Parents' perceptions of the food consumption practices and nutrition-related needs in a resource-constrained community

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Parents' perceptions of the food consumption practices and nutrition-related needs in a resource constrained-community

by

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(Educational Psychology)

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DECLARATION OF AUTHENTICITY

I, Deliwe Maria Kumalo (student number 10601342) hereby declare that all the resources consulted have been included in the reference list and that this study titled: *Parents' perceptions of the food consumption practices and nutrition-related needs in a resource-constrained-communit*ies my original work. This mini-dissertation has not been submitted by me for any degree at another university.

_____ _____

Signature **Date**

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ETHICS STATEMENT

The author, whose name appears on the title page of this mini-dissertation, has obtained, for the research described in this work, the applicable research ethics approval. The author declares that she has observed the ethical standards required in terms of the University of Pretoria's *Code of ethics for researchers and the Policy guidelines for responsible research.*

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Deliwe Maria Kumalo

August 2016

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ETHICAL CLEARANCE CERTIFICATE

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
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Faculty of Education

RESEARCH ETHICS COMMITTEE

CLEARANCE CERTIFICATE	**CLEARANCE NUMBER:** UP 12/09/02 BOTHA 16-004
DEGREE AND PROJECT	**MEd** **Parents' perceptions of the food consumption practices and nutrition-related needs in a resource-constrained community**
INVESTIGATORS	**Deliwe Maria Kumalo**
DEPARTMENT	**Educational Psychology**
APPROVAL TO COMMENCE STUDY	
DATE OF CLEARANCE CERTIFICATE	**24 August 2016**

Please note:

For Master's application, Ethics Clearance is valid for 2 years
For PhD application, Ethics Clearance is valid for 3 years

CHAIRPERSON OF ETHICS COMMITTEE: **Prof Liesel Ebersöhn**

CC
Bronwynne Swarts
Karien Botha
Ronel Ferreira

This Ethics Clearance Certificate if issued subject to the following conditions:

1. A signed personal declaration of responsibility
2. If the research question changes significantly so as to alter the nature of the study, a new application of ethical clearance must be submitted
3. It remains the student's responsibility to ensure that all the necessary forms for informed consent are kept for future queries

Please quote the clearance number in all enquiries

ABSTRACT

Supervisor : Mrs Karien Botha
Co-supervisor : Prof Ronél Ferreira
Degree : MEd (Educational Psychology)

The purpose of this study was to investigate parents' perceptions of the food consumption practices and nutrition-related needs in a resource-constrained community, in terms of daily eating patterns, current knowledge and attitudes with regards to food choice, food production and food preparation, as well as community-based nutrition-related needs and information to be included in an intervention aimed at community-wide health and well-being. The study forms part of a broader research project, which aims to facilitate health and well-being in resource-constrained communities, in support of reaching identified Millennium Development Goals (MDGs) and Sustainable Developmental Goals (SDGs).

Interpretivism was utilised as meta-theoretical lens and a qualitative research approach was followed. I selected Bronfenbrenner's Ecosystems Theory as guiding framework for the current study. A Participatory Reflection and Action (PRA) research design was utilised to generate data with 22 purposefully selected parents from three primary schools in the Bronkhorstspruit area. Data were generated and documented through PRA-based workshops, observation, visual techniques, field notes and a reflective journal.

Following inductive thematic analysis, five themes and related sub-themes emerged. The first theme relates to the daily eating patterns of the community, reflecting food consumed during breakfast, lunch and dinner. Secondly, healthy eating practices were identified as a theme, indicating that community members had a clear understanding of what healthy eating practices entails, available resources to inform healthy eating practices and current informational needs in terms of healthy eating practices. The third theme highlights food preparation practices, where women take responsibility for food preparation by means of a variety of methods. The fourth theme emphasises food purchasing practices, where community members buy from larger chain-stores, local shops and informal traders. Finally, the fifth theme indicates food production practices, where community members prefer to grow their own vegetables.

Based on the findings it can be concluded that this community's food consumption patterns are primarily affected by factors in the macrosystem, namely poverty and unemployment. At the macro-level, access to healthy food, cost of healthy food and the influence of the media are aspects influencing the perceptions and decisions of community members such as parents. Changed food consumption practices and nutrition-related needs within the community may, in turn, effect change in the macrosystem by informing related future interventions.

KEYWORDS

- Food choice
- Food consumption practices
- Food preparation
- Food production
- Millennium Development Goals (MDGs)
- Nutrition-related needs
- Participatory Reflection and Action (PRA)
- Resource-constrained community

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TABLE OF CONTENT

CHAPTER 1
INTRODUCTION AND GENERAL ORIENTATION

---oOo---

CHAPTER 2
LITERATURE REVIEW

Page

---oOo---

CHAPTER 3
RESEARCH DESIGN AND METHODOLOGY

Page

---oOo---

CHAPTER 4
RESULTS AND FINDINGS OF THE STUDY

Page

---oOo---

CHAPTER 5
CONCLUSIONS AND RECOMMENDATIONS

Page

---oOo---

LIST OF FIGURES

Page

---oOo---

LIST OF PHOTOGRAPHS

Page

---ooOoo---

LIST OF TABLES

Page

---ooOoo-

CHAPTER 1
INTRODUCTION AND GENERAL ORIENTATION

1.1 INTRODUCTION AND RATIONALE FOR UNDERTAKING THE STUDY

The current study forms part of a broad research project that focuses on schools as potential sites for social change, to facilitate adjusted food consumption practices within a resource-constrained community in the Bronkhorstspruit area, Gauteng[1]. The broad research project is specifically aimed at addressing community health, collective well-being, food security and nutrition-related needs in the selected community, as part of the targets of the Millennium Development Goals (MDGs) (United Nations, 2010) and the Sustainable Millennium Development Goals (SDGs) (UN, 2010), in an attempt to decrease the number of people affected by hunger by 50% at the end of 2015 (Fanzo & Pronyk, 2011). However, a Millennium Development Goal (MDG) report (UN, 2010), indicates that South Africa will most probably not be in a position to meet the target of 21.1% of people living below $2.50 per day (UN, 2010). According to the MDG country report (UN, 2013) South Africa is still experiencing challenges with issues such as poverty, inequality, unemployment and hunger even after 20 years of democracy.

As part of the broad research project, a health promotion and education intervention[2] was developed and implemented by the Grade 4, 5 and 6 Life Skills and Natural Science teachers in three participating primary schools in a resource-constrained community in the Bronkhorstspruit area, Gauteng. The development and implementation of the Win-LIFE intervention consists of five consecutive phases:

- Obtaining baseline information from teachers and community members.
- Developing, revising and training teachers in the Win-LIFE intervention.
- Implementation of the Win-LIFE intervention by Grade 4 to 6 Life Skills and Natural Science teachers within the classroom.
- Monitoring and evaluating the outcome of the Win-LIFE intervention.
- Reporting findings to stakeholders and investigating the possibility of extending the intervention to other schools and potentially other contexts.

My study forms part of the first phase of the project, specifically focusing on the community's perceptions of their food consumption practices and nutrition-related needs. The information obtained during this study has been used during the planning and development of the Win-LIFE intervention, regarding the food consumption practices within the selected resource-constrained community.

[1]Institute for Food, Nutrition and Well-being (IFNuW) funded research project, University of Pretoria.
[2]Win-LIFE health promoting intervention: Wellness in Lifestyle, Intake, Fitness and Environment.

South Africa, as a developing country, is not immune to the challenges of food insecurity. According to the Food and Agricultural Organisation (FAO, 2009), South Africa appears to be food secured nationally, but the same cannot be said about families in resource-constrained communities. The current challenge of food insecurity has two dimensions: the initial dimension focuses on the maintenance of an increase in the country's capacity to meet the necessary food requirements, and the second on efforts to eradicated is parities and poverty among resource-constrained communities made evident by variable food production, together with poor nutritional status of the food produced. The South African food insecurity is evident in the number of people suffering from life style diseases, which according to Greyvenstein, Hanekom, Kruger and Reitsma (1999), is expensive to treat and impacts negatively on the country's health budget. South Africa is experiencing an increase in diseases such as diabetes, hypertension, strokes and coronary heart disease, as well as colon cancer. The increase in lifestyle diseases lead to the need for interventions which can reduce the levels of food insecurity, and benefit the population and country in the long run (Greyvenstein et al., 1999).

Hendricks and Dlamini (2013) note that South Africa is confronted with both under- and over-nutrition within resource-constrained communities across all ages. Although trends in malnutrition seem to have stabilised in the last few years (UN, 2012), South Africa still faces challenges related to food security, and, in particular, a unique nutritional burden characterised by overweight mothers and underweight children (Kimani-Murage et al., 2010). Ignorance and illiteracy may contribute to this form of malnutrition (Oldewage-Theron, Duvenage & Egal, 2012). In order to address food insecurity in the South African context and achieve the targets as set out in the MDGs (UN, 2012), a need seemingly exists for continuing local research and interventions related to food and nutrition.Amongst other avenues, school-based studies in the form of interventions have the potential to promote children's health and development, especially in developing countries (Cortina, Kahn, Fazel, Hlungwani, Tollman, Bhana & Stein, 2007). As learners spend most of their day at school, and considering worldwide growth in primary school enrolments, primary school settings offer an ideal and critical setting for effective interventions, with specific reference to health (Forneris, Fries, Meyer, Buzzard, Uguy, Ramakrishnan, Danish, Naidoo & Coopoo, 2012).

Researchers view schools as established settings for health promotion and education activities, because schools have the potential to influence health-related messages and behaviours early in learners' lives. These health-related messages and behaviours might then become part of the learners' behaviour during adulthood. The ability to influence learners during their formative years is a potential mechanism for influencing culture and health-related beliefs of society in general (Steyn, Lambert, Parker, Mchiza & De Villiers, 2009).

1.2 PURPOSE OF THE STUDY

The purpose of this study was to explore and describe (Mouton, 2001) parents' perceptions of a resource-constrained community's food consumption practices and nutrition-related needs in the Bronkhorstspruit area. As such, this study provided baseline data for the broader research project, more specifically for the development of the Win-LIFE intervention, which is a school-based intervention (Marshall & Rossman, 2011). To this end, I explored the food-consumption practices and nutrition-related needs of the selected resource-constrained community, by listening to parents' voices. In addition to informing the development of the Win-LIFE intervention, the study aimed to build on existing literature on food consumption practices and nutrition-related needs, adding knowledge to the choices typically made in resource-constrained communities.

1.3 RESEARCH QUESTIONS

The following primary research question guided the study:

> *What are the perceptions of parents regarding the food consumption practices and nutrition-related needs of a resource-constrained community?*

In order to address the primary research question, I explored the following secondary research questions:

- What are the food consumption practices of families in a resource-constrained community in the Bronkhorstspruit area?
- Which knowledge and attitudes do parents demonstrate in terms of food choice, food production and food preparation in the participating resource-constrained community?
- What are the nutrition-related needs of the resource-constrained community?
- In the parents' view, what could be included in an intervention aimed at promoting community-wide health and well-being?

1.4 CONCEPT CLARIFICATION

In the following section I clarify the key concepts of the study.

1.4.1 PARENTS

According to the Oxford Learner's Dictionary of Academic English (2014) parents are regarded as caretakers of their offspring in their own species. Both biological parents (individuals whose germination resulted in a child) and adoptive parents (individuals who foster the children of biological parents, although they are not physically connected to the child) are considered as parents. Children without biological or adoptive parents can be fostered by other family members such as grandparents. According to Davies (2000:245) parents may be defined as adults who promote and support "*the physical, emotional, social, financial, and intellectual development of a child from infancy to adulthood*". The term

thus includes biological and adoptive parents, and grandparents who fulfil the role of parents (Oxford Learner's Dictionary of Academic English, 2014).

In this study parents refer to the parents of Grade 4 to 6 learners from the three participating primary schools in the Bronkhorstspruit area, Gauteng. The participating parents can be biological-, foster-, adoptive- or stepparents, and may or may not be biologically related to the Grade4 to 6 learners in their care.

1.4.2 PERCEPTIONS

Perception implies a process of attaining awareness or understanding of the surrounding environment by organising and interpreting information (Reber, Allen & Reber, 2009). Perception allows individuals or groups of people to understand their social worlds (Reber et al., 2009). Taylor and Medina (2013) explain perception as an individual's truth that is clouded by the individual's illusions, preferences, and beliefs on how he/she views his/her own world.

According to Kost, Lee, Yessis, Coller and Henderson (2011), perception refers to how participants perceive and comprehend their experiences. In this study perception implies the process of attaining participant awareness of local food consumption practices, which may be influenced by experiences, culture, motivational state, as well as emotional state.

1.4.3 FOOD CONSUMPTION PRACTICES

Pollard, Kirk and Cade (2002:377) describe food consumption practices as "*the way in which individuals or groups of individuals select, consume and utilise portions of available food supply in response to social, cultural and psychological pressures".* Food consumption practices are determined by the interplay between different factors including climate, economy, beliefs, attitude, values, education, advertisement and some environmental religious circumstances, all of which are the products of tradition and culture (Onuorah & Ayo, 2003). Over the past decades, substantial changes have occurred in the food habits and consumption practices of South Africans because of acculturation after urbanisation and improved transport, as well as broader communication (Viljoen & Gericke, 2001; Kruger, Pouane, Senekal & Van Der Merwe, 2007).

For the purpose of this study, the concept dietary patterns is utilised to define food consumption practices and nutrition-related needs (Green, Botha & Schönfeldt, 2004). This conceptualisation of dietary patterns includes "*food production and availability*, *food practices and food preservation"* within the community (Green et al., 2004:52). Therefore, this study, under the umbrella of food consumption, focuses on practices and needs pertaining to which foods are eaten, how food is produced, when it is eaten and how often it is eaten within the selected resource-constrained community. Furthermore, I focus on practices

and needs related to the manner in which food is obtained, distributed and preserved according to the participating parents (Green et al., 2004).

1.4.4 NUTRITION-RELATED NEEDS

The World Health Organisation (WHO, 2013) defines nutrition as "*the process of obtaining and intake of food, in relation to the body's dietary needs. Good nutrition implies a well-balanced diet, as opposed to poor nutrition which might lead to reduced immunity, increased susceptibility to disease, impaired physical and mental development, as well as reduced productivity*" (WHO, 2013).In this study, nutrition-related needs highlight the participating resource-constrained community's needs related to the process of obtaining and intake of a well-balanced diet. The study acknowledges that nutrition is centred around communities learning what the body needs to stay healthy and which foods need to be eaten in order to provide the optimum amount of nutrients (Cyzman, Wierenga & Sielawa, 2009).

1.4.5 RESOURCE-CONSTRAINED COMMUNITY

According to Mduluza, Midzi, Duruza and Ndebele (2013), a resource-constrained community is a community experiencing widespread poverty due to being deprived of most common elements of well-sustained democratic societies. Furthermore, Ozanne and Anderson (2010) state that people in resource-constrained communities have limited opportunities in decision making due to structural barriers such as unaffordable health care, lack of nutritious food, and that which can constrain consumers' freedom of choice. In the context of this study, resource-constrained community refers to a group of people or families within a specific geographical location, with limited economic, human, physical and political resources (Green et al., 2004; Ferreira & Ebersöhn, 2012). The community in the Bronkhorstspruit area is viewed as fitting the description of resource-constrained community and could provide the current study with content that the study intended to explore.

1.5 WORKING ASSUMPTIONS

Based on my initial literature review, I conducted the study against the background of the following assumptions:

- Schools are places of safety where positive collaborations can be established to bring about social change.
- Parents, as community members, may be the catalysts of anticipated change with regard to food consumption practices.
- Parents are a good source of information concerning the food consumption practices of the community.
- If parents have knowledge about healthy food consumption practices, they may be in a good position to make informed choices in the future for their families.

1.6 THEORETICAL FRAMEWORK

As a guiding framework, I selected Bronfenbrenner's Ecosystemic Theory (Bronfenbrenner, 2005). Bronfenbrenner's Ecosystemic Theory focuses on the interdependence amongst individuals, their physical environment and social context which influences individuals in their everyday decision making (Donald, Lazarus & Lolwana, 2010). Furthermore, the theory states that if there is an action or change in one system, the action or change may affect all other systems and interdependencies. This may lead to the whole connection of systems focus on the recovery of balance to sustain equilibrium. Different levels and groups of people functioning as interdependent systems of the whole are thus dependent on the interactions between the various systems or parts (Bronfenbrenner, 2005).

Bronfenbrenner`s Ecosystemic Theory illustrates the relevance of a number of systems in understanding the needs of society, as these needs operate within and across the systems of school, family, cultural and economic contexts and have to be addressed in order to facilitate social change (Bronfenbrenner, 1986). My understanding is that change in one system may facilitate change in other parts of the individual's system. As such, a school as a system, consists of different parts such as learners, parents, the community, department of education, and society, which all need to be involved in collaboration towards achieving a common goal (Donald et al., 2010).

The ecosystemic theory fits well with the approach that I relied on in the study of food consumption practices, which suggests that individuals' food choices and preferences are imbedded in their cultural, historical and social background that are available to them in their environment (Gillespie & Smith, 2008). Food consumption practices in a community need to be viewed as a collective of all the systems that are involved. It follows that the microsystem, macrosystem, mesosystem, exosystem and chronosystem will thus play a role in a community's food choices (Donald et al., 2010). I discuss my theoretical framework in more detail in Chapter 2.

1.7 PARADIGMATIC APPROACHES

In this section I provide a brief overview of the epistemological and methodological approaches that guided this study. More detailed discussions follow in Chapter 3.

1.7.1 EPISTEMOLOGICAL APPROACH

I relied on Interpretivism as meta-theory (Rubin & Babbie, 2014). Interpretivism emphasises research methods that are flexible, content sensitive and largely concerned with understanding the meaning of "*human actions and experiences, and on generating accounts of their meaning from the viewpoints of those involved"* (Fossey, Harvey, McDermott & Davidson, 2002:718). The interpretive approach involves language and approaches that empower participants, recognise their silenced voices, and honour their individual differences (Creswell, Shape, Clark & Green, 2006). The selection of participants allowed me

to interact with them in their mother tongue (IsiZulu), which seemingly encouraged the participants to express themselves more freely and with confidence.

In this study, it was important for me to continuously keep in mind that reality is constantly changing and that multiple realities and truths can exist based on the construction of reality being socially determined. I realise that my findings are interrelated to that of the participants as data were mutually created within the context of the situation, and that the participants' life worlds are a cultural and historical product, subjective to the specific individuals.

This suggests that the answers the participants gave are embedded in their own experiences within their unique contexts and environments. As my enquiry involved a reflective reconstruction and interpretation of the perceptions of the participating parents (Fossey et al., 2002; Sales, 2002; Carcary, 2009), I needed to understand the socially constructed nature of the world of the participants. I kept in mind and realised that values and interests would be part of the research process and that my position in the research as a research tool required of me to consciously remain aware of my position and role.

1.7.2 METHODOLOGICAL PARADIGM

I followed a qualitative approach in order to understand a specific social phenomenon from the participants' perspective (Creswell, 2008). One characteristic of qualitative research is that "*it describes and analyses people's individual and collective social actions, beliefs, thoughts and perceptions*" (McMillan & Schumacher, 2014:395). A qualitative approach allowed me to describe and answer questions about the participants' experiences of their environment in an in-depth and rich manner. Qualitative research furthermore gave me the opportunity to explore the perceptions, attitudes, knowledge and skills of parents pertaining to the community's food consumption practices and nutrition-related needs, by analysing their perceptions and narrating their interpretation of food consumption practices, dietary patterns and nutrition-related needs in the community.

As this mode of enquiry can be designed to contribute to practice and social issues and action, I view a qualitative research as useful to describe and answer questions about the participants and their contexts (Gay & Airasian, 2003) in order to facilitate change. As a researcher I was an instrument through which the data could be generated and analysed (Creswell, 2008). I interpreted the phenomenon in terms of the meaning assigned to it by the participants (McMillan & Schumacher, 2014). I thus took an active participatory role, whilst striving to remain unobtrusive (Johnson & Christensen, 2004).

1.8 RESEARCH METHODOLOGY

In this section I provide a summary of the selected research design, selection of the research site and participants, data generation and documentation strategies, as well as the data analysis and

interpretation procedures I employed. Detailed discussions follow in Chapter 3. Figure 1 provides an overview of the research process of the study.

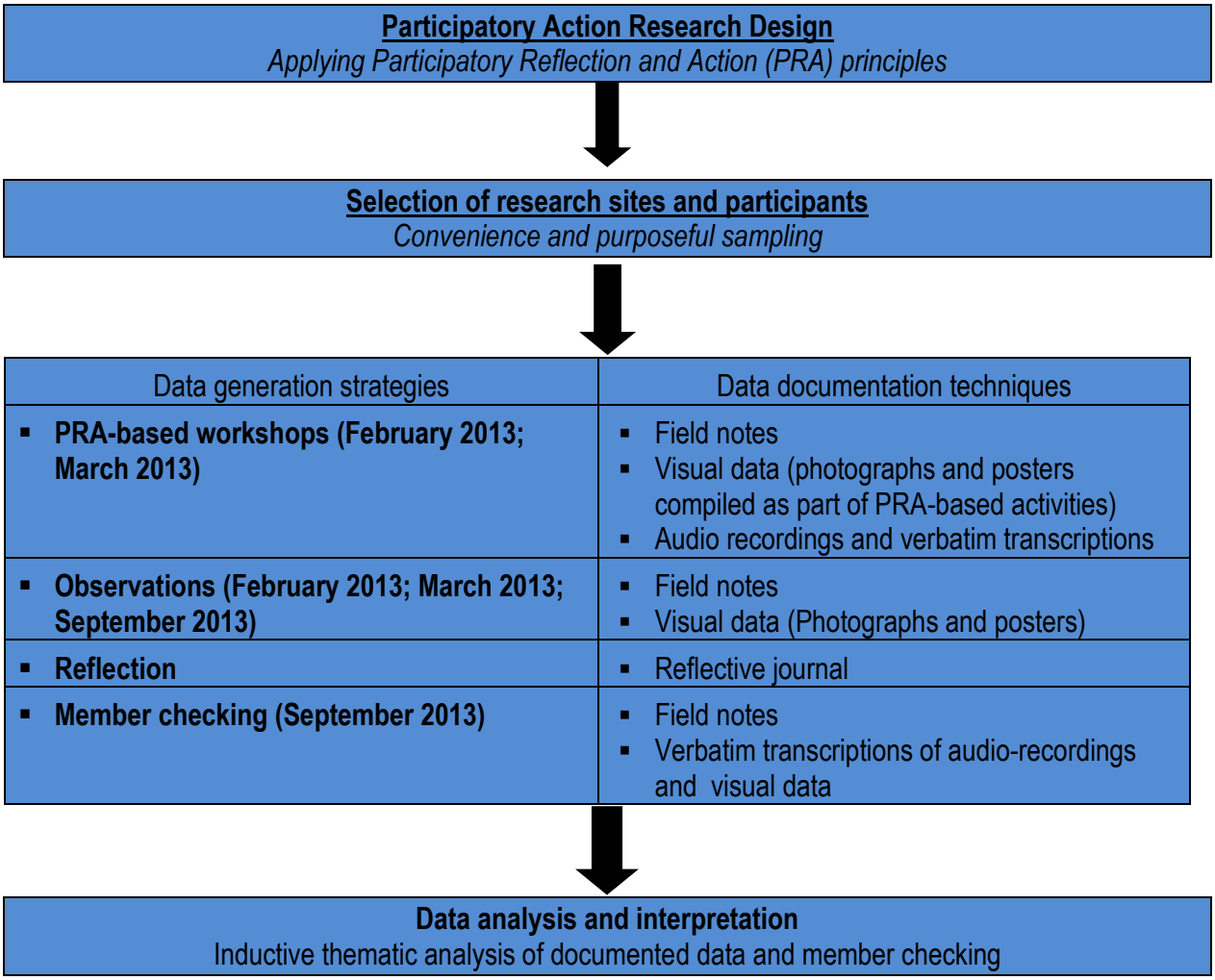

Figure 1.1: Overview of the research process

1.8.1 RESEARCH DESIGN

I utilised a Participatory Action Research design (Tomal, 2010) during this study. More specifically, I employed Participatory Reflection and Action (PRA) principles (Ebersöhn, Eloff & Ferreira, 2007). This allowed me to study a social issue that may affect or constrain community members' lives, namely the practices and needs related to food consumption. Furthermore, opportunities for further studies may be created as a result of this study that can act as vehicle for empowerment to bring about "*life-enhancing changes*" within communities (Ebersöhn et al., 2007:126) As such, this design allowed for the active involvement of participants in generating information, intended as a baseline assessment for later studies that focus on action.

