 20%, but factors 10-14 scored the same as nine and were thus included.

	<b>MISSED OPPORTUNITIES in enhancing food security cited by panellists</b>	<b>Number</b>	<b>% of total no. of citations</b>
1	Making better use of networking with other NGOs and government bodies and other stakeholders	12	11.88
2	Need to start looking at PEOPLE as the subject of development, rather than at material goals – for example building communities instead of housing and infrastructure	5	4.95
3	Helping people more with skills development and capacity building	5	4.95
4	Making better use of leaders in the community	5	4.95
5	Doing a better evaluation of community, environment and other assets before starting project	5	4.95
6	Making better use of existing community natural resources - have to find ways of using farming as an economic resource for rural people	5	4.95
7	Making better use of key community members, rather than just traditional leaders and councillors	4	3.96
8	Need to understand more about what people already know, what their individual resiliences are	4	3.96
9	Need a coordinated structure for long-term development between all government departments	3	2.97
10	Were unable to address true needs due to funder constraints	3	2.97
11	Re-creation of social capital, sense of community and self-worth	3	2.97
12	Ongoing links needed between government policy and feedback from communities at grassroots level	3	2.97
13	Poor coordination between government department levels - e.g. municipal to national	3	2.97
14	Change agents need to start asking what the most effective role they can play is - may not necessarily mean doing what they have always done, may mean moving into other areas	3	2.97

**Table 6.7: Factors cited most frequently as being critical to the success of the 97 projects reviewed.**

**Notes:** The 20% most-cited factors are listed here. There were 47 in the original list. For the full list see Appendix Eight. Nine factors would comprise 20%, but factors 10-12 scored the same as factor nine and were thus included.

	<b>CRITICAL SUCCESS FACTORS cited by panellists</b>	<b>Number</b>	<b>% of total number of citations</b>
1	Participation of community members in needs analysis and project development - project beneficiaries identified project themselves and were thus 100% committed	25	16.56
2	Human capacity building critical part of any project development	14	9.27
3	Long-standing relationship with community	8	5.30
4	Beneficiaries have existing entrepreneurial interests and skills	8	5.30
5	Working with existing community initiatives / resources, and where there is existing 'passion' amongst community members for change	7	4.64
6	Networking with all stakeholders	7	4.64
7	Long -term projects allow time to develop community relationships and trust - 3-5yrs a minimum	5	3.31
8	Buy-in of traditional leaders	4	2.65
9	Long-term experience in development	4	2.65
10	Time spent on explaining project benefits to community	4	2.65
11	Integrated project development - addressing needs in a holistic way	4	2.65
12	Facilitating people to come up with their own solutions, in their own time, rather than providing ready-made answers	4	2.65

The following quotes emphasise the above tabulated results:

"That poultry farm ran well for about a year, then ground to a halt because of poor management by beneficiaries and embezzlement of funds".

*Director, NGO*

"Government initiatives like piggeries have not lasted – the government has thrown in the funding before the training, and a year later they're skeletons."

*Researcher, Department of Agriculture*

"The government are investing in yet another poultry project there, but they have not done a feasibility analysis, and it is another waste of government funds."

*Development Consultant*

"We are ultimately asking for changing people's behaviour, which means changing traditions and cultures – this is a long-term thing, but (the Department of Agriculture's Landcare) projects are only funded for 3 years, which is not long enough."

*Researcher, State Research Institute*

"It is good for government to have plans, but they must be flexible to communities' needs and expressed wishes. Government often come with a road...with a school, which is very sad. We need to find a way where government plans and communities meet... forget technical paper work from communities, it is not appropriate, and does not allow true avenues of communication."

*Development Consultant*

The need for a more participatory process in addressing food security is also emphasised by five panellists calling for ‘a better evaluation of the community, its environment and its other assets before starting a project’; five for making ‘better use of existing community natural resources’; and four for ‘understanding more about what people already know, and what their individual resiliences are’ (Table 6.6).

“Government interventions fail to consider what is already there because they are working from legislation, or policy or their own framework.”

*Project Manager, NGO*

“Projects do not focus enough on ‘what is going right’ in peoples lives – for example ‘people only had one meal a day’... but HOW DID THEY GET THIS MEAL? Rather we focus on how to get them the other two meals. We don’t know enough about what people already know or do.”

*Programme Manager, NGO*

#### **6.5.4 Poor hard infrastructure**

Apart from the above failures in intervention focus that challenge change agents and are perceived to contribute to food insecurity in KwaZulu-Natal, the ‘lack of hard infrastructure’<sup>59</sup> in communities’ also emerged prominently, being cited by 15 panellists as a cause of food insecurity – the fourth-highest cited cause (Table 6.1). The lack of hard infrastructure was also cited by five panellists as an institutional cause of food insecurity residing outside the community (Table 6.4). The implications of poor infrastructure are extensive, and to a large extent poor infrastructure is a result of South Africa’s history of racial segregation and separate development agendas. Poor hard infrastructure is related to many of the other causes of food insecurity cited, including the ‘lack of access to farming inputs’ (14), ‘lack of economic, social and political integration’ (8), ‘distance to input markets’ (4), and ‘high transport costs’ (1) (Appendix Eight).

Poor, disadvantaged communities in KwaZulu-Natal clearly require improved infrastructural development. It is argued here however, in the light of the above discussions, that careful attention has to be paid to the way this is prioritised and implemented lest it become more development ‘from the outside in’, with little understanding of local-level dynamics, needs or wishes.

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<sup>59</sup> ‘Hard infrastructure’ includes roads; housing and other buildings; water, electrical and sanitary services etc.

### **6.5.5 Government policies not favouring household-level issues**

The inappropriate focus and content of policies and programmes described above, particularly among government institutions, which create an enabling environment for food insecurity is indicative of a broader issue emerging in the results. This issue is that government policy is perceived as primarily addressing the interests of large-scale commercial enterprises and the state of the national economy, rather than with addressing issues that impact on the livelihoods and food security of (mostly poor) individuals and households. Amongst causes of food insecurity cited in institutions residing outside the community, six panellists said that ‘government does not support small-scale agriculture, by granting some sort of protected trade’, and two said that ‘government policies prioritise commercial issues, centred around privatisation and liberalisation, rather than household food security’ (Appendix Eight, Table 4). This issue was also alluded to in the lack of support for small-scale agriculture identified by panellists (noted above). The following are comments from panellists.

“Government priorities for development are centred around privatization and liberalization – in other words industry issues rather than household food security issues. As a result investment in food security tends towards a welfare approach – food parcels etc.”

*Programme Manager, NGO*

“Where do people get their food? Who sells it? Who makes money from it? Is there any level of corporate responsibility? The cost of food due to mechanisms of the supply chain is tied to a system of agriculture that supports commercial agriculture, not household food security.”

*Chief Executive Officer, NGO*

“We need to re-conceptualise local-level interventions to focus on the broader level issues. This does not mean a trade-off (between the two), but actually using local-level interventions to work toward broader levels (of development). When local people begin to see these connections themselves, there is a ‘jump in energy levels’ - I have actually seen this happening in communities.”

*Chief Executive Officer, NGO*

“Large, commercial business enterprises need to ‘come to the party’ – there is a need for support for small-scale agriculture through market outlets at a much larger scale.”

*Director, NGO*

“More people need to have a small garden, I wish there could be a campaign to promote agriculture amongst individuals – if everyone had a small garden food security would be much better. Government focuses on big programmes and commercial farming, there is a lack of focus on livelihood-level strategies – we need strategies to benefit *all* people, not just a few who get rich.”

*Independent Development Consultant*

## **6.6 POOR HUMAN AND SOCIAL CAPITAL**

Finally, in seeking a less ‘distorted’ consideration of both the institutional and the broader social and human capacity issues undermining food security in KwaZulu-Natal, the list of general causes of food insecurity cited by panellists was grouped into factors falling under ‘human capital’ and factors falling under ‘social capital’<sup>60</sup>. Twenty-three of the original list of 81 general causes of food insecurity (Appendix Eight, Table 8) could be seen to relate to, or result from, a condition of poor human capital. A further 31 could be seen to relate to, or result from, poor social capital (given that social capital is taken to include all the community’s social resources); while 18 causes from both these sets of human-capital and social-capital related causes were seen as a possible result of both poor human and social capital (Figure 6.5). In total, then, 43 discrete causes of food insecurity cited by panellists could be seen to be related to a lack in human and social capital within and outside communities. Many of the human- and social-capital related issues emerging in the general causes of food insecurity cited were reiterated by panellists in the subsequent sections of the questionnaire asking panellists to cite community-institutional causes.

The following selected quotes give a sense of some of the human and social capital limitations in panellists’ own words:

“Communities have become ‘mobile’ communities because of migrant labour – there is a loss of the sense of community, and families have broken up. This has led to the loss of traditions and institutions.”

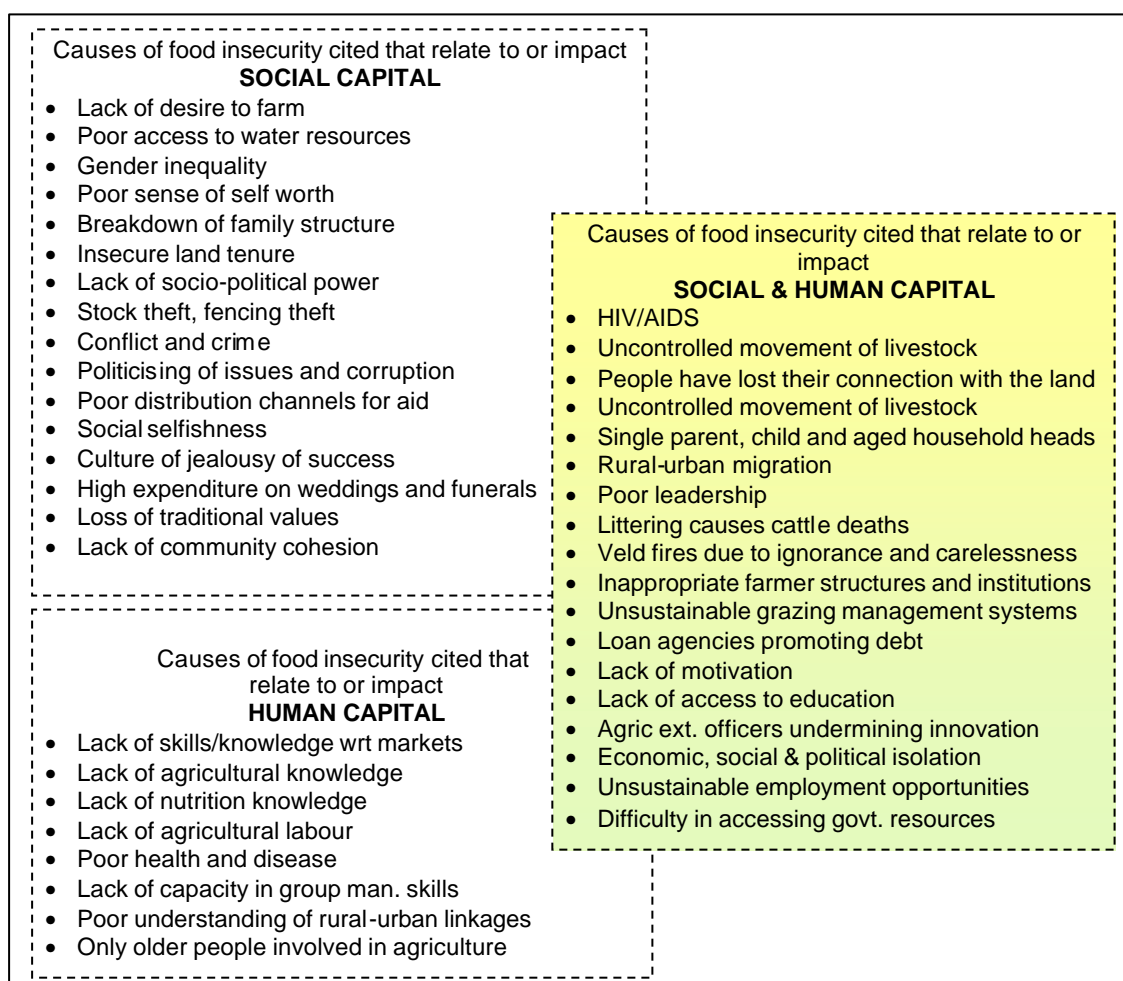
*Project Manager, NGO*

“Food insecurity is about the cycle of underlying issues – unemployment, boredom, discouragement, bad living conditions, alcohol and drug abuse. But what is the *root* cause? People are not responding to all these interventions...”

*Manager, Department of Health*

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<sup>60</sup>Only the results of the first part of Questionnaire One asking for general causes of food insecurity were included in this grouping, since it was felt that to include responses to questions specifically directed at institutional causes would bias the discussion. Panelists were asked to cite general causes *before* institutional causes and so were not *led* to focus on social or institutional issues in question one. It may be recalled that *human* capital is defined as the ‘skills, knowledge, ability to labour, good health and physical capability important for the successful pursuit of different livelihood strategies’ (Chapter Two, Section 2.3.8). *Social* capital is a considerably more complex concept addressed in Chapter Two, Section 2.4.



**Figure 6.5: General causes of food insecurity in KwaZulu-Natal cited by panellists that relate to or impact on a lack of human capital, social capital, or both, taken from Appendix Eight, Table 1.**

**Notes:** Human capital causes are related to poor skills, insufficient knowledge, inability to labour, and poor health and physical capability. Social capital causes are related to poor relations of trust, reciprocity and exchange; common rules, norms and sanctions (institutions) that have a negative impact on food security and livelihoods; poor social connectedness (bonding, bridging and linking within, between and beyond communities), and weak social networks and groups.

“Our people have forgotten what nutrition means, we are no longer using the land and we have lost touch.”

*Independent Development Consultant*

“The people had to have a business plan to access the (Government) funding, but did not have the skills to put it together, so the requirements were not met.”

*Manager, Department of Health*

“People feel undermined when those around them advance themselves”

*Senior Manager, NGO.*

*Chapter Six: Food Insecurity Causes and Responses in KwaZulu-Natal: A Delphi Survey of Practitioner Experience*

“Food insecurity is a societal phenomenon of putting oneself before others – at all scales; from global trade that disadvantages developing countries to individuals in the household.”

*Director, Research Institute*

“Addressing HIV/AIDS alone is less effective than creating strong, strong social awareness; poverty and ill health follow from weak social infrastructure.”

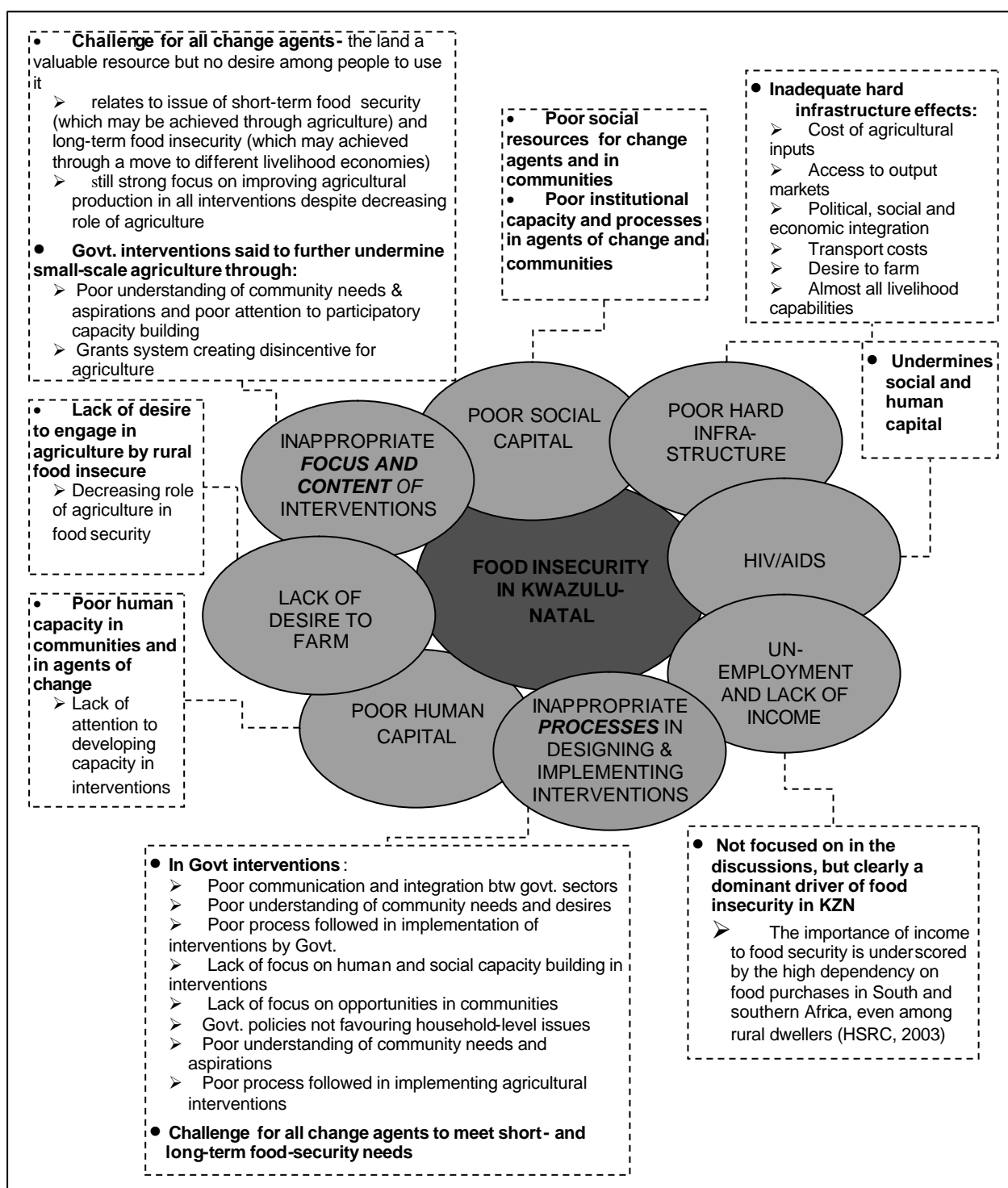
*Capacity Building Officer, NGO*

“The resilience of households to food insecurity is dependent on the total capacity of people to be agents of their own transformation.”

*Director, NGO*

## **6.7 SYNTHESIS OF KEY CAUSES**

A graphical summary of the key causes of food insecurity identified from Questionnaire One of the Delphi Survey is shown in Figure 6.6.



**Figure 6.6 Summary of the causes of food insecurity in KwaZulu-Natal found in Questionnaire One of the Delphi Survey of practitioner experience.**

**Notes:** Causes are interconnected - for example the failures in the processes of government interventions are also understood as an issue of poor social capital. As in the Meta-Analysis, causes function to increase the functioning of stressors and so have ongoing cyclical impacts.

## **6.8 CORE PRIORITY INTERVENTIONS IN ADDRESSING FOOD INSECURITY IN KZN**

Food-security causation in KwaZulu-Natal has been explored in the first part of this chapter. Attention now turns to the central results of the second round of the Survey, which focused on identifying priority responses to food insecurity in the province. A list of 44 factors (interventions or changes in approach to addressing food insecurity), drawn from the ‘solution-focused’ results of Questionnaire One, which was re-circulated to panellists for them to rank against three criteria (See Chapter Four, Section 4.5 for methods) in Questionnaire Two. Five core priority interventions were identified and are discussed here that are common to both the set of priority interventions seen to have value for use by panellists or their organisations, and those seen to have value for use by government or government bodies (Tables 6.8 and 6.9; Figure 6.7)<sup>61</sup>:

1. True community participation in project development and implementation, so that ways of meeting needs are identified by the community rather than the agent of change.
2. Developing people’s skills, capacity and knowledge, thus facilitating people to find their own solutions and opportunities and to manage these for long-term sustainable development.
3. Building good relationships with beneficiaries through long-term involvement in the community – a minimum of 3-5 years.
4. Making better use of networking between NGOs, government, and community based organisations to avoid duplication of efforts and work towards more integrated and effective development.
5. Projects that address community needs holistically; taking into consideration short-term ‘crisis’ needs, without neglecting the long-term livelihood, physical, spiritual and capacity-building needs of communities.

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<sup>61</sup> See Chapter Four, Section 4.5 for questionnaire methods

**Table 6.8: Interventions rated as having a high potential value if used by non-government bodies to enhance food security.**

Notes: Calculated using formula for Index One

Most valuable food security interventions or change in project or development approach if used by <i>non-government bodies</i>	Index One
Making better use of <b>networking</b> between NGOs, government, and community-based organisations to avoid duplication of efforts and work towards more integrated and effective development.	53
Developing people's <b>skills, capacity and knowledge</b> , thus facilitating people to find their own solutions and opportunities and to manage these for long-term sustainable development.	53
Projects that <b>address community needs holistically</b> ; taking into consideration short-term 'crisis' needs, without neglecting the long-term livelihood, physical, spiritual and capacity building needs of communities.	53
True <b>community participation</b> in project development and implementation, so that ways of meeting needs are identified by the community rather than the agent of change.	51
Building good <b>relationships with beneficiaries</b> through long-term involvement in the community – a minimum of 3-5 years.	47
Adopting an <b>opportunity-focused approach</b> by asking "what are people getting <i>right</i> ? Where is their positive energy?", thus building on existing strengths and resources in communities, rather than focusing on fixing problems with pre-determined solutions.	41
Time spent by change agents <b>reviewing successes and failures of interventions and reflecting on their role</b> in community development so that they learn from mistakes and if necessary change their roles, their ideologies or beliefs, or the way they are doing things.	37
A greater proportion of project budgets and time spent on <b>planning, monitoring and follow-up</b> in order to better assess project relevance, feasibility and impact.	36
Doing a more thorough <b>baseline analysis</b> of the community's biophysical resources before beginning projects	33

**Table 6.9: Interventions rated as having a high potential value in enhancing food security if used by government or government bodies.**

Notes: Calculated using the formula for Index Two

Most valuable food-security intervention or change in project or development approach if used by <i>government or government bodies</i>	Index Two
Better <b>links between short-term 'crisis' interventions</b> and interventions aimed at building <b>long-term food security</b> – by all agents, including government.	53
True <b>community participation</b> in project development and implementation, so that ways of meeting needs are identified by the community rather than the agent of change.	51
Developing people's <b>skills, capacity and knowledge</b> , thus facilitating people to find their own solutions and opportunities and to manage these for long-term sustainable development.	50
Projects that <b>address community needs holistically</b> ; taking into consideration both short-term 'crisis' needs, without neglecting the long-term livelihood, physical, spiritual and capacity building needs of communities.	50
Building good <b>relationships with beneficiaries</b> through long-term involvement in the community – a minimum of 3-5 years.	50
<b>Communication and feedback</b> both ways <b>between grassroots and government-level institutions</b> to facilitate the development of government policy relevant to local-level needs.	48
<b>Providing basic infrastructure</b> with projects (such as fencing for vegetable gardens) to ensure its success.	47
The development of <b>conservation agriculture</b> practices in communities.	47
Making better use of <b>networking</b> between NGOs, government, and community-based organisations to avoid duplication of efforts and work towards more integrated and effective development.	46

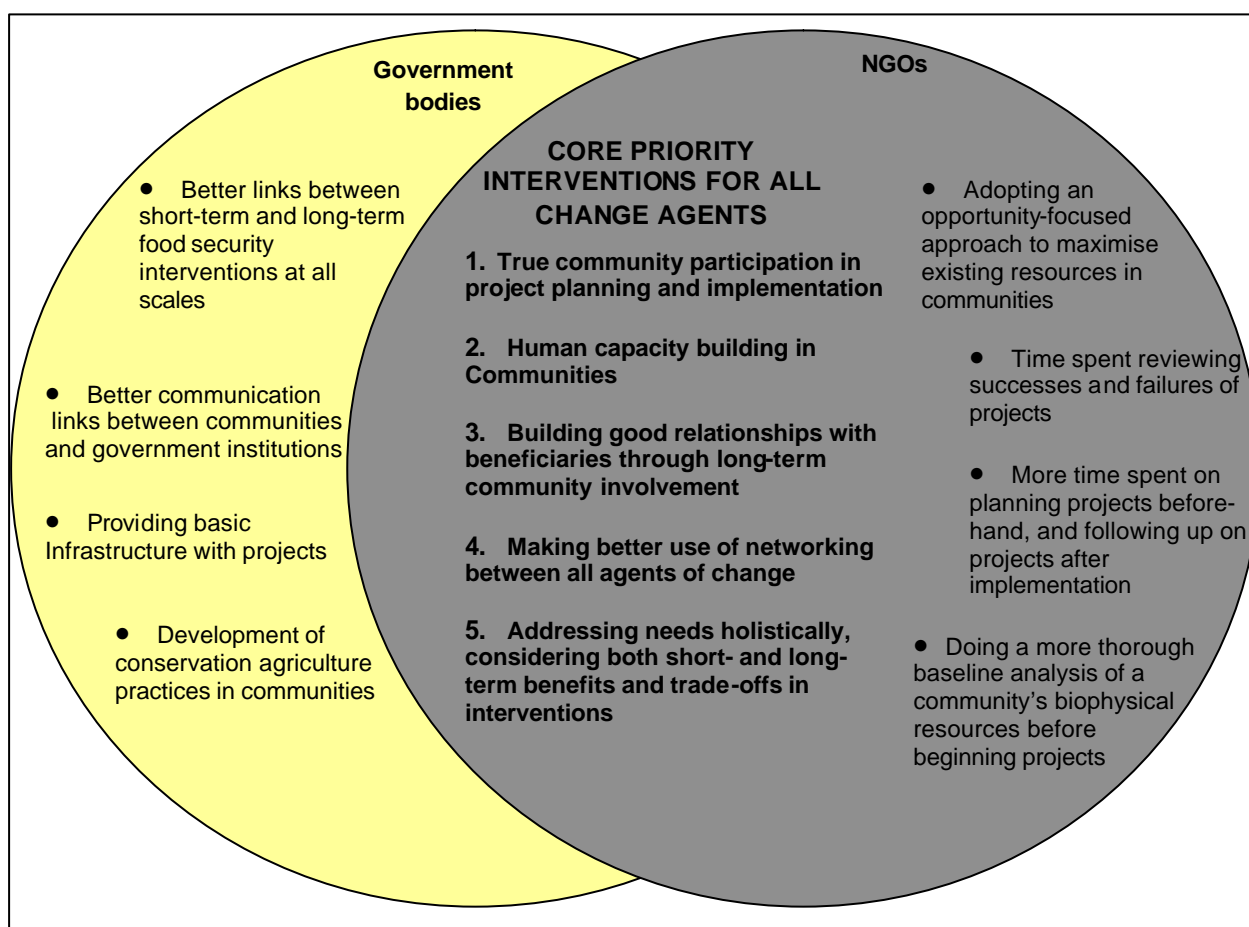


Figure 6.7: Priorities for addressing food insecurity in KwaZulu-Natal identified through the Delphi panel survey (Tables 6.8 and 6.9).

## 6.9 COMMUNITY PARTICIPATION IN DEVELOPMENT PROCESSES

### 6.9.1 Defining human 'need' in development

Panellists in the Delphi Survey identified 'true community participation in project planning and implementation' as critical if 'development' is to be either relevantly defined or truly effective in supporting the well-being of individuals and communities in KwaZulu-Natal, and in meeting their needs (Figure 6.7).

This viewpoint is confirmed in the literature. Human 'need' is value-laden, ideology-driven and context-dependent (e.g. Redclift, 1984; Escobar, 1996; Leach, Mearns and Scoones, 1997; Handwerker, 2001; Kramp, 2004); a community's needs therefore cannot be purely externally determined since they mean different things for different people. This alone is a powerful argument for participatory development, wherein the notion of 'development' - in so far as it denotes 'better' - must be determined by those upon whom 'development' is to be practised. The popularity of community participation in development processes rose to prominence in

the 1980s and has its ideological basis in the belief that the power of the state (and other change agents) can extend too far, 'diminishing the freedoms of ordinary people and their rights to control their own affairs' (Midgley, 1986:4 in Fisher, 1993:7). The impact of political systems and their mechanisms on development issues is the subject of extensive sociological debate that is beyond the scope of this thesis. What is important to note here, however, is that even at the extremes of this debate protagonists agree that, irrespective of the nature of the political context or form of ideal governance proposed, it is impossible to impose effective community development (Rahman, 1993; Ife, 1995).