Chambers (1992), as well as Von Maltzahn and Van Der Riet (2006) value a PRA design as it can acknowledge complex communities and be implemented when dealing with complex community challenges in complex systems. PRA can furthermore contribute to understanding, knowledge and/or

theory; is visual, sensitive and allows for *"relative as opposed to absolute values to emerge"*; and is practical and aims to provide community specific solutions (Von Maltzahn & Van Der Riet, 2006:115). PRA can also be empowering, because the research process is guided by the participants. In Chapter 3 I elaborate in terms of my selected design and what it entailed.

1.8.2 SELECTION OF RESEARCH SITE AND PARTICIPANTS

The on-going broader research project has been conducted within a resource-constrained community in the Bronkhorstspruit area (Gauteng, South Africa) since 2012. I thus relied on convenience sampling to select the research site, as it was easily and conveniently available (Petty, Thomson, &Stew, 2012). The three participating primary schools have thus been familiar with the project and the primary research team since 2012 (Appendix B& D). This enhanced accessibility based on established relationships between the school stakeholders and the research team. As such, I relied on convenience sampling to select an information-rich site for an in-depth study.

In selecting the 22 participating parents from the three primary schools, I made use of purposeful sampling (Creswell, 2008; McMillian&Schumacher, 2008; Palinkas,Horwitz, Green & Wisdom,2013). Purposeful sampling, as a qualitative sampling method, enabled me to select participants that could "*purposefully inform an understanding of the central phenomenon"* of the study (Creswell, 2014:156) by relying on predetermined selection criteria (Nieuwenhuis, 2007*;* Palinkas et al., 2013). The selection criteria required participants to be parents of learners in Grade 4 to 6 from three selected primary schools in the Bronkhorstspruit area (Gauteng). Parents also had to be older than 18 years of age, able to communicate in English or IsiZulu, and willing to participate (Appendix A).

1.8.3 DATA GENERATION AND DOCUMENTATION

I utilised PRA-based workshops, observation, visual techniques, field notes and a reflective journal as data generation and documentation strategies (McMillan & Schumacher, 2014). I undertook three field visits (Appendix F) during the period February to September 2013, with the last visit serving the purpose of member checking (Appendix G). During the **PRA-based workshops** data were generated through small group discussions, prompted by specific questions that were posed to the parents pertaining to the community's food consumption practices and nutrition-related needs. Participants were allowed to use their mother tongue (IsiZulu) to respond to the questions. This type of *modus operandi* seemingly encouraged participants to share their knowledge, insight and needs about the food consumption practices and nutrition-related needs in the resource-constrained community.

At the same time, I relied on **observation** to generate data. **Field notes** (McMillan & Schumacher, 2014) taken during my observations provided me with the opportunity to record the participants' behaviour and events as they occurred during the research activities (Appendix F). I remained a non-participant observer, as my role was that of an outsider during the data generation process (Chambers, 2008a). I

recorded events in my field notes by describing the setting, participants and actions I observed during the PRA-based workshops (Creswell, 2008).

In addition to making field notes I **audio recorded** (Appendix G) the discussions during PRA-based workshops. Audio-recordings can provide different perceptions as well as cross-checks for generated data (McMillian & Schumacher, 2014). I also used **photographs** (Appendix H) for the purpose of validation, documenting non-verbal behaviour and communication, and obtaining a visual record (Creswell, 2008; McMillian & Schumacher, 2014). In support, **posters** (Appendix K) were compiled by the participants as part of the PRA activities, providing me with additional visual data to help me understand the central phenomenon I set out to investigate (Creswell, 2008).

Finally, a **reflective journal** (Appendix J) supported me when reflecting on my assumptions of the community and research, as well as noting my thoughts during the research process. By keeping a reflective journal I was able to enhance my own reflexivity (Creswell, 2008) about personal expectations, objectives, my personal belief system and possible subjectivities. In this way, a reflective journal assisted me in obtaining methodological rigor, as well as paradigmatic trustworthiness.

1.8.4 DATA ANALYSIS AND INTERPRETATION

The purpose of thematic inductive data analyses is to organise data into different categories and identify patterns, as well as to indicate relationships between the different categories through an inductive process (McMillian & Schumacher, 2014). I thus completed inductive thematic analysis, thereby synthesising and making meaning of the data from the different sources that were generated, in order to come up with categories and patterns. In this way I identified general themes and categories (Silverman, 2010; McMillian & Schumacher, 2014) by engaging in the process of coding and finally establishing main trends (themes) of significant issues that arose (Creswell, 2008). I discuss the steps of data analysis I completed in more detail in Chapter 3.

1.9 ETHICAL CONSIDERATIONS

Oliver (2010), as well as Mauthner, Birch, Jessop and Miller (2012) provide guidelines for ethical practice when conducting research. I considered these guidelines, which align with the ethical guidelines stipulated by the Ethics Committee of the Faculty of Education, University of Pretoria (Faculty of Education, 2013), in the following manner (discussed in more detail in Chapter 3) while conducting my study:

- I obtained permission from the Gauteng Department of Basic Education (GDE) to conduct the research, as well as the principals of the three participating schools as part of the broader project (Appendix B &D);

- Written informed consent was obtained from participants before the research commenced, after they had been informed about the details of the study (Appendix A);
- Participants thus had the option to decide on their participation (or not) and could withdraw from the research at any point in time if they wished to do so;
- Participants were not exposed to any form of deception, based on the incorporation of trust;
- I respected the participants and any differences that exist between them and the research team;
- All recorded data (written or recorded) have been dealt with as confidential by using pseudonyms, thus not disclosing the identities of the participants;
- No harm, whether explicit or subtle, was caused for participants during the study; and
- Research findings will be reported in a balanced manner, with the limitations clearly stated.

1.10 QUALITY CRITERIA

In an attempt to produce a trustworthy and rigorous study (Reynolds, Kizito, Enzuma, Mangesho, Allen & Chandler, 2010), I strived to adhere to the quality criteria for qualitative studies established by Lincoln and Guba (1985) in terms of credibility, transferability, dependability, confirmability and authenticity.

According to Polit and Beck (2008:751) **credibility** can be defined as "*criterion for evaluating integrity and quality in qualitative research*". I attempted to provide credible findings by representing the perceptions of parents as holistically as possible. Prolonged engagement in the field occurred, and peer debriefing was included, as well as an audit trail. Subsequently, I utilised member checking to enhance the accuracy of my interpretations of the data (Scharalda & Leonard, 2010; Elo, Kaariainen, Kanste, Polkki, Utriainen & Kyngas, 2014).

Transferability entails the extent to which findings may be generalised and transferred to other settings (Polit & Hungler, 1995). The aim of this study was not to generalise, but to provide rich descriptions of the parents' perceptions of the food consumption practices and nutrition-related needs of the selected resource-constrained community. Throughout the study I relied on continuous reflection, peer debriefing and discussions with my supervisors, in an attempt to also obtain **dependable** findings. I also used an audit trail (Creswell, 2008) to provide a detailed account of the research methods and data generation procedures I employed (Tobin & Begley, 2004).

Confirmability implies the necessity of findings and interpretations reflecting the ideas and perceptions of the participants, rather than the preferences of the researcher (Ladkin, 2005). I aimed to enhance the confirmability of the current study by utilising multiple data generation techniques. I also include direct quotations from the participants when presenting the results in Chapter 4, to support the interpretations I had made (Scharalda & Leonard, 2010; Tobin & Begley, 2014).

Finally, I attended to **authenticity**, which implies the degree to which different points of views are fairly and equally represented (Denzin & Lincoln, 2005). In order to enhance the authenticity of my research I asked the participating parents to verify the identified themes during member checking, in an attempt to ensure that I accurately reported their perceptions (Denzin &Lincoln, 2005). I also include an audit trail in this mini-dissertation (Cohen & Crabtree, 2008).

1.11 OUTLINE OF CHAPTERS

This section provides an overview of the chapters of the mini-dissertation.

CHAPTER 1: INTRODUCTION AND GENERAL ORIENTATION

Chapter 1 serves as an introductory orientation to the mini-dissertation, outlining my rationale for undertaking the study. I explained the purpose of the study and formulated the primary and secondary research questions that guided the study. I then introduced my selected epistemological and methodological approaches. Hereafter, I briefly stated the research design and methodological strategies I employed.

CHAPTER 2: LITERATURE REVIEW

In this chapter, I discuss literature relevant to food security in South Africa and beyond, as well as the food consumption practices and nutrition-related needs of resource-constrained communities in South Africa in particular. I outline the potential role of the local government in addressing current food and nutrition-related challenges, and also how communities may support their own practices in this field. I conclude the chapter by explaining how I integrated Bronfenbrenner's Ecosystemic Theory, in the theoretical framework of the study.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

In Chapter 3 I describe the research process in detail, in terms of the selected epistemology, methodological paradigm, research design, data generation and documentation strategies, as well as the inductive thematic analysis and interpretation I completed. I conclude the chapter by discussing the ethical considerations and quality criteria I respected during my study.

CHAPTER 4: RESULTS AND FINDINGS OF THE STUDY

In this chapter I present the results of the study in terms of the themes and subthemes that emerged following inductive thematic data analysis. I then situate the results in terms of existing literature, with the aim of presenting findings. I highlight similarities and differences between the results of this study and those captured in the existing body of knowledge.

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

In Chapter 5 I come to conclusions in terms of the research questions and purpose of the study, based on the findings I present in Chapter 4. I reflect on the study in terms of the challenges I experienced, as well as the potential value and strengths of the study. I conclude with recommendations for future research, training and practice.

1.12 CONCLUSION

The aim of this chapter was to provide an introductory orientation to the study. I outlined the purpose of the study, presented the research questions and indicated the assumptions with which I approached the study. I clarified key concepts and briefly introduced the selected theoretical, epistemological and methodological paradigms I relied on. I stipulated the research design and methodological techniques I employed. I also briefly referred to the ethical considerations and quality criteria I adhered to.

In the next chapter I discuss existing literature in the field of this study. I explain concepts and themes related to this study, thereby providing background to the empirical study I describe in Chapter 3. I also explain the theoretical framework I selected as background to this study.

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CHAPTER 2
LITERATURE REVIEW

2.1 INTRODUCTION

The purpose of Chapter 1 was to present a general orientation to the current study. I presented the rationale and purpose of the study, formulated the research questions and stated the working assumptions with which I approached my study. Thereafter I clarified key concepts and provided a broad overview of the selected research methodology and design. I concluded the chapter with an introduction to the quality criteria and ethical guidelines I considered throughout the study.

In this chapter, I present existing literature on the global food and nutrition scenario, and provide an overview of food and nutrition insecurity and the prevalence of malnutrition and hidden hunger in South Africa. Next, I discuss the Millennium Development Goals (MDGs) as global response to extreme hunger and poverty. This is followed by a description of food and nutrition-related challenges generally experienced in resource-constrained communities. I also focus on general food consumption practices in South African resource-constrained communities, and outline national initiatives in support of food and nutrition-related needs within the South African environment. I conclude the chapter with an explanation of the theoretical framework I selected, namely Bronfenbrenner's Ecosystemic Theory.

2.2 CURRENT GLOBAL AND SOUTH AFRICAN FOOD AND NUTRITION SCENARIO

Despite unprecedented increases in technological and medical advancement, estimates indicate that more than 1.4 billion people globally live on less than $2.50 per day (UN Department of Economic and Social Affairs, 2009). According to the Food and Agriculture Organisation (FAO), Sub-Saharan Africa, as well as Asia have the highest rate of malnutrition and accommodate about 88.3% of the world underfed (FAO, 2010; Kozak, Lombe & Miller, 2012). The challenge of hunger and poverty is intensified by chronic illnesses such as HIV/AIDS and TB, the incapacity of households to withstand food and nutrition insecurity, poverty and marginalisation (De Waal & Whiteside, 2003; Kozak et al., 2012).

In this regard, Sub-Saharan Africa is regarded as the region with the largest proportion of poverty and the highest number of undernourished people (239 million) (UN-DESA, 2009; WFP, 2010). Estimates from the FAO indicate that the number of people experiencing food and nutrition insecurity globally stands at 925 million, with the majority of people living in countries within the global south region (Sub-Saharan Africa, the Pacific, South and East Asia) (WFP, 2010). Furthermore, the World Food Programme (WFO, 2010) found that 65% of the world's hungry live in India, the Democratic Republic of Congo, Bangladesh, Indonesia, Pakistan and Ethiopia.

Hunger and malnutrition are linked to about 6.5 million child deaths per year in countries within the global south region (UN-DESA, 2009; Kozak et al., 2012). Children, people with disabilities, older persons and women are especially affected by hunger (FAO, 2010). Vulnerability to hunger severely affects the physical and emotional development of any population, as well as the general welfare and effective contributions to the labour market. The global financial crisis and subsequent increases in food prices furthermore contribute to job losses, simultaneously decreasing purchasing power and healthy poorer diets and increasing health costs (Dhur, 2009; Kozak et al., 2012).

Even though the proportions of undernourished people in developing countries remain disturbingly high, there has been a decrease from 23.2% in 1990-1992 to 14.9% in 2010-2012 and 12.9% in 2012-2016. Chronic hunger rates, contrary to previous estimates, did not increase during the 2007-2009 monetary crises. However, the socio-economic situation of vulnerable communities has deteriorated on a worldwide level and development against food and nutrition challenges has slowed down significantly. According to the United Nations "a*bout 870 million people or one in eight individuals worldwide did not consume enough food on a regular basis between 2010 and 2012"* (UN, 2013:10).

2.2.1 FOOD SECURITY IN SOUTH AFRICA

Food and nutrition insecurity is of particular concern in Sub-Saharan Africa (Abdu-Raheem & Worth, 2013). The FAO (2010) indicates that more than 814 million people in developing countries are subjected to hunger and malnutrition. Of these people, 204 million live in Sub-Saharan Africa, which includes South Africa (Labadarios, Maunder, Davids & Parker, 2011). According to Malan and Van Rooyen (2010), food and nutrition insecurity has developed into a chronic challenge in Sub-Saharan Africa, with devastating effects on both rural and urban areas in South Africa.

The Integrated Food Strategy for South Africa (IFSS) clarifies food security as "*physical, social, and economic access to sufficient, safe and nutritious food by all in South Africa at all times to meet their dietary and food preferences for an active and healthy life*" (National Department of Agriculture, 2002:15). The South African government adopted the IFSS in 2002. The SA government's definition of food security is similar to the definition of food security compiled during the World Food Summit in 1996 (FAO, 1996). The definition of food security namely emphasises the following key concepts closely related to food. These are namely the *availability* of sufficient quantities of food on a regular basis, *access* to sufficient food sources, and nutritious diet *utilisation* of proper and nutrition-adequate food practices, water and sanitation (Pinstrup-Andersen, 2009; Malan & Van Rooyen, 2010; Oldewage-Theron, Duvenhage & Egal, 2012).

In South Africa, food and nutrition security is viewed at different levels: national food security and household food security (Abdu-Raheem & Worth, 2013). Even though South Africa is food secured countrywide, a large number of South African households are food and nutrition insecure (De Cook,

D'Haese, Vink, Van Rooyen, Staelens, Schönfeldt & D'Haese, 2013). The reality of increased food prices is directed towards the 43% of households vulnerable to household food and nutrition insecurity (Statistic S.A. 2000a; National Treasury, 2003). In another investigation into the food and nutrition security situation of rural households in the Limpopo Province specifically, findings indicate that 53% of the rural households were severely food and nutrition insecure at the time (De Cook et al., 2013).

2.2.2 PREVALENCE OF HUNGER AND MALNUTRITION IN SOUTH AFRICA

Oxfam International (2014:4) indicates that one in four people experience a lack of food frequently and that "*more than half of the South African population live in such vulnerable communities that they are at risk of going hungry"*. The most recent South African National Health and Nutrition Examination Survey (SANHANES-1) (Shisana et al., 2014) revealed that 27% of the South Africans were facing hidden hunger and another 29.3% were at risk at the time. According to the SANHANES-1 survey (Shisana, Labadarios, Rehle, Simbayi, Zuma, Dhansay, Reddy, Parker, Hoosani, Naidoo, Hongoro, Mchiza, Steyn, Dwane, Makoae, Maluleke, Ramlagan, Zungu, Evans, Jacobs, Faber & the SANHANES-1 Team, 2014), the largest population group experiencing malnutrition live in resource-constrained (38%) areas. Almost 23% of South African households have at some point experienced financial challenges to buy food, while 21% have started reducing portion sizes (Stats SA, 2012).

Both women and children are regarded as "*the human face of hunger*" (Oxfam, 2014:14). According to the latest General Households Survey (GHS) (Stats SA, 2012) female-regulated households are more at risk to be in short supply of food (21%) than families led by males (15.8%). Although women are still generally responsible for tasks related to running of households, such as fetching water, they are also more likely to avoid meals (25.1% compared to 17% for male-headed households. A 23 year-old-unemployed female from the Eastern Cape summaries her situation as follows: "*We rely on a budget of R6 a day for four people. We buy four potatoes for R3 and a cup of rice for R3, and this makes a meal for four. Bread is our daily staple food. Tea, coffee, sugar and milk are luxury items. R100 normally stretched for two weeks because we don't know where the next R100 will come from*" (Oxfam, 2014:15).

The FAO (1992:1) indicates that "*hunger and malnutrition are unacceptable in a world that has both the knowledge and resources to end this human catastrophe. We recognise that access to nutritionally adequate and safe food is a right to each individual*". Populations worldwide are at risk of malnutrition (over- or under-nutrition) as food consumed is nutritionally inadequate contributing to hidden hunger - a result of diets deficient in vitamins and minerals. Hidden hunger, however, is a global condition in both developed and developing countries, especially amongst women and children. It is especially prevalent amongst the 25 billion people globally trying to survive on less than $2.50 per day, with 36% of the South African population living below this poverty line (Burchi, Fanzo & Frison, 2011; FAO, IFAD&WFP, 2014). The highest incidence of malnourishment is found in sub-Saharan Africa, where 30% of the total population was estimated to have been malnourished between 2005 and 2007 (FAO, 2010). Other areas

most harshly affected by hunger and poor nutrition are Asia and the Pacific, especially India, and some parts of Latin America.

Moving closer to home, Hendricks and Dlamini (2013) emphasised the fact that South Africa is seriously challenged by malnutrition, which includes both under-and over-nutrition within populations across all ages. The main challenge in South Africa is the elevated rates of stunting and micronutrient deficiencies, particularly amongst young children. Strong connections are indicated between malnutrition and decreased cognitive ability, late school enrolment and under-par school grades amongst children from resource-constrained communities. Iron deficiency, another form of malnutrition, can also be connected to decreased cognitive, motor and social-emotional development (Hendricks & Dlamini, 2013).

According to Faber and Kruger (2012) a disturbing factor in South Africa's resource-constrained communities is the frequency of adult populations being either overweight or obese (over-nutrition). Recent data (Oxfam, 2014) indicate that 68.3% of females older than 20 years are overweight and of these, 42% are obese. Finally available studies indicate that malnutrition has an important effect on child mortality. The Child Healthcare Problem Identification Program (CHIP) (Department of Health, 2013) conclude in this regard that about 63% of all children under five years of age who have died at that stage, were malnourished, with the majority of them infected with HIV. Statistics such as these emphasise the importance of on-going research in this area, more specifically in the South African context.

2.3 GLOBAL RESPONSE TO VULNERABILITY

The existing MDGs were articulated at the Millennium Summit in 2000 and conceptualised as a global mandate to end poverty and promote the collective well-being of the world's most vulnerable communities (UN, 2010; Kozak et al., 2012). According to the UN (2015:13), world leaders adopted the MDGs to *"share no effort to free our fellow men, women and children from the dehumanising conditions of extreme poverty"*. Being regarded as one of the most ambitious policy undertakings of the 21st century, the MDGs consist of time-bound targets that have attempted to reduce vulnerability with six focus areas, namely malnutrition, poverty, illness, environmental degradation and prejudice against women (UN, 2010). More specifically, world leaders indicated their countries' commitment to reduce extreme "*hunger and poverty, promote universal primary education, reduce child mortality, improve maternal health, combat disease such as HIV/AIDS, malaria and tuberculosis, and enhance environmental sustainability by 2015"* (UN, 2013:5). During the United Nations Millennium Declaration, 2000 heads of states and governments furthermore committed to support the consolidation of democracy in Africa and to assist Africans in their development (UN, 2010).