### **6.9.2 Empowerment, resilience and existing community strengths**

Implicit in participatory development is the assumption that people are inherently resilient and capable of identifying their own needs, and finding solutions to their problems that are adapted to their own social, cultural and political contexts (see Chambers, 1997). Accordingly, the need to 'adopt an opportunity-focused approach and build on existing strengths and resources in communities' similarly emerged strongly in the results of both Questionnaires One and Two of the Delphi Survey (Figure 6.7).

A focus on 'fixing' one or more stressors - factors that are typically seen to enhance vulnerability - may miss the aspects of vulnerability that are determined by constraints to the making and taking of opportunities to enhance resilience. To illustrate this, a focus on preventing or treating HIV/AIDS alone may miss those community members who are not accessing government HIV/AIDS grants due to lack of knowledge of their rights to apply for such grants, or due to being too frail to travel to collection points. In other words enhancing resilience does not necessarily require removing or mitigating stressors alone, since there may be other areas of people's livelihoods that hold opportunities for enhancing their ability to cope with, and even optimise on, stressors. A focus on stressors and vulnerability is, moreover, necessarily a focus on historical conditions and trends, rather than a focus on choices for the future that mine the tremendous creative and adaptive capacity of people. It is a focus on problems rather than solutions, a focus on what is already 'in the box', rather than the many possibilities 'outside it'.

### **6.9.3 Human capacity and relationship building**

Enhancing community resilience through the transfer of power to the disadvantaged - and thus the enabling of community participation - may occur in two ways (Ife, 1995): first through social and political action - pro-active policies that increase people's ability to become more politically active (an example would be affirmative action policies in South Africa); and

second, through education and consciousness raising – providing people with the knowledge, skills and vocabulary necessary to enable them to be politically effective (Ife, 1995). Community participation thus turns at least in part on policies that are aimed at empowering people and building human capacity. Short of a shift to participatory democracy – where all members of society participate in decision making - the impact of centralised power and control may only be offset by very efficient networking, integration, co-ordination and communication to facilitate ‘decentralisation, community autonomy and bottom-up development’ (Ife,1995:101). A further critical component, then, for successful participatory development is the building of relationships to promote networking and communication and so better understanding and involvement by all stakeholders.

Both the building of human capacity, and relationship building and networking, emerged among the five core priority interventions identified in the Delphi Survey (Figure 6.7). These are discussed further below.

#### **6.10 BUILDING HUMAN CAPTIAL**

Without human capital, which describes people’s skills, capacity and knowledge, a community’s ability and opportunities for community problem solving (as well as political power) are jeopardised in numerous ways (see Chapter Two, Section 2.3.8). Some straightforward examples of how poor skills, capacity and knowledge may contribute to food insecurity emerged in the first round of the Delphi Survey. For instance, due to a poor understanding of how to access government safety nets, the latter were seem to be ineffectively utilised by community members in times of need (Section 6.3.2). A further example was that without the skills and capacity to put together a project proposal and budget, communities were found by panellists to be unable to fully articulate their needs in securing funding from development agents (Table 6.5).

#### **6.11 BUILDING RELATIONSHIPS AND NETWORKING**

Building long-term relationships in communities in KwaZulu-Natal was viewed by Delphi panellists as a fundamental element of successful development work, as was networking between change agents towards building effective relationships to support development goals (Figure 6.7). As noted above, this view is supported in the literature since such relationships are central to effective participatory development (Ife, 1995). It is a view that is intuitively

critical in working towards an understanding of community dynamics and needs, and developing reciprocal trust before development can begin.

Hand in hand with the process of building relationships is the need identified of more effectively channelling information (such as community aspirations) from the local-level to provincial and national level, as well as between agents of change (Tables 6.8 and 6.9; Figure 6.7). True community participation in interventions and better communication and feedback both ways between grassroots and government-level institutions (Figure 6.7) might potentially inform macro-level government policies better able to address household-level food insecurity; a current policy shortcoming identified by two panellists in Questionnaire One (Appendix Eight, Table 4). Improved horizontal (between government sectors and programmes) and vertical communication networks (along lines of mobilizing policies and programmes to the local level), as well as between all stakeholders (Figure 6.7), may also ameliorate the disjunctions between policies developed at ministerial levels (that may be based on a sound vision of how to address food insecurity) and their manifestation at the sub-national and local scales that were identified in Questionnaire One (Table 6.1 and 6.4).

A number of questions emerge in this chapter that cannot be answered within the scope of the Delphi Survey. The first of these arises from the above discussion: is there necessarily a trade-off between macro-level or national needs and local-level needs in the arena of policy development? While seen as a development requirement, policy that focuses on market liberalisation and privatisation, for example, does not necessarily translate into markets that support household-level food security (Omamo, 2004). This question is explored further in Chapter Eight.

## **6.12 ADDRESSING COMMUNITY NEEDS HOLISTICALLY**

The last of the five core priority interventions identified by panellists in Questionnaire Two was the need to ‘address community needs holistically, taking into consideration short-term ‘crisis’ needs, without neglecting the long-term livelihood, physical, spiritual and capacity-building needs of communities’ (Figure 6.7). Similarly, an area of concern in Questionnaire One was the difficulty in designing interventions that build livelihoods in the long term while also attending to people’s immediate needs (Section 6.5.2). In this regard, panellists viewed a number of government interventions as having a negative impact on peoples’ long-term development (Section 6.5).

These concerns are echoed in the literature on food security interventions (Chapter Three, Section 3.6) For example, an approach to bridge the ‘food gap’ that will increase food production, or increase opportunities for farm sales or off-farm activities, is argued as preferable to bridging the gap through food-transfers, since the latter are not aimed at improving livelihood systems for long-term benefit (Devereux, 1999). The second question that arises in this chapter, but that is not possible to address through drawing on the Delphi results alone is thus: is there necessarily a trade-off between addressing crisis needs and long-term needs in designing and implementing interventions of all kinds, and in particular policy interventions?

### **6.13 HUMAN SYSTEMS AND PROCESS INTERVENTIONS: SOCIAL CAPITAL A CENTRAL THEME**

Six of the 13 priority interventions suggested by panellists in the Delphi Survey (Figure 6.7), and four of the five core priority interventions for both government and non-government bodies to consider, are considered here to be specifically human systems issues. These are: 1) better communication links between government and community institutions; 2) adopting an opportunity-focused approach to maximise existing resources in communities; 3) true community participation in project development and implementation; 4) building good relationships with beneficiaries through long-term community involvement; 5) human capital/capacity building in communities; 6) making better use of networking between agents of change (Figure 6.7) (some of these have been discussed above).

These ‘human systems’ issues also describe changes to the processes of addressing food insecurity in KwaZulu-Natal that are relevant in all contexts and at multiple scales, rather than situation-specific ‘solutions’. The processes of addressing food insecurity are defined here as those components of change that relate to the planning, designing and implementing of interventions or solutions. Such processes are the ‘how’ of addressing food security, and are argued to encompass cross-cutting guidelines applicable at all scales and in all communities. The panellists’ focus suggests that they view the processes of development as key to human change, rather than the choice of an ostensibly ‘correct’ project solution. This is further highlighted by noting that in the second questionnaire panellists did not prioritise solutions focusing on unemployment and lack of income, HIV/AIDS and the decreasing role of agriculture in people’s livelihoods, despite these being identified as priority causes of food insecurity in Questionnaire One.

Social capital, it is argued, is a central component of such human systems changes and the processes endemic to them. This view is supported in the results of Questionnaire One in which both poor human and social capital in communities emerged as a driving force behind food insecurity in KwaZulu-Natal (Section 6.6 and Figure 6.5). Social capital is reviewed in this thesis as not only being about institutions, but about the interactions between people that shape institutions (Chapter Two, Section 2.4). This further suggests that building relationships with beneficiaries and between agents of change, as well as improving channels of communication between grass-roots organisation and government institutions, all describe the development of aspects of 'social capital'. Moreover, in the development literature, community development is understood as 'establishing or re-establishing structures of human community' (Ife, 1995:2); the intangible, human elements of these community structures clearly comprise forms of social capital. Not only is social capital central to human system processes, but also, it is argued, to the improved resources accruing to individuals and societies by 'well-functioning' human systems (Chapter Two, Section 2.4).

The results of Questionnaire One and Two ask for a broader understanding of 'human capacity', in which attention to 'human systems' issues includes a focus both on building human capacity, and on doing so through an awareness of social-capital processes and social-capital outcomes that mitigate food insecurity.

#### **6.14 THE ROLE OF AGRICULTURE IN FOOD SECURITY IN KWAZULU-NATAL**

Although agricultural interventions in KwaZulu-Natal did not emerge among the five core priority interventions in the Delphi Survey, developing conservation-agricultural techniques was rated highly as an intervention for government bodies in addressing food insecurity (Figure 6.7). Moreover, the decreasing role of agriculture in people's livelihoods was identified in the results of Questionnaire One as an important cause of food insecurity in the province. On the one hand, external change agents see the land as a critical resource for rural households in improving food security (through having the potential to improve livelihoods and support subsistence agriculture), and agriculture is a dominant area of intervention focus (Figures 6.1-6.4). On the other hand, the rural food-secure apparently wish to disengage from agricultural production, suggesting that they do not consider the land a valuable resource in building their future livelihoods. The role of agriculture thus requires further consideration in terms of responding to food insecurity in KwaZulu-Natal.

What drives unwillingness among the rural poor to engage in agriculture could not be clearly ascertained from the findings of the Delphi Survey, though in part the state social grants system and other relief mechanisms were seen by panellists as acting as an agricultural disincentive. It may also be conjectured that the other factors that are undermining food security – namely environmental constraints, labour shortages, lack of skills and knowledge, poor extension services, poor government support at policy level for small-scale agriculture, and poor access to input and output markets – are functioning to discourage people from farming, but this was not specifically stated by panellists.

In considering interventions that might mitigate the impact of reduced small-scale agriculture on both the people who engage in it, and on wider food availability, a key question is: can other avenues of food access fill the gap left by lowered subsistence agricultural production, and farm-produce incomes? Once more, it may be that the underlying causes of lowered agricultural activity relate to a number of macro-scale economic and political as well as community-level issues. The answer to this question is contingent upon a number of factors, including: 1) hard infrastructure and market outlets being conducive to food reaching rural areas, 2) employment or income opportunities being available for the poor so they can exchange cash (or other goods) for food, 3) food being affordable to all, and 4) enough food being produced nationally (or imported at the right prices) to fulfil the country's food needs. These factors all pertain to elements of economic development. The role of agriculture in food security - assuming agriculture is going to be decreasingly practised by the rural food insecure - therefore becomes an economic issue, shaped by regional, national and provincial economic policies as well as other social and political issues<sup>62</sup>.

This diversification in people's livelihoods away from agriculture - 'deagrarianisation' - has been found in previous research on African agriculture to be associated with increased financial risks and to threaten 'family values' (Bryceson, 2003). In southern Africa, the 'collapse' of agricultural livelihoods is also seen to be accelerated by the increasing prevalence of HIV/AIDS across the region, and in some instances to be exacerbated by social-protection interventions such as food aid and unsustainable agricultural interventions (Drinkwater, 2003) (See Chapter Eight, Section 8.2.3).

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<sup>62</sup> The role of agriculture in food security is one of a number of issues which are returned to in Part Three of this thesis

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The causes of food insecurity identified by practitioners at the ‘coalface’ of development in KZN are complex, frequently relating to failures in interventions due to either the content of the solution or focus of the intervention (such as government policy for example), or due to a failure in the way interventions are designed or implemented - the ‘process’ of interventions. The results suggest a range of human capital constraints, particularly in the form of poor skills and problem-solving abilities; and weakened and fragmented forms of social capital (social resources of all kinds) among both change agents and in communities constrain the building of resilience and food security.

There were five interventions seen by participants as having the highest potential to enhance food security both in the hands of panellists or their organisations, and by government and government bodies. These turned on: true community participation in project development and implementation; building good relationships with beneficiaries; developing people’s skills, capacity and knowledge; addressing community needs holistically; and making better use of networking between NGOs, government, and community-based organisations.

Redressing failures in human systems is seen by panellists as necessary to improve food security. Enhancing the functioning of human systems will mean that the stores of social capital resources these systems can offer to people who experience food insecurity will be increased, and made more available.

The focus of the most highly-rated changes in addressing food insecurity is on improving the processes followed; the processes of development, such as eliciting community participation, are key to human change, rather than the choice of an ostensibly ‘correct’ solution. The process changes suggested by panellists are applicable across geographic scales. In other words, process changes are valuable for consideration in addressing food insecurity whether interventions are being developed at the national, provincial or local scales.

There are four questions that have arisen in the above discussions of responding to food insecurity in KZN, which are further addressed in the concluding chapter of this thesis:

- 1 Is there necessarily a trade-off between macro-level or national ‘needs’ and local-level needs in the arena of policy development?
- 2 Is there necessarily a trade-off between addressing crisis needs and long-term needs in designing and implementing interventions of all kinds, and in particular policy interventions?
- 3 The Delphi Panel have identified a number of cross-cutting processes that are important in addressing food insecurity in KwaZulu-Natal; what bearing do these findings have in considering food security interventions at multiple scales in southern Africa?
- 4 What is the role of agriculture in the future of food security, which is complicated by the fact that it represents a valuable rural livelihood resource to change agents, but is apparently decreasingly perceived as such by the food insecure in rural areas.

The research question that emerged from the Meta-Analysis and Delphi findings to frame the local-level research is *‘how does household social capital influence the approach to food-security interventions in the selected case-study community?’*. This question is introduced and addressed in the following chapter.

## CHAPTER SEVEN

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### THE ROLE OF SOCIAL CAPITAL IN ADDRESSING FOOD SECURITY

#### A Case-Based Community Study

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### 7.1 INTRODUCTION

Food-insecurity causality and responses are probed more closely in this chapter through a focus on social capital in a community within KwaZulu-Natal. Social capital emerges as a key theme in both the regional and provincial-level research. In the Meta-Analysis, diminishing social capital was argued to be one of two connected processes operating across communities in southern Africa (Figures 5.1 and 5.2). Similarly, at the provincial level, social capital emerged as a key theme in the priority causes of food insecurity in KwaZulu-Natal (Figure 6.6), and was argued to be a principal concept in the predominantly ‘human-systems’ process interventions identified as priorities in addressing food insecurity in the province (Chapter Six, Section 6.13). These findings prompted further investigation into forms of social capital in the case-study community and how they might function in people’s livelihoods and in shaping food insecurity. The research question for the local-level research was framed: *how does social capital shape the approach of food security interventions in the selected case-study community?*

The exploratory nature of the research at the community level, and the multiple indicators included in the questionnaire survey, together with rich qualitative information from key-informant and in-depth household interviews, yielded a wealth of data at the local level<sup>63</sup>. In distilling the most central findings of the local-level research, the data are probed through the following five secondary questions subsumed in the primary research question addressed in this chapter (above):

1. What is the state of food insecurity among households in the case-study community?
2. What determines food security in the community?
3. What hindrances and/or opportunities might be derived from social capital resources in the community in achieving food security and well-being?
4. What is the future role of social capital in addressing food security?

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<sup>63</sup> See Chapter Four, Section 4.6 for a detailed outline of the methods used at the local level in addressing the research question

5. Is it useful or relevant to disengage social capital from other forms of capital in developing food-security interventions?

A sense of livelihoods and food security in the community is first provided in this chapter, before exploring in turn: the determinants of household food security in the community; food-security hindrances and opportunities derived from social capital; possible social-capital pathways towards food security; and finally the relevance of a focus on social capital in developing food-security interventions.

### **7.1.1 Diverse dynamics of food security**

In the Meta-Analysis a high degree of community-specific driver combinations is found, which highlights the value of researching food-security causality at smaller scales. Accordingly, a greater depth of understanding of the dynamics of food insecurity in KwaZulu-Natal is achieved in the Delphi research, which also builds on the Meta-Analysis findings to show that food-security interventions themselves shape the social dynamics of food-insecurity causation. In the Delphi, it is clear that the factors giving rise to food insecurity are particularly complicated by the issue of both spatial and temporal scale. Agricultural policies, for example, may increase national gross domestic product while simultaneously undermining the food security of vulnerable rural households<sup>64</sup>. Further amplifying the findings of the regional and provincial-level research, in the local-level research discussed in this chapter, household capital availability and use (including the availability and use of forms of social capital) are found to vary considerably between households. Clearly, food-security dynamics are highly diverse at all spatial scales, even between households within the same community.

### **7.1.2 Social capital as a ‘lens’ for addressing food insecurity**

In the discussions in this chapter, the issue of social capital that emerges in the regional and provincial-level research, and which is further investigated at the local level, remains an area requiring more research and greater attention in food-security interventions. Although a problematic concept in a number of respects, drawing on the local-level research, social capital is argued to provide a very useful lens for magnifying key social dynamics upon which household and community well-being, as well as food-security interventions, frequently founder.

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<sup>64</sup> The question of whether there is necessarily a trade-off between macro-level and household-level needs in the policy arena arose in the previous chapter and is addressed further in Part Three.

## **7.2 LIVELIHOODS AND FOOD INSECURITY**

### **7.2.1 Semi-rural poverty**

The case-study community is physically located within just a few kilometres of the substantial urban centre of Pinetown, and within the greater Durban metropolitan area. Notwithstanding the decreased willingness to engage in agriculture found in key-informant and household interviews (Table 7.8; Section 7.4.6), the formal questionnaire survey indicates that the majority of people in the community engage in some form of household-level agricultural activity (80%) (Table 7.1). Many households, for example, estimated that they grow enough maize to provide food in their homes for about two months of the year (62%) (Table 7.1), and most households keep small livestock such as chicken and goats (75%) (Table 7.2). Households in the case-study community are mostly poor, implicated in the very low rates of formal employment in the survey (about 46% of adults) (Table 7.3). A few of the wealthier households in the community live in brick houses, but most households are sheltered by ‘wattle and daub’ (mud) houses which are roofed with tin.

Despite the high rates of unemployment, very few households reportedly engage in informal income-generating activities (3 adults out of 157 living in the surveyed households), further underscoring the likelihood of deep poverty levels<sup>65</sup>. Similarly, although most households undertake very small-scale agriculture, only two households of the 50 surveyed reported selling any of their agricultural produce (Table 7.1)<sup>66</sup>.

Nearly a fifth of households surveyed in the community rely solely on one or more government grants for income (18%), although most of these reduce their reliance on food purchases with some form of subsistence agricultural production. The government old age grant was the most commonly received grant among the surveyed households (42% of households) followed by the state maintenance grant (28% of households) (Table 7.4).

Households in the case-study community vary in size from between two and 14 members. Slightly over half of the households surveyed were headed by women (52%), and most

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<sup>65</sup> Although key informants and household interviewees stated that a number of people brew homemade beer for income, either survey respondents were unwilling to reveal this information or the brewing of homemade beer was overstated in key informant and household interviews.

<sup>66</sup> The low incidence of informal income-generating activities refuted early assumptions that informal employment would be a common livelihood feature, given the case-study community’s proximity to urban areas (See Chapter Three, Section 3.7.5).

household heads were adults over the age of 21, the average age being just over 48 years (Tables 7.5 and 7.6).

**Table 7.1: Reported agricultural production among the 50 households included in the formal community questionnaire survey.**

**Notes:** Column 1 = Crops reported as grown by households during the preceding year, column 2 = the number of households reporting growing each crop cited, columns 3-6 = the number of days the crop was reported as providing food in the home for each of the selection choice of four categories as indicated, and columns 7-8 = the number of households reporting selling any portion of crops grown.

Crop	Households growing (%)	Number of households					
		Days food provided by crop				some sold	none sold
		< 10	10-30	30-60	> 60		
Maize	31 (62)	0	0	0	31	0	31
Mango	16 (32)	0	1	5	10	1	15
Pumpkin leaves	9 (18)	0	0	3	6	0	9
Bananas	9 (18)	0	4	4	1	0	9
Avocado	6 (12)	0	2	0	4	0	5
Spinach	5 (10)	0	0	3	2	1	4
Green beans	5 (10)	0	0	2	3	0	5
Chillies	4 (8)	2	0	2	0	0	4
Cabbage	3 (6)	1	0	1	1	0	3
Carrots	3 (6)	0	0	2	1	0	3
Pawpaw	3 (6)	3	0	0	0	0	3
Potatoes	2 (4)	0	0	2	0	0	2
Tomatoes	2 (4)	0	0	1	1	0	2
Pumpkins	1 (2)	0	0	0	1	0	1
Amadumbe	1 (2)	0	1	0	0	0	1
Dry beans	1 (2)	1	0	0	0	0	1
Lemons	1 (2)	0	0	1	0	0	1
Beetroots	1 (2)	0	0	1	0	0	1
Bharfa	1 (2)	0	0	1	0	0	1
Sugarcane	1 (2)	1	0	0	0	0	1
Sweet potatoes	1 (2)	0	0	1	0	0	1
Pineapple	1 (2)	1	0	0	0	0	1

**Table 7.2: Livestock reported as being kept by the 50 households included in the community formal questionnaire survey**

Livestock	Number of households keeping	Mean number kept	Maximum number kept
Chickens	38	5.4	15
Goats	16	2.9	6
Cows	2	5	5
Ducks	2	8.5	15
Other	0	0	0

**Table 7.3: Descriptive statistics of employment and unemployment in the case-study community and the ratio of employed adults to family size, as found in the formal questionnaire survey.**

Employment characteristic	In household				Total percentage in survey
	Max	Min	Mode	Mean	
Number of unemployed adults	5	0	1	1.46	46%
Number of employed adults	7	0	1	1.68	54%
Ratio of employed adults to family size	1:1	0	1:2	1:3	29%

**Table 7.4: The government grants reported as being received among the 50 households included in the case-study formal questionnaire survey.**

Grant or subsidy	Number of households receiving at least one	Maximum received by any household
Old age	21	2
Work pension	1	1
UIF	0	0
Workman's compensation	1	1
Care dependency	3	2
Disability	2	1
State maintenance	14	3
Foster care	1	1
Child-headed household	0	0
Other	0	0

**Table 7.5: Descriptive statistics of household size, number of children and age of household head of the 50 households in the case-study formal questionnaire survey.**

	Mean	Max	Mode	Min
Household size	5	14	4	2
Number of children	1.86	7	1	0
Age of household head	48.5	98	48	17

**Table 7.6: The number of male-headed versus female-headed households in the case-study formal questionnaire survey**

	Number of households	% of households
Male-headed households	24	48
Female-headed households	26	52

### **7.2.2 Other livelihood challenges**

Together with high levels of unemployment, low levels of average adult education were found to be a prevalent household characteristic in the community. About 21% of adults in the community survey reportedly had no education whatsoever, while the highest level of reported adult education was a Matric certificate (i.e. completion of high school) (22 %) (Table 7.7). Key informants<sup>67</sup> similarly indicated not only that unemployment is one of the community's greatest difficulties, but that education and skills development is a dominant community need (Table 7.8; See Appendix Eleven for excerpts of interview narratives).

**Table 7.7: Adult education levels among the 50 households participating in the case-study formal questionnaire survey**

<b>Education level</b>	<b>% of adults (21 years &amp; over)</b>
No education	21
Junior school	37
Some high school	20
Matric completed	22
Diploma without matric	0
Some university	0
Degree completed	0
Other	0

A fuller sense of the multiple challenges to well-being that the community faces is provided in the key-informant interviews in Table 7.8 and Appendix Eleven. The challenges identified include the need for: improved infrastructure (housing, toilets, roads), enhancing health (in particular addressing HIV/AIDS), education for literacy and employment skills, conflict resolution and improved community leadership, and improved food availability and dietary intake.

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<sup>67</sup> See Chapter Four, Section 4.6.5 for definition of 'key informant'

**Table 7.8: Key-informant perceptions of significant livelihood issues in the case-study community (See Appendix Eleven for excerpts of narrated interviews ).**

**Notes:** The number of times each of the views was expressed among the ten key informants is indicated in brackets (see Chapter Four, Section 4.6.5)

<b>Estimates of the no. of households in the community</b>	<ul style="list-style-type: none"> <li>• +/- 400</li> <li>• +/- 350-400</li> <li>• +/- 400 - 500</li> </ul>
<b>Previous and/or current projects in the community, and their impact</b>	<ul style="list-style-type: none"> <li>• Project CHAMP to teach young children about HIV/AIDS (1)</li> <li>• Municipality employ 6 people to look after the roads and two people to collect rubbish (1)</li> <li>• A number of projects started by external agents aimed at teaching sewing, cooking and carpentry skills and also providing some food handouts. These projects no longer running due to conflicts between community members and the Development Committee (3)</li> <li>• 1994 project by The Valley Trust (TVT) building roads employed 35 people for about a year (1)</li> <li>• Block-making enterprise in the 1990s but failed due to members dying (2)</li> <li>• Failure of community garden project due to poor soil, lack of fencing and concrete in soil (1)</li> <li>• TVT also helped build classrooms and toilets at schools in 1990s (2)</li> <li>• People do appreciate things like food parcels, particularly the ill such as those with TB (1)</li> <li>• A rotary body from a nearby community are assisting with funding for building a new crèche (1)</li> <li>• Pastor from the church being built will make premises available to the crèche principal (1)</li> <li>• The Primary School Nutrition Programme (PSNP) at the school helps children enormously (1)</li> <li>• Primary School built due to initiatives between traditional leader and a rotary organisation (1)</li> <li>• High School buildings donated by an external agent (1)</li> <li>• Eight portfolios operating under the Civic Association - very little yet being done under these however (1)</li> <li>• Resource Centre for legal advice to people (1)</li> </ul>
<b>Obstacles to community well-being</b>	<p><b>Infrastructural needs</b></p> <ul style="list-style-type: none"> <li>• Lack of flushing toilets (2)</li> <li>• A big problem is water supply - not everyone has taps (1)</li> <li>• People's biggest need in the community is for better housing (1)</li> <li>• Roads unsafe for children to walk on (1)</li> </ul> <p><b>Health problems and needs</b></p> <ul style="list-style-type: none"> <li>• HIV/AIDS (5)</li> <li>• Stigma attached to HIV/AIDS (1)</li> <li>• Health worker contracts with Dept. of Health only for 6 months at a time so little job security (1)</li> <li>• Not enough home-based carers to care for all the households that need care and home-based carers not yet paid (2)</li> <li>• Children abused and neglected by parents (2)</li> <li>• Many orphaned children (2)</li> <li>• A number of children at primary school who appear to be mentally retarded in their development and are continuously failing (1)</li> <li>• Not enough space in the two crèches to care for all the children who need them (1)</li> <li>• No clinic coming to school and no record of child development (1)</li> <li>• Women so desperate for employment that they may not protect children against abuse if doing so threatens their income source (1)</li> <li>• A big need is for people to start growing their own food (2)</li> </ul> <p><b>Negative changes perceived in community culture and norms</b></p> <ul style="list-style-type: none"> <li>• Young people not occupied with constructive activities (1)</li> <li>• Drugs among young people a huge threat to community well-being (2)</li> <li>• People are unable to work and frustrated so turn to brewing home beer and drinking (2)</li> <li>• People not motivated to work hard and solve their own problems (4)</li> <li>• Unemployment (1)</li> <li>• Lack of skills in community (3)</li> <li>• Housebreaking (2)</li> </ul> <p><b>Perceived barriers to accessing financial capital</b></p> <ul style="list-style-type: none"> <li>• Many do not have ID books to be able to access grants (2)</li> <li>• Many people in addition to not having ID books do not have birth certificates without which you</li> </ul>

*Chapter Seven: The Role of Social Capital in Addressing Food Insecurity: a Case-Based Community Study*

	<p>cannot get an ID needed for grants access (2)</p> <ul style="list-style-type: none"> <li>• People too dependent on employment (2)</li> <li>• Heavy reliance on old age pensions and disability grants (5)</li> <li>• People need a financial 'kick start' to enable them to start generating their own income, e.g. in agriculture or home industry (1)</li> <li>• Lack of land ownership; communal land so no title deeds for 'owners' means they cannot use the land for financial leverage (1)</li> <li>• People not making use of the land (3)</li> <li>• People do not have money for fencing (3)</li> <li>• The soil is poor (3)</li> <li>• People are not trying hard enough to make use of the land (3)</li> <li>• Adult literacy a big need (1)</li> <li>• The biggest need in the community is for education (1)</li> <li>• People do not need handouts, this does harm in the long run (2)</li> <li>• A small industry locally located is needed so that people can get employment locally (1)</li> <li>• People need to see positive things happening in their own community (1)</li> <li>• People do not like projects requiring them to go elsewhere or have lengthy meetings and discussions (1)</li> </ul> <p><b>Perceived leadership constraints to well-being</b></p> <ul style="list-style-type: none"> <li>• Political-party affiliation of leaders a problem (2)</li> <li>• Good leadership needed - someone who can instil hope and whom people will follow (2)</li> <li>• People not only need good leadership, they need role models (2)</li> <li>• No co-ordination or sense of community unity (3)</li> <li>• Need co-ordinated/ linked structures and organisations (2)</li> <li>• People resent the new church being built because it is not Zionist (2)</li> <li>• Political affiliation of leaders a problem (2)</li> <li>• The ward councillor is not concerned with the community's needs (3)</li> <li>• The ward councillor's political affiliation with the DA is problematic (2)</li> <li>• The traditional leader was not democratically elected and there have been problems between the former Committees and the traditional leader (1)</li> </ul>
<b>Main areas of formal employment</b>	<ul style="list-style-type: none"> <li>• Domestic workers (3)</li> <li>• Factory workers (2)</li> </ul>
<b>Informal income-generating activities</b>	<ul style="list-style-type: none"> <li>• Group of ladies meet and pool money to make fabric softener (2)</li> <li>• Group of ladies meet to pool money and sew (2)</li> <li>• Brewing homemade beer (3)</li> <li>• People are doing nothing! (1)</li> <li>• People too dependent on formal employment to engage in informal income activities (3)</li> <li>• Very little informal income-generating activity in the community (1)</li> <li>• Some have mango and avocado trees and they sell the fruit (1)</li> </ul>
<b>Most important social resources</b>	<ul style="list-style-type: none"> <li>• There are no social resources (3)</li> <li>• The community's traditional leader helps people extensively (2)</li> <li>• Pastor from the church helps people in need (2)</li> <li>• Stokvels are common (2)</li> <li>• Valley Trust Development worker is a source of help (1)</li> <li>• High School is very important in the community (1)</li> <li>• High School Principal very important (1)</li> </ul>
<b>State of household food availability</b>	<ul style="list-style-type: none"> <li>• Most families do not get enough food (4)</li> <li>• For some children the only food they get is at the crèche (1)</li> <li>• People struggle, especially orphans who rely on friends and family (1)</li> <li>• PSNP (See Appendix Three) helps children at primary school enormously (2)</li> <li>• The chair of the Association very concerned about the state of child growth in the community - believes children are stunted (1)</li> <li>• Many children at the High School only have one meal a day - they go to school on empty stomachs (1)</li> </ul>

### **7.2.3 Dietary diversity in the case-study community**

The state of nutritional intake as a measure of food security in the community was partly examined in the question on dietary diversity included in the formal questionnaire survey (See Chapter Four, Sections 4.6.2 and 4.6.11). Dietary diversity refers to the sum of the different foods consumed by an individual over a specified time period and may be associated with sufficient food access, caloric quantity and food quality, all of which are requirements of household food security (FAO, 1996). Respondents were asked to state how many times they had eaten each food item on a pre-coded list of 36 items during the previous 14 days (Kant, 1997). The possible answers were categorical, as follows: 1 = none, 2 = 1-3 days, 3 = 4-10 days and 4 = 10-14 days. Each of the choices for the 36 items was then summed to give a composite household dietary diversity score. From the results of this question, a wider variety of foods and a greater amount of protein being consumed among households was found than was initially anticipated, given the above background challenges to food security in the community. Vegetables and fruit were reported as being eaten more often than any other food group, which seemed at least to suggest a reasonable intake of micro-nutrients (Table 7.9). The frequency of protein consumption in the form of meat (for many households reported as eaten daily) (Table 7.10) did not fall dramatically far behind carbohydrates which only contributed 19.41% to the total food-security index (Tables 7.9 and 7.11). Although the dietary diversity score cannot give any indication of calories obtained from food groups, this nevertheless seemed to contradict findings elsewhere that describe a typically monotonous staple-carbohydrate diet among poor South Africans (Coutsoudis *et al.*, 2000; Steyn, Myburgh and Nel, 2003). Carbohydrates are in fact recommended as the mainstay of a healthy diet, and dietary protein should ideally comprise only 12-15% of total calorie intake (Steyn, Myburgh and Nel, 2003; WHO, 2003; FAO, 2004). The findings, however, may to an extent reflect findings elsewhere that the dietary diversity and meat consumption of people living in urban areas in southern Africa are frequently higher than their rural counterparts (Webb and Lapping, 2002).

**Table 7.9: Descriptive statistics of the food-security index and composite food group values (in order of most to least consumed) for the number of times listed food items were reported as being consumed in the previous 14 days by the 50 sample households.**

**Notes:** ‘Carbohydrates’ refers to the categories in the dietary diversity question of maize, rice, bread, samp, potato and ‘other cereals’. ‘Dairy’ refers to fresh milk, powdered milk and cheeses. ‘Meat’ includes all fresh or tinned red meat, chicken and fish. ‘Vegetables’ excludes potato since this is rich in carbohydrates and is included in the carbohydrate group. ‘Eggs’ were classified independently, but constitute a protein group like meat.

	Maximum value	50 <sup>th</sup> percentile/ median	25 <sup>th</sup> percentile	75 <sup>th</sup> percentile	% contribution to total dietary diversity score
<b>Dietary diversity score</b>	<b>79</b>	<b>64</b>	<b>61.25</b>	<b>68</b>	
<b>Vegetables</b>	23	16	15	18	<b>25.32</b>
<b>Fruit</b>	20	14	14	15	<b>22.05</b>
<b>Carbohydrates</b>	16	13	12	13	<b>19.41</b>
<b>Meat</b>	15	11	9	12	<b>16.59</b>
<b>Dairy</b>	8	4	4	5	<b>7.20</b>
<b>Fats and oils</b>	6	4	4	4	<b>6.06</b>
<b>Eggs</b>	4	2	2	2	<b>3.37</b>

**Table 7.10: The number of times meat, eggs and fish were reported by households in the case-study survey as being eaten in the 14 previous days .**

	Percentages of households selecting...					
Number of days	Beef	Eggs	Chicken	Sheep	Goat	Fish
<b>0</b>	14	2	10	64	46	46
<b>1-3</b>	42	78	38	6	32	22
<b>4-10</b>	20	18	38	4	4	14
<b>10-14</b>	24	2	14	26	18	18

**Table 7.11: The number of times each type of carbohydrate listed in the survey was reported by households as being eaten in the previous 14 days.**

	Percentages of households selecting...					
Number of days	Maize	Rice	Bread	Samp	Potato	Other cereals
0	82	0	0	6	0	96
1-3	0	64	100	10	74	2
4-10	2	18	0	36	22	2
10-14	16	18	0	48	4	0

## 7.2.4 Indicators of malnutrition<sup>68</sup>

As a rudimentary means of triangulation to better understand the nutritional intake in the case-study community as an indicator of food-insecurity (Handwerker, 2001), malnutrition indicators were measured among children at two crèches in the community (Chapter Four, Section 4.6.8 for these methods). Seven of the 60 children at the crèches whose weights and/or heights were measured showed signs of being under-weight or under-height for their age (Appendix Thirteen). If the 60 children at the two crèches are assumed to be representative of all the community's children, this would suggest a possibility of weight stunting among the community's children in the order of 11.6%, compared to an estimated national average of between nine and 12% (Figure 3.1). Whether or not children attending the two crèches are representative of all the community's children could not be conclusively established, but according to one key informant (a primary school teacher) the poorest cannot afford to attend crèches, which suggests that the most food insecure children in the case-study community may in fact have been missed. This possibility is supported in commentary suggesting that malnutrition indicators may tend to underestimate the extent of food insecurity in South African communities (Hendriks, 2005).

Without further investigation, the possibility that these seven children are showing signs of malnutrition strictly speaking remains only one of a number of possible explanations for their extreme scores (See Chapter Four, Section 4.6.11 for the limitations of anthropometry). Viewed in the light of the numerous challenges to well-being in the case-study community, however, together with findings in key informant and household interviews, the data are considered to confirm that food insecurity is experienced by a significant number of households in the community.

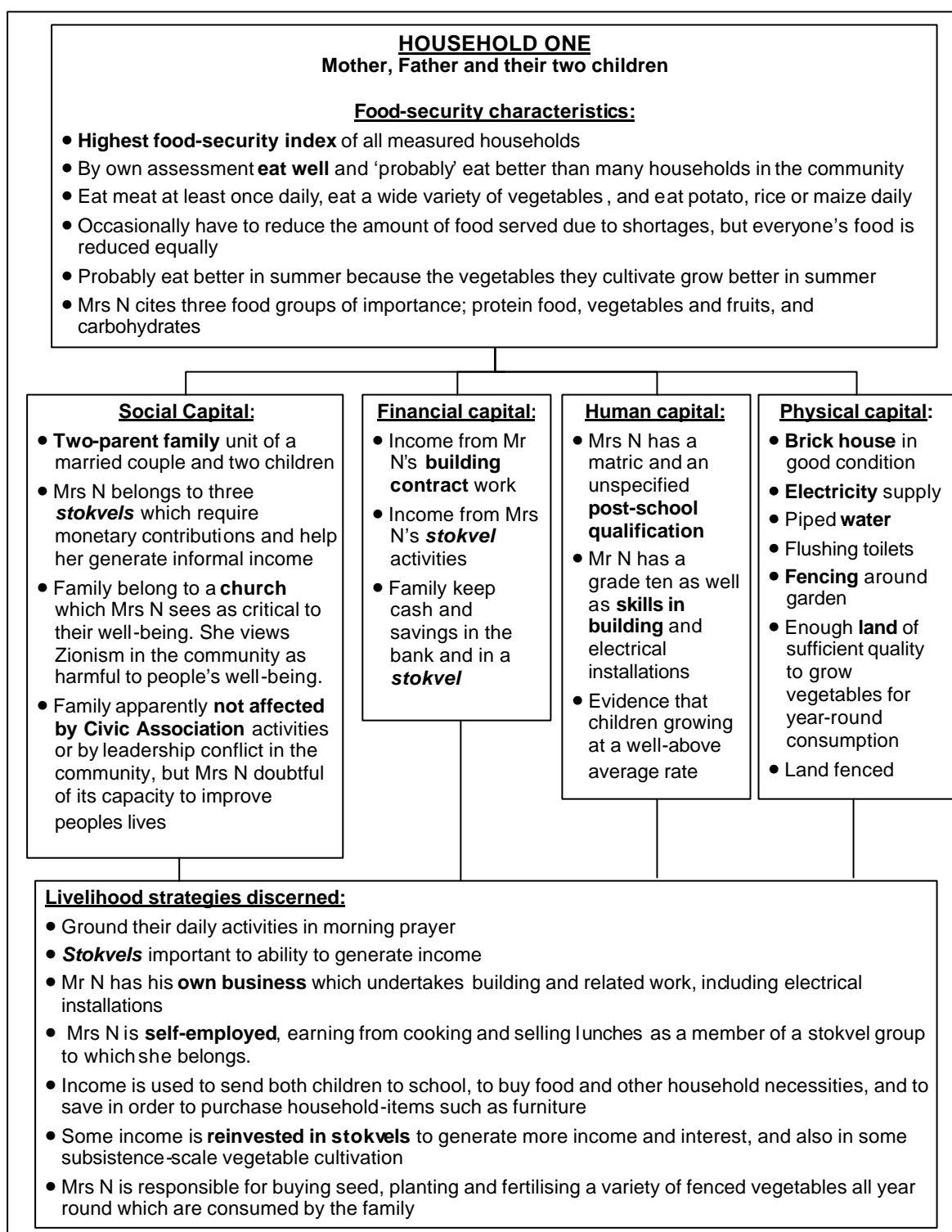
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<sup>68</sup> The question of malnutrition as an indicator of food insecurity is discussed in Chapter Two, Section 2.2.2 and Chapter Four, Section 4.6.8.

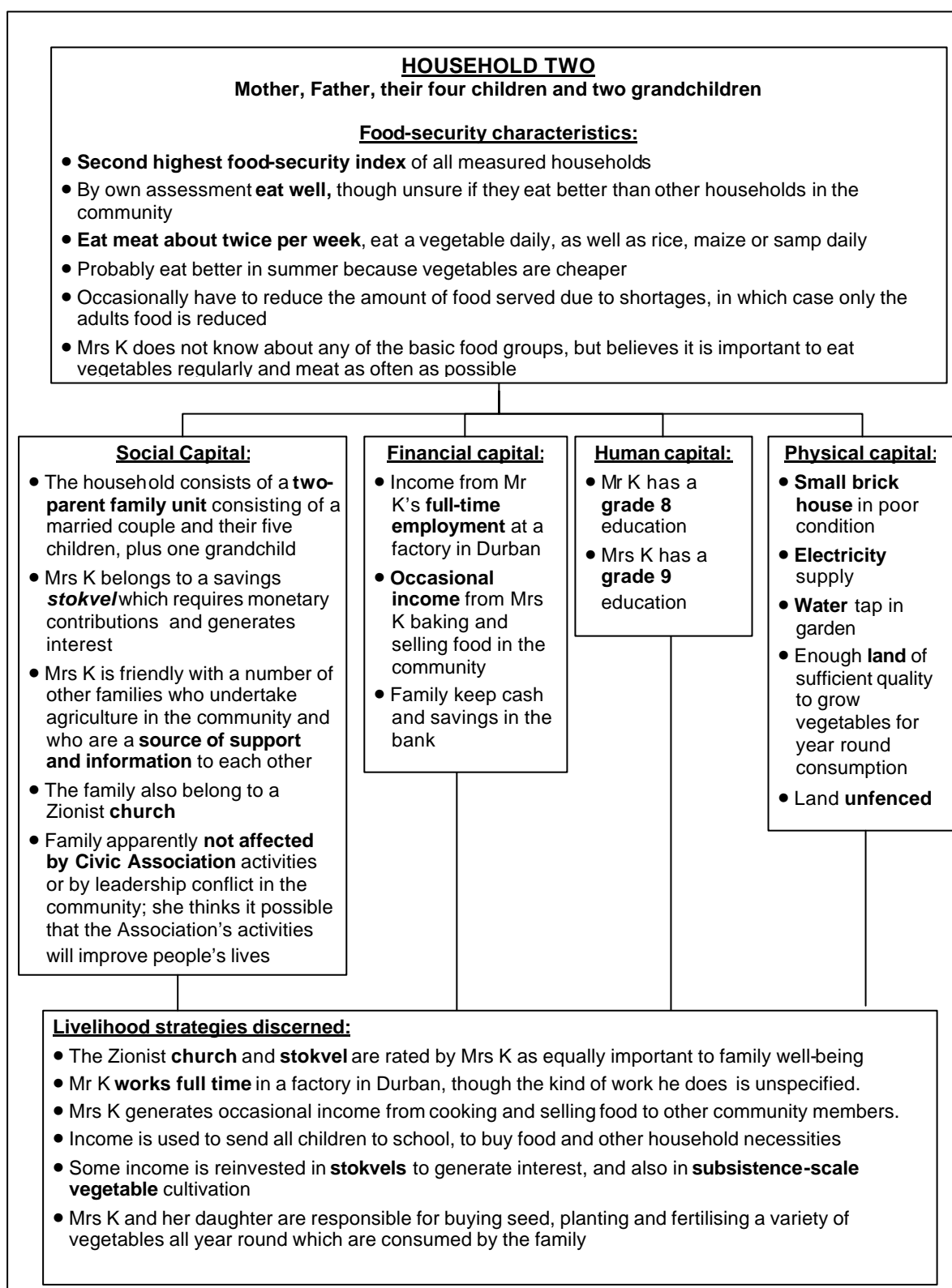
### **7.2.5 Dietary diversity as a measure of food insecurity**

While the apparently frequent consumption of fruit, vegetables and meat in the community might reflect rural-urban dietary differences (Webb and Lapping, 2002), the primary objective of including the dietary diversity question in the formal questionnaire survey was in order to establish a relative indicator of food-security status between households; based on the association reported in the literature between dietary diversity and food security (FAO, 1996; Hoddinot, 1999; Hoddinot and Yohannes, 2002; Ruel, 2002) (See Chapter Four, Sections 4.2.4 and 4.6.2). These relative levels of food security were established for the purposes of comparing food security with other measured variables - in particular with forms of social capital.

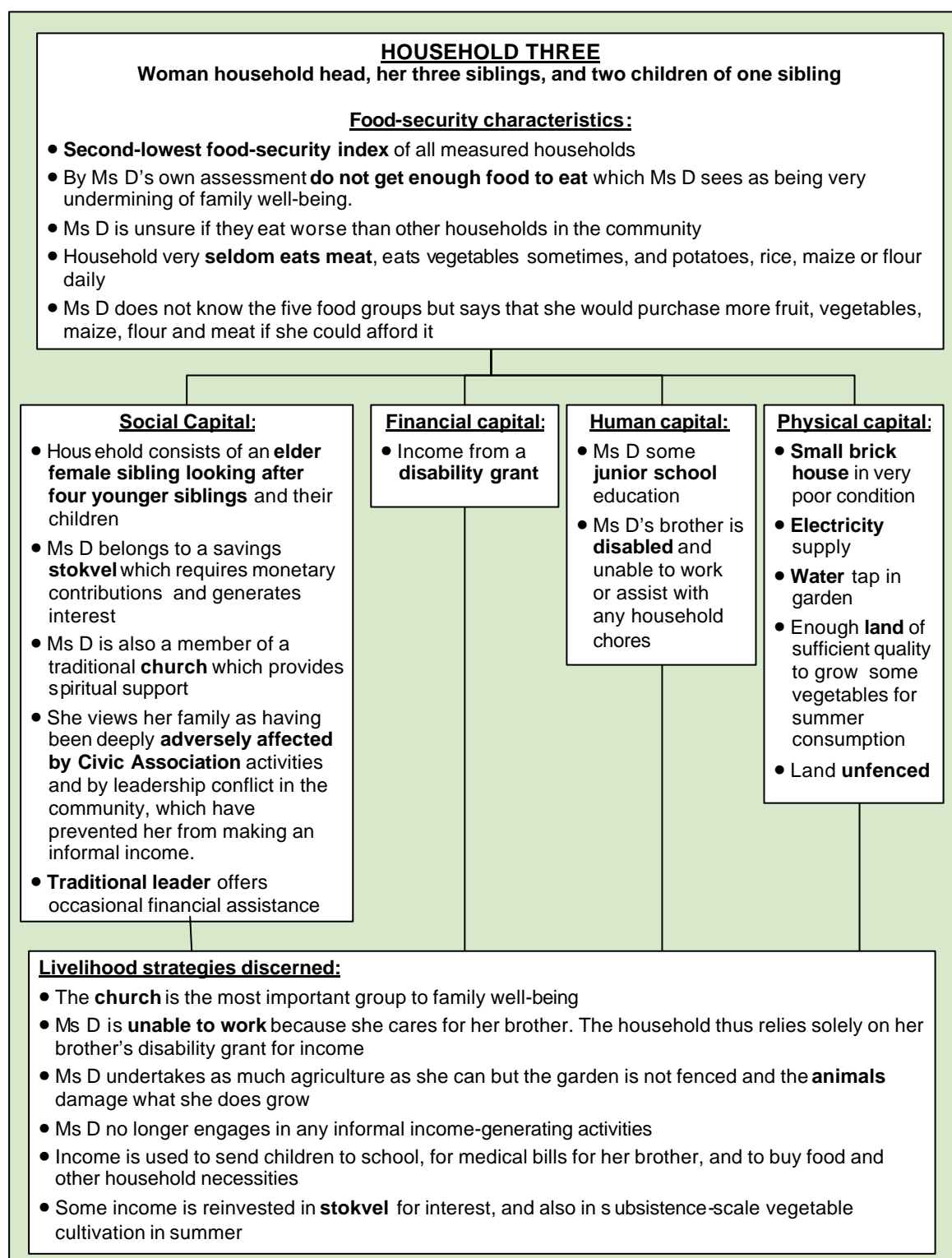
The in-depth household interviews, undertaken in the households having the two highest and two lowest dietary-diversity indices, suggest that the dietary-diversity index succeeds in at least approximately measuring the relative food-security status between households in the case-study community. Those two households with the lowest indices assessed their own dietary intake as being inadequate; clearly viewing themselves as being food insecure. Congruently, the respondents for the two households with the highest indices viewed their diets as generally adequate (Figures 7.1-7.4; Appendix Eleven). Similarly, the reported frequency of meat and vegetable consumption in the in-depth household interviews were consistent with the categories they selected in the questionnaire survey.



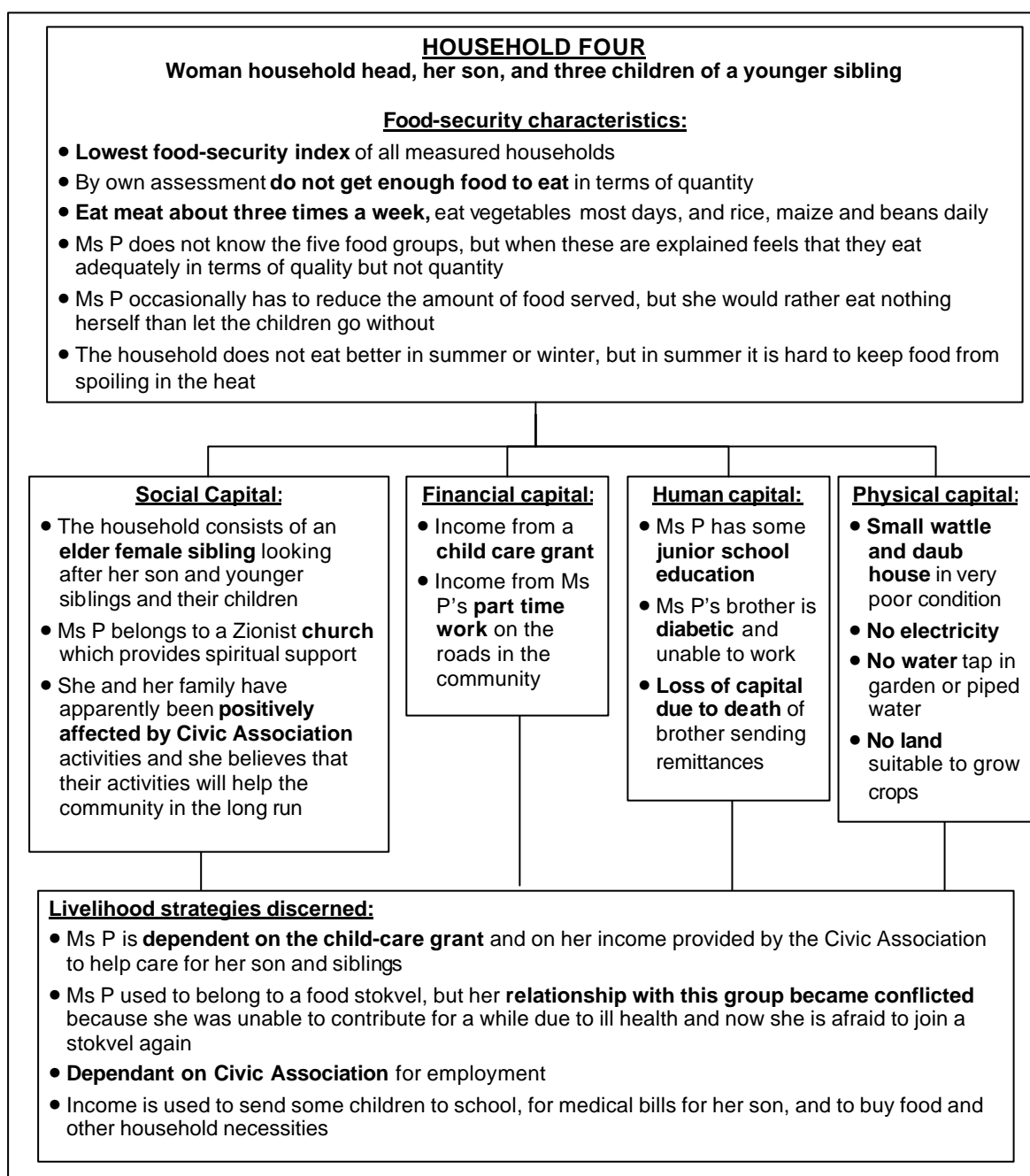
**Figure 7.1: Summary of Household One's food-security characteristics, capital resource availability and livelihood strategies that were discernible from the in-depth household interview and the questionnaire survey**



**Figure 7.2: Summary of Household Two's food-security characteristics, capital resource availability and livelihood strategies that were discernible from the in-depth household interview and the questionnaire survey**



**Figure 7.3: Summary of Household Three's food-security characteristics, capital resource availability and livelihood strategies that were discernible from the in-depth household interview and the questionnaire survey**



**Figure 7.4: Summary of Household Four's food-security characteristics, capital resource availability and livelihood strategies that were discernible from the in-depth household interview and the questionnaire survey**

### 7.2.6 Reducing food expenditure to cope

A further indication of a high prevalence of food insecurity in the case-study community was the high incidence of reduction in food expenditure as a coping strategy in times of economic shock. Over half the households surveyed (54%) reported either purchasing less food, or purchasing cheaper food in the face of all income shocks, making this the most-frequently employed coping strategy (Tables 7.12 and 7.13). This implies that, despite differences in

dietary diversity between households, for at least 42% of households food expenditure remains a significant proportion of total household expenditure<sup>69</sup>.

Taken together, the state of unemployment and low levels of informal-income generating activities, the numerous community needs and poor food security identified by informants, the anthropometric data suggesting growth stunting in children, and the reduction of expenditure on food in the face of economic shocks, indicates that insecure access to sufficient food in both the short and long term is a distinctive characteristic of households in the community; thus addressing the first of the secondary questions in this chapter (Section 7.1 above).

**Table 7.12: The kinds of shocks to household income experienced by surveyed households, listed in descending order of frequency of citations**

Type of shock	Number of Households
Death of household member or other family member	21
Serious illness or injury keeping household member from normal activities	9
Loss of regular job of household member	3
Theft, fire or destruction of household property	3
Cut-off or decrease in remittances to household	2
Abandonment or divorce	1
Cut-off of government grant(s)	0
Failure or bankruptcy of business	0
Other	0

**Table 7.13: The coping strategies employed by households in response to the income shocks listed in Table 7.12 above.**

**Notes:** Some households experience more than one shock, and thus the same coping strategy may have been cited as being adopted more than once within the same household during the previous three years.

Coping strategy	Number of Citations
Reduce the amount of food purchased or buy cheaper food	22
Borrow money	16
Get help from others	11
Sell assets or use savings	2
Take children out of school	2
Use insurance	0

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<sup>69</sup> 21 households of the 39 affected by economic shocks in the previous three years reduced food expenditure (Table 7.13); thus at least 21 of the 50 surveyed which is 42%.

## **7.3 MULTIPLE DETERMINANTS OF HOUSEHOLD FOOD SECURITY**

### **7.3.1 The importance of financial capital**

Since there is typically a strong linear relationship between food insecurity and poverty (WHO, 2002), there was an expectation of finding a significant relationship in the statistical analyses of the survey data between food security and employment in the case-study community (see Chapter Three, Section 3.7.5)<sup>70</sup>. In one of the statistical analyses, Kendall's tau, a very weak but statistically-significant relationship was confirmed between food security and the ratio of employed to family size (Table 7.14). This relationship was not, however, mirrored in the further statistical analyses (Table 7.15 and 7.18)<sup>71</sup>.

The in-depth household interviews confirm the tenuous statistical relationships between employment levels and food security, but reveal a more nuanced understanding of the role of financial capital in shaping livelihoods among households (Figures 7.1-7.4). Unlike the two least food-secure households interviewed, both the most food-secure households had formally-employed household heads, which suggests that a stable source of monetary income is advantageous in pursuing food security (Table 7.16). A closer analysis of the interview findings, however, indicates that while financial capital is undeniably an important determinant of food security in all four households, the means of generating financial capital and the way it is used to pursue well-being and to generate more capital differs considerably between households. For example, in addition to the employment commonalities found between the households participating in the in-depth interviews, unlike the food-insecure households, both food-secure households had a married couple and their children at the core of the household structure (a 'two-parent family unit' as a form of social capital, as discussed below), and relatively high levels of education (a form of human capital) (Table 7.16). Moreover, community leadership, as well as *stokvel*<sup>72</sup> groups, function to shape the ability of these households to access sources of financial capital (Figures 7.1-7.4). It is thus contended

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<sup>70</sup> Importantly, the relationship between the food-security index and *income* was not possible to establish since very few respondents were willing to share the specific monetary amounts of their earnings with the interviewer. The ratio of employed household members to unemployed was assumed to offer an alternative indication of relative income between households. The validity of assumption, however, could not be tested within the forum of this research.