In the following section I elaborate on selected MDGs, in terms of progress towards achieving MDG targets, specifically in Sub-Saharan Africa. In doing so, I aim to illustrate the background against which this study was undertaken. As indicated in Chapter 1 (section 1.1), my study forms part of the broader

Win-LIFE project, which was initiated as a potential way of contributing towards the realisation of the MDGs in South Africa. Although the broader research project is specifically linked to MDG1 and other health-related MDGs, all the MDGs are interdependent. Therefore, one can assume that progress or lack thereof in one MDG may affect progress in another (Fanzo & Pronyk, 2011).

2.3.1 CURRENT PROGRESS TOWARDS MDG TARGETS

The year 2015 marked the completion of the monitoring period for Millennium Development Goal 1 (MDG1) which relates to eradication of extreme hunger and poverty. MDG1 includes the following targets: "*halving global poverty (Target 1A), achieving full and productive employment and decent work for all (Target 1B), and cutting by half the proportion of people suffering from hunger by 2015 (Target 1C)"* (FAO, IFAD&WFP, 2015:4). According to the United Nations (UN, 2015), extreme poverty has declined significantly over the last two decades from 1.9 billion in 1990 to 836 million people worldwide in 2015.

However, Sub-Saharan Africa continues to lag behind. According to the 2015 Millennium Development Goals Report (UN, 2015), more than 41% of the population in Sub-Saharan Africa still lives in extreme poverty. Southern Asia and Sub-Saharan Africa account for about 80% of the global total of extremely poor people. In both developing and developed countries, employment opportunities have recently decreased as the global economy entered a period of slower growth and widening inequalities (UN, 2015). More than 204 million people were unemployed in 2015. Youth, especially young females, continue to be disproportionately affected by limited employment opportunities and unemployment (UN, 2015). Sub-Saharan Africa and Southern Asia account for more than half of the world's 1045 billion workers in vulnerable employment, with three out of four workers falling in this category.

The proportion of malnutrition and hunger populations in developing countries decreased from 23.3% in 1990-1992 to 12.9% in 2014-2015 (UN, 2015). According to the FAO, IFAD and WFP (2014), a total of 18 countries in Sub-Saharan Africa achieved the MDG (Target 1c) hunger target, with four more close to reaching it and expected to do so before 2020, if current trends persist. In an attempt to reach the targets of MDG 1, the South African government *"has developed a cocktail of policy interventions to ameliorate consequences of unemployment and inequality"* (Government of South Africa, 2013: 22). This initiative aims to improve the quality of basic education, provide sufficient health and safety for all South Africans, as well as to ensure appropriate employment through comprehensive monetary progress.

In South Africa the achieved MDG1 target varies. Although the poverty rate has declined, youth and women remain the most vulnerable group to poverty. The SA government aimed to address the first MDG through the provision of social wage packages, as well as "*free primary health care, no fee paying schools, social grants (such old age pension and child support grants), RDP housing, and provision of basic services such as water, electricity, sanitation, sewerage, and waste management"* (Government of

South Africa, 2013:15).It is estimated that about 3.5 million households identified as resource-constrained, received support through social grant wage packages (Government of South Africa, 2013).

Worth noting is the actuality that the MDGs' fundamental obligation was to attain the reduction of extreme poverty by 2015 (UN, 2016). Despite the achievements of the MDGs, some targets have not been met, necessitating a new programme that was based on the MDGs, yet centered on the eradication of extreme poverty, as well as sustainable development (UN-DESA, 2016). As a result a number of Sustainable Development Goals (SDGs) were presented at the 68th General Assembly session (UN-DESA, 2016), containing 17 goals related to a comprehensive scope of sustainable development concerns (UN-DESA, 2016). These consist of the termination of poverty and malnutrition, improving health and education, making cities more sustainable, preventing climate change, and safeguarding oceans and forests. World leaders adopted theSDGs of the 2030 Agenda for Sustainable Development at the UN Summit (2015) and officially commenced on 1 January 2016 (UN-DESA, 2016). According to the SDGs, countries will be expected to formulate efforts to stop all forms of poverty, discrimination and deal with climate change (UN, 2016).

2.4 FOOD AND NUTRITION-RELATED CHALLENGES IN RESOURCE-CONSTRAINED COMMUNITIES

In this section, I discuss food and nutrition-related challenges typically experienced by individuals in resource-constrained communities. I review general food security challenges faced by such communities within a global setting, and then discuss the typical food consumption practices and nutrition-related needs of these communities.

2.4.1 A GLOBAL CHALLENGE

Globally, shared responsibility is taken to ensure that the poor are fed, because of the approximately one billion individuals considered to be hungry (FAO, IFAD & WFP, 2015). According to Foley (2011) the world is facing a *"three-fold challenge"* concerning food and nutrition security. Firstly, global populations are confronted with the challenge of producing sufficient amounts of food on a global level (Foley, 2011). Secondly, the environment has suffered, as a result of the need for increased food production (FAO, IFAD & WFP, 2015). Foley (2011) highlights, thirdly, that increased agricultural practices have led to the destruction of natural habitats, water pollution, emission of harmful gases, as well as the exhaustion of natural water resources.

Brew-Hammond (2010) elaborates on the primary food and nutrition-related challenges faced by sub-Saharan Africa, and highlights that factors related to health, water, sanitation, the environment and education are the main areas of concern. According to Brew-Hammond (2010), only one quarter of sub-Saharan Africa households have access to electricity, where the availability of supply is generally poor.

This author furthermore indicates that individuals often tend to make use of traditional biomass fuels for cooking purposes, with many environmental and health-related repercussions (Brew-Hammond, 2010).

According to Oldewage-Theron, Dicks and Napier (2006), resource-constrained communities have been found to eat less suitable food, to limit portion sizes, to skip meals or even skip eating altogether for full days at a time, as strategies to deal with food and nutrition insecurity. Caprio, Daniels, Drewnowski, Kaufman, Palinkas, Rosenbloom and Schwimmer (2008:2213) report that the poor diet of individuals in resource-constrained communities can be attributed to the *"low cost of widely available energy-dense, but nutrition-poor food"*. Darmon and Drewnoski (2008) highlights that possible causal factors contributing to the inferior diet of individuals in resource-constrained communities include high food prices, the environment, limited access to food, low levels of education and cultural influences.

2.4.2 FOOD AND NUTRITION-RELATED CHALLENGES OFTEN FACED BY SOUTH AFRICAN RESOURCE-CONSTRAINED COMMUNITIES

Vorster (2010) identifies various nutrition-related challenges faced by South Africans, particularly those residing in resource-constrained communities. The prevalence of stunting in children and underweight adult men has been reported, despite South Africa being classified as 'food and nutrition secured' at a national level (Vorster, 2010). Stunting can be seen as a manifestation of malnutrition that occurs when a child's height-for-age is more than two standard deviations less than the international reference, implying poor nutrition over a long period of time (Zere & McIntyre, 2003).

According to Zere and McIntyre (2003), malnutrition seems particularly prevalent among urban and rural South African citizens. These authors view malnutrition as being closely related to socio-economic status, with the number of malnutrition cases decreasing as income levels increase. In a related study by Saloojee, De Maayer, Garenne and Kahn (2007) it was found that malnutrition is more prevalent among children of mothers who have not completed secondary education. Malnutrition is furthermore associated with poor weaning practices, HIV and AIDS, parental death, birth order and poverty (Saloojee et al., 2007).

Another prominent challenge within the South African context is hidden hunger, which presents itself in the form of micronutrient deficiencies in individuals (Vorster, 2010). Most South African children and adults in resource-constrained communities do not have sufficient vitamin A, calcium, iron, iodine and zinc sources forming part of their food intake (Faber & Wenhold, 2007). In this regard Labadarios et al. (2005) indicates that one in every three South African children have a minimal vitamin A intake.

South Africa falls among the low-and middle-income countries where obesity is on the rise (Vorster, 2010). Urbanisation in South Africa has been linked to an increased intake of animal products and fats. In this regard, Vorster (2010) state that urbanised diets tends to be richer in micronutrients, but that the

increased fat and energy intake may result in obesity. To this end individuals living in rural areas tend to consume approximately half the amount of animal protein than their urban counterparts.

Household food and nutrition insecurity, malnutrition and hidden hunger remain among the most overwhelming challenges facing the majority of vulnerable resource-constrained communities, and continue to burden the health of poor nations in the developing world (World Health Organisation, 2003). According to De Villiers, Senekal and Fourie (2010:2) South Africa is "*characterised by a quadruple burden of communicable, non-communicable, perinatal and maternal"* diseases related to nutrition. The World Health Organisation (WHO) estimated that 36 million deaths each year (63% of all deaths on a global level) are caused by cancer (21%), diabetes (31%), cardiovascular disease (48%) and chronic respiratory diseases (12%) (Department of Health, 2011).

Statistics South Africa (2012) and Kimani-Murage, Kahn, Pettifor, Tollman, Dunger, Gómez-Olivé and Norris (2010) highlight that a nutrition transition (where individuals adopt western diets that are energy dense and low in fibre) can increasingly be observed in low-and middle-income countries, including South Africa. In this regard Vorster (2010) note that this nutrition transition has brought about various health risks in South Africa. Kruger, Puoane, Senekal and Van der Merwe (2007) elaborate and indicate that this might lead to early stunting and adolescent obesity occurring simultaneously in one community.

2.5 FOOD CONSUMPTION PRACTICES OF SOUTH AFRICAN RESOURCE-CONSTRAINED COMMUNITIES

In this section I discuss typical food consumption practices of South African resource-constrained communities. I focus on daily food choices, food production and preparation, as well as factors that may influence food consumption practices in South African resource-constrained communities.

2.5.1 FOOD CHOICE IN RESOURCE-CONSTRAINED COMMUNITIES

Food choice usually depends on the socio-economic status of a family, with resource-constrained communities typically being characterised by less than optimal food choices (Kruger, Kruger & McIntyre, 2006; Darman & Drewnoski, 2008; Larson & Story, 2009). Munoz-Plaza, Morland, Pierre, Spark, Filomena and Noyes (2013) report that environmental factors also impact on individual food choice pattern, particularly in terms of dietary intake. Features of local food environments, such as differences in the cost of food and the variety of available food within markets, as well as the distance travelled to obtain food, are additional factors impacting on food choice. Furthermore, public health professionals are progressively focusing on environmental challenges that influence the ability of households to meet the suggested South African Food-Based Dietary Guidelines (FBDG) (Munoz-Plaza, et al., 2013; Schönfeldt, Hall & Bester, 2013). This challenge is of particular concern for adults in resource constrained-communities, many of whom are dealing with non-communicable diseases such as hypertension, diabetes, strokes and heart diseases.

Taylor and Jinabhai (2001:137) mention examples of typical food choices in resource-constrained households, such as *"a single staple, corn prepared in numerous ways, supplemented by dried beans, negligible amounts of milk and occasionally meat and wild greens, with seasonal additions of potatoes"*. Resource-constrained communities tend to choose food that mainly contains refined grains, starchy vegetables, added fats, sweets and fatty meats (Darman & Drewnoski, 2008). Furthermore, South African resource-constrained communities generally follow monotonous diets comprising limited items (Faber, Jogessar & Benadé, 2001; Schönfeldt, Gibson & Vermeulen, 2010). According to Martins (2005) most of the monthly food budget of households in South African resource-constrained communities is spent on maize, poultry and brown bread. In addition, sugar, tea, milk and white bread are common food choices in South African households (Labadarios, Steyn, Maunder, MacIntryre, Gericke, Swart & Nel, 2005).

South African resource-constrained communities spend up to 47% of their food budget on maize products (Martins, 2005). Maize is mostly eaten in the form of stiff porridge, but is also served as soft or crumbly porridge (Kimani-Murage et al., 2010). Steyn, Nel and Casey (2003) found that a daily average of 426g and 848g of maize was eaten by children and adults respectively in resource-constrained communities at the time of their study. St Clair and Foulk (2006) elaborated by stating that food choices that mainly consist of staple cereals or grains are usually associated with micronutrients deficiencies.

According to Labadarios et al. (2007) and Martins (2005) bread and rice are among the most commonly consumed grains that households in resource-constrained communities use. On average adult South Africans consume about 165g of white or brown bread per day. Bread consumption also makes a large contribution to salt intake in the diets of South Africans. In this regard, Bertram, Steyn, Wentzel-Viljoen, Tollman and Hofman (2012) emphasise that an increased salt intake from refined food may lead to increased blood pressure and other cardiovascular diseases.

Households in South African resource-constrained communities typically consume chicken, soy beans and sour milk as part of their daily protein intake (Mkhize, Napier & Oldewage-Theron, 2013; Taylor & Jinabhai, 2001). According to Martins (2005), adults consume approximately 111g of chicken meat per day, with about 55% of the monthly food budget spent on poultry (including the heads and feet of chickens). Martins (2005) and Steyn et al. (2003) furthermore indicate that nearly 80% of the money spent on fish products in South African resource-constrained communities are spent on tinned fish.

The consumption of fruits and vegetables is generally low in South African resource-constrained communities because of these products being expensive, poor availability of the product and scarcity of resources to grow these (Kruger et al., 2006). Faber et al. (201) and Martins (2005) report that bananas, oranges and apples are among the most commonly consumed fruits in resource-constrained communities. Oldewage-Theron, Dicks and Napier, (2006) note that cabbage is typically eaten and generally prepared with inions, tomatoes and oil (Vorster, Venter, Wissing & Margetts, 2007). Other vegetables that are eaten frequently include spinach, potatoes, pumpkins, carrots and beetroot (Mkhize,

Napier & Oldewage-Theron, 2013; Oldewage-Theron et al., 2006). In addition, many households in resource-constrained communities consume indigenous, green leafy vegetables (Faber et al., 2001; Green, et al., 2004), with approximately 182g green leafy vegetables forming part of the typical daily food consumption of South Africans in resource-constrained communities. Although the indigenous green leafy vegetables have many nutritional benefits and can be easily obtained, consumption is still low. In this regard, Smith and Eyzaguirre (2007) found in their study that the eating of indigenous leafy vegetables is sometimes considered to be indicative of being poor. This finding is confirmed by Orech, Christensen, Larsen and Fris (2007).

Sugar consumption by households in resource-constrained communities is generally very high (Vorster et al., 2007). Faber et al. (2001) as well as Steyn et al. (2003) report that children and adults from South African resource-constrained communities consume approximately 10g and 30g of sugar per day. School-going children often buy food items high in sugar from school tuck shops, local vendors and other informal shops close to the school (De Villiers, Steyn, Draper, Fourie, Barkhuizen, Lombard, ... Lambert, 2012). High sugar consumption is associated with, amongst other things, obesity and tooth decay (Steyn et al., 2003).

Households in South African resource-constrained communities typically drink black tea (Ceylon and rooibos) on a regular basis (Mkhize et al., 2013; Oldewage-Theron et al., 2006). More specifically, Faber et al. (2001) indicate that 86% of adults in resource-constrained communities drink tea on a daily basis. Martins (2005) reported that 80% of the money spent on non-alcoholic beverages in South African resource-constrained communities, is spent on tea.

According to Temple, Steyn, Fourie and De Villiers (2011) financial challenges and low income for breadwinners often lead to unhealthy food choices, since healthier choices are perceived to be costly. Temple et al. (2011) further states that inexpensive food types that consist of additional sugar and fats, are poor sources of energy, whilst healthier food are more nutrient dense in comparison with low cost food type, which are more energy-dense. Over consumption of energy-dense food leads to obesity, on the other hand, which is of great concern to South African households, especially because of the increased prevalence of overweight and obesity among black urban woman in particular (Temple et al., 2011).

2.5.2 FOOD PREPARATION PRACTICES IN RESOURCE-CONSTRAINED COMMUNITIES

Food preparation practices in South African resource-constrained communities appear to be affected by factors such as time, households' preferences and cultural practices (Love, Maunder, Green, Ross, Smale-Lovely & Charlton, 2001). Viljoen (2010) reports that convenience and socio-economic factors will furthermore influence the manner in which food is prepared in resource-constrained communities.

According to Love et al. (2001), South African resource-constrained communities prefer to use fats for cooking, tend to overuse salt and choose refined food.

Viljoen (2010) emphasises that local household food preparation often involves the boiling of food (including meat, vegetables and starch) in water with salt. Sunflower oil is also used for cooking, either for frying or as addition to recipes (Viljoen, 2010). Meat is usually served as stew (prepared with water, salt, tomatoes and onion) or in fried form, while starch-based dishes are typically prepared using water and salt. Vegetables are either fried (together with onions, salt and oil) or served in stewed form (Spearing, Kolahdooz, Lukasewich, Mathe, Khamis & Sharma, 2012). Typical salt consumption (in the form of table salt) is also higher than the recommended maximum intake of 6g per day for adults. Salt consumption is specifically higher among black South Africans and form part of 46% of their total dietary intake of sodium (Charlton, Steyn, Levit, Zulu, Jonathan Veldman & Nel, 2005).

Daniels, Glorieux, Minnen and Van Tienoven (2012) agree that whilst the media, in the form of programmes on food preparation, have increased significantly in popularity, knowledge and awareness about the nature of healthy food preparation practices in resource-constrained communities still need additional emphasis. Home cooking is furthermore still mainly related to the 'traditional' cultural belief that women, as homemakers, need to cook meals for their families, and are the ones determining the type of food that the family will consume (Daniels et al., 2012). Social background, employment status, educational level and attitudes towards traditional gender roles are additional contributing factors towards food choices and preparation practices, according to Vidgen and Gallegos (2014).

2.5.3 FOOD PRODUCTION PRACTICES IN RESOURCE-CONSTRAINED COMMUNITIES

According to Galhena, Freed and Maredia (2013), home-based food gardens hold the potential to improve the accessibility to, and ultimately consumption of foods that are rich sources of nutrients in resource-constrained communities. Galhena et al. (2013:2) describe home-based gardens as *"a mixed cropping system that encompasses vegetables, fruits, plantation crops, spices, herbs, ornamental and medicinal plants as well as livestock that can serve as supplementary source of food and income"*. Vegetable gardens have proven to be a successful food-based strategy, specifically in the case of vitamin A deficiency (Ruel & Levin, 2002). In this regard Faber, Venter and Benadé. (2002) indicate that home-grown production of vegetables may possibly supply families with direct access to food types that are rich in vitamin A. In addition, Faber et al. (2002) associate home-based vegetable gardens with better growth in pre-School Children, a reduction in the severity of acute respiratory infections and a decreased risk of vitamin A deficiency.

Similarly, Ruel and Levin (2000) state that home-based vegetable gardens can provide an effective approach to improving household food and nutrition insecurity in terms of dietary quality and quantity in resource-constrained communities. These authors add that in developing countries, home-based

vegetable gardens are usually established to increase the local production of vegetables to supplement the typical cereal-based diet of resource-constrained households (Ruel & Levin, 2000). According to Faber, Laurie, Ball and Andrade (2013), vegetable gardens have traditionally made an important contribution to household nutrition and continue to do so in developed and developing countries. Home-based vegetable gardens can generate an income and help save money, especially in view of rising food prices.

In this regard, Thornton (2008) found that home-based vegetable gardens can save households approximately R100 per month in food expenditure and, in some cases, as much as R300 per month. Vegetable gardens can empower women (or men) and if effectively developed, may lead to commercial production and broader community development (Faber et al., 2013). In addition, vegetable gardens hold the potential to contribute to solving the challenge of hunger and malnutrition by making nutritious food accessible (UN, 2015). The important role of vegetable gardens is similarly emphasised in the Zero Hunger Challenge, whereby developing countries are urged to establish vegetable gardens, due to the potential contribution towards a world where everyone has access to enough nutritious food all year round (UN, 2013).

According to Laurie and Faber (2008), evaluation of a vegetable garden project in the Eastern Cape indicated that the project had a positive effect on participants' understanding of nutrition, morbidity of children between 1 and 5 years of age as reported by caregivers, as well as the growing of vitamin A-rich vegetables. An evaluation of a communal garden project in the Limpopo province (Faber et al., 2013) similarly shows a positive effect of a garden on awareness of nutrition, adoption of the planting of vitamin A-rich vegetables and sales of nearly 70-90% of the vegetables produced in the gardens to local consumers. Closely related, the Ndunakazi home garden project has resulted in the community gaining more awareness of what makes their children healthy through growth monitoring, as well as the necessary skills to produce their own vegetables (Faber, Venter & Benadé, 2002; Faber & Laubscher, 2008).

To this end Faber and Wenhold. (2007) recommend that households in resource-constrained communities should aim to increase the production and use of natural resources such as indigenous vegetables. These vegetables are relatively drought tolerant and can be produced in soil of limited fertility. Mounder and Meaker (2007) add that indigenous vegetables can alleviate nutritional deficiencies and that these are harvested mainly in early spring when conventional crops are less abundant.

In addition to the production of plant products, the prediction of food demand for livestock will sharply increase in sub-Saharan Africa and South Asia in the next 30 years (UNDP, 2008). In Thornton's (2008:2853) study the focus falls on agricultural-related activities in peri-urban and urban areas, viewing livestock as an *"important risk reduction strategy for vulnerable communities".* This author furthermore indicates that culture (44%), food consumption (32%) and entrepreneurship (16%) are the main reasons

for rearing livestock. Chickens, goats and cattle appear to be the most commonly kept livestock in South African resource-constrained communities, where these animals are either slaughtered or kept for products such as milk and eggs (Thornton, 2008).

2.5.4 FACTORS AFFECTING THE FOOD-CONSUMPTION PRACTICES OF RESOURCE-CONSTRAINED COMMUNITIES

South African resource-constrained communities are often marked by poor food choices, which might lead to poor health (Mduluza, Midzi, Duruza & Ndebele, 2013) and are rooted in political, social and economic influences (Halford, Gillepse, Brown, Pontinin & Dovey, 2004). Ozanne and Anderson (2010), together with Van der Boer and Mars (2015), emphasise that poor health due to poor food choices can in turn trap resource-constrained communities in poverty. Halford et al. (2004) and Popkin, Duffey and Gordon-Larsen (2005) furthermore state that policy-related factors will influence household and individual food decisions. Resource-constrained communities are often affected by lack of relevant and current information, financial resources and eating patterns (Macintyre, Mcdonald & Ellaway, 2008). According to Kaplan, Calman, Golub, Ruddock and Billings (2006), culture, ethical and religious beliefs can affect the food consumption practices of resource-constrained communities.