<sup>71</sup> In the ANOVA analysis, the variable of 'ratio of employed to family size' was found to have a variance that was not homogeneous with the variance of food security and thus, given the assumptions upon which ANOVA is based (See Chapter Four, Section 4.6.4), had to be excluded from the analysis (Table 7.15).

<sup>72</sup> *Stokvels* are common practice in southern African communities. They are groups that usually provide some kind of rotating assistance. For example, in a savings *stokvel* members contribute a small fixed, usually monthly sum of money which is pooled and allocated as a lump sum to each group member in turn. See glossary.

that the generation and use of financial capital in all four households is closely linked to other forms of capital; and in particular to aspects of community-level social capital.

**Table 7.14: The relationships between food security and sixteen other analysis variables according to Pearson's  $r$  and Kendall's tau.**

**Notes:** Those marked with a \* in shaded cells are statistically significant at the 5% level, as indicated by the p-values in the last column being below 0.05.

The relationship between food security and...	Pearson's $r$	Approx sig.	Kendall's tau	Approx sig.
Ratio employed to family size	0.17	0.21	0.20*	0.04
Ratio grants to family size	0.12	0.41	0.12	0.31
Adult education index	0.15	0.29	0.12	0.28
Groups and networks	-0.04	0.66	0.00	0.98
Trust and solidarity	-0.04	0.77	-0.02	0.78
Collective action and cooperation	-0.01	0.90	-0.06	0.54
Social cohesion	0.24	0.09	0.22*	0.03
Sociability	-0.03	0.13	0.03	0.76
Conflict and violence	0.14	0.13	0.18	0.14
Empowerment and political action	0.00	0.99	0.03	0.79
Family size	0.18	0.22	0.06	0.60
Crop volume	0.13	0.52	0.03	0.82
Crop diversity	0.16	0.29	0.04	0.73
Number of meals <sup>73</sup>	-0.33*	0.02	-0.28*	0.00
Gender of household head	0.18	0.21	0.12	0.31

<sup>73</sup> The weak but statistically significant relationship according to Kendall's tau between the 'number of meals eaten per day' in a household and food security (-0.28) suggests that families with lower levels of food security eat more frequently. In the ANOVA analysis the 'number of meals eaten per day' was found to have a variance that was not homogeneous with that of food security and thus similarly had to be excluded from the analysis.

**Table 7.15: Summary of ANOVA results on the eight variables found by Levene's test to have variances homogeneous with the variance of food security.**

**Notes:** The null hypothesis in the case of Levene's test is that the variances are equal. A p-value of less than 0.05 requires a rejection of the null hypothesis (at the 5% level) indicating that the variances are heterogeneous. Only indices where the variances are homogeneous with the variance of food security are included in this table. The null hypothesis in the case of the ANOVA analysis is that the variables have an equal mean of food security along their levels. A p-value of less than 0.05 means a rejection of the null hypothesis, indicating that the variable does have an impact on the food-security mean. As can be seen, none of the variables had a significant impact on food security in the ANOVA analysis.

Variables	Levene statistic	Approx sig.	F Value	Approx sig.
Ratio grants to family size	1.01	0.47	1.33	0.24
Groups and networks	1.03	0.45	0.88	0.60
Trust and solidarity	1.83	0.07	0.28	0.99
Collective action and cooperation	1.32	0.24	0.42	0.97
Social cohesion	1.75	0.09	1.56	0.14
Conflict and violence	1.86	0.07	1.81	0.07
Crop volume	1.56	0.14	1.03	0.45
Crop diversity	1.28	0.27	1.51	0.15

**Table 7.16: Commonalities between the two most food-secure and the two most food-insecure households in the formal survey as identified in the in-depth household interviews.**

FOOD-SECURE HOUSEHOLDS	FOOD-INSECURE HOUSEHOLDS
Married couple and children at the core of household structure	Absence of married couple at core of household structure - elder sibling caring for younger siblings and/or their dependants
Household head an employed male	Household head unemployed female
Relatively high levels of education	Relatively low levels of education

### 7.3.2 The role of social capital in determining food security

In the survey and interviews, three forms of social capital were identified as important in the case-study community; the church, 'stokvel' groups, and social networks drawn on in times of economic shock (Table 7.13). The use of such social resources in South African communities in times of stress is widely reported elsewhere in the literature (see Hendriks, 2005). The majority of households in the formal questionnaire survey selected the church as the most important group household members belonged to (84%) (Appendix Fourteen, Table 2). In-depth household interviews show that church membership offers (at least) significant 'spiritual' support towards household well-being (Figures 7.1-7.4). In terms of financial or material support, stokvels emerge as a dominant community-level institution in the

community. Stokvel groups offer resources such as rotating credit and group savings opportunities, and they may also offer a way for a group to pool money and share the costs of buying goods in bulk at lower prices, including food. The majority of households in the community belong to savings stokvels (68%) and over half to lending stokvels (54%) (Appendix Fourteen, Table 3). The third important form of social capital, social networks, are commonly used by community members to help cope with economic shocks. It was found in the questionnaire survey that about 41% of households will 'borrow money' and about 28% will 'get help from others' after they have been affected by such shocks (Table 7.13). It is clear from the survey results and interviews that these three forms of social capital, the church, stokvels, and other social networks, are well integrated into the fabric of people's lives and are drawn on in various ways, along with other capitals, to build livelihoods, well-being and food security.

The seven aspects of social capital measured in the questionnaire survey were not, however, identified as dominant determinants of food security in the statistical analyses of the survey results (See Table 4.4 for the analysis variables). The only statistically-significant relationship found between any aspect of social capital and food security, was that of 'social cohesion' according to Kendall's tau (Table 7.14). The significance of this relationship was not, however, confirmed in the ANOVA or regression analyses (Tables 7.15 - 7.18).

The inconsistent and uncertain impact of forms of social capital on food security suggested in the statistical analyses may be further interpreted in the light of the in-depth household interviews, in which social capital is found to have a variable effect on the production of financial capital, as well as on knowledge (human capital) and well-being. The theoretical stance that capital shapes capital (Figure 2.3) is embodied in the experiences of the households participating in the in-depth household interviews, which indicate that capitals interact in complex ways to shape livelihoods and food security, and that forms of social capital have the potential to function either to build or diminish other forms of capital, depending on household dynamics as well as household relations within the community.

Membership in three stokvels, for example, offers important financial resources for Household One (Figure 7.1). Similarly, Household Two and Three respondents viewed their membership in savings stokvels as important to household finances (Figure 7.2 and 7.3). Stokvel membership is clearly valuable to all three of these households, and in particular to the most food-secure of the households, Household One. Household Four, however, currently derives no benefit from stokvel membership; this is because previously conflicted relations

with members of a *stokvel* have discouraged her from further *stokvel* membership. This example illustrates two important constraints in accessing a valuable form of social capital in the case-study community; the first is that of *stokvel* membership being conditional upon a household having the financial resources to make the required contributions, and the second is the powerful influence of relationships between the group members on group membership. Similarly, a key community-level leadership body, the Civic Association, has had both positive and negative food-security influences among households in the case-study community, on the one hand severely negatively affecting the income of Household Three (Figure 7.3; Appendix Eleven, Section 1.3.4), while on the other hand providing part time employment to Household Four.

### **7.3.3 Household-specific food-security dynamics**

Echoing the household-specific nature of capital interactions in shaping food security evident in the in-depth interviews, the statistical analyses of the survey data revealed no distinct or consistent patterns among households between access to any particular form of capital, or combination of capitals (as represented in sixteen analysis indices synthesised from the raw data), and their levels of food security (See Chapter Four, Section 4.6.4 for details of the statistical methods used) (Tables 7.14 and 7.15). A regression analysis, for example, offered an overall perspective on how the measured variables impact on the variability of food security in the case-study community. In the regression analysis, only about 31% of all the variance in food security was explained by all sixteen predictor variables working together, and none of the variables individually made a significant contribution to the variation in food security at the 5% level (Howell, 2002) (Table 7.17). These findings are consistent with the weakness of the relationships found in the Pearsons *r*, Kendall's tau and ANOVA analyses<sup>74</sup>. A possible explanation for the absence of a pattern of relationships in the statistical analyses is that, despite the variation in the indices of the other focus variables between households, even the highest levels of these resources (or capitals) in households remain insufficient to change

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<sup>74</sup> A possible statistical explanation for the lack of statistically-significant patterns is briefly highlighted here. Food security is shown to have a coefficient of variation of only 8.35, the lowest of all indices (Appendix Ten, Table 1). The only other index with a relatively low coefficient of variation is 'empowerment and political action'. The other coefficients of variation of the sixteen analysis variables are considerably higher than that of food security, the highest being crop diversity at 87.04. This relative lack of variation in food security may be a confounding factor in analysing the determinants of food security since (relatively speaking) a comparison is being made akin to that between a *constant* and a *variable*. It is possible that the low variation in food security may explain the absence of (or poor) relationships between food security and all other variables measured.

Although this explanation might point to methodological changes in developing further surveys, it nevertheless continues to beg the question of why food security (whether similar between households or not) appears almost unchanged in the face of apparently dissimilar resources.

A further possible explanation for the very low statistical significance may be the small sample size compounded by possible homogeneity among households.

those households' food security<sup>75</sup>. Reviewing the discussions above of the tabulated survey findings, as well as key informant and in-depth household interviews, it is argued that varying levels of financial capital have an extensive corresponding impact on the food security of households in the community, and that forms of social capital are a critical determinant of household food security<sup>76</sup>.

Further, only one cluster for the continuous variables was found in the cluster analysis, suggesting that respondents in the survey were either generally similar in the way that they responded to questions, or that they were too dissimilar to display patterns of similar response (Figure 7.5). From the discussions above, it appears that the resources represented by the sixteen analysis variables are not used predictably between households in pursuing food security, and that food security is determined by a unique combination of resources which are used differently, and which also interact with one another differently, in the context of different households. The in-depth interviews together with the cluster analysis (Figure 7.5) support the conclusion that households are too dissimilar (rather than similar) - in the specifics of the resources available to them, and in the way that they use and view these resources, for distinct patterns of association between food security and other resources to be found.

The answer to the secondary research question posed above, of what determines food security in the case-study community (Section 7.1), is thus that there are a number of determinants of food security, among which financial capital is particularly important. Social capital, however, plays a powerful role in determining how financial capital is secured and used. Further, social capital may have both positive and negative food-security outcomes.

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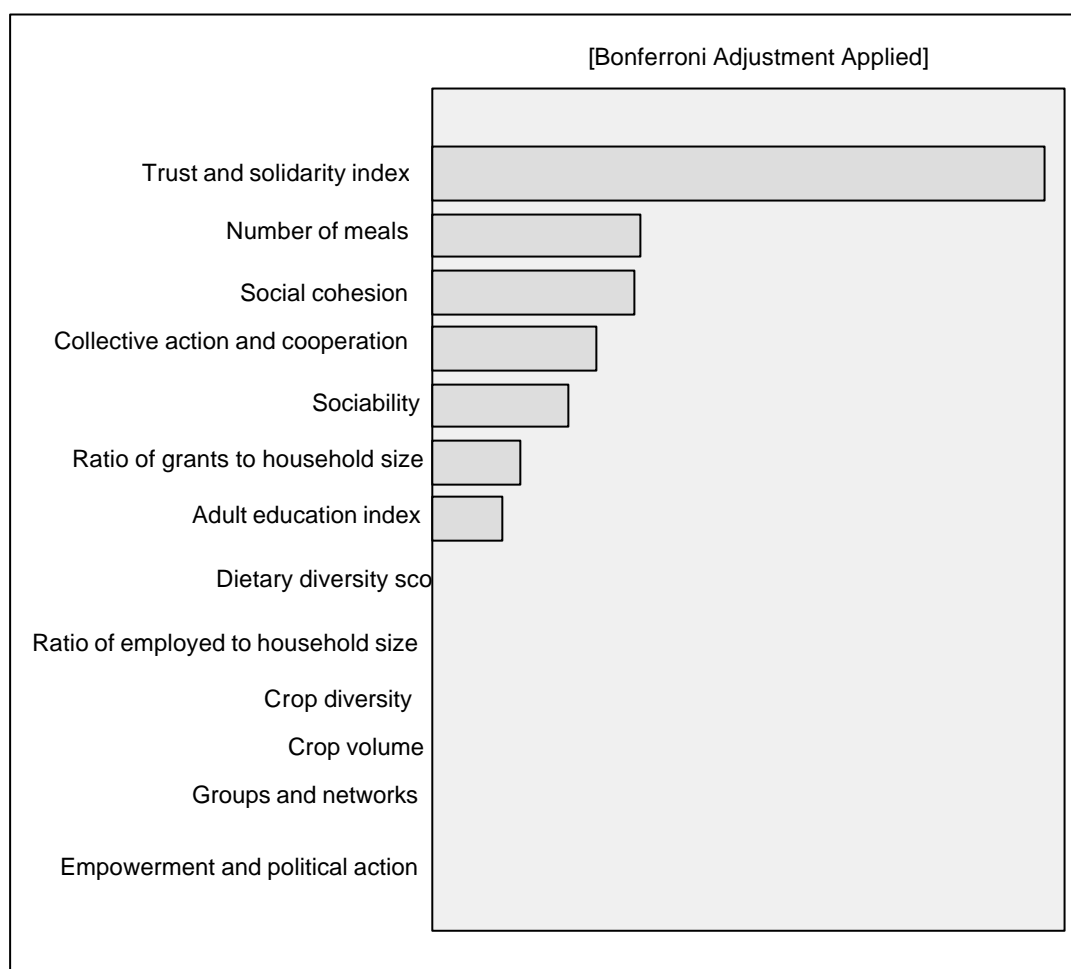
<sup>75</sup> It is important to note that data are unable to offer any measure of the variables that is comparable to other populations, meaning that there was no way of *quantitatively* determining, without further research, whether the people in the case-study community are generally food secure or food insecure, and whether they have high levels of social capital, or low levels of social capital compared to other populations. To illustrate the importance of this line of reasoning, the argument could thus equally hold that people are generally food secure, and that at such high levels of social capital and/or other resources there is very little difference in food security between households.

<sup>76</sup> A second possible explanation is that there is an unmeasured, independent factor (or factors) that is more important in determining household food security levels in the community. In other words, there may be some unmeasured variable in the case-study community that determines food security, and that none of the measured variables [together only influencing the variability in food security by about 31% (Table 7.17)] function to displace or override. Without further survey research there is no way to conclusively address this possibility, but such a factor or factors could not be detected in the factor analyses of the results of all the individual survey questions (Appendix Ten).

**Table 7.17: Model summary for regression analysis where all variables except food-security input as predictors, and food security is the dependent variable.**

**Notes:** the R square value indicates that about 31% of the variance in food security is explained by all predictors together (Howell, 2002).

R	R square	Adjusted R Square	Std error of the estimate
0.56	0.31	0.04	5.33



**Figure 7.5: Results of a two-step cluster analysis of all continuous variables, or indices, developed from the results of the community survey showing their relative contribution to the cluster's similarity.**

**Notes:** the larger the value, and thus the bar, the more significant the variable's contribution to cluster similarity.

**Table 7.18: Summary of results of a regression analysis using SPSS on all variables (except food security) as predictors of food security (the latter being the dependent variable).**

**Notes:** The Beta value is standardised to enable comparison between variables as to their contribution to the variation of food security. For example, the ratio of employed to family size has a Beta value of 0.13 which indicates that for every unit of change in this index, there is a 0.13 proportional change in food security. None of the variables made a significant contribution (at the 5% level), however, to variation in food security as shown by the p-values all lying above 0.05.

Variables	Standardised coefficients Beta	t	Approx sig.	5% confidence interval for Beta	
				Lower Bound	Upper Bound
Ratio employed to family size	0.13	0.70	0.50	-5.721	11.72
Ratio grants to family size	0.31	1.84	0.08	-0.51	10.30
Adult education index	0.09	0.54	0.59	-0.79	1.37
Groups and networks	-0.00	-0.01	0.99	-0.44	0.44
Trust and solidarity	-0.14	-0.81	0.43	-0.84	0.36
Collective action and cooperation	-0.15	-0.78	0.44	-0.97	0.43
Social cohesion	0.20	1.18	0.24	-0.64	2.44
Sociability	-0.12	-0.77	0.45	-0.67	0.30
Conflict and violence	0.15	0.89	0.38	-1.22	3.12
Empowerment and political action	0.14	0.82	0.42	-0.81	1.92
Family size	0.33	1.80	0.08	-0.09	1.45
Crop volume	0.01	0.03	0.98	-0.65	0.67
Crop diversity	0.09	0.23	0.82	-2.11	2.66
Number of meals	-0.25	-1.50	0.14	-5.48	0.82

## 7.4 SOCIAL CAPITAL: OBSTACLES AND OPPORTUNITIES

Social capital, while used variably between households, nevertheless encompasses numerous relationships, institutions and resources that have an impact on food security in the case-study community. Some of the key social-capital issues that emerge in the above discussions, and which are central to addressing the research question for the local-level research, are explored further here.

### 7.4.1 ‘Inclusionary’ and ‘exclusionary’ outcomes from social capital

Not only is social capital used variably by households, but the cases of Households Three and Four highlight the dangers of assuming that the existence of groups or institutions in a

community automatically translates into household-level benefits<sup>77</sup>. The same community institution is seen by household respondents to have positive and negative, inclusionary and exclusionary outcomes, depending on the household being examined (See Section 7.3.2 above). Three key informants independently supported the allegations by Household Three that members of the Civic Association were preventing access by some households in the community to the equipment that was enabling them to generate informal income (Table 7.8; Appendix Eleven). Unequal household-level production of financial capital can clearly accrue from what might have been assumed to be a valuable social-capital attribute in the community, further indicating that in some instances resource poverty in households may actually be caused or reinforced by institutional arrangements at the local level, rather than alleviated.

#### **7.4.2 Marginalisation of the resource poor**

The two most food-secure households interviewed, moreover, clearly have a greater number of institutional linkages than the two most food-insecure, suggesting that those households which have few alternative institutional linkages and other resources, such as financial capital, may be least able to overcome the consequences of such marginalisation.

This point is further supported in the monetary requirements of stokvel membership, noted above, which are an important community-level institution (Section 7.3.2). That stokvel requirements may exclude membership - particularly during times of financial shocks - is illustrated in the in-depth interview with Household Four, in which it was found that illness had prevented monthly contributions to a food stokvel for some months, ultimately leading to conflicted relations between group members and that household's exclusion from the group (Figure 7.4). In the case of stokvels, access to an important source of household social capital is conditional upon a minimum level of household financial capital (See also Appendix Eleven, Section 1.2.4). Exclusion from institutional resources due to entry requirements has been found in a number of other studies in which such social capital cannot be drawn on by the poorest in a community, serving to further marginalise them (e.g. Dikito-Wachtmeister, 2001; Markussen, 2002; Cleaver, 2003). In some instances, then, the condition of being resource-poor, or capital-constrained, itself can lead to exclusionary outcomes.

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<sup>77</sup> This assumption might mistakenly seem implicit in the measure of 'group membership' as an indicator of household (beneficial) social capital (Falk and Harrison, 1998; Narayan and Cassidy, 2001), leading to its aggregation to the community level.

### **7.4.3 Underlying determinants of variable social-capital outcomes**

The impact of any particular social-capital attribute on household livelihoods has been shown to be at least partially household-specific. A tentative generalisation, however, is drawn here from the discussions of the community case-study research in considering what determines whether a social-capital attribute leads to either positive or negative outcomes in a household (or even community). It is ventured that the outcome of a social-capital attribute - either building further beneficial social capital (as well as other forms of capital), or eroding what exists already - hinges to an extent on whether the attribute creates or entrenches disunities in the community rather than promoting community cohesion toward problem solving. At least three factors related to community conflicts and disunities were described by key informants and by respondents in the household interviews in the case-study community (Table 7.8 and Figures 7.1-7.4) in support of this argument. These were conflicted and weak community leadership, the breakdown of family units, and third, the development of negative community norms (norms seen by informants as having a negative effect on food security and well-being). As is discussed in the sections that follow, all of these in some way are either created or reinforced by inequalities and power imbalances between individual and groups in the community. These three factors are discussed in the sections that follow.

### **7.4.4 Community conflict and weak leadership**

#### *Leadership conflict*

A number of key informants identified the existence of conflict between the traditional leader and the Civic Association (Table 7.8). Conflict between tribal and government structures is not unusual in South African communities (this conflict is contextualised in Chapter Three, Section 3.7.3) (Chimbuya et al, 2004). In the case-study community, the Civic Association is the equivalent of a community development committee, which the Association's chair claims is the only democratically-elected community body. At the same time, however, the traditional leader in the community, although part of the tribal structure, asserts that he was democratically elected, and that his role as leader takes precedence over that of the Civic Association (Appendix Eleven, Section 1.2). Community members, it seems, are not unanimous in their agreement over which leaders should be supported. In the in-depth household interviews, for example, two households implied their alignment with the Civic Association and two with the traditional leader (Appendix Eleven). Although some informants claimed that leadership conflict resulted from the community's strong ANC

affiliation, while traditional leaders in KZN are usually assumed to be aligned with Inkatha<sup>78</sup>; there also appeared to be conflict in the case-study community along religious lines (Appendix Eleven, Section 1.2).

#### *Religious conflict*

The fission between followers of Zionism<sup>79</sup> and more 'orthodox' Christian<sup>80</sup> groups was identified as a source of general divergence in the case-study community by two key informants and in one household interview (Table 7.8; Appendix Eleven). Informants noted that Zionist groups are the most dominant church groups in the case-study community, but that these groups oppose the institution of the new 'orthodox' Christian church in the community.

#### *Conflict tempers the success of interventions*

What has been the impact of weak and/or conflicted leadership on the community? Evidence from the community case-study research indicates that conflict between leaders in the community has the potential to temper the success and/or longevity of interventions aimed at improving livelihoods. Previous initiatives, whether externally or internally driven, appear seldom to have been viewed by community members or leaders as politically or religiously neutral, which has meant support that for these has been bifurcated along political or religious lines. A key informant (the pastor) believed that community committees, such as the Civic Association, usually disintegrate in the face of conflict that arises between their members and others in the community (Table 7.8; Appendix Eleven, Section 1.2.3). A failed cooking and sewing project he viewed as a symptomatic example of this tendency toward committee conflict in the case-study community that impacts negatively on interventions.

These findings are supported by the literature on leadership-development, management and development praxes, in which unresolved conflict in communities is recognised to have a number of negative impacts on people's lives (e.g. Dimock, 1987; Fisher, 1993; Ife, 1995;

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<sup>78</sup> Inkatha Freedom Party (political party whose support base is strongest in KZN and among Zulu speakers throughout the country). See Chapter Three, Section 3.7.2.

<sup>79</sup> The Zionist Christian Church is among the largest of African churches. Its members live primarily in urban townships and rural communities. In South Africa, its headquarters are Moriah City in Mpumalanga, which offers security to its members as a holy place. Among the mixed traditions and beliefs associated with the Zionist Church is ritualistic and Africanised worship, with special garments and innovative festivals, characterised by singing, dancing, clapping, and drumming. Although the church renounces African traditions such as magic, medicines, divination, and ancestor cults, the replacements for these practices are sometimes interpreted as being quite similar (Campbell, 1995).

<sup>80</sup> 'Orthodox' church groups refer to those adhering to more conventional western traditions, such as those followed by Anglicans, Catholics, Baptists and Methodists.

Weyers, 1998; Goleman, 2003). It may, for example, lead to distorted or subjective data being offered by community-members or leaders to protect or promote self interest (Goleman, 2003). Parties who are in conflict with one-another tend to take decisions and action that promote their own power and influence rather than pursuing collaborative solutions that are in the community's (or group's) best interests. Conflict between leaders may also lead to no decisions and action being taken for the community's benefit due to parties being locked in power struggles that leave no space for forward-looking leadership or problem solving<sup>81</sup> (Ife, 1995).

*Conflict constrains the development of bridging social capital*

It might be assumed from what has been learnt elsewhere about conflict, leadership and development (Dimock, 1987; Ife, 1995; Goleman, 2003), that conflicted leadership in the case-study community is likely to be inhibiting stronger connections between community leaders and external institutions, thereby stunting any potential benefits to households in the community accruing from strong bridging social capital (Adger, 2003; Pretty, 2003). This argument is not refuted in the survey results, in which more than half of the households surveyed reported that the main group they belonged to interacted only 'occasionally' with organisations outside the community (Appendix Fourteen, Table 2).

The importance of community leadership accessing social capital external to the community is confirmed in research comparing communities in two Indian states between 1998 and 2000 (Krishna, 2003). It was found that in order for stocks of social capital such as trust to be mobilized into positive development outcomes, correspondingly high agency capacities were also required (Krishna, 2003). For example, to be able to advance economically, villagers had to have connections with, and knowledge of, external markets ('bridging' social capital together with human capital) - and this in turn may have been highly dependent on the capacity of the village leaders. The weaknesses of mid-level institutions were thus found to stand between grass-roots organisations and institutions at other levels (Krishna, 2003).

*Weak linkage to government institutions*

Not only may the leadership conflicts in the case-study community be suppressing community cohesion and weakening the potential to build bonding and bridging social capital, but the government intermediary between community-level leaders and local and national government bodies and resources - the ward councillor - was believed by three key informants

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<sup>81</sup> See for example Mzwanele (1996) for typical conflict issues, and their consequences, arising in former South African townships.

to be unconcerned with the community's needs (Table 7.8; Appendix Eleven). Ward councillors in South Africa ostensibly represent all people living within their ward and have the power to open channels of communication and government resource availability (DPLG, 2003a) (Chapter Three, Section 3.7.3). The ward councillor's reported lack of involvement in the case-study community was attributed by key informants to her prioritisation of affluent, white suburbs that also fall under her jurisdiction. They also stated that they perceived her political affiliation with the DA<sup>82</sup> rather than ANC<sup>83</sup> as undermining her credibility as a representative of the community.

It may of course be debated whether the community disunities and conflict among community leadership are caused by power struggles, or whether disagreements lead to conflict, which in turn leads to polarisation of power. Either way, conflict and disunities are evidently creating or entrenching inequality - both at the household and at the community level. Inequalities at the household level appear to result from, or be exacerbated by, the religious or political affiliation of household members (Section 7.4.3 above).

#### **7.4.5 The disintegration of families**

The second factor related to community conflicts and disunities which are identified above as shaping social-capital outcomes, is that of a perceived decline in two-parent families in the case-study community (Appendix Eleven, Section 1.2.6) and an increase in the number of orphans (Table 7.8). Death of household members was reported as a recent livelihood shock in nearly half of surveyed households (42%), being by far the most common economic shock experienced (Table 7.12). Although the causes of death were not determined in this research, it seems extremely likely that this figure partly reflects the high prevalence of HIV/AIDS in KwaZulu-Natal, estimated to be as high as 36% of the adult population (HSRC, 2003); particularly since HIV/AIDS was a health concern identified among key informants (Table 7.8). The traditional leader specifically identified disintegrating family as well as community structures as being associated with the loss of traditional values and a change in culture and norms, and he viewed these as a direct cause of poverty and food insecurity in the case-study community (Appendix Eleven, Section 1.2.6).

While the questionnaire survey gives no indication of the historical prevalence of two-parent families (and thus is not able to indicate what change has occurred), evidence from the survey does not refute informant perceptions. Well over half of households surveyed (62%) were

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<sup>82</sup> Democratic Alliance - official opposition within the South African Government

<sup>83</sup> African National Congress - ruling South African party

found to have no core ‘two-parent family unit’ (a married couple and their child/children) as a part of the household’s relational structure (not tabulated). These households were reported as either headed by a single parent who cares for children and/or grandchildren, or consist of siblings and/or their children only. The four in-depth household interviews support the view held by the traditional leader that in at least some households the family unit may itself be a valuable resource in the pursuit of well-being (Figures 7.1-7.4; Table 7.18). It is clear from the in-depth interviews that there may be distinct food-security disadvantages for single women left to care for children, siblings and/or grandchildren (Figures 7.1-7.4; Table 7.18).

The potential negative impact on community well-being of a breakdown in family units is supported in the literature. Close family ties are viewed as important social ‘glue’ in the production of bonding social capital (Coleman, 1988). These close relationships may be seen as the primary site of generating norms of trust and cooperation, from which basis wider forms of social capital can be created. Marriage relationships can, for example, be an important factor determining a woman’s community participation and empowerment (Parcel and Minaghan, 1993; Dikito-Wachtmeister, 2001). Finally, in other case-study research in KwaZulu-Natal, it has been found that both female-headed households and larger families have lower incomes than male-headed households and smaller families (Shinns and Lyne, 2004; see also Hendriks, 2005).

#### **7.4.6 Cultural norms**

A third factor related to community conflicts and disunities is that of changing community cultural norms, which, as observed by the traditional leader, may be associated with a breakdown in family units (Appendix Eleven, Section 1.2.6). Changing community norms were also implied in a number of informant-observed problems in the case-study research. One of these was the concern expressed over alleged alcohol abuse by adults in the community, which, according to the traditional leader and the respondent from Household One, is specifically associated with a loss of family values and the deterioration of traditions of family discipline and respect which are seen as indirect causes of food insecurity (Appendix Eleven, Section 1.2.6 and 1.3.1; Table 7.8). Further, two key informants cited drug abuse amongst the children at the high school, as a threat not only to the future prospects of these children, but also to the well-being of the community as a whole.

Another concern expressed by key informants that may denote changes in norms is that of people being too reliant on the prospect of future employment; four key informants attributed people’s lack of motivation to undertake agriculture, and failure to work hard enough at

solving their own problems or generating informal income, to the hope of future employment (Table 7.8; Appendix Eleven, Sections 1.2.6 and 1.2.2). Contrary to assumptions, the proximity of the case-study community to urban centres was not found to have stimulated informal links between household livelihoods and markets in these centres that might serve to elevate livelihoods (See Section 7.2.1 above). The low level of informal-income generating activities and perceived move from agriculture may be partly accounted for in the lack of access to the minimum financial capital required to invest in these activities; as identified by the chair of the Civic Association (Table 7.8). While nearly half the respondents in the questionnaire survey cited 'not enough time' as more an important constraint to agriculture than 'a lack of natural- and financial-capital resources' (Table 7.19), it seems likely that this time constraint is also closely linked with the financial inability to overcome time-consuming tasks necessary to agricultural production (such as paying for the installation of a tap instead of portaging water).

There may or may not be an association between the breakdown of family units and/or alcohol abuse, and low informal-income generation - or all of these may be symptoms of some greater problem. Importantly, a perceived increased lack of desire to engage in agriculture emerged strongly as a cause of food insecurity across KwaZulu-Natal in the results of the Delphi Survey (Figure 6.6), and the negative impacts on food security of increased dependency on formal employment - and associated disincentives for home food production - have also been noted in commentary elsewhere on food-security research in South Africa (Hendriks, 2005).

Although the results of the formal questionnaire survey cannot indicate historical levels of community cohesion and connectedness, they do not contradict the findings in the interviews of weakened community cohesion in the case-study community - whether through changing norms or community conflict. Neither the scores for 'collective action and cooperation' nor those for 'trust and solidarity' communicate a strong sense of 'community' within the case-study community, and the low reported reliance on local information sources (such as community leaders) suggests the possibility of an 'outward looking' rather than interdependent community (Appendix Fourteen). Nearly half (48%) of the respondents, moreover, agreed strongly with the statement "in this neighbourhood you have to be alert or someone will take advantage of you"(Appendix Ten, Table 2).

**Table 7.19: Reasons given by households for not engaging in agriculture .**

Reasons for not engaging in any/more agriculture	Number of times selected
Not enough time	24
Not enough water	19
Other - poor quality of soil	13
Other - no fencing	12
Not enough land	9
Lack of physical ability to do the work required	9
Seed not available	8
Poor quality of crops produced	7
Do not know enough about growing crops	7
No money for seed or fertilizer	6

#### **7.4.7 Falling through the social and economic ‘gaps’**

It is suggested here that a decrease in agricultural pursuits and/or a dearth of informal income-generating activities in the community may in fact be aggravated by the proximity of the community to Pinetown and Durban. Within the context of increasing connectedness between cultures as a thread of globalisation, this proximity may be leading people to expectations of employment-based livelihoods and consequently acting as a disincentive to agricultural production and other informal income-generating activities. It is probable [particularly since the majority of houses have access to radio and television (Appendix Ten, Table 2)] that community aspirations are being at least partially influenced by global developed-economy employment expectations and western ideals.

Although not tested in this research, it is argued here that there is not enough human capital (poor skills) and/or bridging social capital (no contacts) in the community to link people securely to local labour markets, and/or local labour markets may be too saturated to accommodate them (not enough jobs to go around)<sup>84</sup>, thus thwarting aspirations of employment-based livelihoods. Moreover, the community’s very proximity to markets may be robbing community members of any competitive advantage in undertaking agriculture or other informal income-generating activities, since they are competing with freely-available and relatively cheap commercial goods and produce<sup>85</sup>. If this is so, people in the community may be viewed as ‘falling through the economic net’, being temporally and spatially in the

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<sup>84</sup> The high unemployment rate across South Africa indicates that the high levels of unemployment in the case-study community are not entirely due to community-specific reasons (HSRC, 2003b).

<sup>85</sup> In a rural setting, for example, the transaction costs in terms of transport and time to access commercial food produce in urban centres offers some advantage to local producers whose produce is more readily available.

economically and socially threadbare gap between being undeveloped-and-rural and developed-and-urban.

## **7.5 SOCIAL-CAPITAL PATHWAYS TOWARDS FOOD SECURITY**

A number of social-capital related hindrances to food security in the case-study community have been discussed in the above sections. The role of social capital in the community as a focus of food-security interventions is now addressed. Evidence in the community suggests that two-parent family units, together with the potential to build social capital linked with close family ties (Coleman, 1988; Parcel and Minaghan, 1993; Dikito-Wachtmeister, 2001), are becoming less the norm. Further, divergences between religious groups, conflicted leadership, and changes in cultural norms are considered to be contributing to the depletion of both bonding (community cohesion) and bridging social capital in the community, as well as to heightened food insecurity. These hindrances are compounded by the apparent absence of strong leadership, and of a community representative in government institutions, to help pilot a collaborative vision for the community's future.

### **7.5.1 Social-capital adaptations in changing economic and social contexts**

What role, then, does a focus on addressing existing social-capital constraints, and/or building more relevant social capital play in the future food security of the case-study community? In considering this question, it is impossible to disconnect the community from the current and future broader-scale social, economic and political context that frames it.

The process of transition to a representative democracy begun in South Africa in 1994 has, for example, been accompanied by transformation of governmental systems and policies which is bringing continuing changes in community cultures and livelihood expectations. Moreover, the country is considered to be in ongoing transition toward an industrialised or developed economy (Van Rooyen, 2000). The state of economic and political change in South Africa evokes a number of questions in planning interventions for future household food security in the case-study community, as it does in other communities. How, for example, should the likely trajectories of national and sub-national economies, projected patterns of economic-sectoral change, and corresponding shifts in livelihood dynamics over various time scales be considered when thinking about food-security interventions? Do households in developed communities rely on the same forms of social capital as households in undeveloped or developing communities? Do, for example, financial capital (usually in the form of employment), the ability to command bridging capital (in the form of relationships with

people in positions of power), and market-based relationships (such as crèche child care rather than family child care) become more dominant forms of capital in the livelihoods of people living in developed areas than in the livelihoods of those in developing areas? Do, for instance, such forms of capital ‘replace’ to some extent extensive family or other horizontal or bonding social networks and institutions? The central thematic question that emerges among the above questions is: *what kind of social capital should communities like the case-study community be encouraged to invest in that will increase their ability to adapt to, and even exploit, future changes?*

While this question is extremely tough to answer, not least because the pattern of future change itself, and the time scales over which it might occur, are impossible to accurately predict, it may nevertheless be considered in the light of lessons such as those outlined in relation to the civic reform movement in the United States (See Chapter Two, Section 2.4.5.) In the context of southern African communities generally, the lessons from this movement point to the need for understanding more about communities through participatory learning, and for better understanding community-level conflicts and leadership problems, if food security (and other) interventions aimed at facilitating social capital are likely to be successful.

### **7.5.2 Community cohesion and strong leadership**

In the context of the case-study community more specifically, the questions above arguably call into debate the role of facilitating the development of stronger leadership and community cohesion, versus abandoning the idea of community collaboration and focusing on assisting individuals to find independent economic niches in an integrated, developed South Africa. It might, in other words, be asked whether change agents should consider the case-study community a ‘community’ at all, or as disconnected individuals in a South African market place.

It is contended here that this is not an ‘either or’ dilemma; the answer is ‘both’, for a number of important reasons. First, it cannot be assumed that livelihood trajectories in the community will not follow entirely unique patterns of adaptation and change compared to communities in already-developed areas of the world. In other words, the community should be treated as a self-shaping community; the community’s future social and economic characteristics in a developed economy are likely to look very different from those of communities in countries such as, for example, the United States. Further, since it is only possible to work with existing social-capital resources, social change can only happen through existing social structures (although this does not mean that interventions cannot be aimed at changing existing

institutions over time). Finally, and most importantly, it is only through working with current situations, understanding these, and communicating identified needs and conditions through vertical links or bridging capital to decision makers at broader scales, that policies and programmes can become increasingly useful in encouraging relevant community social capital. It is suggested here that such participatory learning towards influencing decision makers might only take place if communities have stronger collective voices based on trust, cohesion and leadership capacity.

### **7.5.3 Social-capital pathways for food security in the case-study community**

While an exhaustive exploration of possible food-security interventions in the case-study community would be beyond the scope of this thesis, some illustrative steps toward developing relevant and constructive forms of social capital in line with the above points are discussed here.

#### *Addressing leadership constraints*

Given the importance of strong leadership and community cohesion in effective participatory learning towards stronger bonding and bridging capital noted above, a valuable step would undoubtedly be a focus on resolving conflict between the traditional leader and the Civic Association. An associated obstacle is that community development bodies such as the Civic Association are not legislatively recognised entities (Chimbuya *et al.*, 2004; See Chapter Three, Section 3.7.3). There is a need for a better understanding of these mechanisms by policy makers so that legislative and policy frameworks might be developed that are not only more relevant, but that support communication networks between community-level leadership and provincial and national-level leadership. Similarly, an investigation into the role that the ward councillor is currently playing in linking the community to external government institutions and resources, and how her activity can be redirected to the benefit of community members, might be critical. Both the Civic Association (the community's development committee) and the ward councillor represent existing institutions that are apparently being underutilised for their capacity to link the community to external resources, and government resources in particular. These arguments reflect findings in the Delphi Survey, in which the need for improved communication networks between community-level and broader-level organisations was identified as a priority food-security intervention in KwaZulu-Natal (Figure 6.7).

*Raising awareness of the value of social-capital investments*

From the narrated and tabulated answers of key informants, it is evident that the concept of ‘social capital’ as an independent and valuable resource (as it is understood academically) is not common currency among all community members (Table 7.8; Appendix Eleven). This suggests that people in the community are unlikely to consciously invest in social capital resources, with any explicit cognisance of their latent value. A further focus in interventions might thus be on increasing awareness among community members of the potential long-term value of investing in community-based institutions for their own sake because of their innate role in enhancing ‘caring, goodwill, and a sense of belonging and social closeness’ in communities (Robison and Schmid, 1996), and because they function to build further social-capital resources. To paraphrase Putnam (1993:4) it is possible that “members of stokvels participate presumably because of material benefits, not because it enhances the social fabric of the case-study community - but it does.” Further research in communities such as that in the local-level research might be aimed at better understanding what motivates people to support or join institutions, how institutions are perceived by people, how various familial and other relationships are perceived with regard to well-being, and how people’s perceptions of social capital and its value can be developed. This call is reflected in research elsewhere asking for more attention to social capital and the individual, and offering a persuasive argument that it is at the level of individual investment in social capital - the how and why of individual socialisation and his or her social-capital attributes - that attention should first be focused, before an understanding of aggregated social capital can be pursued (Glaeser, 2004).

*Examining the disintegration of families*

Evidence from the local-level research, along with Meta-Analysis and Delphi evidence support the contention that in many food-insecure communities in southern Africa, the benefits to households and communities accruing from strong family units are dwindling. An additional social-capital focus toward food security in the case-study community may thus be to pilot research that examines why there is an apparent trend toward household structures in which two-parent family units are absent. The eroding impact of HIV/AIDS on family units and relationships (as well as social capital) is, for example, documented elsewhere (see Drinkwater, 2003), but what other determinants are there? Social capital in the form of family relationships, as well as relationships between the family and other families in the community, not only shape a child’s psychological development and socialisation and therefore the well-being of the next generation (Parcel and Menaghan, 1993; Harpham, 2002), but the breakdown of family units arguably erodes community social capital beyond the breakdown of familial ties (Coleman, 1988).

#### **7.5.4 Alleviating resource poverty for short- and long-term gain**

The point made above that resource poverty is a self-sustaining condition (Section 7.4.2) raises the issue of temporal scale as a complicating dimension to addressing food security in the case-study community, which has also arisen as a key issue in the Delphi Survey research. This is because short-term interventions might alleviate immediate food shortages while also assisting households in investments - including social-capital investments - that allow them accrue long-term resource benefits.

##### *Possible interventions for short-term relief*

There is a strong reliance on financial resources in the case-study community (Section 7.3.1). Simultaneously, however, there exist a number of constraints to accessing financial resources. Although the majority of households engage in some form of agriculture, for most households this apparently provides only brief relief from dependence on food-purchase (Table 7.1 and 7.19). It follows, then, that short-term amelioration of food insecurity might pursue three possible courses of intervention: providing food aid, increasing agricultural production, or increasing financial capital. Since capitals are clearly interconnected (Figure 2.3; Section 7.3 above), these courses of action might in theory directly and/or indirectly enable investment in beneficial stocks of social capital in the case-study community. Moreover, these three courses of action have wider implications in discussing food-security interventions at multiple scales in southern Africa (Part Three). While food aid might be worth considering for households in extremely deprived circumstances (for example child-headed households who have no form of income) food aid as a form of social protection remains an intervention of questionable sustainability and potential long-term negative trade-offs (Devereux, 2001c; Devereux, 2002; Haddad and Frankenberger, 2003; Barrett, Holden and Clay, 2004). Moreover, both the chair of the Civic Association and the traditional leader expressed similar concerns about 'hand-outs', saying they lead to dependency and have in the past not solved any problems in the long term (See Table 7.8; Appendix Eleven).

##### *The question of the role of agriculture in food security*

The desire for people in KwaZulu-Natal for employment-based rather than agriculturally-dependent livelihoods that emerged in the Delphi research (Chapter Six, Section 6.4.1), similarly emerges in the case-study community research (Table 7.8). The difficulty noted in the Delphi of acknowledging the wishes of people (who have access to agricultural land) not to engage in agriculture while also attending to local-level food deficits, is thus further emphasised. While this question is dealt with further in Part Three of this thesis, it is argued here that the 'lack of motivation to work the land' or 'a reliance on formal employment' is

unlikely to be equally applicable to all households in the case-study community. Interventions that aim to enhance agriculture may well be highly relevant to some households in the short and medium term, and since the survey indicates that most households are engaging in some agriculture (whether this forms part of their vision for the future or not), it is possible that agricultural-productivity enhancement would benefit the food security of the majority in the short-term (see Table 7.19).

*The multiple potential benefits of increasing incomes*

Finally, in the case of increasing incomes, a central message from key informant and household interviewees is a deficit of all resources - social, human, biophysical and financial - available to people in the case-study community. The community can, perhaps, be described as being at the lower end of the 'resource-availability continuum'; at this lower end, the findings of the study suggest, any changes in household resources are likely to have an immediate impact on food-security status because food expenditure comprises a significant proportion of all household expenditure (Table 7.13; Section 7.2.6). Evidence from other studies in KwaZulu-Natal, as well as the Meta-Analysis (Misselhorn, 2004), support this likelihood, finding that households with low income spend a higher proportion of it on food than wealthier households (IFPRI, UKZN, UWM, 2003). Similarly, if food intake is immediately negatively impacted in times of economic shock, then it is likely that any increments in household income are similarly likely to have an immediate positive impact on food intake (Table 7.13)<sup>86</sup>. This argument is further supported in stokvel membership typically requiring contributions in the order of R50 to R200 per month<sup>87</sup>. An increase, or decrease, in total household income of just one or two hundred rand might thus enable, or exclude, membership in a key community institution and potential source of household social capital that can directly effect food security through primarily economic mechanisms.

The question still remains, however, of how to increase incomes - even if only by small amounts. The levels and quality of employment and access to other financial resources (such as government grants) are clearly negatively impacted by the low levels of adult education, together with the effects of HIV/AIDS (Tables 7.3 and 7.4). Addressing these human-capital needs - seeking avenues to improve education and mitigate the impacts of AIDS - is thus a

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<sup>86</sup> If reduction in food expenditure in response to economic shocks was taken as a measure of food insecurity, then from the survey results it could be calculated that among households that have recently been affected by shocks (about 74% of households in the community) at least 60% could be considered food insecure.

<sup>87</sup> To put this into perspective, the minimum urban wage in South Africa is about R800 per month (DOL, 1997), while an old age government grant is currently R740 per month (DOW, 2005).

potentially beneficial intervention in the case-study community for enhancing food security. Further, the community's proximity to urban markets is, according to the research findings, arguably not being fully exploited for the potential benefits it might offer to households. There might therefore be value in research that examines informal income-generating activities and patterns of formal employment (and their interactions with one-another) in similar communities in order to better understand what activities function to create and exploit linkages between marginalised communities, like that in the case-study community, and adjacent affluent suburbs and urban centres.

*Reinforcing the value of existing forms of social capital in increasing incomes*

It is argued here that an important first step in considering how to increase incomes in the case-study community is for change agents to establish ways of reinforcing the benefits, and of mitigating the negative impacts, accruing from existing community institutions. Likely value might be derived from establishing what projects are currently being mediated by the Civic Association, how these projects are targeted, what the grounds for inclusion and exclusion are, and whether goods that are being made by residents for local consumption might also be produced to penetrate external markets. Moreover, ways to support stokvels, as key existing community institutions, might be sought, such as investigating alternative opportunities to enhance the ability of people to join stokvels, and to increase stokvel efficacy in generating income.

**7.5.5 The importance of getting the processes of interventions right**

The findings of the research at all scales in this thesis underscore that, irrespective of how well-intentioned a food-security programme or policy is, unless these are continuously informed and reconsidered in the light of case studies that investigate household-level food insecurity, they run the risk of privileging some and/or of entrenching the food insecurity of others. A simple example in the case-study community, experienced since the field work was undertaken, might serve to ground this point more clearly. In the findings of the local-level research, a key community-level institution - the Civic Association - is found to function to privilege the food security of some community members over others. Recently, however, before considering the research findings presented here, an external change agent assumed that the Civic Association democratically represented community needs and, focusing on getting the 'what' of their food-security interventions instituted quickly, used the Association as a vehicle for identifying the beneficiaries of an employment project. It quickly became clear that beneficiary selection was not being targeted at the most needy in the community, indicating biases by the Association towards some community members and against others.

The finding in the Delphi survey that changes to the processes and approach (the ‘how’) of interventions are at least as important as changes to intervention content (the ‘what’) is therefore well illustrated in this example.

## **7.6 THE RELEVANCE OF A SOCIAL-CAPITAL FOCUS IN DEVELOPING FOOD-SECURITY INTERVENTIONS**

A social-capital focus in food-security interventions is confounded by: first, the difficulty of the concept itself (such as that it is not readily conceptualised by community members in the same way that it is understood by those researching it); second, by social capital’s variable role in food security; and third by the difficulty in predicting the future needs of the community within its broader, changing social, economic and political contexts. These concerns, reflected by social-capital commentators from both within and outside the region (e.g. Sirianni and Friedland, 1995; Portes and Landolt, 1996; Dikito-Wachtmeister, 2001; Markussen, 2002; Cleaver, 2003; Pelling and High, 2005), are critical issues in considering how social capital influences the approach of food-security interventions, and are explored further below.

### **7.6.1 The difficulty in isolating a definitive ‘social capital’**

Social capital is an abstract idea rather than a tangible resource (Grootaert, 1998; Chen, 2000; Pretty, 2003). Part of the attractiveness of the idea is that it encapsulates a suite of intuitively-important social resources that are indisputably significant in shaping livelihoods (e.g. Narayan and Pritchett, 1997; Fafchamps and Minten, 1998; Maluccio, Haddad and May, 1999; Woolcock, 2000; Isham, 2001; Kliksberg, 2000). Precisely because of this, however, it is tempting to use the term as a ‘catch all’ idea for what are, in reality, very complex and nuanced social dynamics. The multiple attributes that are collectively labelled ‘social capital’ themselves portend the need for caution in seeking to focus on social capital to improve livelihoods. Some attributes falling under its definition, such as ‘relations of trust’, are implicitly positive attributes and are less ‘value-neutral’ than other attributes, such as ‘social networks and groups’. Further, the case-study research, it has been argued above, suggests that whether outcomes to individuals and households from social capital attributes are positive or negative may to some extent hinge on whether the particular social capital attribute serves to either create or entrench conflict or disunities in the community, which interact with resulting inequalities and power imbalances between individuals or groups to perpetuate disunities, or to promote community cohesion.

Social capital is a powerful notion with indisputably useful resources bound up in it; its definitions, however, may require further careful research-based clarification if it is to become a more relevant intervention tool in working towards food security (Pelling and High, 2005).

### **7.6.2 Understanding social capital in context**

Is it useful to disengage social capital from other forms of capital in designing food-security interventions? Despite the dangers of uncritically applying its definitions, drawing on the local-level research, the answer to this question is nevertheless 'yes'. This is because the process of thinking specifically about social capital as an independent and potentially powerful resource has drawn attention to a number of social concerns in the case-study community that impact on people's lives in wide-ranging ways.

Focusing on social capital demands a focus on the internal as well as external socio-political context - in particular conflict and power - shaping food security at the local level that might easily be overlooked if only physical, financial or human capital were being investigated. The idea of social capital, with its numerous 'capture all' definitions, should, however, be used with caution, since attributes of social capital are seen here as only taking on meaning as community resources when it is understood how people use them to their advantage in the context of a community or household. This may be through attributes being employed to harness alternative forms of capital that materially enhance people's livelihoods, or through offering more intangible benefits (such as a 'sense of belonging' in a community, or, in the case of church groups in the case-study community, through offering spiritual and emotional support) (Figures 7.1-7.4; see Bourdieu, 1980). In other words, social capital can only be understood or take on meaning in the context of a particular community - even a particular household. It is extremely difficult, moreover, even at the household level, to disengage one form of resource or capital from another. In some instances resources or capitals are starkly interdependent, such as in the case of stokvel membership requiring financial capital, while in others the links are less certain but highly probable, such as the view expressed by key informants that lack of education and skills deficits (human capital) make it difficult for people to generate income (financial capital).

Attempting to disengage social capital from other capitals does not negate these complex interactions occurring between capitals; it simply underscores that a nuanced understanding of these interactions, and the human relationships and power dynamics involved, is best sought through case studies that conceptualise social capital as having properties independent from other resources.

### **7.6.3 Learning interactions: a powerful cause to focus on social capital**

#### *Learning through interactions*

Researching social capital as an independent human resource also draws attention to the importance of learning interactions. Underlying all processes of human change and development is always the process of human learning; more specifically, it has been proposed that learning through interactions ('learning interactions') is the fundamental mechanism for building social capital (Falk and Harrison, 1998; Chapter Two, Section 2.4; Figure 2.3). Similarly, learning is recognised as the 'stem cell' of all social and economic change, since learning is what makes people uniquely adaptable (Faris, 2004). Effecting any community change, therefore, can only take place through processes of learning, while learning in the context of interactions (learning interactions) is what builds social capital in communities (See for example Kolb, 1984; Handy, 1995; Coleman, 1988; Kretzmann, 1996; Falk and Harrison, 1998).

From the argument above (see Section 7.4.7) it becomes apparent that the case-study community may exist between viable social and economic worlds, it becomes apparent that it is only through community learning - and more specifically through learning interactions in the context of relationships - that beneficial change can be both chosen and facilitated by community members. A focus on learning interactions, within the context of community development, is thus seen as perhaps offering the most powerful argument for disengaging social capital from other forms of capital when considering the best approach for food-security interventions.

Learning (including but not limited to learning through interactions) for community and social capital development has been independently and extensively theorised. These theories in turn have a significant impact on people's lives worldwide in numerous contexts (See for example Thomas, 1963; Kretzmann, 1993; Weyers, 1998; Putnam, 2000; Sztreter, 2000; OECD, 2001). Further, the synergism between the development of social and human capital has gained increasing currency in the policy-development and academic spheres in recent years (Berkes and Folke, 1991; UNESCO<sup>88</sup>, 1996; Schuller, 2002; Faris, 2004).

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<sup>88</sup> United Nations Education, Scientific and Cultural Organisation

*Learning interactions build social capital*

Added to the understanding of synergism between human (in this case knowledge) capital and social capital, is the perspective offered above that ‘learning interactions’ are the mechanisms of social capital creation, and of learning more generally defined as education and life experience. Taken together these suggest that child and adult education in the case-study community, and the social context in which this education is embedded, will be key in addressing long-term food insecurity through human- and social-capital creation.

This argument may be grounded in an illustration from the local-level research. The head of Household Three, while seeing herself as being aligned with the traditional leader, also sees herself as powerless to challenge discrimination by the Civic Association. This draws attention to a frequently-overlooked constraint on the poor that prevents their engagement in positive institutional processes and outcomes, even at the most local level; that of the ‘barrier of articulation’ (Cleaver, 2003:14). This barrier may arise due to literal language constraints, but more often it exists because the poorest people “*feel they ‘don’t have the words’ to challenge discriminatory norms, or to present their interests clearly*” (Cleaver 2003:4). This is an important observation for the development of community-level social capital in the light of the fundamental role of learning interactions as the process by which social capital is built (Falk and Harrison, 1998; see Chapter Two, Section 2.4 on social capital theory); it implies that an inability of the vulnerable to articulate their own interests is an added barrier to participation in social-capital building processes. A valuable intervention in the context of the case-study community might therefore be to facilitate the furthering of adult education toward engendering in people a greater sense of their own value. Empowering people to more confidently articulate their viewpoints and needs, thus promoting their interaction with other community members and with groups within the community, might simultaneously increase the sheer number of interactions taking place between people in the case-study community, thus opening opportunities for the production of social capital. Further, such interactions are argued to be a critical prerequisite to any conflict resolution with the community which, as noted above, is a certain stumbling block to well-being.

*Learning interactions and intervention processes*

Finally, a focus on learning interactions highlights once more the importance of process, rather than the content of the solutions, in food-security interventions, a point that was emphasised in Delphi Survey (Chapter Six, Section 6.1.3). If learning interactions are at the core of development needs, then building people’s capacity to actively learn, and therefore

enhancing their empowerment, during the course of 'intervening' to promote food security, may be more important than a focus purely on finding the 'right choice' of solution.

\* \* \* \* \*

How does household social capital influence the approach to food-security interventions in the selected case-study community? A number of findings have emerged in relation to this primary research question for this chapter.

A generally low level of food security is identified in the case-study community, through drawing on the dietary diversity score, the in-depth household and key-informant interviews, together with the malnutrition indices measured at two crèches in the community. Although financial capital is a dominant determinant of food security, all forms of capital combine in different, household-specific ways to determine food security. Of particular relevance to the research question is that social capital is used variably by households in building livelihoods and food security, and in accessing financial capital.

Institutions and networks can reinforce as well as alleviate food insecurity. Some social-capital attributes (such as stokvels) have positive outcomes for some households; other attributes, however, (such as the Civic Association) are apparently having negative impacts for some households or groups within the community.

A state of resource poverty in a household may be self-sustained through preventing households from overcoming or bypassing exclusion from social capital resources.

Religious contentions among community members, leadership weakened by conflict, the breakdown of family units and changing norms are all identified as probably causing increased community disunity. It is suggested that the extent to which any particular social-capital attribute creates or entrenches conflict and/or disunity between people in the case-study community may be a significant determinant of its long-term negative, rather than positive, impact on household food security in the community.

A number of illustrative intervention pathways for the case-study community toward developing social capital relevant to its future food security are discussed:

- Increase awareness among community members in KZN of the potential long-term value of investing in community-based institutions.
- Pilot research that examines why there is an apparent trend toward household structures in which two-parent family units are absent.
- Focus on conflict resolution among community leaders; seeking ways to improve communication channels and to promote more supportive policy.
- Investigate further the roles ward councillors are currently playing in linking communities in KZN to external government institutions and resources, and how their activity can be redirected to the benefit of community members.
- Seek ways of increasing incomes to break the self-perpetuating cycles of resource poverty, in particular through supporting existing community-level institutions such as stokvels.