Factors such as access to quality food, lack of health care services, low-wage work, poor housing facilities, inadequate and long-distance transportation, as well as neighborhood violence, may affect the stress levels experienced in resource-constrained communities (Block, Yulei, Zaslavsky, Ding & Ayania, 2009; Lohman, Stewart, Gundersen, Garasky & Eisenmann, 2009; Moore & Cunningham, 2012). Constant tension may in turn cause weight increase as a result of poor eating patterns (Adam & Epel, 2007; Torres & Nowson, 2007) and may furthermore cause depression and fear, which are both linked to obesity (Anderson, Cohen, Naumova, Jacques & Must, 2007; Simon, Von Korff, Saunders, Miglioretti, Crane, Van Belle & Kessler, 2006). According to Kaplan, Madden, Mijanovich and Purcaro (2012) poor eating patterns tend to lead to tiredness, thus influencing the resource-constrained community's capacity to work. Over time, this may contribute to the risk of community members developing illnesses, tooth decay, heart diseases, diabetes and osteoporosis, (Link & Phelan, 1995; Lantz, House, Mero & Williams, 2005; Dallman, Pecoraro & La Fleur, 2005).

Resource-constrained communities also often lack full-service retailers and farmers' markets where community members have access to a wide selection of commodities (Beaulac, Kristjansson & Cummins, 2009; Larson & Story, 2009). The lack of reliable transportation in some of these communities forces community members to buy their food at small neighbourhood convenience stores and street vendors, where fresh produce and low-fat items are restricted (Kim, Kim, Park, Kang, Hwang & Rhee, 2015). When healthier food is available it tends to be more expensive, whereas food consisting of refined grains, additional sugar and fats are usually inexpensive and easily available in resource-constrained communities (Monsivais & Drewnoski, 2009; Drewnoski, 2010). Resource-constrained communities

furthermore often host high numbers of spaza shops and street vendors, especially near schools where energy-dense, nutrient-poor food are being sold at low prices (Simon et al., 2008; Larson et al., 2009; Fleischhacker, Evenson, Rodriguez & Ammerman, 2011).

A lack of information, in adequate motivation and a loss of cooking skills can prevent community members from purchasing and preparing meals with healthy ingredients (Vereecken, Keukelier & Maes, 2004; Dibsdall, Lambert, Bobbin & Frewer, 2003). Furthermore, experimenting with food during cooking time is a luxury that resource-constrained communities can seldom afford (Moore & Littlecott, 2015). In terms of the media, resource-constrained communities are exposed to more advertising and promotion initiatives for obesity-related products that will support the intake of unhealthy food by means of discouraging physical activity (Yancey, Cole, Brown, Williams, Hillier, Kline, ... & McCarthy, 2009). Such advertising, according to the World Health Organisations' Institute of medicine (2013), has a convincing influence on preferences, eating patterns and purchases of parents for their children.

2.6 NATIONAL RESPONSE TO FOOD AND NUTRITION-RELATED CHALLENGES FACED BY SOUTH AFRICAN COMMUNITIES

The Bill of Rights states that *"the state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of each of these rights"* (South African Constitutional Law, 1996:12). According to the Department of Agriculture, Forestry and Fisheries (DAFF, 2014), food and nutrition insecurity is a multidimensional challenge which requires incorporation of existing policies and interventions in health, education, and agricultural development. In addition, food and nutrition insecurity necessitates well-managed inter-sectorial organisation on both local and national level (DAFF, 2014; Oxfam, 2014).

In an attempt to alleviate poverty, as well as food and nutrition-related challenges (extreme hunger, malnutrition, obesity, household food and nutrition insecurity), the South African government has employed various strategies and intervention programmes, including support grants, school feeding schemes, as well as free access to health services for young children, pregnant and breastfeeding women (Department of Agriculture, 2002). In addition to the above-mentioned strategies and programmes, government has also developed and implemented several other initiatives to increase household food and nutrition security, and reduce hunger, malnutrition and poverty-related challenges experienced by South Africans in resource-constrained communities.

The Integrated School Health Policy (ISHP) (Department of Health and Basic Education, 2012:2) "*aims to build on and strengthen existing school health services, as well as the optimal health and development of school-going learners and the communities where they live and learn"*. The ISHP is located within a number of universal and national programmes, which aspire to develop the health and value of the education of school-going learners (Department of Health & Basic Education, 2012).

South Africa, for example, was committed to strive towards achieving the Millennium Development Goals (MDGs) (UN, 2015) and is currently striving to achieve the Sustainable Development Goals (SDGs) (UN, 2015). School-communities have been fulfilling an essential role in ensuring that the second and third MDGs are met, with the focus on universal primary education, as well as the promotion of gender equality. Nutrition education, through school-based interventions, and better access to social support furthermore contributes towards MDG1 (eradication of extreme poverty and hunger) (UN, 2015; Departments of Health & Basic Education, 2012).

Another initiative is the Care and Support for Teaching and Learning (CSTL) Programme (Department of Basic Education, 2010) that was adopted in 2008 and forms part of a Southern African Development Community (SADC) initiative. The CSTL Programme seeks to prevent and alleviate aspects that have an adverse effect on the registration, development of at risk learners by addressing barriers to learning and teaching. The following have been categorised as priority areas by the Department of Basic Education (2010:10): "*Nutrition, Health Promotion, Infrastructure, Water and Sanitation, Social Welfare Services, Safety and Protection, Psychological Support, Curriculum Support, Co-curricular Support, and Material Support".* The CSTL Programme proposes an outline to join together the variety of care-based interventions to support school-going learners and their School Communities (Department of Basic Education, 2010).

Loosely related, the National School Nutrition Programme (NSNP) is a school-based intervention to address hunger and malnutrition among school-communities. The NSNP promotes Nutrition Education for learners, educators and parents through school-based vegetable gardens, extra-and co-curricular activities. The Sustainable Food Production programme in schools (SFPS) is a sub-programme of the NSNP, intended to support school-communities with knowledge and practical skills on food production, as well as the sustainable use of natural resources. To this end, school-based vegetable gardens are used to develop school-communities' knowledge, skills and attitudes related to food and nutrition. Schools are assisted to establish and sustain manageable vegetable gardens where school-communities (learners, educators and parents) can learn how to grow, tend and harvest a variety of vegetables (Department of Basic Education, 2011).

The NSNP is regarded as an effective intervention to alleviate short-term hunger, as well as to increase school enrolment, attendance and community participation. Currently, learners in quintiles[3] 1[4], 2[5], and 3[6] primary and secondary schools benefit from the NSNP (Department of Health and Basic Education,2012), as well as learners from other identified special schools. Through the NSNP the

[3] "*A quintile is a statistical value of a data set that represents 20% of a given population, so that the first quintile represents the lowest fifth of the data"* (Department of Energy, 2012: ix)
[4] Represents 0% -20%
[5] Represents the second fifth of the data 21%-40%.
[6] Represent the third fifth of the data 41%-60%.

Department of Basic Education thus aims to enhance the learning capacity of school-going learners through the provision of healthy meals at school.

The South African government has furthermore established the South Africa Vision 2025 initiative that focuses on outcomes and move away from an emphasis on inputs and bureaucracy (Departments of Health & Basic Education, 2011). Schooling 2025 and Action Plan to 2014, together with the current Integration Strategy 2012-2016, address amongst others, the following goals: to guarantee that learners continue to be enrolled in school up to the year in which they turn 15 (goal 10); to increase parental input in the governance of schools (goal 22); to make sure that the school environment motivates learners to want to attend school and learn (goal 24); to utilise the school as a location that encourages access amongst learners to health promotion and poverty reduction interventions (goal 25) (Department of Basic Education, 2011).

Closely related, the Integrated Food Security Strategy (IFSS) (Department of Agriculture, 2002) was launched to support the eradication of hunger and malnutrition, as well as to integrate existing food and nutrition insecurity interventions by different governmental departments (Department of Agriculture, 2000). A key objective of the IFSS is to overcome rural household food insecurity by intensifying the involvement of these households in agricultural-related and production-based activities. In addition, the focus falls on the improvement of nutrition and food safety through public education and interventions for vulnerable communities (Department of Agriculture, 2000).

In support of the National Development Plan's (NDP) vision for 2030, the Fetsa Tlala Integrated Food Production Initiative (End Hunger) endeavours to contribute towards food and nutrition security for all (DAFF, 2013). The NDP views food and nutrition security as a key factor of both poverty and inequality. Similarly, Fetsa Tlala is thus aimed at the eradication of hunger. To this end, the South African government, through the implementation of Fetsa Tlala, aims to assist small-holder farmers by "*putting one million hectares under production by 2018/2019"* (DAFF, 2013:1).

Overall, the National Development Plan (NDP) 2030 (The Presidency of South Africa, 2012) aims to support South Africans with the following MDG-related objectives to eliminate income poverty: strengthen employment from 13 million in 2010 to 24 million in 2030, confirm household food and nutrition security, ensure access to clean running water to all South Africans, "*increase the quality of education so that all children have at least two years of preschool education and all children in grade 3 can read and write, establish a food trade surplus with one third being produced by small-scale farmers or households"*, and provide quality health care for all South Africans (The Presidency, Republic of South Africa, 2012:34). The NDP furthermore aims to make use of an approach that moves away from passive citizenry, where South Africans are receiving services from the state, to one that systematically includes the socially and economically excluded, where all South African citizens are active role-players in their own development (Van Nieuwkerk, 2014).

Secure access to food by resource-constrained communities is threatened by the global economic slowdown, climate change, increased food price volatility as well as poor storage and distribution of food (DAFF, 2014). This belief has compelled the South African government to review the IFSS (Integrated Food Security Strategy, 2002) and develop the comprehensive National Food and Nutrition Security Policy (DAFF, 2014). The primary objective of the National Food and Nutrition Security Policy is to "*ensure the availability, accessibility and affordability of safe and nutritious food at both national and household levels. In addition, the essence of this Policy is to build on existing initiatives and systems and to put mechanisms in place that will ensure stronger alignment, coordination and oversight"* (DAFF, 2014:30).

2.7 THEORETICAL FRAMEWORK OF THE STUDY

I selected Bronfenbrenner's ecosystemic theory (Donald et al., 2010) as guiding framework for the current study. As I regard interdependency to be the foundation of community-based existence, I view Bronfenbrenner's ecosystemic theory as relevant to this study.

As stated Bronfenbrenner's ecosystemic theory is based on the interdependence between individuals, their physical environment and the influence of the social context on everyday decision making (Bronfenbrenner, 2005; Donald et al., 2010). The theory illustrates the relevance of a number of systems in understanding societal needs, as these operate within and across the school, familial, cultural and economic contexts (Bronfenbrenner, 2005). In line with the 'Person-Process-Context-Time' model (Bronfenbrenner, 2005), I have focused on the 'context' dimension of the model (Tudge, Mokrova, Hatfield & Karnik, 2009) for purposes of the current study.

The 'context' dimension emphasises that community members are positioned within four interrelated systems (Tudge et al., 2009). Each system is unique and represents a significant development context for parents' perceptions. In other words, this theoretical framework infers that the construction of parents' perceptions cannot be comprehended effectively without investigating the interconnectedness between the multiple related subsystems (Bronfenbrenner, 2005). Based on the integration and the interaction of various environmental settings in a 'person-process-context-time' manner (Bronfenbrenner, 2005), this theory provides one with a framework of knowledge that can be used to identify food consumption practices and nutrition-related needs according to parents' perceptions (Bronfenbrenner, 2005).

Bronfenbrenner's ecosystemic theory namely consists of five subsystems that cannot be defined without referencing the related interactive systems. Extending Bronfenbrenner's ecosystemic theory to the current study of parents' perceptions of the food consumption practices and nutrition-related needs of their community, place parents in the centre of an interactive system that consists of a microsystem, mesosystem, exosystem, macrosystem and chronosystem (Bronfenbrenner, 2005). More specifically,

these ecological environments are taken as nested subsystems of different sizes and are concentred from the smaller to the larger environment (see Figure 2.1).

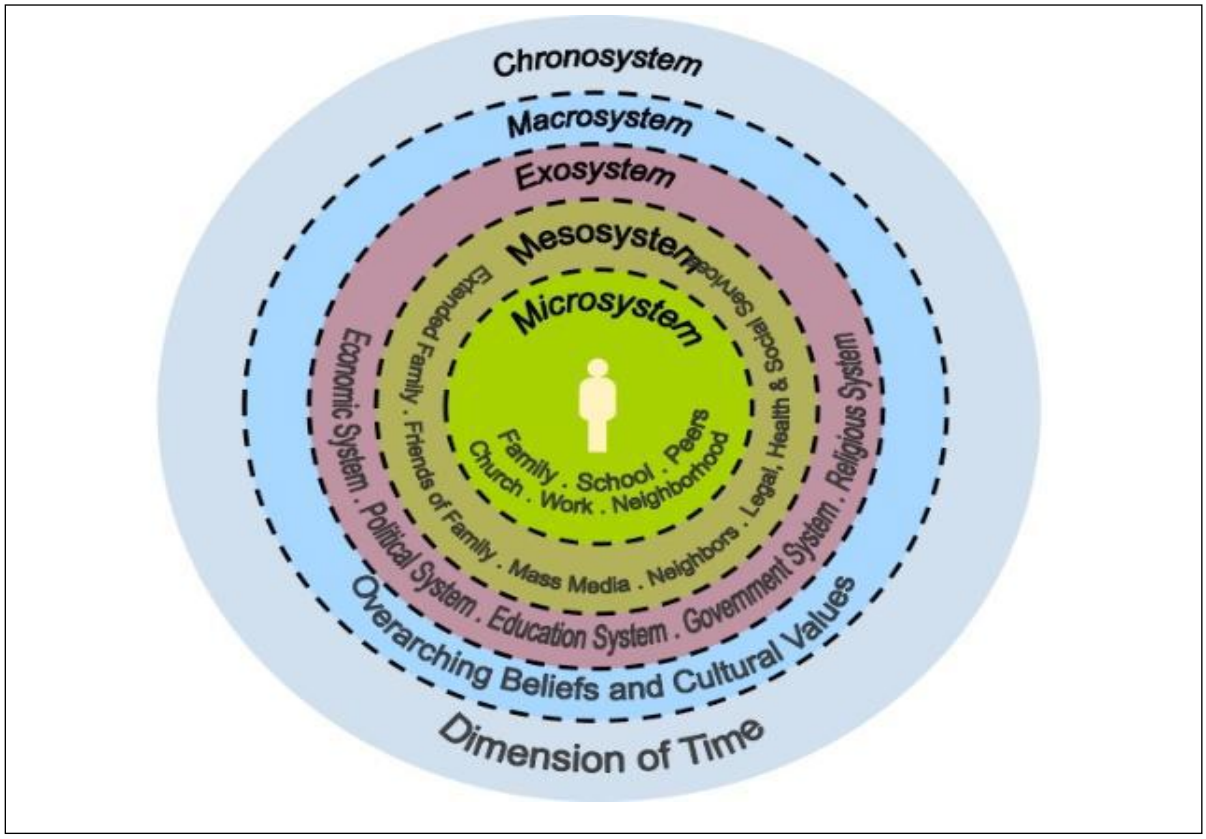

Figure 2.1: Bronfenbrenner's Ecosystemic Theory (Bronfenbrenner, 2005)

The innermost level, the *microsystem*, represents the individual's immediate context (environment). According to Bronfenbrenner (2005), as well as Duerden and Witt (2010), the microsystem is characterised by direct interactional processes such as familial relationships and other friendships. The microsystem thus includes the relationships and interactions individuals have with their immediate environment (Berk, 2000). It is in the microsystem that individuals experience their day-to-day reality and immediate socialisation. According to Donald et al. (2010) structures in the microsystem include the family, school, neighbourhood and childcare environment. At the microsystem level, relationships have an impact on two dimensions: both away from the community and towards the community (Donald et al., 2010). For example, the community might affect an individual's beliefs and behaviour; however, the individual may in turn affect the behaviour and beliefs of the community (Donald et al., 2010). At this level, bi-directional or reciprocal, effects are the strongest and will influence the community greatly.

The *mesosystem* can be described as a set of microsystems where individuals, such as parents, continually interact with one another (Donald et al., 2010). According to Bronfenbrenner (2005), the mesosystem entails relations between settings such as the home, school neighbourhood, community and peer group. This system incorporates all the aspects that influence individuals and their perceptions of, for example, the community's food consumption practices and nutrition-related needs. What occurs in the

community (mesosystem) will accordingly have an influence on community members' (parents') food choices and food preparation techniques in the microsystem, and will also have a reciprocal influence on the community's food choices and preparation techniques in the macrosystem.

According to Berk (2000) and Donald et al. (2010) the exosystem entails the link between systems where individuals do not have any role or, contexts where they are actively participating. Thus, the exosystem incorporates social settings, such as the neighbourhood, support network and the broader community that have an indirect effect on individuals' perceptions (Bronfenbrenner, 2005). In addition, the macrosystem refers to the overarching set of social values, cultural beliefs, political ideologies, customs and laws of the society within which an individual functions.

Ndiaye, Silk, Andersen, Herstman, Carpenter, Hurley and Preuix (2013) highlight the potential roles of the subsystems in which, for example, parents find themselves in terms of food consumption practices. These include communication in the form of rituals (for example, shared mealtimes, as well as attitudes towards healthy food and exercise), rules (who helps with food preparation or production) and decision making (who makes the decisions about food consumption and for whom are these decisions made), which play an important role in terms of food consumption-related decisions within the family context. At the meso- and exosystems, family and parental styles will influence children's food consumption practices and decision making in the form of modelling and available time for meal preparation. Within the macrosystem, aspects such as school feeding schemes, accessibility of shops and food and socio-economic status have an influence on food consumption-related decisions families make.

A study by Pallan, Parry and Adab (2012) emphasises various contextual factors that may influence the food consumption practices and nutrition-related needs of a community. Within the microsystem, food preferences, parents' inactive lifestyles, parents' food choices for their families and their nutritional behaviour, may serve as examples for children to model. Within the mesosystem, schools may influence food consumption practices through messages about healthy and unhealthy food, as well as preparation practices. At the macro-level, access to healthy food, cost of healthy food and the influence of the media are aspects influencing the perceptions and decisions of community members such as parents. Finally, the dominant culture of a community may influence the food consumption practices and nutrition-related needs.

2.8 CONCLUSION

I conducted a literature review to understand better the current global food and nutrition scenario, as well as the prevalence of hunger and malnutrition. The focus of my study falls on resource-constrained communities in South Africa. I furthermore specifically explored current efforts to address the challenge of food and nutrition insecurity in South Africa. After discussing the literature I have reviewed, I concluded

this chapter with a description of the theoretical framework which guided me in undertaking the study and interpreting of the results I obtained.

In Chapter 3 I discuss the research process more comprehensively: I explain my selected paradigmatic perspectives, research design and methodological strategies I employed. I furthermore describe the quality criteria and ethical considerations I relied on during the study.

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CHAPTER 3
RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

In the previous chapter, I explored current literature related to the eradication of extreme hunger and poverty, current food consumption practices and nutrition-related needs within South African resource-constrained communities, as well as national and international efforts addressing hunger and poverty. In addition, I focused on community involvement during the development of health promotion and education interventions. Furthermore, I presented the theoretical framework upon which I relied in undertaking the study.

In this chapter, I discuss the research methodology I followed. I justify my choices of Interpretivism as epistemological paradigm and qualitative research as methodological approach. Hereafter, I describe the selected research design, selection of the research site and participants, as well as data generation and documentation strategies. I explain my data analysis and interpretation, outline the quality criteria I attempted to adhere to, and conclude the chapter with a discussion of the ethical considerations I respected.

3.2 PARADIGMATIC PERSPECTIVES

In this section I discuss the epistemological and methodological paradigms I selected for this study. According to Babbie (2005), paradigms are fundamental models or frameworks, employed as a means of organising observations. Mertens (2010) describes paradigms as worldviews and assumptions that guide researchers' thoughts and actions.

3.2.1 EPISTEMOLOGICAL PARADIGM: INTERPRETIVISM

Based on the involvement of and interaction with parents in this study, I chose an interpretivist paradigm. Interpretivism allowed me to describe participating parents' perceptions of a resource-constrained community's food consumption and nutrition-related needs (Clarke, 2009; Goldkuhl, 2012). According to Terre Blanche and Durrheim (2002) Interpretivism can enable a researcher to gain in-depth, as well as experiential data from participants, and form an understanding of a phenomenon within the specific research context. As an interpretivist researcher, I thus aimed to understand (Mouton, 2001) parents' perceptions as explained during an interactive process (Rubin & Babbie, 2014; Terre Blanche & Durrheim, 2002). PRA-based workshops allowed for interaction and collaboration among the participants, as well as between myself (researcher) and the participants.

According to Rubin and Babbie (2014) Interpretivism does not focus on isolating ideas, objectively measuring causes or developing generalisations. My intention in the current study was to gain an in-depth understanding of participants' perceptions regarding food consumption and nutrition-related needs within the selected resource-constrained community. As an interpretivist researcher I thus entered the field with prior insight of the research context (Goldkuhl, 2012). I remained open to new knowledge creation throughout the study, allowing such knowledge to develop in collaboration with the participants. The emergent and collaborative approach that I followed implied the belief that humans have the ability to adapt and that no one can have complete knowledge of time and context bound social realities (Goldkuhl, 2012). Throughout the data generation process I thus considered the importance of understanding and interpreting the meanings and views of the participants, rather than generalising their views to other settings (Neuman, 2000). It remained important for me as researcher to understand the participants' subjective experiences, which are time and context bound (Neuman, 2000; Alvermann & Mallozzi, 2010).

Participants were observed in their natural environment in an attempt to develop an in-depth subjective understanding of their way of living. I strived towards following a flexible approach when learning from the participants. I acknowledge that I approached participants subjectively (Alvermann & Mallozzi, 2010; Rubin & Babbie, 2014), however I remained cautious of my attempt to discover and understand how participants experienced their world subjectively. Through PRA-based workshops I was able to probe participants to provide their interpretations of their social reality, in order to for me to gain an understanding of their food consumption practices and nutrition-related needs (Rubin & Babbie, 2014).

A potential limitation of Interpretivism that I considered, relates to replication of the research not being possible, because of the research relationship, history and location of participants differing from study to study. Other limitations concern the effect of subjectivity and failure to generalise findings beyond the studied phenomenon (McMillan & Schumacher, 2014). It was, however, not my intention to generalise the findings of this study. I rather aimed to acknowledge the fact that the participants in this study are unique and may perceive the phenomenon differently than any other community, in their own subjective manner. Concerning the potential limitation of subjectivity in my own interpretations of the results, I relied on reflexivity and regular debriefing sessions with my supervisors. I also conducted member checking (Elliot & Lukes, 2008).

3.2.2 METHODOLOGICAL PARADIGM: QUALITATIVE RESEARCH

Creswell (1994) defines qualitative research as an inquiry process that explores a social or human phenomenon. Qualitative research involves research in a specific context, an understanding and an interpretation of people's views, and continuous reflection by the researcher (Knoblauch, Flick & Meader, 2005). The interpretivist paradigm is often implemented for qualitative research (Ritchie & Lewis, 2003), which assumes that perceptions are not only related to the senses, but to human interpretations of what the senses tell people (Ritchie & Lewis, 2003). In the current study the focus falls on an explanation of

parents' perceptions of food consumption practices and nutrition-related needs within a resource-constrained community through an interactive process which involved myself and my supervisors as researchers, as well as the parent participants (Marshall & Rossman, 1999). As a researcher, I set out to create a holistic picture, analyse words and report detailed information (Creswell, 1994). My study was carried out in the participants' natural environment, which allowed me as researcher to gain insight into the phenomenon in terms of the meanings the participants ascribed to it (Ritchie & Lewis, 2003).

Qualitative research, therefore, "*aims at providing an in-depth understanding of the social world"* of research participants by learning about their circumstances, perspectives, experiences and history within the participants' contexts (Ritchie & Lewis, 2003:3). For this study, I remained aware of the goal to discover patterns that would emerge from observation, careful documentation and thoughtful analysis of the data (Creswell, 1994). It follows that, for me to be able to examine the patterns of meaning which emerged from the data I had to focus on what was presented in the participants' own words (McMillan & Schumacher, 2008).

A challenge that qualitative research presented during my study relates to the study being heavily dependent on my individual skills as researcher and the potential of the study being easily influenced by my personal biases (Ritchie & Lewis, 2003). As researcher I had to remain aware of my pre-conceived perceptions of the phenomenon under study, and my subjective truth (Creswell, 1994). A reflective journal assisted me to remain as objective as possible (McMillan & Schumacher, 2014).

I furthermore experienced a challenge due to the amount of data I generated (Ritchie & Lewis, 2003), which made analysis and interpretation time consuming. I, however, acknowledge that for me to reach dependable findings, I had to invest the needed time in data analysis. The complexity of qualitative research data analysis furthermore required of me to do much reading in an attempt to acquire the necessary skills and knowledge to analyse data.

3.3 RESEARCH DESIGN

I utilised Participatory Reflection and Action (PRA) as research design, aligning this study with the broader research project of which it forms part. The PRA design supported me to develop insight into the contextual structure of meaning making and habitual practices of the participants (Bergold & Thomas, 2012). One advantage of PRA involves community ownership in the form of public participation (Pratt, 2009; Chambers, 2008). According to Chambers (2008) the power of implementation of action towards change lies in the hands of the community. The assumption is that the more committed the local community is to an intervention or project, the higher the chances are for such an initiative to reach its goals. Even though the parents involved in this study did not directly form part of the Win-LIFE intervention that followed this study, their participation in focused discussions implied the possibility of raised awareness that could eventually lead to change.

Despite the advantages of PRA, the approach also implies certain challenges. The generation and documentation of data through PRA required prolonged time in the research field, as well as, expertise and commitment from the research team (Farquhar, Parker, Schulz & Israel, 2006). This did not pose any challenges to me, as my study forms part of a broader initiative involving a dedicated group of researchers who regularly visited the research site at the time of data generation for this study. The inclusion of vulnerable participants could potentially have posed another challenge, yet I did not experience this challenge. I was able to relate easily to the participants, probably due to my understanding of their background and context, and the ability to relate to them in their mother tongue.

Another common limitation of PRA research involves the identification of participants. Making contact with selected community members only and then relying on them for data generation on behalf of the whole community, may imply a challenge (Kelly & Van Der Riet, 2001; Von Maltzahn et al., 2006). As this study involved parents of the participating schools, and due to the fact that three schools were involved, I am of the opinion that the voices and perceptions of the parents who participated may echo those of the broader community.

The manner in which the study was conducted, in particular the PRA-workshop activities I co-facilitated, made it easy for me to gain insight into the participants' life styles, their perceptions, experiences and problem solving patterns (Rath, 2012). The PRA-approach also helped me as researcher to build rapport, and elicit information and participation of the participants in their own context (Ling, 2011). As a researcher I concur with Bergold and Thomas (2012), who view PRA as significant and useful when involving participants as research partners in a data generation and knowledge-production process.

3.4 RESEARCH PROCESS

In this section I describe the research process in terms of the selection of participants and the research site, as well as the data generation and documentation techniques utilised. Figure 3.1 provides an overview of the research process.

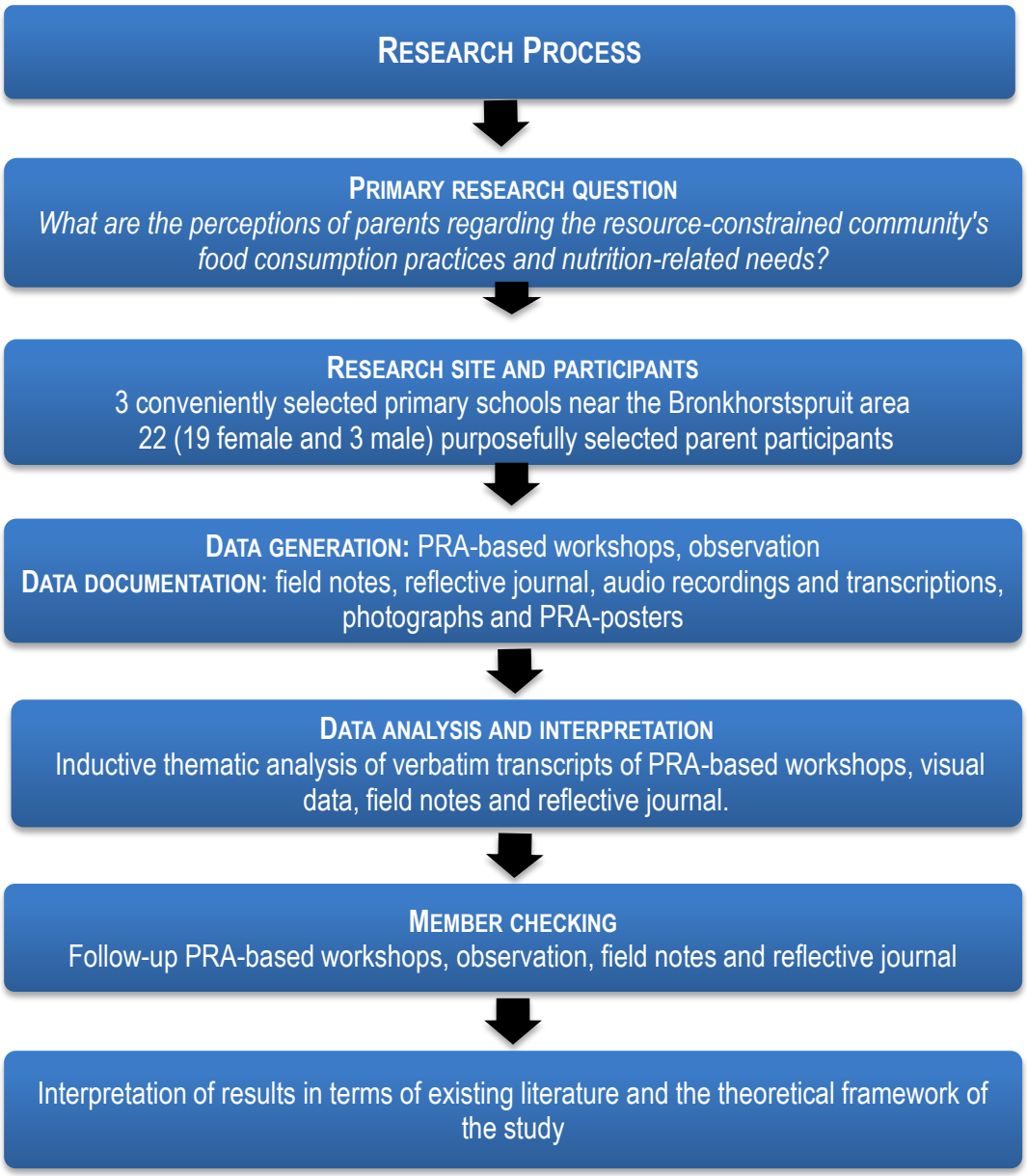

Figure 3.1: Overview of the research process

3.4.1 SELECTION OF PARTICIPANTS

In the current study I conveniently (Johnson & Christenson, 2004) selected three primary schools within a resource-constrained community, in the Bronkhorstspruit area (Gauteng). These schools have been participating in the broader research project since 2012 (Appendix B). According to Mertens (1998:265) convenience sampling implies participation in a study due to participants being *"readily available"*. Within the context of the current study, one advantage of convenience sampling was therefore that the research sites (three primary schools) were easily accessible to me (Terre Blanche & Durrheim, 2002).

A possible limitation of convenience sampling however relates to the results not being generalisable (McMillan & Schumacher, 2014), although the aim of the current study was not to generalise results but rather to gain a deep understanding of parents' perceptions regarding the specific resource-constrained

community's food consumption practices and nutrition-related needs. The community that forms the backdrop of the research context is characterised by high levels of poverty, unemployment, low-income, educational underachievement, undernourishment, and prevalence of chronic diseases. Photographs 3.1 and 3.2 provide visual images of two of the selected schools which were the research sites.

Photograph 3.1: School A

Photograph 3.2: School B

As participants, 22 parents of Grade 4 to 6 learners from the three participating schools were selected purposefully (Patton, 2002). Table 3.1 provides some background information on the participants.

Table 3.1: Background information on participants

Parent participants	Age	Highest qualification	Employment status
School A: Female participants = 4			
Participant 1	38	Grade 9	Employed
Participant 2	45	Grade 10	Employed
Participant 3	43	Grade 4	Employed
Participant 4	48	Grade 3	Employed
School B: Female participants = 7; Male participants = 2			
Participant 5	40	Grade 4	Employed
Participant 6	33	Grade 12	Unemployed
Participant 7	27	Grade 11	Unemployed
Participant 8	31	Grade 9	Employed
Participant 9	30	Grade 8	Employed
Participant 10	45	Grade 7	Employed
Participant 11	34	Grade 6	Employed
Participant 12	53	Grade 8	Employed
Participant 13	32	Grade 12	Employed
School C: Female participants = 8; Male participants = 1			
Participant 14	53	Grade 11	Employed
Participant 15	30	None	Employed
Participant 16	22	Grade 12	Employed
Participant 17	39	Grade 11	Employed
Participant 18	58	Grade 10	Employed
Participant 19	22	Grade 10	Unemployed
Participant 20	50	None	Employed
Participant 21	37	Grade 12	Employed
Participant I 22	44	None	Employed
Total number of parent participants = 22			

According to Maree and Pietersen (2007) purposeful sampling is employed when a sample is selected with a specific purpose in mind. Some benefits of purposive sampling include that it is not costly and time consuming, and may result in obtaining rich in-depth information (McMillan & Schumacher, 2014). As previously indicated in Chapter 1 the stipulated selection criteria required of the participants to be parents of Grade 4 to 6 learners, in the three selected primary schools in the Bronkhorstspruit area, who were older than 18 years of age at the time of data generation, who were willing to participate voluntarily, and who were able to communicate in either English or IsiZulu.

Although purposeful sampling is typically used to recruit participants who are viewed as experts with in-depth knowledge about a particular phenomenon, purposeful sampling also implies certain challenges. During the selection of the participants (based on the indicated criteria), I may have left out other participants who could potentially also have contributed (Patton, 2002). However, in my view the purpose of gaining an in-depth understanding of parents' perceptions of the resource-constrained community's current food consumption practices and nutrition-related needs was sufficiently addressed by the participants who were involved (Patton, 2002).

3.5 DATA GENERATION AND DOCUMENTATION

In this section I explain the multiple data generation and documentation strategies I utilised, namely PRA-based workshops, observations, field notes, visual data, audio recordings and verbatim transcriptions, as well as a reflective journal (McMillan & Schumacher, 2014).

3.5.1 PRA-BASED WORKSHOPS

I employed workshops rooted in PRA to generate data during my study (Ferreira & Ebersöhn, 2013), in collaboration with the participants (Chambers, 1994), in an attempt to subsequently add to existing knowledge on food on consumption practices and nutrition-related needs in resource-constrained communities, within the specific context of South Africa. Ling (2011) views PRA as a useful strategy to generate qualitative data. According to Chambers (1994), PRA implies a collaborative approach, which is often implemented to learn more about communities. Throughout, I viewed the parent participants as experts, who held the key to understanding their community. During the PRA-based workshops data were thus generated by posing specific questions (Appendix K) to the participants pertaining to the food consumption practices and nutrition-related needs of the community. Participants discussed the questions in small groups (4 to 9 participants in a group) selected by themselves and then provided feedback to the larger group, for more input and comments.

The first field visit took place in February 2013 comprising a two hour workshop at each of the three schools in the afternoon following school. After introducing ourselves, we shared a light meal with participants in support of establishing sound relationships before commencing with data generation

activities. After explaining the purpose of the project and obtaining informed consent, participants were asked to work in groups and discuss the questions posed to them while noting their ideas on posters.

The PRA-based workshops thus resulted in the participants capturing their perceptions and ideas in a written format (Appendix H). After each question had been discussed in the different small groups, we facilitated an informal discussion, where participants presented their group discussions to the rest of the group. This resulted in the participants engaging in a type of joint analysis and reflection, raising their awareness of the situation in the community (Ferreira & Ebersöhn, 2012). All presentations were audio-recorded and later transcribed. The transcripts of the recordings, as well as the visual posters, and field notes I compiled during the PRA-based workshops were then later analysed (Halcomb & Davidson, 2006).

Participants were allowed to use their mother tongue (IsiZulu) to respond to questions. This modus operandi seemingly encouraged them to share their knowledge, insight and perceptions on the food consumption practices and nutrition-related needs in the specific resource-constrained community. Photographs 3.3 and 3.4 provide visual images of the PRA-based workshops I co-facilitated with my supervisor (identities shown with permission of the participants).

Photograph 3.3: (PRA-workshop School) A

Photograph 3.4: (PRA-workshop School C)

After I had completed the initial data analysis I conducted member checking by co-facilitating a second PRA-based workshop (second field visit, September 2013) in support of the credibility of the results, and rigour of the study (Creswell, 2013; McMillan & Schumacher, 2014). During this session the aim was to confirm my initial analysis of the data, allowing participants to make further contributions (McMillan & Schumacher, 2014).

3.5.2 OBSERVATION

Observation refers to the gathering and recording of first-hand information when observing participants at a research site (Drew, Hardman & Hosp, 2008). Observation thus allows researchers to gain insight into

participants' understanding of their natural environment. Observation allowed me to understand trends in terms of food consumption practices in the specific communities (Gay & Airasian, 2003).

According to Bernard (1994), observation requires deception and impression management, which implies that as a researcher, I needed to maintain a sense of objectivity. The main challenge to me was observing the participants while encouraging them to act naturally in a way that would allow me to observe and immerse myself in data generation. My observations were influenced by my open-mindedness, non-judgemental attitude, and interest in learning from the participants, their community, and awareness of the propensity for cultural differences and for making mistakes. I was thus able to overcome potential challenges, by being open to the unexpected, a conscious observer and a reputable listener (DeWalt & DeWalt, 1998).

Another potential challenge that I had to keep in mind as a researcher was that gender could have played a role in the information I had access to. According to Kawulich (2005:4), "*males and females have access to various types of information, as they have contact with diverse populations, from different contexts"*. Throughout, I acknowledged that I may be biased as a human being, as I served as an instrument for data generation. I remained aware that my gender, sexuality, ethnicity, class and theoretical approach could have affected my observations, analysis and interpretation (Kawulich, 2005). I attempted to be sensitive in terms of gender, age and cultural differences between the participants and me. I also strived to be flexible and non-intrusive at all times during interaction with participants (Johnson & Christenson, 2004).

My role was that of non-participant observer (Johnson & Christenson, 2004). According to Johnson and Christenson (2004), a challenge related to being a non-participant observer is that it may be difficult to get an insider view. In the current study this was compensated by my attempt to remain objective and neutral, be non-intrusive and guard against becoming emotionally involved with participants. My non-participant observer role thus required of me to know who I observe when I observe, where I observe, what it is I was observing, and how I would record my observation (Kawulich, 2005). By being specific with my observations as non-participant observer (and through member checking later on in the research process), I was thus still able to get an insider view.

Observation provided me with a way of checking non-verbal expressions and any dynamics present between participants' communicating with one another (Creswell, 2008). It allowed me to check participants' understanding during the PRA-based workshops and to observe any participants who were not willing to share information (Marshall & Rossman, 1995).

I had to keep the potential limitation in mind of different researchers making different observations, and problems relating to the demonstration of experiences and subsequent explanations that may occur (De Munch & Sobo, 1998). To alleviate this challenge, I incorporated rigorous techniques when generating

data (Creswell, 2008). I used field notes (Appendix F) to note participants' actions and my observations of the research setting during the PRA-based workshops (Creswell, 2008). I furthermore used field notes to record participants' behaviour and events as they occurred (McMillan & Schumacher, 2014). I included descriptive details in my field notes in an attempt to document participants' contributions (Johnson & Christenson, 2004). In addition, I reflected on my observations with my supervisors during debriefing sessions following the two field visits. Member checking after data analysis contributed to eliminate the influence of biased observations on the results.

3.5.3 FIELD NOTES AND REFLECTIVE JOURNAL

I used field notes to record information about the participants and the course of events during the PRA-based workshops and member checking sessions (McMillan & Schumacher, 2006). I made descriptive notes on the time, place, activities and participants' personal reactions during our interactions (Appendix F). As an interpretivist researcher, in order to strive towards objectivity, I also continuously recorded and reflected on my personal thoughts, hunches and possible broad themes that emerged during the PRA-based workshops.

According to McMillan and Schumacher (2014) the advantage of using field notes and a reflective journal (Appendix J) is that these strategies can assist a researcher to maintain an on-going record and may contribute to the continuity of a study. I was furthermore able to produce data myself and could revisit the documented information at any time at my own convenience (Creswell, 2008). I, however, took note of the potential challenge of low reliability, since the circumstances I noted about the events cannot be repeated (Hamo, Blum-Kulka & Hacohen, 2004). To this end, I used detailed descriptions of all events, allowing the reader some insight into the research process. I also considered the fact that these methods of data generation can be time consuming and subjective due to the researchers' own beliefs and perspectives (Ortlipp, 2008). Field notes, however, assisted me in maintaining my understanding of the phenomenon under study (Creswell, 2008).

3.5.4 AUDIO-VISUAL TECHNIQUES

I audio-recorded the discussions and feedback sessions during the PRA-based workshops (Appendix G). According to Creswell (2008), audio-recordings are widely used for recording interviews, focus groups and general discussions. Creswell (2008) regards audio-recordings as relatively accurate, indisputable accounts of the research events. An advantage of using audio-recordings in this study was that it allowed me to employ a relatively cheap and accurate method of record keeping (Gibbs, Friese & Mangabeira 2002), and gave me the opportunity to preserve verbal data that I could access later (Creswell, 2008).

I, however, remained cautious about the potential challenge of audio equipment not functioning well as this could pose a setback for a novice researcher like me (Thomas, Nelson & Silverman 2005). I was

furthermore cautious when using the audio-recorder, as not to intimidate participants in any manner. I obtained their permission for recording discussions prior to the PRA-based workshops.

I also utilised visual documentation techniques (photographs and PRA-posters) in an attempt to provide a holistic descriptive image of the environment, the participants and the activities they were involved in (De Lange, Mitchell & Stuart, 2007). I used photographs to capture the data generation during PRA-workshops (Appendix K), to visually document the schools' feeding scheme kitchens that we observed, and to record a vegetable garden project at one of the schools (De Lange et al., 2007).

I remained cautious of the possible challenge of photographs (Appendix H & I) being difficult to analyse due to the rich information they may contain (McMillan & Schumacher, 2014). As a researcher, I also faced the potential challenge of influencing the data generation process, in selecting certain photographs and potentially imposing my personal understanding of the phenomenon, rather than reflecting the participants' views (McMillan & Schumacher, 2014). In an attempt to avoid and address these potential challenges, I allowed myself enough time for data analysis and revisit the raw data several times. I included member checking, and I regularly reflected my ideas with my supervisors, who also took photographs during the sessions.

I was also aware of the ethical implications of including photographs as visual documentation technique. In terms of research ethics, it was essential that participants were asked for consent for the photographs to be taken and published. Although the identity of participants typically needs to be protected at all times (Kelly, 2002; De Lange et al., 2007; McMillan & Schumacher, 2014), the participating parents gave permission for their pictures to be published (Appendix A).

Finally, I had to remain aware of the possibility of participants acting in ways that would portray what they perceived to be socially desirable rather than providing authentic information (Kelly, 2002, McMillan & Schumacher, 2014). To this end, I had to make sure that the photographs were non-invasive and did not restrain the process or participants (McMillan & Schumacher, 2014). However, in this study, I perceived the participants as being fully engaged in the workshops and when pictures were taken. Participants did not appear to be distracted. Photographs 3.5 and 3.6 provide examples of the visual data generated during the PRA-based workshops.

Photograph 3.5: Visual data School C

Photograph 3.6: Visual data School A

3.6 DATA ANALYSIS AND INTERPRETATION

During data analysis and interpretation I set out to make meaning of the generated data by searching across the multiple data sources (verbatim transcriptions, PRA-posters, photographs, field notes and my reflective journal) in an attempt to explore and describe (Mouton, 2001; Terre Blanche & Durrheim, 2002) parents' perceptions of the food consumption practices and nutrition-related needs in the resource-constrained community they reside in. According to Poggenpoel (1998), data analysis implies various reasoning strategies, which includes synthesis, inductive analysis, bracketing and intuiting.

For the purpose of this study I applied inductive thematic analysis (Creswell, 2012) by identifying emerging themes and related sub-themes from the various data sources. Inductive thematic analysis allowed me to obtain a detailed understanding of the parents' perceptions. I was able to code the "*data without trying to fit it into a pre-existing coding frame*", following my analytic preconceptions (Braun & Clarke, 2006:89). Inductive thematic analysis, furthermore, assisted me in guarding against my preconceptions and beliefs while also completing an analysis that is flexible by nature (Braun & Clarke, 2006).