Social capital is a powerful notion with indisputably useful resources bound up in it; its definitions, however, may require further careful research-based clarification if it is to become a more relevant intervention tool in working towards food security. Social capital can only be understood or take on meaning with regard to food security interventions in the context of a particular community - even a particular household. Learning interactions are identified as

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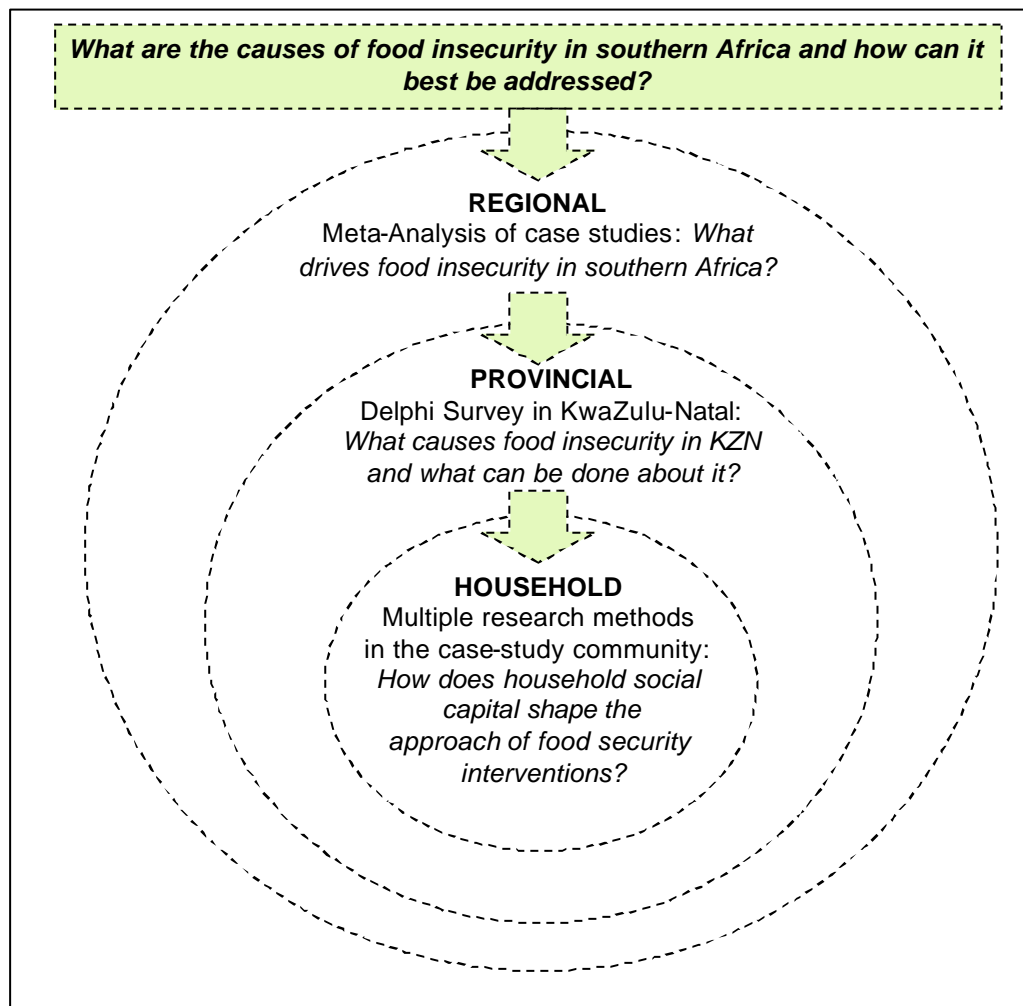
being central to both the creation of social capital and of community social and economic change. A focus on learning interactions, within the context of community development is seen as offering a powerful argument for disengaging social capital from other forms of capital when considering the best approach for food-security interventions.

In the following chapter, the concluding chapter of this thesis, the research findings at all three levels are synthesised and discussed, and the final research objective is addressed; that of identifying the implications of the findings for the development of food-security interventions at multiple scales in southern Africa.

# PART THREE

## SYNTHESIS AND CONCLUSIONS: CROSS-SCALE FOOD-SECURITY INTERVENTIONS FOR SOUTHERN AFRICA

Part Three synthesises the key findings from the research in Part Two, and draws on these to address the final research objective; that of determining the implications of the findings from the research at all three scales for decision makers and practitioners in developing interventions towards improving food security at multiple scales in southern Africa.



## CHAPTER EIGHT

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### SYNTHESIS AND CONCLUSIONS

#### Responding to Food Insecurity at Multiple Scales

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##### 8.1 INTRODUCTION

The overarching objective of this thesis was to identify what causes food insecurity in southern Africa, and to examine future intervention strategies in response. An improved understanding of food insecurity in southern Africa could hardly be more relevant at this time. This is demonstrated in the continuing investment by organisations such as the United Nations (UN), Department for International Development (DFID), the FAO, the International Fund for Agricultural Development (IFAD) and the World Food Programme (WFP), in the search for long-term measures to enhance food security in the developing world. Despite these, as well as tremendous national government and non-government efforts, southern Africa is experiencing another peak in the region's chronic food crisis. Development organisations predict an imminent crisis of similar proportions to that of the 2002/2003 food crisis (FEWSNET, 2005).

In this the concluding chapter of this thesis, findings from the research at all scales are synthesised and reviewed in distilling the key themes that have emerged in this work. These themes are drawn in addressing the final research objective of this thesis - *to determine the implications of these findings for decision makers and practitioners in working towards food security at multiple scales in southern Africa*. Four central ideas are explored to illuminate the value of a holistic framework for re-conceptualising interventions toward food security in southern Africa: social capital, participation, co-ordination and 'learning interactions'. Important questions that have arisen in this research are addressed towards the end of this chapter as a means of drawing out avenues of further enquiry.

## 8.2 SYNTHESIS OF FOOD-SECURITY RESEARCH AT THREE SCALES

Drawing on the discussions in Part Two, a synopsis of findings at the three scales at which food security is investigated is presented in Table 8.1<sup>89</sup>. Significant themes, however, that have arisen across the research are further distilled and discussed below.

### 8.2.1 Community- and household-specific food-security dynamics

Food-security causation is marked by a high degree of diversity, irrespective of the scale of investigation. A wide heterogeneity of drivers found at both the regional and provincial scales is similarly echoed in the findings at the local level, in which both the availability of and access to different resources, or capitals, and the way these capitals are used by households in their livelihoods, vary significantly within the same community (Table 8.1).

Poverty, and the high rates of unemployment that are associated with poverty, nevertheless emerge as a dominant cause of food insecurity across all scales of analysis. Poverty and unemployment are identified as the most prevalent causes of food-insecurity in the Meta-Analysis and in the Delphi Survey (Table 8.1). Similarly, financial capital emerged as a powerful determinant of food insecurity for households in the local-level case-study community. The case-study research, however, provides a more nuanced understanding of the ways in which financial capital is secured and used to generate further capitals. While formal employment appears to offer stability in securing food access among wealthier households in the case-study community, there is a very high dependency on government grants among all households, and particularly among the poor (Table 7.4). Further, the appropriation of financial capital, as well as the ways it is re-invested to build livelihoods, differs tremendously between households. The acquisition and use of financial capital is found to be shaped by forms human capital (health and education), and in particular by forms of social capital, including *stokvels*, ‘two-parent’ family units, social networks, and relationships with church groups and community leaders (Table 8.1). Together, these forms of social capital are clearly dominant determinants of food security across the case-study community, but the importance of each of these forms in shaping food security is

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<sup>89</sup> As was noted in the introduction to Chapter Four, the notion of food security is extremely complex, as evidenced in the theoretical discussions of Chapter Two. Further, food security is an abstracted concept rather than an objective and measurable outcome. These factors make developing methods for researching food security, and in particular the development of indicators, extremely challenging. There have therefore inevitably been limitations in the findings of this thesis in addressing its objectives, and these have been acknowledged as far as possible in the chapters dealing with each of the scales of research, as well as in Chapter Four on research methodology.

inconsistent between individual households. This is indicated by the very tenuous statistical relationships between surveyed households' access to the seven forms of social capital profiled, and their levels of food security.

### **8.2.2 The lens of social capital**

Forms of social capital were further found not only to function to alleviate food insecurity, but also in some cases to reinforce food insecurity in the case-study community, confirming findings of previous research (Table 8.1) (e.g. Dikito-Wachtmeister, 2001; Markussen, 2002; Cleaver, 2003). At the local level, some social-capital attributes were found to create or entrench conflicts and disunities in the community and among households, and this in turn is understood to be a key determinant of whether that attribute has positive or negative outcomes for household food security. Drawing on findings in the literature, the social-capital attribute at the nub of conflict and disunity that effects negative community outcomes, is (dis)trust, noted as leading to exclusion and 'cronyism' in communities, (Holland, 1998; Baell, 1997; Maluccio, Haddad and May, 1999) and at extremes to pathogenic outcomes such as violence (Rubio, 1997; Mohan and Mohan, 2002) (see Chapter Two, Section 2.4.5 and Table 4.4).

The multiform and mutable functioning of social capital in relation to food security (and other indicators of well-being), is reflected in the social-capital literature pertaining to KwaZulu-Natal. Although in this literature social capital has been found to be a significant determinant of household well-being (Haddad and Maluccio, 2002), household expenditure (Maluccio, Haddad and May, 1999) and child nutrition status in the province (Carter and Maluccio, 2002), it is also clear in these studies that the role of social capital in contributing to household livelihoods is complex. Social capital in KwaZulu-Natal was, for example, found to have almost no impact on household expenditure in 1993, while in 1999 it had significant positive impacts; these changes are thought to reflect the effects of new household opportunities resulting from the lifting of legal restrictions (such as property rights) and structural changes in economic and social resources due to democratisation post-apartheid (Maluccio, Haddad and May, 1999). Moreover, in the same study, social capital was found to have a lesser effect on household expenditure than the effect of household education. An example of the dynamic nature of social-capital use is demonstrated in an analysis by Carter and Maluccio (2002) that suggests that communities in KwaZulu-Natal have greater access to bonding capital (links within the community), than to bridging capital (social resources beyond the community) and thus are more able to use social capital to mitigate the impact of idiosyncratic shocks (or shocks only effecting

one or two households) than shocks that effect the whole community (see for example Adger, 2003; Pretty, 2003).

Notwithstanding both problems with the concept of social capital itself, as well as the diverse and changing ways in which social capital functions, it is argued in the local-level research that the idea of social capital provides a valuable lens through which powerful social dynamics may be examined.

### **8.2.3 Intensifying vulnerability and cultural change**

Evidence from all three scales of analysis suggests, moreover, that cultural changes in vulnerable communities across southern Africa are shaping forms of community social capital that are characterised by deeper vulnerability to food insecurity. In the Meta-Analysis two interconnected processes were identified. The first was a process of escalating vulnerability, marked by an inability to access food, and by livelihood strategies involving negative ‘trade-offs’ (Figure 5.1). Such livelihood ‘survival’ strategies have been uncovered extensively elsewhere in the literature (e.g. Farrington *et al.*, 1999; Scoones, 2000; Ashley and Wolmer, 2003) (As noted in Section 8.2.6 below, these strategies have implications for social-protection debates).

The second process argued in the Meta-Analysis to be operating across many food-insecure communities in southern Africa, is that of diminishing ‘positive’ social capital, characterised in particular by HIV/AIDS and the breakdown of family networks (Figure 5.2). Reflecting on this process more closely, changes in cultural norms towards seeking employment-based livelihoods, and away from agriculture, were identified in the Delphi Survey as having a negative impact on food security (Chapter Six, Section 6.4), while the disintegration of ‘two-parent’ family units, together with trends seen by community members as detrimental to food security and well-being (such as alcoholism and lack of desire to grow food, as well as the), were identified in the local-level research (Chapter Seven, Section 7.4).

Taken together, the findings at all three scales in this thesis suggest that the cultures of vulnerable southern African communities are changing, and that these changes are closely associated with heightened food insecurity. The link between family networks as well as community connectedness, and prosperous agriculture in rural communities, has been identified in previous research (Robison and Schmid, 1996; Pretty, 2003). Congruently, the literature finds a recent trend in southern Africa towards livelihood strategies showing

diversification away from agriculture - ‘deagrarianisation’ - (Bryceson, 2003), which has also been explicitly linked with the prevalence of HIV/AIDS in the region (Drinkwater, 2003; Misselhorn, 2004). The linkage between HIV/AIDS, faltering family and community networks and food insecurity draws further attention to the expanding direct and indirect impacts of HIV/AIDS on livelihoods in southern Africa (Morris, 2002; SADC/FANR, 2002; Holloway, 2003; Mano, Isaacson and Dardel, 2003; see Chapter Three, Section 3.2.3). HIV/AIDS emerged as a dominant driver of food insecurity in both the Meta-Analysis and Delphi and was implicit in the high incidence of household deaths in the case-study community (Table 8.1; Table 7.12).

#### **8.2.4 Social-capital versus biophysical constraints to food security**

The work of this thesis extends a political interpretation of food-security causation (e.g. Watts, 1983; Swift, 1989; Adams, 1990; Pepper, 1996), arguing that food insecurity is embedded more in numerous forms of social capital and institutions that are a product of multiple interacting forces over time (such as apartheid)<sup>90</sup>, than in failures in food production caused by biophysical stressors. These forms of social capital and institutions include leadership and structures of governance, government policies across sectors, relations of power between individuals and institutions, cultural norms, and ‘learning interactions’; findings which are reflected to varying degrees in the research at all three scales of analysis, and which are grounded in the reality of food insecurity experienced among households in the local-level case study (Table 8.1).

At the household level in the case-study community, the rights to ‘entitlements’ that determine livelihoods structures (Sen, 1981; Devereux, 2001a) are clearly culturally and relationally constructed (illustrated, for example, in elder female siblings left to care for the children of younger siblings, conditions of church group and stokvel membership, and relations with community leaders), and deeply affected by the ability of a household to overcome any powerlessness resulting from these constructions [such as the ‘barrier of articulation’ felt by Household Three (Cleaver, 2003)]. ‘Entitlements’ frameworks have made critical contributions to the understanding of famine and food insecurity, having drawn attention to the importance of understanding how failures in entitlements can occur (such as an inability to access government grants due to not owning a valid ‘identity document’ in South Africa) (e.g. Leach, Mearns and Scoones, 1997; Devereux, 2001a). The local-level research, however, underscores that even within one community processes

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<sup>90</sup> See Chapter Two, Section 2.3 for the discussion on paradigms of famine and food-insecurity causation.

of entitlements acquisition is highly varied between households, and the power dynamics shaping these processes are difficult to uncover.

The Meta-Analysis findings reinforce the generalisation that food insecurity in southern Africa is constructed by forms of social capital and institutions rather than by biophysically-driven failures in food production. The majority of the direct causes of food insecurity identified in the Meta-Analysis (65%) precipitated food shortages in southern African communities through limiting food access (Figure 5.1). Similarly, the findings of the provincial and community-level research (Table 8.1), confirmed that in South Africa food security is more likely a function of household income than of household food production (HSRC, 2003a).

That access, or consumption, failures are a more relevant focus than production failures in relation to food insecurity has been profiled for some time in the related academic debates (e.g. Swift, 1989; Leach, Mearns and Scoones, 1997; Watts and Bohle, 1993). The debate, however, in development praxes, as well as among many leaders in ‘natural’ science research, frequently continues to ignore social-science understandings, often focusing on increasing agricultural production as the future of food security in South and southern Africa (e.g. Sanchez, 2002; Scherr, 2003). [This broad schism in food-security focus between the ‘natural’ and ‘social’ sciences has been observed elsewhere (Devereux, 2000)]. That development practice does not necessarily understand well the more complex role of food production in food security and livelihoods is illustrated in the paradoxical focus among practitioners in KwaZulu-Natal on small-scale agricultural production in interventions, despite their expressed recognition that rural people no longer wish to engage in agriculture, and that the failure in government interventions to consider this has further exacerbated food insecurity in the province (Chapter Six, Section 6.5) (The issue of agriculture and food security is returned to in Section 8.5.3 below).

The findings of the research at all scales, but in particular the local-level research, thus reinforce that, irrespective of how well intentioned food-security interventions are, unless these are continuously instructed by case studies that explore local-level knowledge and experience of food insecurity, in order to understand the power dynamics that shape it, interventions run the risk of privileging some and/or of entrenching the food insecurity of others (As noted in Chapter Seven, Section 7.5) (The importance of case-study analyses is further discussed in Section 8.5 below).

### **8.2.5 Interventions shape food insecurity**

Flowing from the discussions on food-security causation in southern Africa in this research, is that food-security interventions (policies and programmes aimed at mitigating food insecurity and building livelihoods) themselves critically shape the socio-economic and political conditions that give rise to further food insecurity. This is particularly demonstrated in the Delphi Survey, in which panellists pointed to numerous failures in both the content and processes followed in government and non-government interventions, as directly causing food insecurity in the communities in which they have worked (Table 8.1). That the impacts of interventions are conflated with other processes of food-insecurity causality, further buttresses the analysis above to confirm that a political ‘systems’ view of food insecurity is of greater relevance in considering how to address food insecurity than alternative, narrower interpretations, such as food production and demographic analyses (e.g. Watts and Bohle, 1993) (See chapter Two, Section 2.3) . A call is thus made in the second part of this chapter for greater attention to the question of what constitutes appropriate interventions, rather than a more limited focus on food-insecurity causes (Section 8.4 below).

### **8.2.6 Social protection that empowers**

A final theme arising in this thesis is that prevailing conceptions, particularly in government institutions, of what constitutes ‘good’ social-protection interventions continue to be questionable, especially when it comes to their practical implementation. A central issues in the social-protection debates for and against different forms of social protection is highlighted in particular in the Delphi Survey and local-level case-study results (See Chapter Three, Section 3.6.4 for the discussion on social protection). On the one hand practitioners in the Delphi Survey cite government grants (as a form of social protection) as functioning as a disincentive to agriculture and long-term livelihood strategies (Chapter Six, Section 6.5). On the other hand, in the community case-study it is found that there is a high dependency on government grants in people’s livelihoods, particularly amongst poorer households (Table 7.4). It was further found in the local-level research that the state of being resource poor itself may be an insurmountable obstacle to overcoming economic marginalisation (Table 8.1), a state of ‘chronic’ poverty associated in South Africa with rural dwellers who also have limited land and other resources crucial to agriculture (Aliber, 2003). The livelihood ‘survival’ strategies that result in long-term negative livelihood trade-offs in the ‘vulnerability cycle’ (discussed above) provide a basis for the argument that social protection offers a ‘ladder’ out of poverty (Kabeer, 2002; Devereux and Sabates-Wheeler, 2004). Do government grants, as an extensively utilised form of social protection

in South Africa, successfully offer a step out of poverty for the poor and vulnerable in KwaZulu-Natal communities, or do they simply prevent the poor from falling into deeper destitution? What forms of social protection might more effectively break the ‘vulnerability cycle’?

During the late 1980s the ‘safety nets’ approaches to addressing poverty were criticised for being primarily ‘consumption’ transfers, rather than transfers for sustainable ‘productive’ development, and as such have been understood as limited, paternalistic, top-down and disempowering (Devereux and Sabates-Wheeler, 2004). Despite the prevalence of these and other criticisms in the development debate, the thrust of social protection continues to fail to provide the economic basis for cushioning the poor against income and consumption variability and allowing them to build pathways out of poverty (see Section 8.2.3 above) (e.g. Devereux, 1999; Norton, Conway and Foster, 2001; Stevens and Kennan, 2001; Devereux, 2001c; Devereux, 2002; Devereux, 2003; Devereux and Sabates-Wheeler, 2004; Barret, Holden and Clay, 2004; See Chapter Three, Section 3.6.4). More profoundly, even in the rhetoric of the debates, social protection is still described in terms of economic protection, rather than true social protection which includes empowering people through both ‘formal’ and ‘informal’ mechanisms towards greater equity (Devereux and Sabates-Wheeler, 2004).

It was argued in the discussions of the local-level research that the most feasible short-term ‘relief’ of food insecurity towards a path out of poverty and marginalisation, might be to seek ways of ameliorating the barriers [such as conflict resolution and ‘barriers of articulation’ (Cleaver, 2003:4)] households experience to accessing existing community institutions that are functioning to raise the incomes of some households (such as stokvels and the Civic Association). This finding supports the notion that buttressing social-capital resources (that have been argued above to fundamentally shape access to other resources, in particular financial capital) might be worthy of greater attention in future social-protection approaches due to their potential of empowering true ‘social’, rather than purely ‘economic’, protection.

**Table 8.1: A summary of the key findings in the Meta-Analysis, Delphi Survey and local-level research.**

<b>Regional Meta-Analysis</b> <i>What drives food insecurity in southern Africa?</i>	<b>Provincial Delphi Panel Survey</b> <i>What causes food insecurity in KZN, and how can it be addressed?</i>	<b>Household Multiple research methods</b> <i>How does household social capital influence the approach of food security interventions?</i>
<p><b><u>Causes of food insecurity</u></b></p> <ul style="list-style-type: none"> <li>➤ High level of <b>heterogeneity</b> of direct and indirect drivers between communities in the 49 case studies. Primary drivers were: <ul style="list-style-type: none"> <li>• Poverty</li> <li>• Environmental stressors</li> <li>• Increase in food prices</li> <li>• Unrest and war</li> <li>• HIV/AIDS</li> </ul> </li> <li>➤ A <b>common process</b> identified in the case-study communities was that of cycles of intensifying <i>vulnerability</i> associated with livelihood 'trade-offs' in the face of food insecurity</li> </ul> <p><b><u>Social-capital related issues</u></b></p> <ul style="list-style-type: none"> <li>➤ A second <b>common process</b> identified was the change in the characteristics of social capital into forms more conducive to driving poverty and vulnerability, such as the breakdown of <i>families</i> associated with HIV/AIDS</li> </ul>	<p><b><u>Causes of food insecurity</u></b></p> <ul style="list-style-type: none"> <li>➤ A very <b>wide range of causes</b> of food insecurity cited by the 35 panellists. Commonly cited causes: <ul style="list-style-type: none"> <li>• Unemployment</li> <li>• Lack of human capital</li> <li>• HIV/AIDS</li> <li>• The decreasing role of agriculture in livelihoods</li> <li>• Poor hard infrastructure</li> <li>• Inappropriate solutions by change-agents,</li> <li>• Inappropriate <b>process</b> followed in designing and implementing interventions</li> </ul> </li> </ul> <p><b><u>Social-capital related issues</u></b></p> <ul style="list-style-type: none"> <li>➤ <b>Weak forms of social capital</b> were identified by panellists as a key causes of food insecurity in KwaZulu-Natal</li> </ul> <p><b><u>Response issues</u></b></p> <ul style="list-style-type: none"> <li>➤ Five <b>core priority responses</b> suggested by panellists: <ul style="list-style-type: none"> <li>• Community <i>participation</i> in project development and implementation.</li> <li>• Building good <i>relationships</i> with beneficiaries</li> <li>• Developing people's <i>skills, capacity and knowledge</i>.</li> <li>• Address community needs <i>holistically</i>; considering short-term 'crisis' needs and long-term livelihood needs of communities.</li> <li>• Making better use of <i>networking</i> between NGOs, government, and community-based organisations.</li> </ul> </li> <li>➤ Human-systems issues were prioritised by practitioners, which focused on the <b>processes</b> of interventions which are relevant at all scales and contexts. Social capital is central to these processes and to the improved resources they might offer communities.</li> </ul>	<p><b><u>Causes of food insecurity</u></b></p> <ul style="list-style-type: none"> <li>➤ Household capital availability and use <b>vary considerably between households</b> in relation to food security, but unemployment, lack of human capital, HIV/AIDS, and failures in social capital resources all emerge in the discussions as powerful shapers of food security and livelihoods</li> <li>➤ The state of <b>resource poverty</b> may itself prevent households from overcoming or bypassing exclusion.</li> </ul> <p><b><u>Social-capital related issues</u></b></p> <ul style="list-style-type: none"> <li>➤ Forms of social capital such as <i>institutions and networks</i> may not only function to alleviate food insecurity, but also to <b>reinforce food insecurity</b>.</li> <li>➤ The extent to which a particular social-capital attribute creates <b>conflict</b> and distrust is key in influencing whether its impact on household food security is positive or negative.</li> <li>➤ The following characteristics of social-capital were identified as being associated with increasing community conflict and disunity: <ul style="list-style-type: none"> <li>• <b>Community conflict</b></li> <li>• <b>Weak and conflicted leadership</b></li> <li>• <b>The breakdown of family units</b></li> <li>• <b>Changing cultural norms</b></li> </ul> </li> </ul> <p><b><u>Response issues</u></b></p> <ul style="list-style-type: none"> <li>➤ Considering the community's social capital within its broader economic and political context: <ul style="list-style-type: none"> <li>• Policy makers must consider <i>community-level</i>/social-capital needs</li> <li>• Community <i>participation</i> in policy making is critical</li> <li>• Participation in intervention processes requires strong community <i>cohesion</i> and <i>leadership</i></li> </ul> </li> </ul>

### **8.3 RE-CONCEPTUALISING FOOD-SECURITY INTERVENTIONS**

Drawing on the key themes above that have arisen across the research in this thesis, a need for a fundamental re-conceptualisation of food-security interventions emerges in this work and is argued for in this chapter. The tenets of this argument are explored through the four closely-related ideas: *social capital*, *participation*, *co-ordination*, and *learning interactions*. These ideas are partially expressed in the lessons and findings in existing food-security initiatives across the region, as well as in the academic debates. Between them, these ideas encapsulate the multiple issues related to social capacity that have arisen in this thesis as being vital to meaningful food-security responses.

#### **8.3.1 Social capital**

In the local-level research, brief consideration was given to the role of social capital in the case-study community within the changing context of the economic and political environment in South and southern Africa. Lessons from elsewhere, such as the United States and Ireland, were drawn on to conclude that although much research finds an association between economic growth and social-capital development, the development of social capital *per se* is not a panacea for well-being and food security (See Chapter Two, Section 2.4.5). In the United States, for example, economic development pathways have been found to have depleted some forms of social capital with long-term negative social consequences (Schorr, 1992; American Civic Reform, 1994; Starr, 1994; Putnam, 2000; Putnam and Feldstein, 2003; NECF, 2003). Although the political, social, cultural and economic conditions of South and southern Africa are in many respects distinct from elsewhere in the world, it is held that change-agents in the region need to start noting community social-capital lessons from other countries, as well as drawing on mounting lessons from within the region.

The growing recognition internationally of the importance of government policy aimed at facilitating relevant community-level social capital (Pelling and High, 2005) is encapsulated in the following quotation from an Irish Government document entitled “The Policy Implications of Social Capital” (NECF, 2003:3):

“A key challenge for Ireland in the 21st Century is to identify and harness the strength of community ties and resources in contributing towards a just and harmonious society. Against a background of unprecedented economic growth, but with widening economic and social divisions, our institutions need to be adapted so as to better serve the interests of all our citizens. Values of social solidarity, mutual respect and equality of opportunity should be given primacy of place in practice, as well as in statements of policy intent. The State and the Market cannot meet every conceivable need and have to be complemented by a strong and vibrant civil society. Empowerment of local

communities to develop their own solutions and models of self-help is an important challenge in the design of public policy.”

One of the central social-capital lessons emerging from within the region is that of the role of families in food security as well as in community-level social-capital formation; in particular, the importance of two-parent families. Research shows that families are breaking down due to factors such as migrant labour, conflict and war, and particularly the spiralling HIV/AIDS pandemic, and that this breakdown is having catastrophic impacts on food security in southern Africa (Drimie, 2003; Drinkwater, 2003; Misselhorn, 2004).

In developed countries, models such as the American model similarly show that families matter, but that the time pressures that occur in dual-career or single-parent households may undermine some forms of social capital to the long-term detriment of community-based organisations, and thus to the detriment of participatory problem solving and development (Putnam, 2000; Schorr, 2002). It is argued here that a timely, visionary investment in promoting norms that prioritise family bonds may have impacts on well-being and food security through strengthening social capital such as community cohesion. Further, such investment may also promote robust, two-parent family units able to engage sustainably in the future economy of developing countries in southern Africa. An exploration into whether such investment might be possible or what forms it might take, or the extent to which government-level policies have a role to play in this regard, particularly given the increasing mortality rates associated with HIV/AIDS, may offer a valuable avenue of further study (See Section 8.5).

Attention to appropriate social-capital development in food-security interventions has implications beyond the social-capital resources available to food-insecure communities. A useful agricultural-economic example from within the region that illustrates the importance of recognising the multiple roles of social capital in intervention processes lies in the theory explaining the unsatisfactory results of structural adjustment (Chapter Three, Section 3.4.3). The theory tends toward three broad generalizations (Friis-Hansen, 2000): the first is that structural adjustment did not go far enough (e.g. Paarlberg, 2002), the second is that it went too far too fast, and the third is that it took place without the appropriate institutional context or support (in other words policy without appropriate social capacity). This inappropriate institutional support suggests that there was a failure to think holistically in the planning and implementation of structural adjustment - recognising the importance of intervention process, rather than focusing purely on the mechanism or ‘solution’.

The social-capital challenges for change agents, decision makers and researchers are great, and are further complicated by the idea of social capital itself; its variable role in food security; and by the difficulty in predicting the future needs of communities within its broader, changing social, economic and political contexts (Chapter Two, Section 2.4.5; Chapter Seven, Section 7.5.1). There is nevertheless arguable value in change agents across the region re-thinking the focus of food-security interventions to include a focus on the kinds of social capital needed in communities that will increase their adaptability to change. As noted above, a focus in social protection on mitigating barriers to accessing forms of beneficial social capital might, for example, be a more empowering, socially transformative approach than an emphasis on economic transfers (Section 8.2.6). Such a focus might enhance the ability of societies to adapt not only to local-level food-security stressors, but also to the expanding stressors evoked by changes in global and regional socio-economic and biophysical environments (e.g. globalisation and climate change; see Chapter Three, Sections 3.3.2 and 3.4.2). An equally important social-capital need, inherent in forms of social capital such as community cohesion and strong leadership, is that of the ability of communities to raise their voices in effecting change at all scales. Finally, social-capital offers a lens through which change-agents might seek ways to enhance the efficacy of intervention processes.

### **8.3.2 Participation**

The ability of communities to participate in the development of food-security interventions is identified above as being linked in part to its social-capital resources. There is a great diversity of situation-specific food-insecurity causality and needs in southern Africa, evident in the results of the research at all three scales in this thesis (see Table 8.1). The range of social conditions giving rise to food insecurity speaks of the necessity for participation by individuals and households experiencing food insecurity in seeking relevant interventions, since this diversity is found even between households at the local level. In other words, participatory problem analysis by change-agents at the most local level is needed in order to understand the great diversity and extent of food-security needs.

Participatory approaches are also a prerequisite for people to participate in their own problem solving, and for their empowerment to call for more relevant change-agent interventions, such as the need for more socially transformative social protection as discussed above (See discussion on participation Chapter Six, Section 6.9). The need for increased community participation in intervention planning and implementation was explicitly identified by Delphi panellists as a priority response to food insecurity in KwaZulu-Natal (Figure 6.7; Tables 6.8 and 6.9). It was noted in the Delphi that a focus on solutions may well overlook the aspects of

vulnerability that are determined by constraints to the making and taking of opportunities to enhance resilience (Chapter Six, Section 6.9.2).<sup>91</sup> Participation by those affected by food insecurity in building resilience is critical if such opportunities for enhancing their ability to cope with, and even optimise on, stressors in their livelihoods and environments are to be identified.

Effective participation is particularly urgent in the case of transitional economies and the associated changing livelihood conditions and needs in countries in southern Africa. While it is not proposed here that economic development has no potential to alleviate food insecurity in South or southern Africa, it is contended that the policies and programmes (interventions) devised in order to speed up this process are of far less importance than the process by which they are devised and implemented. In South Africa, the assumption that a faster move to the 'perfect world' of an industrialised or developed economy will expedite food security is not supported by the evidence hitherto; the poverty gap is widening, not diminishing (Du Toit, 2004; Meth and Dias, 2004), and unequal food security is becoming more, not less, entrenched (HSRC, 2003b).

In community-level research in South Africa the assumption that mainstream society is 'normal' and that exclusion from it is the problem, has led to the 'rolling out' of the same systems to marginalised and poor communities that serve the urban elite (Du Toit, 2004). It has been suggested, however, that poverty does not only result from exclusion from the mainstream economy, but also from the ways people are included (Du Toit, 2004:1003):

"It is tempting to argue that what poor people, who are dependent on insecure and poorly paid jobs may require is not *more* integration but *less* - strategies and resources that may help them become more *independent* of systems and networks in which they have little power" (Du Toit, 2004:1003).

This draws attention to the importance of how those who are marginalised are incorporated; in other words to the importance of processes of participation in developing relevant food-security interventions in the region (see for example Moser, 1998). Economic development should be viewed less as a pre-scripted play South Africans are compelled to act in and more as an evolving story that the actors themselves have the potential to immeasurably enrich. It is argued here that change agents in South Africa (and southern Africa) are in the unique position of being able to learn from lessons, in developed countries in particular, about

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<sup>91</sup> The illustrative example given was that a focus on 'solutions' to HIV/AIDS may miss constraints experienced by community members to accessing government HIV/AIDS grants because of factors such as a lack of knowledge or not holding identity documents.

potential pitfalls in the move toward a developed economy. In a sense change agents in southern African might be able to ‘fast track’ the allocation of resources to building context-relevant social capital within communities. Such social capital might in turn foster participatory learning, vertically and horizontally, in institutions at all scales. Lessons from the local-level research, and elsewhere (See Kretzmann, 1986; Sirianni and Friedland, 1995; Faris, 2004) suggest that civil society participation in policy development depends largely on strong community-level networks, as well as strong community leadership.

A recent joint initiative by ODI<sup>92</sup>, SARPN<sup>93</sup> and FANRPAN<sup>94</sup> explicitly acknowledges the under-utilised but crucial role of civil society organisations (CSOs) in policy processes. The ‘Look Listen and Learn Project’ is a bid to foster greater participation by CSOs in policy analysis and development, recognising that they are in a unique position to both understand local-level needs of the most poor and vulnerable and to promote these needs at higher, formal levels of governance (Kalibwani, 2005).

Similarly, in the academic sphere, the importance of participation by all stakeholders (including scientists) in developing strategies that will enhance people’s capacity to cope with global environmental change, surfaced as a recurring theme at the recent IHDP<sup>95</sup> Open Meeting in Bonn (e.g. Rajan, 2005; Smit, 2005; Young, 2005). It was noted, for example, that decision making (for adaptation and development) is of necessity an ongoing process, and decision makers are not necessarily able to wait for scientifically-analysed alternatives before developing and implementing interventions (Smit, 2005). Emphasis was placed on the importance of consultation with decision makers and stakeholders from the beginning of research processes (Smit, 2005; Young, 2005).

It is critical to emphasise that processes of participation - the interactions and communications, or the human relational and behavioural aspects of participation (distinguished in Figure 8.1 below) - are not necessarily achieved simply through institutionalising ‘democratic’ institutions for representing civil society. Without true processes of participation, such physical structural and technical ‘democratic’ institutions become no more than meaningless tokens of participation.

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<sup>92</sup> Overseas Development Institute

<sup>93</sup> Southern African Regional Poverty Network

<sup>94</sup> Food, Agriculture and Natural Resources Policy Analysis Network

<sup>95</sup> International Human Dimensions Programme

### **8.3.3 Co-ordination**

The idea of co-ordination between stakeholders, which is central to participation, is strongly reflected in the results of the Delphi Survey; poor communication and integration between government sectors, policies and programmes, and poor networking between all stakeholders, were cited as major causes of food insecurity. Similarly, networking between NGOs, government, and community-based organisations, as well as communication and feedback between grassroots and government institutions, were among the priorities for response cited by Delphi panellists (Chapter Six, Section 6.9; Tables 6.8 and 6.9).

#### *Inter-country collaboration*

At the regional scale, inter-country collaboration on food-security policy is crucial, not least because southern African countries are not socially and politically insulated from conditions of food security in neighbouring countries (Chapter Three, Section 3.4; Appendix Three). South Africa, for instance, is seen as being extensively affected by food insecurity and the state of food markets in other SADC countries in terms of the impacts on her economy, administration, political relations with other countries, humanitarian responsibilities, and the demand on her infrastructure (such as food transport systems) (HSRC, 2003a).

The need for greater co-ordination between interventions at all scales has likewise been widely identified amongst development practitioners (beyond the Delphi panellists), policy makers, and in the academic literature, as a pre-requisite for food security in southern Africa (see for example Von Braun, Teklu and Webb, 1999; Babu *et al.*, 2004; CAC, 2004). South Africa's Minister of Finance summed up the prevailing thinking on the lost opportunities for improved food security in Africa that might have been gained through better co-ordinated and long-term thinking in regional trade policies (Manuel, 2003):

"Africa has not developed a continental trading system with low transaction costs. Regional trade arrangements are fragmented and complex, resulting in relatively limited trade between African economies. A good example is the overlapping and inconsistent regional schemes in sub-Saharan Africa. Regional trade agreements are as important as multilateral liberalisation. They are needed to provide incentives to diversity production within African economies, while multilateral reductions in barriers would enable countries to maximize revenue from exports of good in which they have a comparative advantage"

#### *Poor human and institutional capacity*

The progress being made in southern Africa towards integrated and co-ordinated responses to food insecurity is seen, however, as being deeply hampered by poor human and institutional capacity, as well as by weak social capital. The institutional and human-capacity shortfalls of

the IFSS in addressing food insecurity are, for example, expressed in numerous ways by the panel of practitioners in the Delphi survey (See Figure 6.6). [For instance, panellists said there were “no linkages between national-level policies such as the IFSS and local/provincial initiatives (Appendix Eight, Table 4)]. Further, a continued investment in strengthening human, institutional and social capital is recommended by a number of commentators as critical in working towards and implementing integrated food-security strategies across the region (CAC, 2004; HSRC, 2003a; HSRC, 2003b; IFPRI, 2003b; Manuel, 2003; Babu *et al*, 2004; Drimie and Misselhorn, 2005; RHVP, 2005).

The weaknesses in structural and human-capacity components of institutions that limit the efficacy of food-security interventions are underscored in an analysis of the institutional failures of Vulnerability Assessment Committees<sup>96</sup> (VACs) in southern Africa (Drimie and Vogel, 2005). The VACs are seen as having been driven by multiple international agencies. The dearth of local NGO involvement suggested the VACs were externally motivated and dissuaded a number of organisations from participating, while also limiting the extent to which the information has been used to mitigate vulnerability (Drimie and Vogel, 2005). This finding not only draws attention to the questionable role of food aid in addressing food insecurity (See Chapter Three, Section 3.6.2 and 3.6.4), but also emphasises that effective interventions are about the people and their capacity, and about the structures and policy frameworks that direct and institutionalise human capacity. This indivisible nature of the relationship between *human, relational and behavioural* aspects and the *physical, structural and technical* aspects of intervention processes and solutions is mapped in Figure 8.1 below.

#### *Fit, interplay and scale*

The argument being developed here for better co-ordination does not view co-ordination as a merging of all stakeholders at all scales in a ‘fuzzy’ regional dialogue about food-security needs and responses. The seminal work of Young (2004) is useful in visualising institutional structures that might promote better co-ordination in addressing food insecurity. Young proposes three analytic themes in thinking about the institutional dimensions of governance and human-environment interactions: fit, interplay and scale. Co-ordination, as it is seen in this thesis, asks for greater attention to developing appropriate institutional structures that: are suited to their mandated role in terms of capacity, resources and scale, whether this role is to implement policy at the national level or agricultural extension at the community level (relating to Young’s problem of fit); can create avenues for participation by all stakeholders

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<sup>96</sup> The VACs were intended to increase the efficiency of food-aid targeting in the region.

both horizontally and vertically (relating to Young's problem of interplay); and are best suited to represent information and knowledge about needs and response options at different scales and in different contexts within the region (relating to Young's problem of scale). As has repeatedly arisen in the findings of the Meta-Analysis, Delphi and local-level research, there cannot be a 'one-size-fits-all' approach to addressing food insecurity in southern Africa. This finding is supported in an examination of food security and seasonal forecasts in the Vhembe district of South Africa which finds that adaptation to climatic stressors is highly situation specific (Ziervogel and Bharwani, 2005). Since different households adopt a range of different strategies in response to a range of different stressors, developing adaptation policy at broader scales is not simply a matter of aggregation (See also Gandure, 2005; Galvin, 2005). In line with this, scales of decision making, which might include levels such as household, community, basin, national, and regional, have been offered as a useful tool in addressing global change (Rajan, 2005). It is proposed here that considering fit, interplay and scale offers value in mapping key institutions across the region and identifying points of engagement by various stakeholders at appropriate scales, and in appropriate sectors and contexts, in working towards regional food security.

Co-ordination between stakeholders, as well as the ideas of social capital and participation, are built at the most fundamental level through learning, and more specifically through learning interactions.

#### **8.3.4 Learning interactions**

Learning is understood as relatively permanent change in human behaviour resulting from a reaction to an encountered situation that cannot be explained by previous natural tendencies, or by maturation or temporary conditions such as illness (Mullins, 2005). Beneath all processes of human change and development is always the process of human learning (the acquisition of a form of human capital), while learning through interactions - 'learning interactions' - is the fundamental mechanism for social learning (see Chapter Two, Section 2.4.7) as well as for building social capital (Falk and Harrison, 1998). In turn, both human and social capital function together in communities to shape community problem solving, as well as participation through vertical links to policy development (see Kolb, 1984; Handy, 1995; Coleman, 1988; Kretzmann, 1996) .

The link between community learning and community problem solving and development (including but not limited to economic development) is acknowledged in areas of the social

learning literature (e.g. Coleman, 1990; Szreter, 2000). Extensive work by the OECD<sup>97</sup>, for example, has found a relationship between various forms of learning and economic development, applying not only at the local-level but also at the regional level, where individual and business-level learning is found to influence a whole region's economic performance (OECD, 2001). Moreover, the synergism between the development of social and human capital has gained increasing currency in development organisations and in the policy-development sphere internationally in recent years (UNESCO<sup>98</sup>, 1996; Schuller, 2002; Faris, 2004). Glaeser (2004:3) finds that 'there is no more robust correlate of social capital variables than years of schooling' (emphasis added). Although social capital is usually not thought of as a private resource, the primary site of investment in social capital is in fact the individual (through individual interactions), and moreover it is at the level of the individual that human capital and social capital overlap most extensively<sup>99</sup> (Glaeser, 2004).

As discussed in Chapter Two, Section 2.4.7, social learning is not politically neutral, and the political interests that might be represented in social learning struggles serve to underline not only some of the challenges of true participatory development, but also the importance of early and ongoing participation of stakeholders in problem solving and policy development processes (e.g. Pahl-Wostl, 2006).

#### **8.4 A FRAMEWORK FOR RECONCEPTUALISING FOOD-SECURITY INTERVENTIONS**

Some powerful, if complex, ideas in thinking about food-security interventions at multiple scales have been traced through the concepts of social capital, participation, co-ordination, and learning. Attention now turns to the development of a framework that is able to visually 'house' the key issues that have emerged (Figure 8.1).

A critical distinction in this framework is between, on the one hand, the **processes** followed in addressing food insecurity, which include the planning, designing and implementing of solutions, and, on the other hand, the nature of the **solution** itself (Figure 8.1). There are, moreover, seen to be different aspects to both processes and solutions that can be broadly divided into two areas: '**physical, structural and technical**', and '**human behavioural and relational**'. These distinctions are explained further below.

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<sup>97</sup> Organisation for Economic Cooperation and Development, Paris

<sup>98</sup> United Nations Education, Scientific and Cultural organisation

<sup>99</sup> See also work such as that of Vygotsky, 1978

#### **8.4.1 The processes versus the solution**

The **processes** of addressing food insecurity are defined here as those components of change that relate to the planning, designing and implementing of interventions or solutions (Figure 8.1). Such processes are the ‘how’ of addressing food security, and encompass cross-cutting guidelines critical in addressing food insecurity whether interventions are being developed at the national or local scales, and even if interventions comprise purely technical solutions. Four of the five core and six of the eight non-core priority interventions identified in the Delphi Survey (Figure 6.7) suggest changes to the processes of addressing food insecurity in KwaZulu-Natal. The three core process interventions were: 1) true community participation in project planning and implementation, 2) building good relationships with beneficiaries through long-term community involvement, 3) making better use of networking between all agents of change, and 4) considering both short- and long-term benefits and trade-offs in interventions.

A focus on the processes of interventions has the potential to draw attention to the heterogeneous (and often conflicted) nature of the social conditions upon which food insecurity thrives. The heterogeneity of these conditions is underscored in the results of the research at all three scales in this thesis (see Table 8.1), and includes the (often unintended) impacts of interventions and intervention failures. Food insecurity is understood here not as an aberrant ‘by product’ of an otherwise perfect world; but as being embedded in social processes which themselves are shaped by learning interactions, and which in turn shape the structural components created in aspiring to that ‘perfect world’. A process approach explicitly acknowledges the role of human agency in shaping food security and that the physical, structural and technical aspects of interventions, while just as critical, are not meaningfully independent of these social processes.

A **solution** comprises the proposed substantive course of action decided on by all stakeholders to reach the goal (Figure 8.1). The solution should ideally be identified by stakeholders during the processes described above. The solution is the ‘what’ of addressing food insecurity, which always takes place within the cross-cutting, guiding principles of the processes that are necessary to addressing food insecurity. Two priority interventions in the Delphi that were solution-focused were those of providing basic infrastructure and promoting conservation agriculture techniques in communities. Such solutions are argued to be likely to be more region- or community-specific than the processes of identifying, designing and implementing them; this is because processes include the broad principles of addressing food insecurity that

are less dependent on people's specific biophysical, socio-political and economic environment and needs.

#### **8.4.2 Physical, structural and technical; human, behavioural and relational**

A further distinction is drawn between the structural and technical aspects of addressing food security, and the human behavioural and relational aspects (Figure 8.1). **Structural and technical aspects** refer to biophysical elements of change (such as agricultural changes), infrastructural (such as improving roads, or human systems infrastructure such as setting up bodies with specific mandates), frameworks (such as policy), plans (such as strategic approaches), rules (such as specific boundaries for different organisations), documents (written rendition of technical aspects), and institutions (such as organisations hired to implement solutions).

**Human, behavioural and relational aspects** refer to people's capacity resources, all interactions between the people involved in the process (these include communicating and other forms of relationship building), as well as people's subjective sense of themselves and others, irrespective of their designated role in the process or solution (in other words how people view themselves and other stakeholders, as well as their internalised sense of power or lack of power).

Both sets of aspects - structural and human - can be **part of the processes** of addressing food insecurity **and part of the solutions**. The solution suggested by Delphi panellists of providing basic infrastructure with projects in KwaZulu-Natal is returned to here by way of an example of how this might occur. If, in a particular community during the process of addressing food insecurity, stakeholders identify that poor roads are inhibiting people's ability to reach food markets and propose building new roads to solve the problem, then in this context infrastructure development would be a **structural/physical solution**. However, even in the same community, it might be necessary for the community to elect a representative council in order to effectively engage in the process of identifying and addressing the problem of food insecurity. In this context, human infrastructure development would be a **structural/physical part of the process** of addressing food insecurity. This example illustrates that whether a particular aspect of addressing food security is part of the solution or part of the process is completely dependent on the actual problem that is being addressed; in other words it is context or situation specific.

Both the processes and solutions of addressing food insecurity that have been prioritised in the Delphi survey frequently relate to the **human systems** issues discussed previously. In terms of the framework, human systems are conceptualised here as relating to both ‘technical and structural’, and ‘human behavioural and relational’ components of processes and solutions. There is, moreover, understood to be constant interaction (and even overlap) between these components. For example government bodies set up for a particular purpose, together with the documents and policies pertaining to their existence and functioning, are all structural and technical aspects of human systems. The individuals that make up those bodies, their sense of self-worth, ability and power, their feelings about one another and their individual culture as well as the group culture, and the way they communicate with one another, are all human relational and behavioural issues that profoundly effect the functioning of these same government bodies.

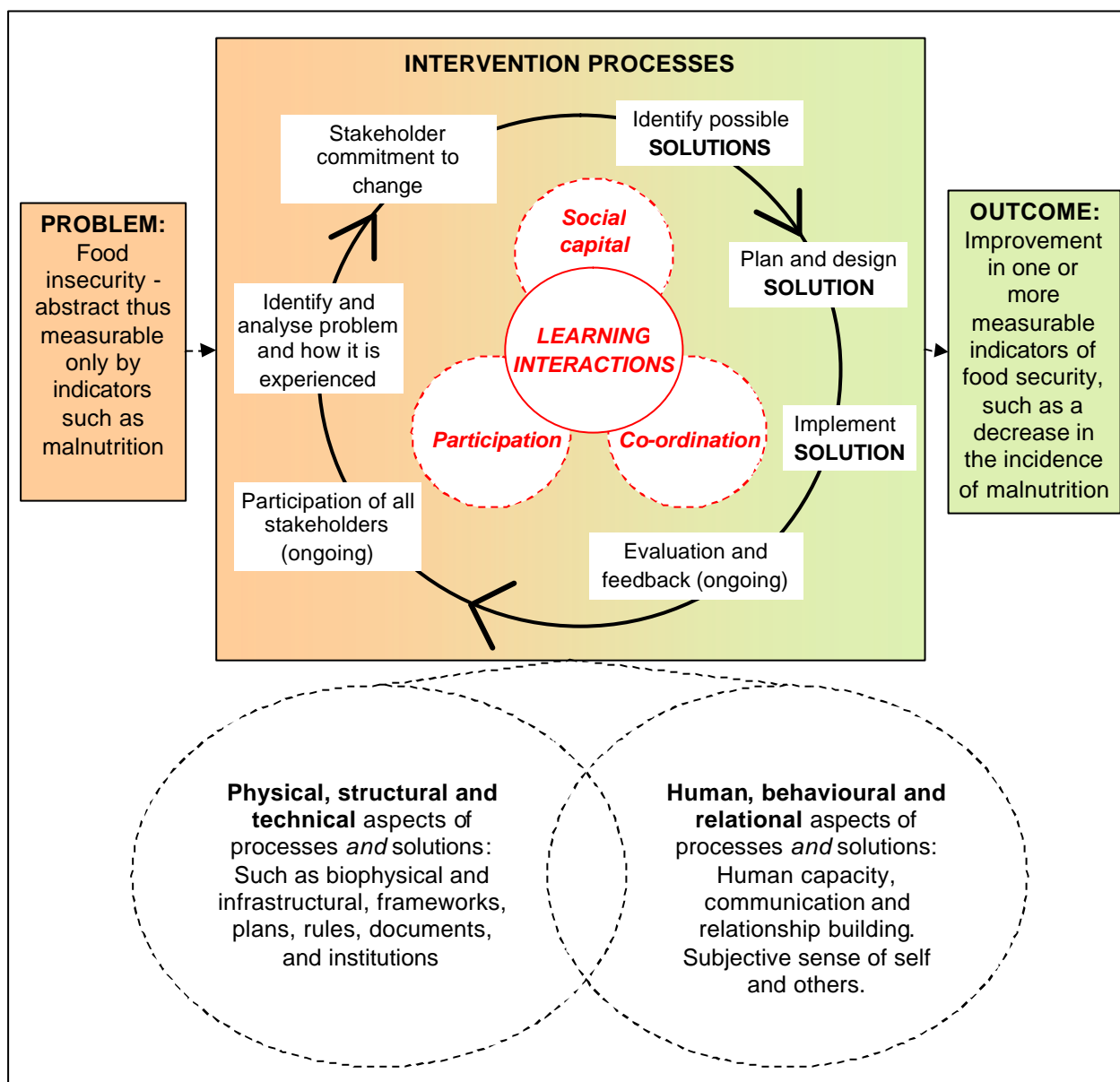
A particular importance of the distinction being drawn between ‘structural’ and ‘human relational and behavioural’ is that it calls for change agents to consistently seek both the appropriate mechanisms necessary to effect change [such as Young’s (2005) appropriate institutional fit, interplay and scale], and the human dimensions which give those mechanisms agency [as noted, for example, by Drimie and Vogel (2005), see Section 8.3.3 above]. This balancing of physical, structural and technical with human, relational and behavioural is held to be an ongoing necessity throughout the food-security intervention ‘cycle’ (Figure 8.1).

#### **8.4.3 Social capital, participation, co-ordination and learning interactions**

Central to the interventions framework are the ideas of social capital, participation, co-ordination and learning interactions that have been explored above. It has been noted that in the real world of policy making it has been difficult enough just to gain ‘official recognition’ of social process among decision makers and practitioners (Eyben, 2004). It is contended here, however, that this recognition must be taken still further, until the role of human agency and processes become endemic to the food-security intervention cycle. In support of this argument, the four ideas of social capital, participation, co-ordination and learning interactions that have been discussed in this section have been mapped within the framework as central to the re-conceptualisation of food-security interventions in southern Africa.

Learning interactions are understood as the primary site of participatory change, social-capital development, and co-ordination between stakeholders, which in turn are seen as being intrinsic to all food-security intervention processes. While learning interactions are elementally about the human relational and behavioural aspects of processes and solutions (as

described in Figure 8.1), the opportunity for learning interactions requires the structural support of the physical, structural and technical aspects of interventions. The same is true for the processes of participation, social-capital building and co-ordination, which, while all being related to human, relational and behavioural issues, also require structural and institutionalised support for their agency in building food security.



**Figure 8.1: A holistic framework for re-conceptualising food-security interventions at all scales in southern Africa.**

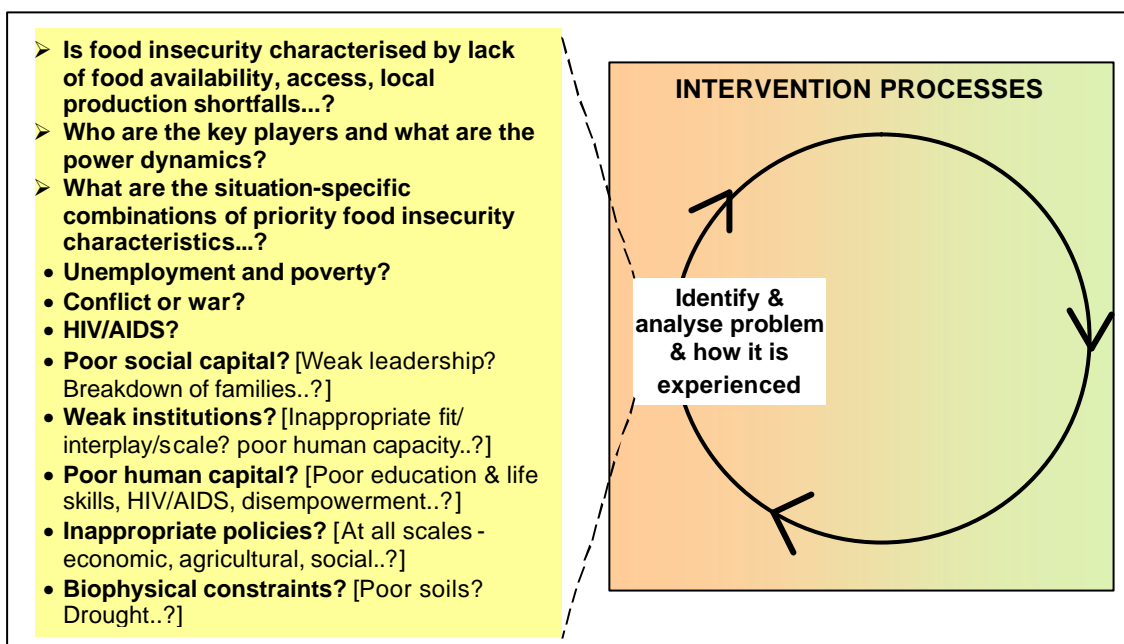
**Notes:** Both the processes of addressing food insecurity and the solutions decided upon comprise physical, structural and technical aspects as well as human behavioural and relational aspects; there are, of course, interactions and overlaps between these.

The ideas of social capital, participation, co-ordination and learning interactions (in red) are bound up in the processes of addressing food insecurity. Learning interactions are understood as the most fundamental element of all intervention processes.