The use of inductive thematic analysis offered a systematic element to data analysis which allowed me to associate the analysis of the frequency of themes with one or more parts of the whole content (Alhojailan, 2012). I first familiarised myself with the generated data and re-read the data sources various times to search for possible patterns and emerging themes (Braun & Clarke, 2006; McMillan & Schumacher 2014). Secondly, I used manual coding to indicate initial, preliminary themes, and organised the coded data according to my formulated research questions (Appendix H) (Braun & Clarke, 2006). Next, I re-grouped my ideas in order to organise the themes and sub-themes. In addition, I named and defined the identified themes and sub-themes at this stage (Clarke & Braun, 2013), after reaching saturation of the coding process (Creswell, 2012). I then verified the themes and sub-themes with my supervisors (Onwuegbuzie, Leech & Collins, 2010). Finally, I employed member checking (McMillan & Schumacher, 2014) by presenting the preliminary themes and sub-themes to the participants, requesting them to

elaborate, refine or change any themes or sub-themes, according to their views (Braun & Clarke, 2006; Creswell, 2012; McMillan & Schumacher, 2014).

3.7 QUALITY CRITERIA

Throughout the study I paid attention to Lincoln and Guba's criteria (1985) for evaluating the trustworthiness of my research, namely credibility, dependability, transferability, authenticity and confirmability. In addition, I incorporated different strategies to ensure quality, as well as an accurate report on the participants' perspectives, experiences and opinions (Tracy, 2010; McMillan & Schumacher, 2014), as explained in the subsections that follow.

3.7.1 CREDIBILITY

According to Terre Blanche and Durrheim (2002), credibility refers to the accuracy and truthfulness of findings and entails findings that are believable. Credibility implies that *"the research was conducted in such a manner as to ensure that the phenomena were accurately identified and described*" (Poggenpoel, 1998:351). The aim of credibility is related to the provision of an authentic view of the phenomenon under study (McMillan & Schumacher, 2014).

In an attempt to ensure that the findings of this study are credible, I describe the phenomenon under study in detail from the participants' perspective, consistent with the purpose of the study. I utilised multiple data sources, including transcripts of PRA-based workshop discussions, audio-recordings, photographs, PRA-posters, field notes on observations and a reflective journal (McMillan & Schumacher, 2014).

I furthermore relied on regular peer debriefing with my supervisors and co-researcher in an attempt to add to the credibility of the findings (Terre Blanche & Durrheim, 2002). These peer debriefing sessions supported me in making sense of the research events I experienced, as well as in identifying possible biases, subjectivity and generalisations I might have made about the participants or community. These discussions also allowed me to understand the preliminary findings and conclusions of the current study (Terre Blanche & Durrheim, 2002).

3.7.2 DEPENDABILITY

Dependability emphasises the need for researchers to account for changing contexts within which research occurs. The researcher is responsible for describing the changes that have occurred in a setting and how these have affected the way the researcher approached the study (Patton, 1990). Merriam (1998:206) indicates that dependability can be seen as the extent to which "*results are consistent with the data collected*" and whether (or not) the findings would be the same if a study was to be repeated (McMillan & Schumacher, 2014).

In order to enhance the dependability of the current study's findings, I include rich and detailed descriptions in this mini-dissertation, in the form of verbatim transcriptions, field notes and member checking (Terre Blanche & Durrheim, 2002). I was furthermore guided by a clearly defined purpose and research questions (McMillan & Schumacher, 2014). In an attempt to overcome the potential challenge of subjectivity influencing the findings, my supervisors monitored the audit trail I provide, consisting of the initial transcriptions, analysed documents, my reflective journal, and clarifications following member checking (Strauss & Corbin 1999).

3.7.3 TRANSFERABILITY

According to Terre Blanche and Durrheim (2002) transferability refers to the production of in-depth rich descriptions of the research context and participants in order to transfer the findings to other related contexts or participants. The challenge in transferability remains in demonstrating that the results of a study can be transferred to a broader population (Shenton, 2003). I acknowledge the fact that the findings of this study are specific in the Bronkhorstspruit area population and may not be applied to other situations and populations (Shenton, 2003).

In this mini-dissertation I, however, attempt to provide the reader with detailed descriptions of the resource-constrained community, the participants and research context within which the current study was conducted. Populations that believe that their situation is similar to that described in this study may thus relate the findings to their own position (Bassey, 1981; Lincoln & Guba, 1990 in Shenton, 2003). Furthermore, the aim of interpretivist studies is never to generalise the findings of a qualitative study, but rather to gain a deep understanding into the phenomenon under investigation (McMillan & Schumacher, 2014; Drew, 2008; Mertens, 1998).

3.7.4 AUTHENTICITY

According to Mertens (1998), authenticity refers to the provision of a balanced and fair view of various perspectives in a research study. Within the current study I present the parents' perspectives regarding food consumption practices and nutrition-related needs within the resource-constrained community they are residing in. In support of authenticity, I include direct quotations from the participants (refer to Chapter 4).

In an attempt to enhance the ontological authenticity of the study, I also requested participants to verify the identified themes and sub-themes during the member checking sessions, in order to ensure that I have understood their perceptions correctly and will present them accurately (Patton, 2002). I also participated in in-depth discussions on the results and my interpretation of the data with my supervisors, and reflected on the data analysis process in my reflective journal (Terre Blanche & Durrheim, 2002).

3.7.5 CONFIRMABILITY

Confirmability refers to the extent to which the focus of a study is reflected in the findings and interpretations (Babbie & Mouton, 2001) and not in the biases of the researcher (Loots, 2011). According to Patton (2002), the challenge lies in the difficulty of ensuring objectivity - that is avoiding the influence of the biases of a researcher. As such, confirmability implies that the analysed data and the interpretation of findings are not fabrications of the researcher's imagination, but are evidently derived from the data (Tobin & Begley, 2004).

I constantly reflected in my reflective journal in an attempt to minimise bias and was, as previously indicated, involved in regular debriefing sessions with my supervisors (Anney, 2014; Tobin & Begley, 2004). I employed multiple data generation strategies and included various examples of direct quotations from participants in an attempt to enhance the confirmability of the current study (Terre Blanche & Durrheim, 2002; Mertens, 1998).

3.8 ETHICAL CONSIDERATIONS

Oliver (2010), as well as Mauthner, Birch, Jessop and Miller (2012) provide guidelines for ethical practice when conducting research. I considered these guidelines, together with the ethical guidelines stipulated by the Ethics Committee of the University of Pretoria (Faculty of Education, 2013). According to Drew (2007), ethical considerations are the cornerstone in conducting effective research. In the sub-sections that follow, I discuss the ethical considerations I respected in conducting this study.

3.8.1 INFORMED CONSENT AND VOLUNTARY PARTICIPATION

In terms of the broader research project, permission was obtained to conduct the research from the Gauteng Department of Education in 2012 (Appendix D) as well as from the school principals (Appendix B). For this study, I informed the participants of the nature and consequences of the research and their rights to participate voluntarily before commencing with data generation activities (Drew, 2007). I provided participants with a detailed description and information of the broader research project, as well as what was expected of them during the course of the current study. In this way I informed the participants of the procedures that would be followed and their right to withdraw, when obtaining their informed consent.

During my initial discussion with the participants I also referred to the planned audio-recordings, observation, photographs and posters that we would incorporate during the research process (Drew, 2007). Each participant subsequently signed an informed consent form prior to their participation in the study (Appendix A).

3.8.2 ANONYMITY, CONFIDENTIALITY AND RESPECT FOR PRIVACY

I adhered to the principles of anonymity, confidentiality and respect for the privacy of the participants throughout. I furthermore requested participants to also respect the anonymity, confidentiality and privacy of others during the research process, PRA-based workshops and member checking sessions (Terre Blanche & Durrheim, 2012). I attempted to protect the participants' identities, together with the research location (Saxman, 2015), by changing their names to pseudonyms in the transcripts included (Appendix G), as well as in my field notes (Appendix F) and reflective journal (Appendix J).

With regards to visual data, participants indicated the choice for their faces to be shown (McMillan & Schumacher, 2014), when proving informed consent (Appendix A). All the generated data, including my field notes, reflective journal, audio-visual material and transcripts will also be kept in a secure space (Creswell, 2012) at the University of Pretoria.

3.8.3 PROTECTION FROM HARM

I aimed to follow the guidelines of *non-maleficence* (protection from harm) by attending to the participants' well-being throughout the study (Creswell, 2012; McMillan & Schumacher 2014). I did not expose participants to any harm or physical risks. In addition, I was sensitive for their needs during the PRA-based workshops and did not mislead participants by withholding any information from them related to the study or broader project (McKenzie & Knipe, 2006; Elliot & Lukes, 2008). I followed an open approach, where participants were informed about the purpose and research process right from the start of the study. In addition I attempted to accurately report the results I obtained and not omit any data or present findings that are not authentic (Terre Blanche & Durrheim, 2002). As the focus of this study did not imply the possibility of emotional distress amongst participants I did not foresee any emotional harm to be done. However, as poverty-related discussions could perhaps result in some form of distress, I was prepared to do the necessary debriefing and referral. No such incidences occurred.

The principle of *beneficence* implies that research should be conducted in such a manner that society, participants and the existing body of knowledge will benefit from the research (Durrheim & Wassenaar, 2002). I believe that the parents' perceptions of the food-consumption practices and nutrition-related needs that I report on, may potentially add to the existing body of knowledge in South African regarding resource-constrained communities. The findings of this study furthermore informed the development and content of the Win-LIFE intervention.

3.8.4 TRUST AND RESPECT

I strived to base the current study on honesty, trust and respect, as well as to treat all participants equally (Resnik, 2011). I respected the participants and as stated earlier, did not mislead, deceive or withhold information from them in any way (Denzin & Lincoln, 2009). The research team was competent with

regards to the function they fulfilled, their expertise and the procedures followed (Creswell, 2012). I also aimed to present a true reflection of the information the participants provided during the course of the study (Terre Blanche & Durrheim, 2002).

3.9 MY ROLE AS A RESEARCHER

PRA advocates collaboration between researchers and participants (Chambers, 2008). An important role for me as researcher was to allow participants to openly communicate their opinion in a safe environment (Ling, 2011; Bergold & Thomas, 2012). Participants were able to communicate in IsiZulu, which made it easier for them to confidently express themselves. I believe that this, and my similar cultural background, resulted in the participants feeling assured that they were understood, and encourage collaborative relationship enhancement (Ling, 2011).

As researcher, I co-facilitated the PRA-based workshops, used observations, visual data, audio-recordings, field notes and a reflective journal as data generation and documentation strategies, asked questions and facilitated discussions, without intervening or misleading participants' responses (Ling, 2011). As an outsider observer, I had to acknowledge the potential influence of my subjectivity and remain aware of my pre-conceived perceptions (Bergold & Thomas, 2012; Ling, 2011).

As co-facilitator of PRA-based discussions, I had to facilitate sufficient openness, and create a secure space in which participants could share their comments, knowing that they would not be disadvantaged if they commented in a critical manner (Bergold & Thomas, 2012). It was not a question of creating a conflict-free space, but rather of ensuring that any conflicting views would be mutually discussed, respected and accepted as different yet equal positions (Bergold & Thomas, 2012).

From the outset I acknowledged that the primary aim of PRA is to give participants of marginalised groups a voice, or to enable participants to have their voices heard (Chambers, 1998). Participants bring their everyday experiences and everyday knowledge into the research process, and can thereby ensure new perspectives and insights (Russo, 2012). Thus, I continually had to reflect on my personal perspective as reflected in my reflective journal, remaining aware that I was collaborating with a group of often marginalised parents. My involvement with the participants during the study required of me to make ethically sound decisions about appropriate norms and rules during contact, and how data would be generated, documented and interpreted to ensure that no harm was done to participants and that their privacy was respected at all times (Bergold & Thomas, 2012).

As I conducted research within a broader research project, I furthermore fulfilled the role of co-researcher. I was regularly involved in reflective discussions, which led to the elaboration of my own thoughts and ideas. These discussions emphasised a high degree of self-reflexivity and reflection about the research process. Borg, Östergren, Larsson, Rahman, Bari and Khan (2012) state that reflexivity requires of researchers to be self-aware, as researchers are instruments of research. Reflexivity is

important in action research, where researchers are continuously involved with participants, the research context as well as other stakeholders in the research context (Borg et al., 2012).

3.10 CONCLUSION

In this chapter I discussed my paradigmatic choices and the research methodology that guided this study. I provided a detailed description of the research context and the participants who partook in the study. I explained how I generated, documented and analysed data, described the quality criteria I pursued, and presented the ethical guidelines I considered. I also described my role as researcher in this study.

In Chapter 4 I present the results of the study in terms of the themes and sub-themes I identified during inductive, thematic analysis. I then interpret the results in terms of existing literature, thereby highlighting correlations and contradictions, when presenting the findings of the study. I also indicate silences I identified in the data, and foreground new insight stemming from this study.

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CHAPTER 4
RESULTS AND FINDINGS OF THE STUDY

4.1 INTRODUCTION

In Chapter 3, I discussed the research process by presenting my choice of research design and the data generation methods I used. I also explained my role as researcher, the quality criteria that guided my study and the ethical considerations I adhered to during the current study.

In this chapter, I provide a brief overview of the research process, as well as a description of the context in which the data was collected. I report on the results of the study in terms of the themes I identified subsequent to inductive data analysis. I include participants' direct quotations, photographs, field notes and reflections from my reflective journal to support the identified themes. Next, I integrate the results of the current study against the background of existing literature, thereby presenting the findings of the study.

4.2 OVERVIEW OF THE RESEARCH PROCESS

In this section, I discuss the context in which data generation took place, and the research process I followed during my field visits.

4.2.1 FIRST FIELD VISIT

The first visit to the three participating primary schools was undertaken between February and March 2013. During the first visit to the three primary schools I was both excited and nervous as I was unsure of what to expect during the PRA-based workshop with the parent participants. The following provides an excerpt from my reflective journal relating to the first field visit: ***"Before my first visit to the schools I wondered how the reception will be like, if parents will be there. I wondered if the parents will not have expectations that are not in line with the research (like thinking it is an employment opportunity). I was concerned about me being able to fulfil my role as a researcher and suppressing my teacher role that I play every day. I wondered if the parents will be able to answer all the research questions we are going to ask and whether they will be willing to share information on what they eat in their home with us and amongst themselves. I was worried about the language that we were going to use, I thought that most of the time when we engage with parents in English they do not fully understand. I was concerned about our safety seeing that I will be travelling with a team of white people to a "township" especially due to the crime factor"*** (Reflective journal, 19 February 2013).

After our arrival at the participating schools, we were welcomed and then proceeded in facilitating a PRA-based workshop with parent participants from the three participating schools. We initiated the proceedings by fulfilling the required ethical guidelines which included informed consent and permission for the photographs. Thereafter, we requested the parents to discuss their typical eating patterns within the resource-constrained community and capture their contributions on PRA-posters. After plotting their ideas on posters, we facilitated large group discussions (Photograph 4.1) on what the community eat at breakfast, lunch and dinner. Next participants discussed healthy eating in general, as well as food preparation, purchasing and production practices within the resource-constrained community. The afternoon ended with a brief tour of the three participating schools' kitchens (Photograph 4.2), while having informal discussions with some of the participants.

Photograph 4.1: PRA-based workshop discussion at School A

Photograph 4.2: Volunteer food handler and kitchen at School A

Following our first visit I reflected as follows: ***"We were well received at all three the participating schools. At the first school there were only five participants present, I felt disappointed in the number, but we managed to get enough information from them. Rapport was easily established with the participants and I was impressed by the way the participants were able to put their points across. The PRA-based workshops went well and I was able to fulfil my role easily. I am glad I am able to speak IsiZulu well because I was able to explain the questions to the parents in their own language and they had the opportunity to answer in their own language, which I think helped us as research team to get rich information from the parents. I was impressed by the level of co-operation and participation by the participants. They did not hold back and seemed to be happy about the intentions of the study. I was concerned about the parents' understanding of the consent form that they have signed and I wondered if they really understood as most of the parents' literacy level is low although I was confident that I explained it well"*** (Reflective journal, 20 February 2013).

4.2.2 SECOND FIELD VISIT

We returned to the three participating schools in September 2013 to conduct member checking with the participants who attended the initial PRA-based workshop. As in the case of the previous visit, we were

welcomed by the Deputy Principal and participants. We re-established rapport over lunch and engaged in informal conversations with the participants. Next, we utilised the three one hour sessions to conduct member checking during which I presented my interpretations of the results and received feedback from the participants. After presenting my interpretations of the results, my supervisor and I facilitated further discussions on the identified themes with the participants at the three participating schools.

4.3 RESULTS OF THE STUDY

In the following section, I discuss the themes I identified through inductive thematic analysis of the data. Figure 4.1 provides a visual presentation of the themes and sub-themes of the study.

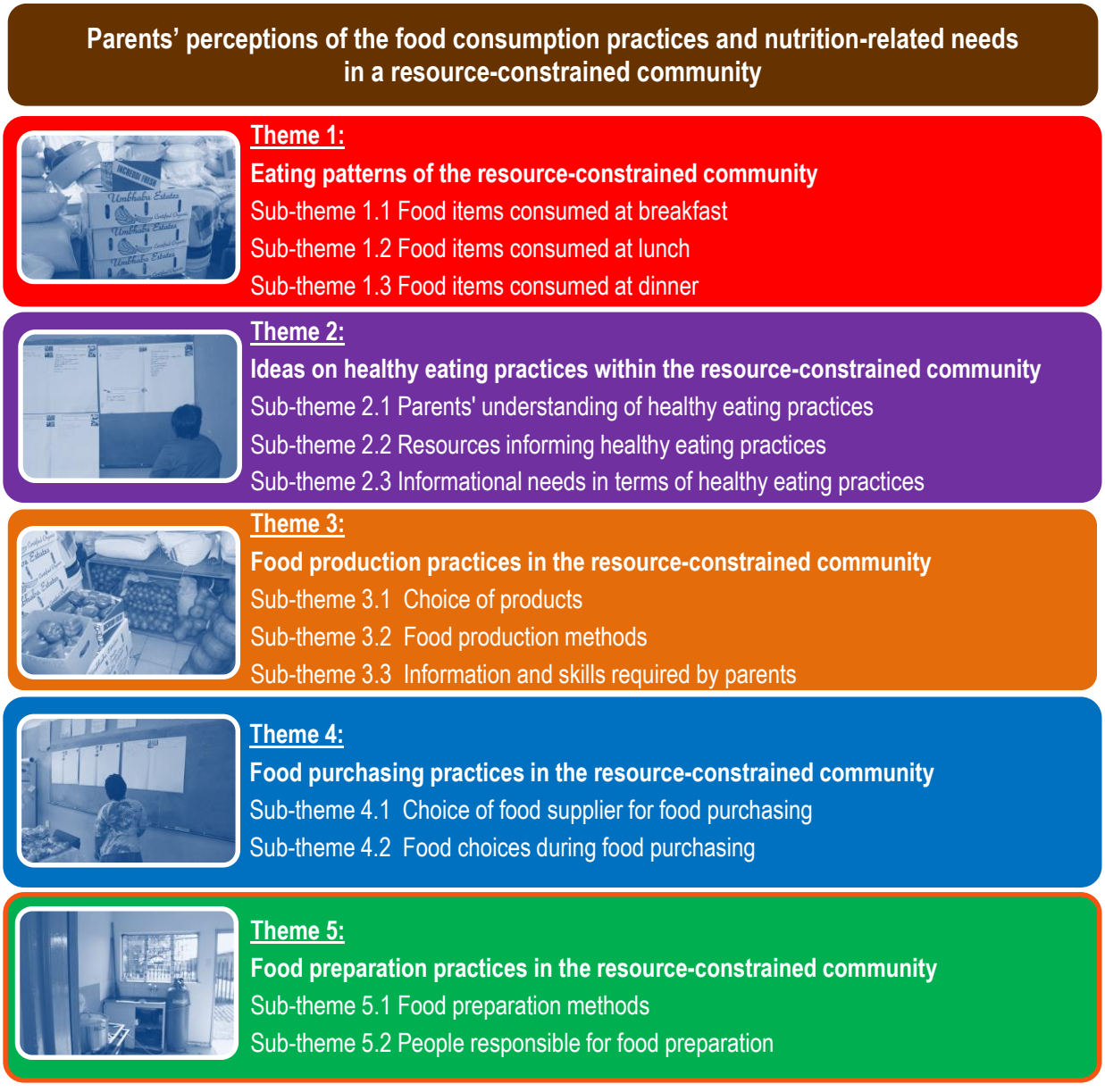


Figure 4.1: Themes and sub-themes of the study

4.3.1 THEME 1: EATING PATTERNS OF THE RESOURCE-CONSTRAINED COMMUNITY

In this theme participants focused on food items typically consumed by fellow community members, at breakfast, lunch and dinner. Table 4.1 provides an overview of the inclusion and exclusion criteria that guided me in identifying the sub-themes.

Table 4.1: Inclusion and exclusion criteria for Theme 1

Identified sub-themes	Inclusion criteria	Exclusion criteria
Sub-theme 1.1: Food items consumed at breakfast	Any reference to food items consumed at breakfast time	Any reference to food items consumed at lunch or dinner time
Sub-theme1.2: Food items consumed at lunch	Any reference to food items consumed at lunch time	Any reference to food items consumed at breakfast or dinner time
Sub-theme 1.3: Food items consumed at dinner	Any reference to food items consumed at dinner time	Any reference to food items consumed at breakfast or lunch time

4.3.1.1 Sub-theme 1.1: Food items consumed at breakfast

Participants mentioned that many children in the community do not eat breakfast. Participants from School A highlighted that some of the children: *"don't eat breakfast"* (PRA-based workshop, School A, Participant 3). This comment was supported by responses made at School C, where participants mentioned that: *"60% of the learners do not eat breakfast before they go to school"* (Field notes: Member checking session, School C, Participant 4).