The ongoing role of participatory approaches in the framework presented here calls for the problem of food insecurity to be reframed as a problem experienced by individual households and more, by individual people, rather than passive recipients of externally designed and driven ‘solutions’. Focusing on the relevance of interventions to individual people, their families and their communities, draws attention from thinking about the ‘right’ solutions (whether agricultural policy or grass-roots water projects), towards thinking about the right processes in reaching for these solutions. Process interventions describe an inclusionary, open-minded and organic approach to addressing food insecurity, in which government and non-government change agents in all sectors think less about the ‘what’ of interventions and more about the ‘who’ and ‘how’. Who will be consulted? Through which institutions will interventions be mediated? What are the key power dynamics between the individuals and institutions involved?

#### **8.4.4 Situation-specific analyses critical to process interventions**

Finally, while the focus on the processes of interventions is applicable at multiple scales and in all contexts, a process focus simultaneously calls for greater contextual or situational relevance in the ‘solutions’ of food-security interventions. The box in the intervention cycle labelled ‘identify and analyse the problem and how it is experienced’ (Figure 81), places situational analyses as integral to intervention processes. Examples of the information critical to these situation-specific analyses are provided in illustrative questions drawn from the key findings of the Meta-Analysis, Delphi and local-level research (Table 8.1). Questions such as these will be crucial for stakeholders if they are to understand the dynamics of the food insecurity they hope to address (irrespective of their scale of focus), and to identify the appropriate substantive courses of action (the solutions) in any context.



**Figure 8.2: An amplification of the text box in Figure 8.1 calling for situational-analyses in food-security interventions.**

**Notes:** Illustrative, context-specific analyses and research questions are shown which are viewed as an integral part of the processes of food-security interventions.

## 8.5 UNANSWERED QUESTIONS AND AVENUES FOR FURTHER RESEARCH

While it is believed that the findings from each of the scales of research presented in this thesis, and in particular the framework presented and discussed above, offer valuable information for decision-makers at all scales, a number of questions inevitably remain. In this section, four issues that suggest avenues for further research are addressed. Three of these are questions that were flagged in the Delphi Survey for consideration in addressing food insecurity interventions at multiple scales. These three questions are:

1. Is there necessarily a trade-off between macro-level or national ‘needs’ and local-level needs in the arena of policy development?
2. Is there necessarily a trade-off between addressing short-term and long-term needs in designing and implementing interventions of all kinds, and in particular policy interventions?
3. What is the role of agriculture in the future of food security, which is complicated by the fact that it represents a valuable rural livelihood resource to change-agents, but is apparently decreasingly perceived as such by the food insecure in rural areas.

A further challenge has arisen in attempting to answer the research question framing Part Five:

4. The difficulty of drawing from the particular, context-specific (and inevitably incomplete) findings of the Meta-Analysis, Delphi and local-level research, 'operational' information (moving beyond broad concepts to identifying more concrete options of response) that is relevant to all contexts and multiple geographic contexts.

These questions and their implications both for decision-makers and researchers are discussed below. Particular attention is given to the role of agriculture, since this is an issue assigned great importance in food security and development debates in southern Africa.

### **8.5.1 A trade-off between national and local-level needs in policy development?**

One simplified perspective on this debate may be that it describes the tension between the demands of the economically and politically influential in the macro-economic environment of southern Africa on the one hand, and those of the economically poor and the vulnerable who are not 'keeping pace' with economic development on the other; a difference between the needs of the 'powerful' and the 'powerless'. The essence of this perspective is highlighted in the case of South Africa, where, despite democratisation and economic development, the poverty gap is in fact widening (although it is decreasing along racial lines) (Meth and Dias, 2004). In other words, there is increasing inequality since the first democratic elections in 1994, not decreasing, despite our move toward accelerated economic development. *"If anything the gap between those 'inside' the economy and those on its margins has widened"* (Du Toit, 2004:5). The question might therefore be raised of whether policy has (explicitly or unintentionally) succeeded in improving the situation of the 'haves', rather than the 'have-nots'. It is ventured that any short- or medium-term benefits (such as political gain) accruing from prioritising the needs of industry or the economic elite can only have negative long-term impacts on the livelihoods of all, if this prioritisation detracts from building the livelihoods of the poor.

The concerns raised by the question are complex research issues, requiring investigation spanning political motives and inter-country economic interactions, among other issues, that clearly point to further research opportunities beyond the scope of this thesis.

### **8.5.2 A trade-off in meeting both short-term and long-term needs?**

The difficulty in meeting the challenges of both short-term (crises of hunger) and long-term (livelihood) needs in communities were cited as a major cause of food insecurity in the Delphi Survey (Table 6.5; Appendix Eight, Tables 5 and 6). Similarly, the need to address community needs holistically, taking into consideration both short-term ‘crisis’ needs and the long-term livelihood needs of communities, was identified as a priority intervention for both government and non-government bodies (Figure 6.7).

The importance of this challenge is underscored by commentators who have broadly criticised many relief and disaster-management interventions for having negative impacts on long-term development agendas (and food security) (e.g. Devereux, 2001a; Holloway, 2003) (see Chapter Three, Section 3.6)<sup>100</sup>. Emergency and short-term responses to food insecurity in developing economies, such as those in southern Africa, are seen to turn on crisis relief mechanisms such as food aid, while more industrialised economies can afford to offer welfare social-protection services such as social security grants that better support livelihoods (Maxwell and Slater, 2003) (Appendix One). In southern Africa, the key difficulty remains that immediate (incapacitating) hunger requires addressing. In doing so, however, other mechanisms designed to promote long-term sustainable livelihoods and food security may be threatened through various mechanisms. Two social protection programmes in South Africa that serve to illustrate such mechanisms are briefly discussed below.

The proposed basic income grant in South Africa, recommended to bolster existing social security systems in South Africa (Taylor, 2002), has been criticised for its potentially negative macro-economic consequences due to finance costs (Thurlow, 2003). Any possible (more immediate) poverty-relief benefits to micro-scale household economies may be offset in the long term by the burden on public and private finances. There are two issues illustrated in this criticism. The first is the question of what direct positive or negative impact proposed social protection interventions might have on the household economies and livelihood trajectories, and thus on the food security, of beneficiaries. The basic income grant might, for example, alleviate immediate abject poverty but discourage a household’s investment in informal safety nets, thus having possible negative implications for their future resilience to shocks (Devereux, 1999). The second is the question of the financial sustainability of social-

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<sup>100</sup> Many of the contentious issues around social protection are raised and discussed in Chapter Three, Section 3.6.4. The discussion in Chapter Three highlights the complexity of the positive and negative aspects of short-term relief interventions (at all scales) versus long-term development interventions.

protection responses to food insecurity for a national economy over all time scales, and thus the long-term positive and negative feedbacks accruing to households from the resulting macro-economic conditions. Both these considerations, of direct livelihood impact and financial sustainability, are equally as important for change agents to consider in local-level relief interventions implemented by NGOs, as they are in macro-level state interventions.

A second social-services programme in South Africa that has been the subject of intense debate is the Public Works Programme. South Africa's Public Works Department itself has acknowledged that the Expanded Public Works Programme (EPWP) is not the solution to the unemployment problem in South Africa since it has the potential only to make a small impact on unemployment relative to the scale of the problem (Phillips, 2004), an analysis reiterated elsewhere (HSRC, 2003b) (see Appendix Three, Section 1.7). It has been suggested that addressing unemployment problems in South Africa through public works programmes is based on the fallacious assumption that the unemployment problem is transitory, rather than a function of structural failures in the country's economy (McCord, 2004). The favourable public image of such programmes, moreover, creates a risk that larger-scale responses to poverty and unemployment, which redress longer-term structural problems in the economy, may be inhibited (McCord, 2004). Further, it remains unclear whether the EPWP's objectives of human-capacity building and skills development among beneficiaries have been achieved (HSRC, 2003b). It is clear that the direct impact of programmes such as the EPWP in South Africa on beneficiaries, and their financial sustainability are both critical considerations for change agents in meeting the challenge of addressing both short- and long-term needs in the region.

There is arguably a need for piloting further local-level case studies that trace the impact of public-works programmes, as well as other forms short-term interventions, on local-level livelihoods over various time frames; particularly in South Africa where economic and development needs between areas are especially fragmented.

### **8.5.3 What is the role of agriculture and food security?**

There is great importance assigned to agriculture in the food-security interventions debate, yet its possible place at the centre of the food-security stage is questioned by much of the academic literature and research evidence which indicates that local-level agricultural production may not be the most critical determinant of food security.

*Different policy needs for different economic areas*

The impact of agriculture on food security across the region is widely acknowledged as being undermined by national, regional and international socio-political and programme failures on the one hand (e.g. Raikes, 2000; Sharma, Morley and Diaz-Bonilla, 2001; Von Braun *et al.*, 2003) and by biophysical and social constraints on the other (e.g. Evenson and Gollins, 2001; Fischer *et al.*, 2002a; Scherr, 2003). Strategies to redress agricultural-policy failures and overcome biophysical limitations are thus still generally understood as a fundamental determinant of southern Africa's food security within the broader landscape of national and regional economies and regional food availability. In the results of the Meta-Analysis and Delphi, however, raising small-scale and subsistence agricultural production did not emerge as a priority intervention in addressing food insecurity. Moreover, the finding in the Delphi that people did not want to engage in agriculture was repeated in the local-level research (Table 7.8; Appendix Eleven). In the quest to canvass responses to food insecurity at multiple scales these issues clearly require further consideration here.

There are perhaps two broad areas of focus on agriculture's role in assuring food security in southern Africa's future. The first focus is on increasing small-scale and subsistence agricultural production through a variety of technological innovations and improved agricultural extension services (e.g. Evenson and Gollins, 2001; IFPRI, 2002; Sanchez, 2002; Gabre-Madhin and Haggblade, 2003), and/or on macro-scale policy that supports agriculture [such as improved market access, access to credit, and selective agricultural subsidies. See for example Peters (1999) and Scherr (2003)]. The premise for this thinking is well founded in the central role agriculture can play in the lives of the poor in developing countries, the majority of whom reside in rural areas.

As has been shown, however, the role of agriculture is not homogeneous across southern African countries or communities, and for many people - such as many of the rural poor in South Africa - household income is a greater determinant of food security than household food production (e.g. HSRC, 2003a; Misselhorn, 2004). The second area of focus, then, while acknowledging that agriculture in Africa is important to food security, sees it as being more critical in providing indirect livelihoods support through its contribution to the macro-economy. Non-farm activities at the local level are seen as possibly being of greater long-term importance to household food security than agricultural pursuits (e.g. HSRC, 2003a; McIntosh and Vaughan, 1996).

It is contended in this thesis that the extent of value in one or the other school of thinking may be dependent on the economy of the geographic area under debate. As noted in the local-level research, southern African economies are largely transitional. Policies and programmes aimed at improving food security have to be framed by current needs as well as by likely trajectories of national and sub-national needs, taking into account projected patterns of economic-sectoral change and shifts in livelihood dynamics over various time and geographic scales. A question that arose in the Delphi Survey was: *How do you acknowledge the wishes of rural people not to engage in agriculture, while also attending to local-level food deficits and national-level food production short falls?* A related issue that arose was whether some of the responsibility for local-level food security does (or should) not fall into the hands of large-scale commercial enterprise (Chapter Six, Section 6.5.2).

The role and share of agriculture (as well as other economic sectors) in a country's economy is dependent on the stage of that country's economic transformation (Van Rooyen, 2000:14). Countries and sub-national areas in the SADC have been grouped into four categories, the early, second, third and final stages of economic transformation, and the thrust of investment and policy focus needed in each varies accordingly (Van Rooyen, 2000)<sup>101</sup>. Questions such as those above confront policy makers with reconciling the conflicting needs of geographic areas which are characterised by an industrialised economy, with the needs of areas in which the economy is in the early stages of transformation (Van Rooyen, 2000) (See Appendix Two). That differing policy needs of geographic areas in different stages of economic transition between undeveloped and industrialised, are reflected on by Slater and Maxwell (2003) in their comparison of 'old' versus 'new' food policies (See Appendix Fifteen). As noted in the local-level research, added to the challenges presented by the spatial diversity of economies in southern Africa, are the inherent difficulties of designing and implementing policy for economies that are undergoing change over time, and of thus having to carefully balance changing short-, medium- and long-term economic demands; a case of continuously 'shifting goalposts'.

#### *Agreement in some areas as to the role of agriculture*

Attention to the differing needs of geographically varying economies is seen here as valuable for its role in challenging southern African policy thinking, and thus in promoting policy that is more likely to be tailored to cross-country and cross-community differences, as well as to

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<sup>101</sup> The spatial-economic contrasts are particularly stark in South Africa, in which the characteristics and policy requirements of commercial agricultural areas differ drastically from those of poor rural, former 'homeland' and underdeveloped areas of the country, which are still in the intermediate stages of transformation.

differences in livelihood dynamics and trajectories. There are, moreover, similarities in both schools of thought on the role of agriculture in food security in at least two broad areas of the debate. One similarity is that they both acknowledge that, despite considerable intra-region variation in the extent of peoples' dependency on their own agricultural production, agriculture remains important to the majority of the poor in southern Africa, and has the potential to uplift their rural livelihoods. This, together with the importance of agriculture to the national economies of southern African countries, means that the creation of an enabling environment for African agriculture should indeed be given high priority in the policy agenda.

A second area in which there is general agreement between many commentators is that policies and programmes should also support non-farm activities, both for their own sake in improving livelihoods, and for their ability to promote growth in the agricultural sector (e.g. Machethe, 2004; Poulton and Dorward, 2003; von Braun, Teklu and Webb, 1999). In addition, promoting non-farm activities has value in anticipating and thus easing the future transition of economies in developing countries.

For agricultural producers, the characteristics of input and output markets determine the ability of farmers to access agricultural inputs, influence the cost of production, as well as control the prices they will get for produce. The impact of market-based economic growth in addressing food security is thus dependent on the extent of market demand for the proposed goods and/or services, and also on the ability of potential producers or suppliers to respond to increases in demand (Poulton and Dorward, 2003). In turn, even in rural areas, the characteristics of an economy's markets have an impact on whether poor people are able to meet their food needs, through determining the affordability and availability of food (as well as other commodities) (see Chapter Three, Section 3.5).

Although there is significant inter-country variation in which market sectors have the greatest potential to alleviate food insecurity and poverty, where production constraints can be overcome, small-scale agricultural production may offer the greatest opportunity for rural economic growth, and attendant food security and poverty reduction in southern Africa (Poulton and Dorward, 2003). Production constraints include insecure property rights, lack of access to financial credit, shortcomings in agricultural markets, and geographic remoteness (e.g. Norton, Conway and Foster, 2001; Devereux, 2003). The impacts of structural adjustment and economic and trade policies reflect that open trade and market liberalisation in southern Africa (given selective state support in markets that are failing to succeed) is likely to function both to stabilise food prices and promote agricultural production through

agricultural market mechanisms (Chapter Three, Section 3.4.3) (e.g. Friis-Hansen, 2000; Baulch, 2001; IFPRI, 2002; Oygard *et al.*, 2002; Mwiinga *et al.*, 2003; Kherallah *et al.*, 2004; Machethe, 2004; von Braun, Swaninathan and Rosegrant, 2004).

*The need for cross-sectoral, cross-scale integrated responses in agriculture*

It is also critical for economic policy in southern Africa to address the need for stronger institutional arrangements between all stakeholders - from international donors to farmer organisations - in order to overcome farming constraints by ensuring responses that are co-ordinated and truly participatory in hearing the wishes and needs of the rural poor (Poulton and Dorward, 2003). The results of the Meta-Analysis, Delphi and local-level research suggest that mitigating food insecurity through agricultural change requires a far broader and more integrated focus than raising local-level agricultural production (Table 8.1). In this, the importance of co-ordination emphasised above (Figure 8.1) is again highlighted - co-ordination not only between stakeholders, but also between sectors.

*The need for case-study research*

While some policy approaches have been outlined above, the impact of economic change on small-scale agriculture, together with the desire of rural dwellers in KwaZulu-Natal to move away from agriculture-based livelihoods (Table 8.1), marks a definitive need for further situation-specific research that examines the nature of the agricultural economy, as well as components of economic activity, and how these might be shaped into the future.

#### **8.5.4 Generating ‘operational’ information useful at multiple geographic scales**

*Drawing the general from the specific*

Broad, but not universal, causes and processes of food insecurity have emerged from the Meta-Analysis, valuable insights into food-security causality and response options from the Delphi Survey, together with context-specific (in-depth but not broad) information from the local-level research. The difficulty of drawing generalities are ‘theories’ that are useful at all scales and in multiple contexts from the evidence synthesised at the three scales has been one of the greatest challenges in answering the research question for Part Five. The framework for re-conceptualising food-security interventions above (Figure 8.1) outlines intervention principles drawn from the research that are believed to be applicable across geographic scales and contexts. Rethinking interventions as processes paradoxically also requires very close attention to context-dependent dynamics; participation, co-ordination, social-capital, and

learning-interaction needs-analyses cannot take place outside of social contexts (see Section 8.4.4).

The challenge of drawing generalities from case-study evidence nevertheless underscores a conundrum of social scientific endeavour explored by philosophers as far back as Plato and Aristotle: that of the inability of the social sciences to offer the predictive, rule-based theories applicable in all situations, which have been attained in the natural sciences (Flyvbjerg, 2001). Whereas natural sciences study is cumulative, stable and predictive, social science can never attain these characteristics because the study of people is always context dependent; there can be no such thing as context-independent human action (Flyvbjerg, 2001).

#### *The work of Flyvbjerg*

In “Making Social Science Matter”, Flyvbjerg (2001) makes a compelling argument for a social science that does not attempt to emulate the episteme of the natural sciences, but instead moves context and ‘value-rationality’ to a more central position and theory as the objective to a less central one. The very definition of social conditions derives from their context, or from situationally-defined rules, and can therefore never conform to a context-free theory or abstract law – and, for Flyvbjerg, context has to be excluded from theory if it is to be called a theory at all.

According to Flyvbjerg (2001) the case study can provide social scientists with the information they need in order to move to higher levels of learning – from rule-based action to *phronesis*<sup>102</sup> - and hence ‘value rationality’. Social science study that gives context-dependent *phronesis* a central role asks: “Where are we going? Who gains and who loses under this dynamic? Is it desirable? What can be done?” (Flyvbjerg, 2001: 130). The role of the social scientist here is to use case studies to challenge society with these questions, while using context-dependent ‘case’ examples of how this might work. There can clearly be no objective value-free “occidental rationalism”<sup>103</sup> in answer to such questions; rather value-rational answers need to be sought that are grounded in the context in which the questions arise. These

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<sup>102</sup> *Phronesis* emphasizes the practical implementation of prudence; it is about ‘value judgement’. In Flyvbjerg’s (2001:57) words: “the person possessing practical wisdom (phronimos) has knowledge of how to behave in each particular circumstance that can never be equated to or reduced to a knowledge of general truths.”

<sup>103</sup> Weber (1985:26 in Flyvbjerg, 2001:61) speaks of “occidental rationalism” as eroding traditional social values and leading to the “disenchantment of the world”. According to Weber value-rationality has been marginalised in favour of episteme, or “instrumental rationality”, which in turn has had a negative impact on all human social and cultural affairs, as well as on the health of the natural world, observable through phenomena such as global environmental change.

arguments are not seen here as negating the value of using the traditional ‘scientific method’ in social science research. Rather they are seen to underscore the limitations of a purely quantitative approach to problem-solving in the social sciences. They point to the need for enriching the scientific method with context-specific and qualitative data that investigate power relations and human interactions.

*Investigating relations of power through case-study research*

All human interactions are influenced by the relations of power between the interacting parties - whether the interaction is between individuals, between change-agents and community members, or between groups and institutions at various levels (Putnam, 1993; Moser and Holland, 1998; Gittel and Vidal, 1998) (see Chapter Two, Section 2.4.3). Since relations of power shape interactions, and since learning interactions are identified above (Figure 8.1) as central to food-security interventions, investigating ‘mechanisms of power’ at the local level is argued to hold great value, an observation reflected in the work of Flyvbjerg (2001:136). Case-study research in KZN, for example, might explore the relations of power (at all scales) that escalate or diminish the ongoing experience of food insecurity in the province; particularly since even interventions developed at broader scales that seem well directed might ultimately flourish or founder on the dynamics of power at the community level (e.g. Fairhead and Leach, 2005).

*‘Operational’ food-security interventions*

Case studies, moreover, play an acknowledged central role in policy-relevant research (Omamo, 2003:23):

“Case-studies that yield policy-relevant results are thus likely to be those that do not seek statistical generalisations but aim rather for analytical ones. The search is thus for *common problems* that take specific forms in particular situations, and for *alternative solutions* that are specific to particular situations but which may, in principle, be transferred to others. The aim is to avoid treating complex phenomena as if they were *incidents* or *events*, but rather as institutionally embedded *processes* with distinct histories that need to be carefully uncovered.”

The transfer from research to policy is admittedly influenced by numerous factors, including the political context, the links between policy and research communities, and the credibility of the evidence (Court, 2003; Ryan, 2002; Timmer, 1998; Omamo, 2004), but the work of Flyvbjerg (2001) and Omamo (2004) in particular support the re-conceptualisation of food-security interventions to focus on processes of change, and include situation-specific, or case-study analyses (Figures 8.1 and 8.2).

#### **8.5.5 Ethical tensions in case-study research: confidentiality versus benefits?**

An area of potential discordance arises in acknowledging the necessity of case-study analyses that investigate, in particular, the complex social dynamics of food insecurity and the specific relations of power that shape it, while also respecting the ethical principles of research involving people. This tension is exemplified in the case-study research that has been undertaken in this thesis. On the one hand, the anonymity of the community and community informants has been ensured throughout the discussions in this work in order to protect participants' right to privacy and confidentiality (Parker, 1999; NABAC, 2001; ESRC, 2005; PWGS, 2005). Confidentiality is particularly critical given the recognised need to protect participants who may be vulnerable to psychological, social, economic, or physical harm resulting from the research (NHMRC, 2005). In the case study in this thesis, such vulnerability to participants and other community members may accrue from the described leadership conflicts, allegations against various community institutions and leaders (such as the ward councillor), the inferred high incidence of HIV/AIDS, and allegations by informants of drug abuse within the community (Bakan, 1996; Almond, 1999). On the other hand, however, there are simultaneous calls in the ethical literature for adherence to the principles of justice and beneficence (NABAC, 2001; ESRC, 2005; NHMRC, 2005; PWGS, 2005). Justice addresses the question of who the benefits of the research flow to, and who bears its burdens (NHMRC, 2005). While the case-study community in this thesis to some extent bears the burdens of the local-level research; given anonymity, any possible benefits to the community can only devolve very indirectly (through, for example, informing the broader research understandings of the needs of food insecure communities in KwaZulu-Natal). The anonymity of the case-study in accordance with the ethical principle of confidentiality might thus have dualistically compromised the ethical principal of beneficence (the obligation to maximise the possible benefits of research), through masking the community's situation-specific needs; needs that have been outlined to include: better health services; conflict resolution; and attention to the ward councillor's apparently under-utilised role in promoting linkages to government institutions and resources.

This tension, or potential conflict of interests, in case-study research that also strives to be ethically sound, is an issue that cannot be pursued adequately within the forum of this thesis, but is arguably a critical area of debate that will require closer examination in southern African case-study research into the future.

### **8.5.6 Summary of further research opportunities.**

Notwithstanding the potential ethical tensions related to case-study research, several possible research opportunities may be summarised from the discussions above, all of which emphasise the value of case-study research along their lines of enquiry.

**First**, the question of developing policy that can meet both national economic needs and micro-level livelihoods needs, points to opportunities for research in the political and economic spheres that investigates the impact on livelihoods of policy that has historically enhanced the macro-performance of one or more sectors of the economy. Such research might also explore viable alternative policy pathways for the future; pathways that can meet both national and the local needs of the poor and marginalised, over various time frames.

**Second**, although there has already been research undertaken in the area, there is arguably a need for piloting further local-level case studies that investigate the impact of public-works programmes, as well as other forms of social protection and safety nets, on local-level livelihoods. South Africa offers a valuable testing ground in this regard, since the country's economic and development needs vary dramatically between different geographic areas.

**Third**, the role of agriculture in rural livelihoods is highly varied, and in many places it is not the primary anchor point of people's food security (e.g. Bryceson, 2000; HSRC, 2003a). Further, agriculture has diverse functions in national food availability and economies. The varying role of agriculture across southern Africa, particularly in the face of transitional economies and livelihoods, calls for case-study analyses that examine the nature of the agricultural economy and how it interacts with other economic sectors, in order to question its current and future role at various scales across the region.

**Fourth**, food-security interventions in southern Africa emerge in this thesis as being about processes of change in which the participation of stakeholders throughout these processes is essential to the value of interventions (Figure 8.1). Learning interactions are further identified as the primary site of all processes of change in the intervention cycle. In turn, it is held that relations of power between the interacting parties shape the nature and outcome of these interactions (Putnam, 1993; Moser and Holland, 1998; Gittel and Vidal, 1998), and so, ultimately, the outcome of interventions. There is thus an arguable need for case studies that investigate how institutions concert in the realm of food security. Such case studies might explore how Flyvbjerg's (2001) 'mechanisms of power' escalate or diminish the ongoing experience of food insecurity in the region - through directly shaping food security as well as

the development and outcomes of interventions. The work of Omamo (2003, 2004) supports the value of case-study research in guiding operational interventions. Further, lessons from the Meta-Analysis, Delphi and local-level research raised the question of what role (if any) government policies might play in addressing the apparently negative impact on social capital that changing family dynamics is held to be having in communities (see Section 8.2.3). Case-study research might thus also explore institutions and ‘mechanisms of power’ through the lens of this question.

## **8.6 CONCLUSION**

Food-insecurity causality and responses in southern Africa have been investigated at three spatial scales in this thesis, the regional, provincial and the local, using multiple research techniques. The findings show that food insecurity is caused by a multitude of social, economic, political and biophysical factors that interact over time to undermine the resilience of communities to overcome or adapt to livelihood challenges. While poverty and unemployment are dominant features of food-insecure communities, the means by which financial capital is acquired and the way it is re-invested in pursuing well-being are significantly shaped by an array of social features that together fall under the idea of ‘social capital’.

The findings in this thesis suggest that community-level forms of social capital in southern Africa, including two-parent family units and community connectedness, are being deeply affected by the HIV/AIDS pandemic. HIV/AIDS has also been associated with other cultural changes, in particular the diversification in rural livelihood strategies away from small-scale and subsistence agriculture. Access to forms of social capital, the way social capital is used and the livelihood outcomes that flow from social capital are extremely diverse, even between households within the same community. Moreover, the concept of social capital is itself in many respects highly complex and problematic. Evidence from the research in this thesis nevertheless suggests that a focus on building beneficial forms of social capital, including facilitating stronger leadership, healing distrust and conflict which deflect positive social-capital outcomes, and investigating the barriers experienced to accessing and building social capital (such as lack of education, the inability to articulate needs and resource poverty), may enhance the ability of vulnerable communities to overcome livelihood constraints and adapt to the tremendous challenges posed by changing socio-economic environments in southern Africa.

The paradigm shifts discussed in Chapter Two (Maxwell, 2001a) suggest changes in understanding food security that began with the powerful notion that people's entitlements determine individual and household food access. While the entitlements analysis continues to inform food security analyses, understandings have deepened to encompass the less passive notion of empowerment, evident not only at the individual and household level but at the community level and driven significantly by broader economic and political mechanisms (e.g. Watts and Bohle, 1993). The findings of this thesis arguably represent an additional shift in understanding food security: namely that economic and political processes are suffused across scales by webs of dynamic social networks - the social capital 'arteries' of human systems. Empowerment based and political economic interpretations of food security are thus static and two-dimensional independent of an understanding of the cross-scale social networks and relational interactions that ultimately configure and reconfigure it.

The highly diverse and mutable nature of food-security causality emerging in the results similarly calls for dynamic solutions. A key finding in this work is that the many human activities that are thought of as 'food-security interventions', themselves shape the social, political and economic landscape of food insecurity, and are thus conflated with narrower concepts of food-insecurity causality. It is believed that the work in this thesis adds to recent shifts in interventions thinking towards social and human-capacity development, relationship building and networking, and participation and empowerment, to suggest that the question of what constitutes appropriate interventions in southern Africa is a more important focus in thinking about how to address food security, than the more limited (and frequently situation-specific) question of food-security causality. The ideas of *social capital*, *coordination*, *participation* and *learning interactions* have been instrumental in developing a holistic framework for re-conceptualising food-security interventions to focus on human-systems processes in advancing progress toward sustainable food security in southern Africa. Such processes require conceptual advances in both the mechanisms of interventions (such as policy), and the human-systems issues that give those mechanisms agency.