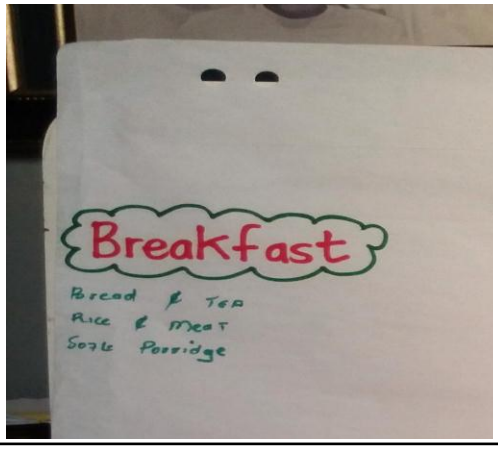
Participants emphasised that community members mainly consumed carbohydrates at breakfast time. Overall, participants agreed that the majority of the community eat soft porridge for breakfast, saying: *"we like to eat soft porridge in the morning"* (PRA-based workshop, School C, Participant 2). Participants from School A similarly indicated that: *"at home we eat soft porridge and tea"* (PRA-based workshop, School A, Participant 1). This was also supported by participants from School B who added that: *"most of the time we eat soft porridge, bread and we drink tea"* (PRA-based workshop, School B, Participant 9). One participant from School B elaborated and mentioned that: *"almost 5% of the learners do eat cereal for breakfast and 20% of learners eat starchy foods like fat cakes, buns and cakes"* (Field notes: Member checking session, School B, Participant 2).

In addition to porridge and bread, participants from both schools A and B indicated that: *"we eat bread, butter, eggs and tea"* (PRA-based workshop, School B, Participant 5). Participants from School C, on the other hand only mentioned bread, soft porridge and tea as items being consumed at breakfast. Participants from schools A and B added corn flakes and polony to the list of food items community

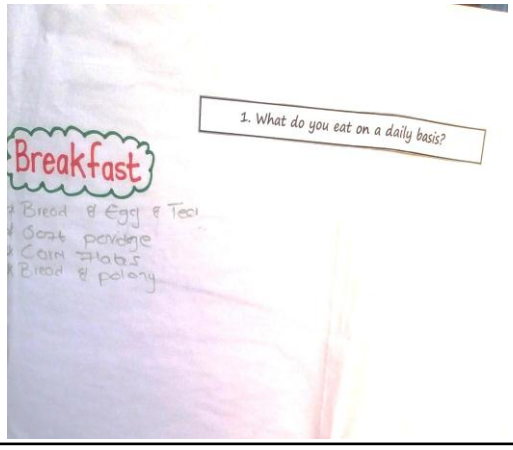
members prefer at breakfast saying *"sometimes we give them bread and polony or cornflakes"* (PRA-based workshop, School B, Participant 6). Only participants from School A mentioned rice and meat (leftovers from the previous evening) as being consumed at breakfast. In addition, participants from School A also mentioned that: *"some people eat oats"* (PRA-based workshop, School A, Participant 2).

I reflected on the data related to food items being consumed at breakfast in my reflective journal in the following way: *"I am aware that we consume leftovers in the morning for breakfast in my community in Mamelodi. It can be pap and anything we ate the previous night for dinner or what is available from the fridge. I wonder why the participants from School B and School C did not mention that. We also consume fat cakes and pork spread ("dibabi" and "mafali") for breakfast. Some buy baked cookies and tea at taxi ranks for breakfast. A factor that I thought was of interest in resource-constrained communities has been that some of the children only eat their meals at school; they do not eat breakfast at home"* (Reflective journal: 19 February 2013).

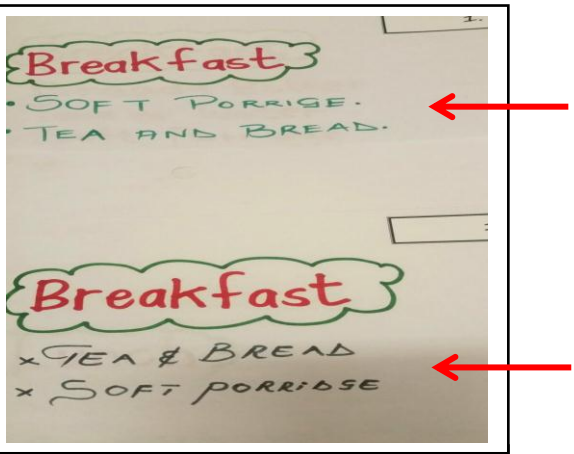
Photographs 4.3, 4.4 and 4.5 provide visual representations of the PRA-posters on food items that community members consume at breakfast (PRA-based workshop, Schools A, B and C).



Photograph 4.3: Food items consumed at breakfast A (School A, group 1)



Photograph 4.4: Food items consumed at breakfast B (School B, group 1)



Photograph 4.5: Food items consumed at breakfast C (School C, groups 1 and 2)

4.3.1.2 Sub-theme 1.2: Food items consumed at lunch

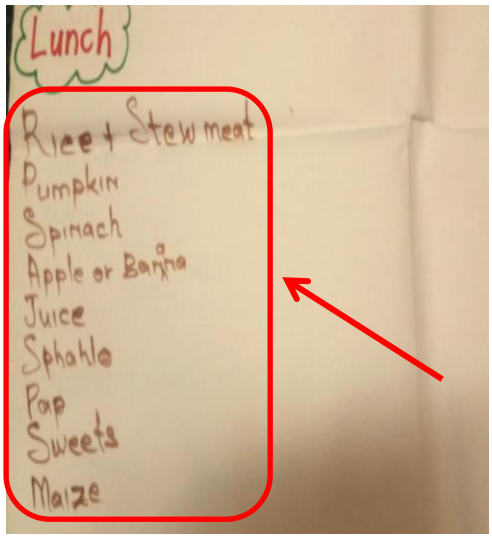
Participants reported that most community members consumed carbohydrates and vegetables at lunch. Participants from School C emphasised that community members: *"usually eat pap with spinach and cabbage"* (PRA-based workshop, School C, Participant 3). Participants from School B confirmed that some community members eat pap and morogo (a spinach-like vegetable), but others also: *"eat pap and beans or pap and peas, because it is healthy"* (PRA-based workshop, School B, Participant 3). Participants from School A also indicated that pap and vegetables are eaten at lunch in the community, saying: "*pap with cabbage or potatoes beans or tomatoes*" (PRA-based workshop, School A, participant 1).Participants from School C similarly referred to: *"some people eat potatoes, spinach or cabbage*" (PRA-based workshop, School C, Participant 5).

Participants also mentioned that community members sometimes include meat, especially chicken, at lunch. Participants from School C elaborated on the different parts of chicken that are consumed during lunch saying: "*we eat gizzards, chicken livers, chicken heads and chicken necks with pap for lunch*" (PRA-based workshop, School C, Participant 6). Participants from School B added: *"occasionally we eat tin fish with pap"* (PRA-based workshop, School B, Participant 9).

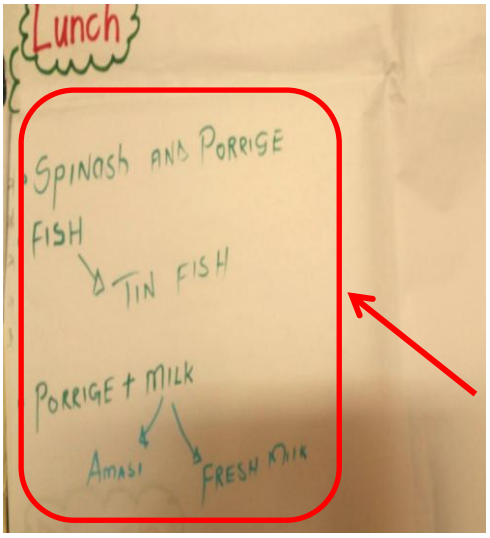
Participants furthermore referred to community members occasionally eating leftover pap, with milk for lunch. Participants from School B namely indicated that community members eat: *"phuthu pap and sour or fresh milk"* (PRA-based workshop, School B, Participant 4). This statement was supported by responses from School C, where participants said: *"we sometimes eat pap and milk"* (PRA-based workshop, School C, Participant 2).

Some of the participants mentioned fruit as part of lunch. Participants from both schools A and B referred to bananas and apples, saying: *"we eat apples or banana at lunch time"* (PRA-based workshop, School A, Participant 2). Participants from School C however did not mention any fruit intake at lunch. A number of participants from School B indicated that community members eat 'snacks' at lunch time, however they did not specify the types of 'snacks' they were referring to. Participants from School A specified the following 'snacks' eaten at lunch: "*sweets, bread and juice*" (PRA-based workshop, School A, Participant 3).

I reflected on the food items mentioned as consumed at lunch in my reflective journal in the following way: *"Most of what the participants mentioned they eat at lunch seemed the same as what the school feeding scheme is providing for the children. I understand that the parents help at the school feeding scheme, so that is what they eat"* (Reflective journal, 26 February, 2013). Photographs 4.6 and 4.7 provide visual representations of the PRA-posters, indicating which food items community members typically consume at lunch.



Photograph 4.6: Food items consumed at lunch A (School A, group 2)



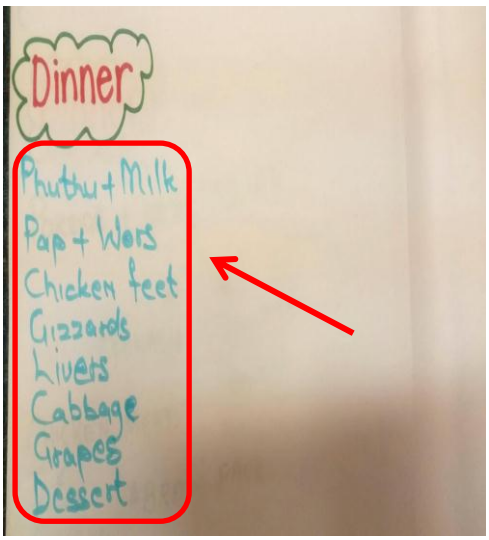
Photograph 4.7: Food items consumed at lunch C (School C, group 2)

4.3.1.3 Sub-theme 1.3 Food items consumed at dinner

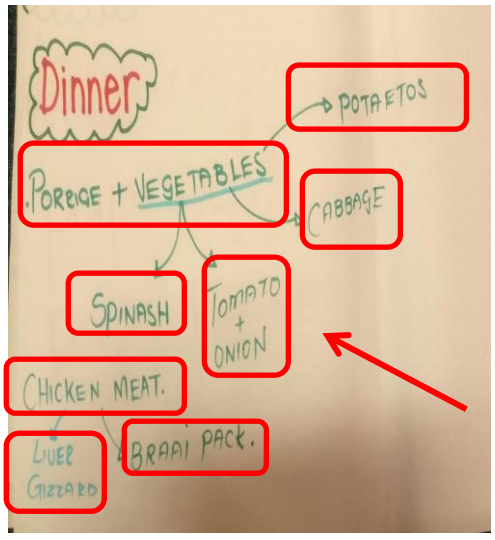
Participants mentioned carbohydrates (mainly in the form of maize meal), vegetables and protein (in the form of chicken, fish or Mopani worms) as food items often consumed in the community at dinner time. Participants from School B indicated that a typical evening meal consists of: *"chicken feet and chicken neck, with pap or sometimes just pap and morogo"* (PRA workshop, School B, Participant 7). Participants from School C confirmed School B's food items and added that: *"during dinner time, community members eat rice with cabbage and chicken necks"* (PRA-based workshop, School C, Participant 3), and furthermore that: *"we usually eat samp and beans sometimes fish or chicken, especially the braai pack"* (PRA-based workshop, School C, Participant 8).

Participants from all three schools reported that chicken was commonly consumed in the community and that all parts of the chicken were eaten, namely: *"heads, gizzards, necks, feet, liver, soup bones, braai pack"* (PRA-based workshop, School C, Participant 3). The most commonly consumed vegetables seemed to be spinach, cabbage, beans, tomatoes, onion and potatoes as these are considered to be: *"cheap and we buy them at the taxi rank"* (PRA workshop, School C, Participant 2). In addition, a participant at School A mentioned: *"mielie rice and meat"* (PRA-based workshop, School A, Participant 5).

I reflected on the food items indicated for dinner in the following way: *"I wonder what community members do to try and eat a balanced meal for dinner, seeing that they have mentioned that a healthy diet is a balanced meal. Pap and meat and a lack of variety on their dinner plates seem like a daily phenomenon. This community seems poor and they may not be able to buy food for a balanced meal on a daily basis"* (Reflective journal, 26 February 2013). Photographs 4.8 and 4.9 provide visual representations of the food items indicated in the PRA-posters.



Photograph 4.8: Food items consumed at dinner A (School A, group 2)



Photograph 4.9: Food items consumed at dinner C (School C, group 2)

4.3.2 THEME 2: IDEAS ON HEALTHY EATING PRACTICES WITHIN THE RESOURCE-CONSTRAINED COMMUNITY

During the PRA-based workshops, participants discussed their understanding of healthy eating practices. To this end, they described available resources that could inform healthy eating practices and shared their needs for additional information. Table 4.2 provides an overview of the inclusion and exclusion criteria for these various sub-themes of Theme 2.

Table 4.2: Inclusion and exclusion criteria for Theme 2

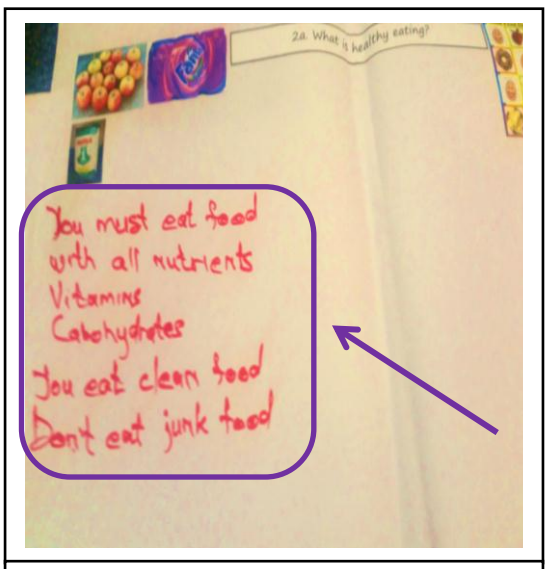
Identified sub-themes	Inclusion criteria	Exclusion criteria
Sub-theme 2.1: Parents' understanding of healthy eating	Any data on participants' understanding of healthy eating practices	Contributions not reflecting participants' understanding of healthy eating practices
Sub-theme 2.2: Resources informing healthy eating practices	Any reference to available resources to inform healthy eating practices	Contributions not reflecting available resources on healthy eating practices
Sub-theme2.3 Informational needs in terms of healthy eating practices	Any reference to informational needs in terms of healthy eating practices	Contributions not reflecting informational needs in terms of healthy eating practices

4.3.2.1 Sub-theme 2.1: Parents' understanding of healthy eating practices

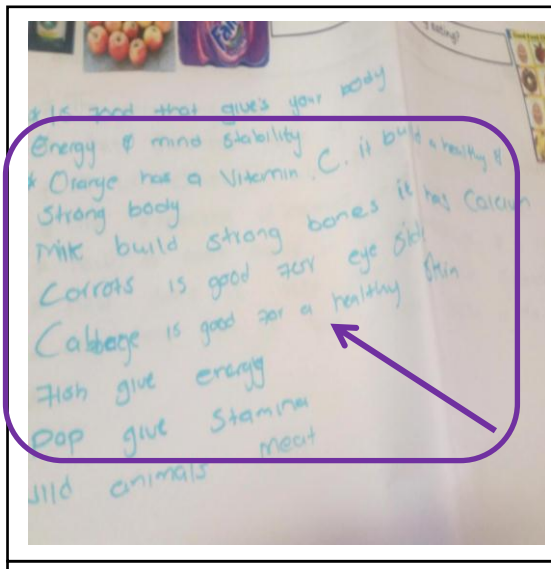
Participants confirmed that healthy eating consists of a balanced diet. Participants from School C gave an elaborated explanation of healthy eating and indicated that: *"healthy eating is about eating a balanced diet...meaning eating food that have fats (like cheese), carbohydrates (cornflakes), vitamins (fruits and*

vegetables), proteins (red meat) and nutrients...also making sure of drinking eight glasses of water daily" (PRA-based workshop, School C, Participant 9). They emphasised that healthy eating focuses on: *"balanced diet foods like fruits and vegetables, eggs and low fat milk liver and 100% fruit juice"* (PRA-based workshop, School C, Participant 5). Participants from School A added that nutrients are important in a healthy diet saying: *"you must eat food with all the nutrients"* (PRA-based workshop, School A, Participant 1). At School B, participants described healthy eating as: *"food that gives your body energy and your mind stability"* (PRA-based workshop, School B, Participant 2) and stated that a balanced diet: *"has strength and is healthy...it gives us power"* (PRA-based workshop, School B, Participant 4).

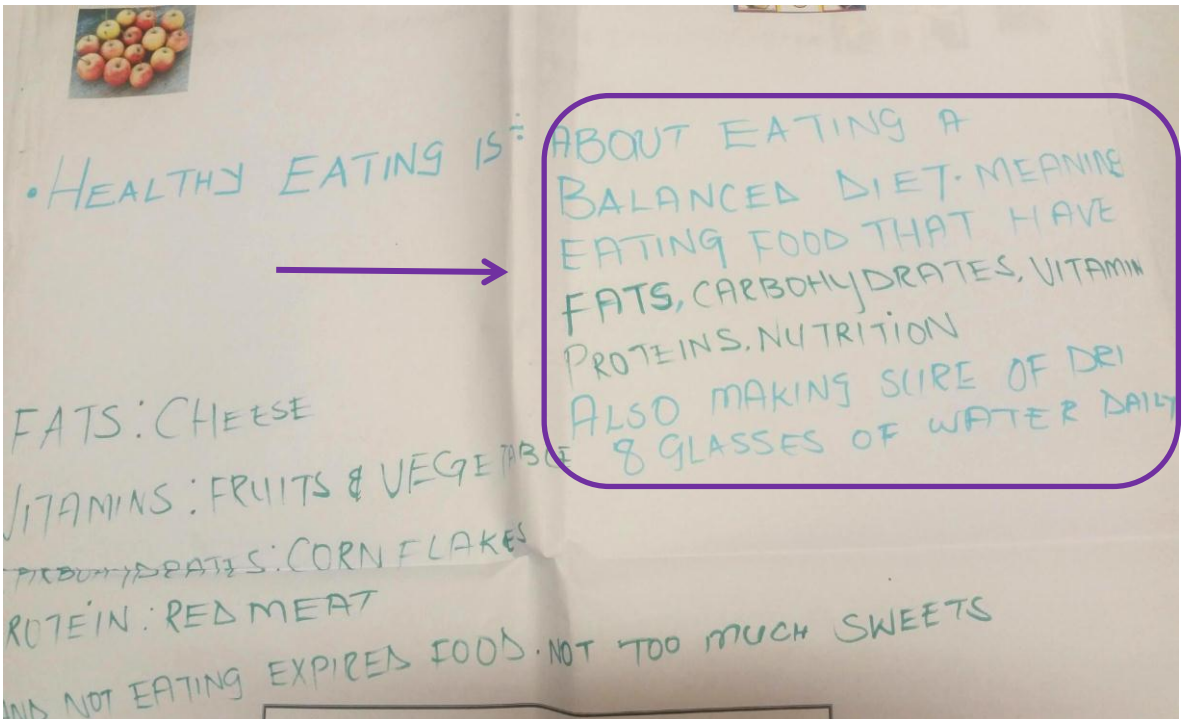
According to the participants, fresh vegetables and fruit should form part of a balanced diet. Participants from School A emphasised that: *"you must eat clean food"* (PRA-based workshop, School A, Participant 5), while participants from School B elaborated on examples of healthy foods and the manner in which these can help the body, saying: *"oranges has vitamin C and builds a healthy and strong body...milk builds strong bones because it has calcium...carrots are good for your eye sight...cabbage is good for a healthy skin...fish gives you energy...pap gives your stamina"* (PRA-based workshop, School B, Participant 9). Participants from School A furthermore said: *"you must eat apples and grapes"* (PRA-based workshop, School A, Participant 4). Photographs 4.10 to 4.12 provide visual representations of the PRA-posters that capture the participants' understanding of healthy eating practices.



Photograph 4.10: Healthy eating practices A (School A, group 2)



Photograph 4.11: Healthy eating practices B (School B, group 1)

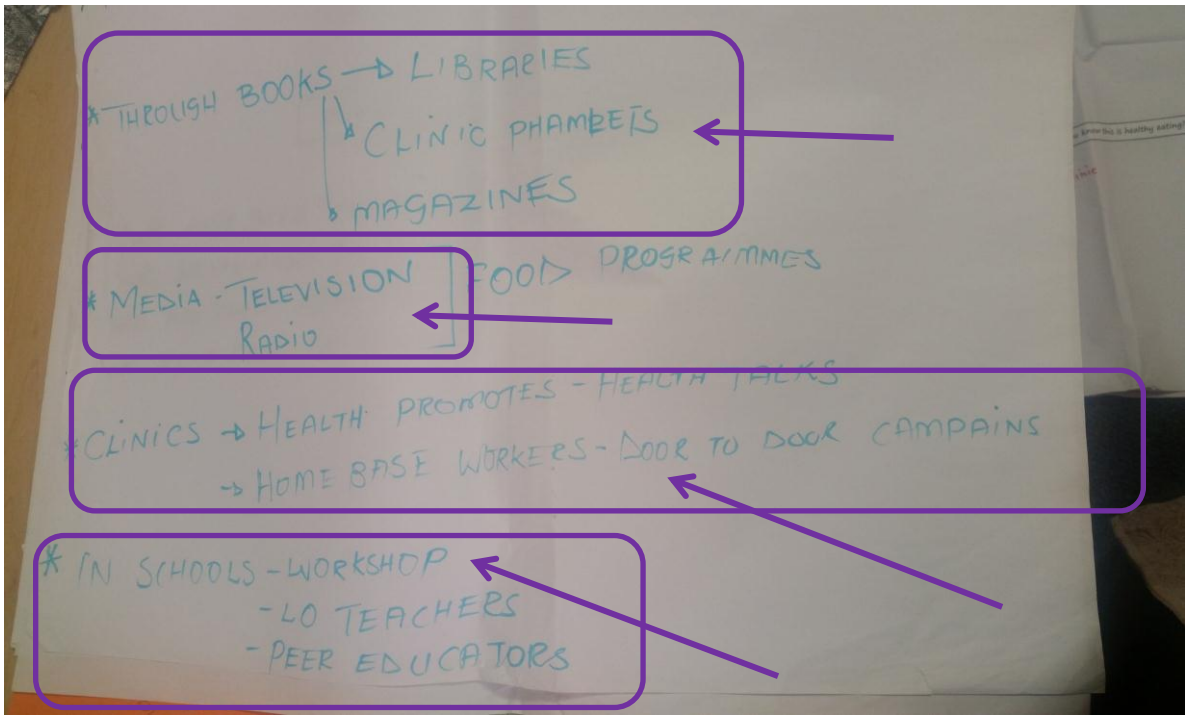


Photograph 4.12: Healthy eating practices C (School C, group 2)

4.3.2.2 Sub-theme 2.2: Resources informing healthy eating practices

During the PRA-based workshops participants indicated that community members usually receive information on healthy eating practices from the local clinic. Participants from School A namely said: *"they always tell us at the clinic"* (PRA-based workshop, School A, Participant 3). Participants from School C added: *"door to door campaigns, television and radio food talks, books, pamphlets and magazines, as well as home based care workers"* (PRA-based workshop, School C, Participant 6). In this regard, participants specifically valued schools and workshops as contributing to participants' knowledge. They said: *"we learn about it in schools, during workshops, peer education and from life skills teachers"* (PRA-based workshop, School C, Participant 4). In terms of the role of the media, they highlighted that: *"we have seen healthy eating practices on the television and heard it on the radio"* (PRA-based workshop, School C, Participant 5).

I reflected on the available resources mentioned by the participants in the following way: "*I wonder if the participants from School A have televisions and radios if they only emphasise that they learn about healthy food at the clinic. School B and School C seem to be aware of the relevant sources of information that tell them of healthy food"* (Reflective journal: 26 February 2013). Photograph 4.13 provides a visual representation of the resources informing healthy eating practices in the resource-constrained community.



Photograph 4.13: Resources informing healthy eating practices (School C, group 2)

4.3.2.3 Sub-theme 2.3: Informational needs in terms of healthy eating practices

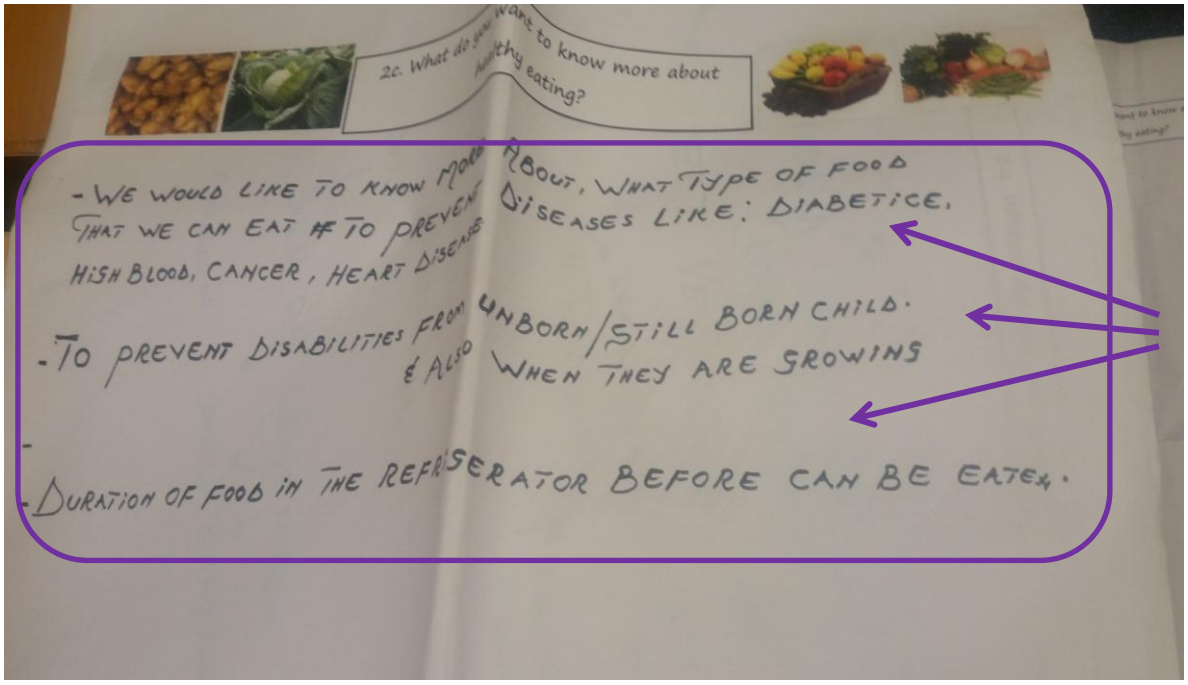
Participants from all three schools agreed that they need more information on healthy eating practices. Participants from School A highlighted information on health aspects, wanting to know how they can support ill community members by means of a healthy diet: *"how can you help sick people to eat healthy food?"* (PRA-based workshop, School A, Participant 1). Participants from School C wanted to know more about the different types of foods that can fight and possibly prevent diseases, saying: *"we would like to know more about what type of food that we can eat to prevent diseases like diabetes, high blood, cancer and heart diseases"* (PRA-based workshop, School C, Participant 5). They added: *"what to eat to prevent disabilities or stillborn children and also when they are growing"* (PRA-based workshop, School C, Participant 7). Participants from School B similarly indicated the need to know more about the types of foods women can eat when they are pregnant (PRA-based workshop, School B, Participant 5). Participants from School B furthermore indicated the need to gain information on: *"which food can help your digestive system?"* (PRA-based workshop, School B, Participant 8).

Participants from all three schools indicated their need for information regarding food storage. Participants from both Schools B and C wanted to know: *"how long can food be stored in the fridge?"* (PRA-based workshop, School B, Participant 1), and: *"how long can food stay in the refrigerator before and after cooking?"* (PRA-based workshop, School C, Participant 6).

Participants from School B were furthermore interested in knowledge about food processing. One participant asked: *"how do you process food?"* (PRA-based workshop, School B, Participant 6). In

addition, participants from School C were interest in the time it takes for canned food to expire and why some cans expand while they have not yet expired. They asked: *"how long does tin stuff take to expire?"* (PRA-based workshop, School C, Participant 3).

Participants from School B furthermore enquired about the way to cook food correctly and in such a manner that the nutrients will still benefit their health. One participant specified this need as follows: *"different cooking methods and the right manner to cook them"* (PRA-based workshop, School B, Participant 3). Participants from School C emphasised their need for information on the advantages and disadvantages of additives, as well as sodium (table salt) consumption, in requesting information on the available: *"disadvantages and advantages of raw salt"* (PRA-based workshop, School C, Participant 1). They also requested information on food additives and preservatives (PRA-based workshop, School C, Participant 3). Photograph 4.14 provides a visual representation of the participants' needs on information about healthy eating practices.



Photograph 4.14: Participants' informational needs (School C, group 2)

4.3.3 THEME 3: FOOD PRODUCTION PRACTICES IN THE RESOURCE-CONSTRAINED COMMUNITY

In terms of the food production practices, participants indicated their preference to produce vegetables, because of affordability and health-related qualities. Participants, furthermore, agreed that they follow specific food production methods during the production of vegetables and lastly emphasised their need for specific food production information and skills. Table 4.3 provides an overview of the inclusion and exclusion criteria for Theme 3.

Table 4.3: Inclusion and exclusion criteria for Theme 3

Identified sub-themes	Inclusion criteria	Exclusion criteria
Sub-theme 3.1: Choice of products	Any reference to choice of products that are produced	Contributions not reflecting the products selected to be produced
Sub-theme 3.2: Food production methods	Any references to food production methods utilised in the community	Contributions not reflecting food production methods utilised by community members
Sub-theme 3.3: Information and skills required by parents	Any reference to information and skills required by community members regarding food production practices	Contributions not reflecting information and skills required by community members regarding food production practices

4.3.3.1 Sub-theme 3.1: Choice of products

Participants confirmed that many community members preferred to produce their own vegetables, such as: *"potato, tomato, spinach, cabbage, spring onion and sometimes chickens"* (PRA-based workshop, School B, Participant 9). Participants from School A similarly indicated that community members produced: *"tomatoes, pumpkin, spinach, corn, onion and green beans"* (PRA-based workshop, School A, Participant 1).

Participants related community members' decision to produce vegetables, to this practice being affordable. Participants from School C said in this regard: *"they are easy to maintain and affordable"* (PRA-based workshop, School B, Participant 9), *"more affordable than red meat and fresher than braai packs"* (PRA-based workshop, School C, Participant 8) and *"we plant those vegetables because we save money"* (PRA-based workshop, School C, Participant 2).

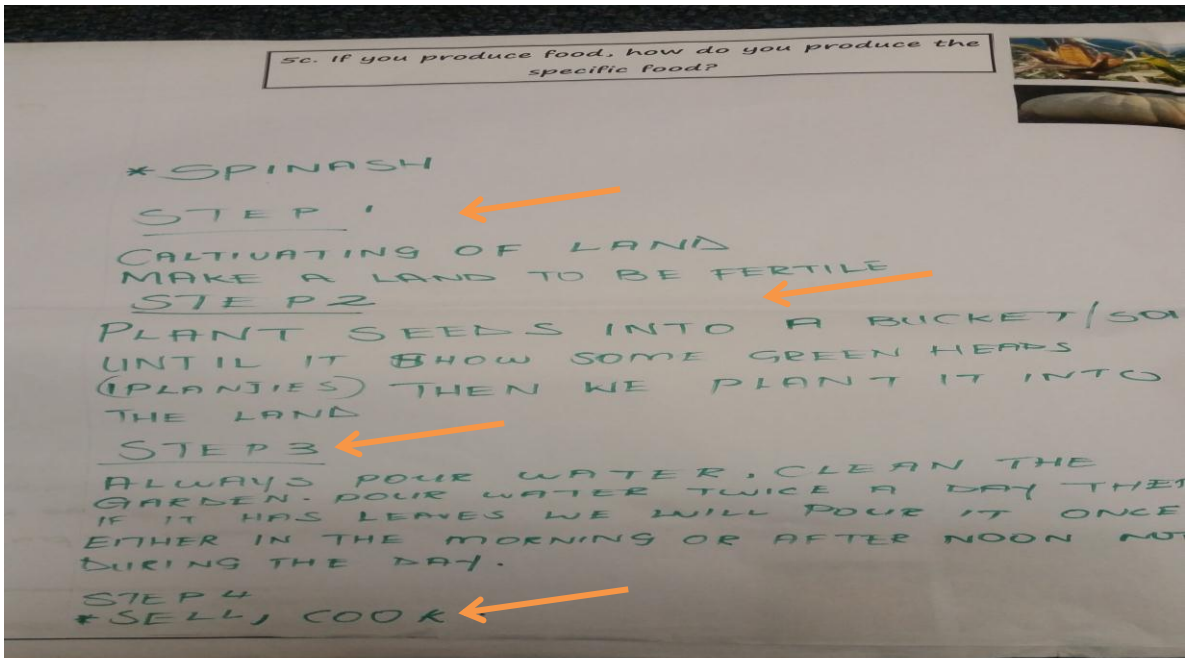
In addition to affordability, participants confirmed an awareness of health amongst community members when referring to their decision to self-produce vegetables. To this end, participants from School A referred to health-related aspects, saying: *"it gives vitamins to people"* (PRA workshop, School C, Participant 3) and added that: *"it builds the body…good for the body"* (PRA-based workshop, School A, Participant 4). For participants from School B, extra income was an important motivating factor during vegetable production. These participants mentioned that vegetable production assisted them to support their families, saying that: *"we can make a living out of them"* (PRA-based workshop, School B, Participant 2). In addition to affordability, health-related factors and the potential of an extra income, participants from School C added convenience as motivating factor during vegetable production. They summarised this idea by saying: *"we plant vegetables, because it is easy to plant, we only need water, the sun and fertilizer"* (PRA-based workshop, School C, Participant 6).

I reflected about the food production practices that the participants discussed in the following way: *"I think that affordability in this community is of paramount importance and it is good that they produce vegetables that are not complicated, plants that are easy to grow and are of value to their bodies. I also liked that they are already planting something, which to me means they are willing to support themselves and their families. I only wonder how they keep their families, especially children, motivated to eat the veggies. I also wonder about the available space and good soil to grow these vegetables in, as well as whether they are able to sustain the supply for family consumption on a regular basis"* (Reflective journal: 26 February 2013).

4.3.3.2 Sub-theme 3.2: Food production methods

In terms of production methods, participants gave specific examples of practices in the community. Participants from School B agreed that parents would prepare the soil before planting seeds, and emphasised the importance of water. They explained that: *"we start by cultivating the soil, you plant a seed, and it produce [sic] the food you want"* (PRA-based workshop, School B, Participant 4). Another participant from School B elaborated on the soil preparation methods and indicated that one usually: *"turns the soil, then sprinkles fertilizer on the soil, then you water the garden, plant the seeds and after seven days the seedlings are visible"* (PRA-based workshop, School B, Participant 1). Participants from School C referred to: *"cultivating the land and make it fertile, then you plant seeds into a bucket until they show some green heads, then we plant them into the land…always pour water and clean your garden…always pour early in the morning or in the afternoon, not during the day…the you can sell or cook it"* (PRA-based workshop, School C, Participant 9). According to the participants from School A, community members: *"use chicken dung or sawdust to prepare the soil…then you plant the cabbage or potatoes…you water them and after two months you can eat them"* (PRA-based workshop, School A, Participant 3). Participants from School A also talked about the equipment that community members used during vegetable production, such as: *"seeds, forks, spades, hosepipes and a bucket to prepare the land with fertilizer. Hereafter we put the seeds in soil and water the seeds. After two weeks it will come out"* (PRA-based workshop, School A, Participant 2).

I reflected about the food production practices the community members reportedly engaged in: *"The participants do have some knowledge in planting vegetables, however I think they need current methods and ideas regarding using their produce for a way of sustainable income and food supply for their families. I wonder how they think of themselves if they plant in their yard"* (Reflective journal, 19 February 2013). Photograph 4.15 provides a representation of participants views on the food production methods typically practiced in the resource-constrained community.



Photograph 4.15: Food production methods C (School C, group 1)

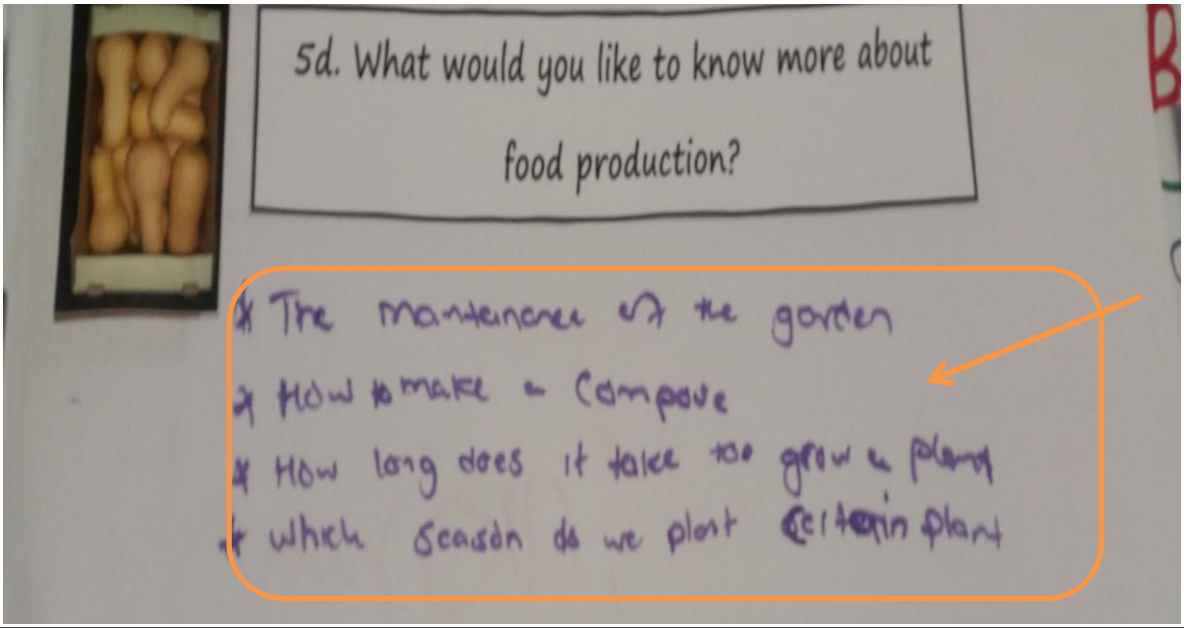
4.3.3.3 Sub-theme 3.3: Information and skills required by parents

Despite the food production activities they practiced at the time of the study, participants indicated that they could further benefit from additional information and skills training related to food production. In this regard, participants from School C mentioned that: *"we want to know more about other methods of food production"* (PRA-based workshop, School C, Participant 6). Participants from School C specifically indicated the need to know more about vegetable gardening and: *"the maintenance of the garden"* (PRA-based workshop, School C, Participant 7). Participants from School B added their need to learn more about: *"how to make compost for your garden"* (PRA-based workshop, School B, Participant 9). Closely related, participants from School C indicated the need for additional information on soil, pest control and the growth of plants in general. They namely said that they wanted to know: *"how to prepare the soil in order to produce good food"* (PRA-based workshop, School C, Participant 1), as well as: *"how to kill insects that eats plants…different methods to do that"* (PRA-based workshop, School C, Participant 2) and furthermore that: *"we would like to know why our plants have worms"* (PRA-based workshop, School C, Participant 4). Participants from School A asked about the presence of worms in their vegetables: *"why do the potatoes I've plant [sic] have worms?"* (PRA-based workshop, School A, Participant 1).

In addition, participants from School B wanted to be knowledgeable about the time it takes for vegetables to grow, saying: *"how long does it take for a plant to grow?"* (PRA-based workshop, School B, Participant 2). Furthermore, participants from schools B and C seemed interested in additional information and skills regarding: *"why the plants do not grow properly"* (PRA-based workshop, School B, Participant 2), as well as why the: *"carrots are so small"* (PRA-based workshop, School C, Participant 2). Participants from School C expressed the need to learn more about crop rotation, saying: *"we want to learn more about*

seasonal production" (PRA-based workshop, School C, Participant 8), whilst participants from School C added their need for information on seasonal planting, stating: *"in which season do we plant certain plants?"* (PRA-based workshop, School B, Participant 3). Participants furthermore indicated that they wanted to: *"know how to plant wheat, sunflower and rice"* (PRA-based workshop, School B, Participant 4). Participants also emphasised community members' needs related to farming and entrepreneurial skills. They requested to: *"know how to be commercial farmers and supply the market with produce?"* (PRA-based workshop, School A, Participant 3).

In reflecting on the community members' food production-related needs I noted: *"The community has vast needs when coming to food production and it will be beneficial if the intervention envisaged can include this"* (Reflective journal, 20 February 2013). Photograph 4.16 provides a visual representation of community members' food production methods in the resource-constrained community, as indicated by the participants.



Photograph 4.16: Information and skills-related needs B (School B, group 1)

4.3.4 THEME 4: FOOD PURCHASING PRACTICES IN THE RESOURCE-CONSTRAINED COMMUNITY

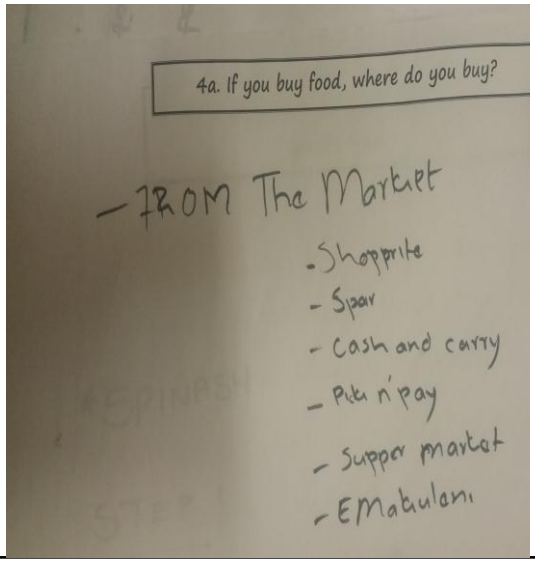
During the PRA-based workshop, participants indicated community members' preference to purchase food at specific shops or informal traders in the community. Participants also indicated their preferred food choice. Table 4.4 provides an overview of the inclusion and exclusion criteria for Theme 4.

Table 4.4: Inclusion and exclusion criteria for Theme 4

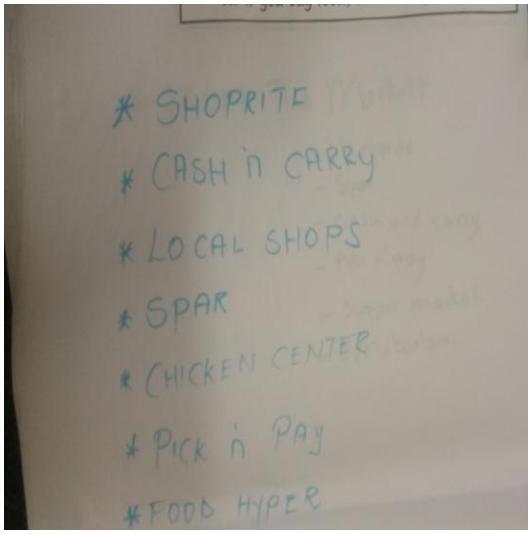
Identified sub-themes	Inclusion criteria	Exclusion criteria
Sub-theme 4.1: Choice of food suppliers during food purchasing	Any reference to food suppliers where community members purchase their food	Contributions not reflecting food suppliers where community members purchase their food
Sub-theme 4.2: Food choices during food purchasing	Any reference to community members' food choices during food purchasing	Contributions not reflecting community members' food choices during food purchasing

4.3.4.1 Sub-theme 4.1: Choice of food suppliers for food purchasing

Community members reportedly preferred to buy food at specific shops or informal traders. A variety of local shops in the community were mentioned. For example participants from School B indicated that: *"we buy form the vendors market"* (PRA-based workshop, School B, Participant 7), as well as: *"Shoprite, Varuku, Sipho Thokoza and from the women selling at the taxi rank"* (PRA workshops, School B, Participant 3). Participants from School C mentioned that they bought from supermarkets such as: *"Cash-and-Carry, Pick-n-Pay, Chicken Centre, Langham Supermarket and from the Indians"* (PRA workshop, School C, Participant 7). Participants also mentioned that they purchased some of their food at the: *"farmers market and supermarket"* (PRA workshop, School B, Participant 9). In addition, they mentioned that: *"we buy form the vendors market"* (PRA-based workshop, School B, Participant 7) and private entrepreneurs such as: *"from the fisherman that sells at our homes"* (PRA-based workshop, School B, Participant 4). Participants from School A indicated their preference to purchase from: *"ladies selling in the neighbourhood, tuck shop, street corner"* (PRA-based workshop, School A, Participant 9). Photographs 4.17 and 4.18 provide supportive evidence to this end.



Photograph 4.17: Choice of food suppliers C (School C, group 2)

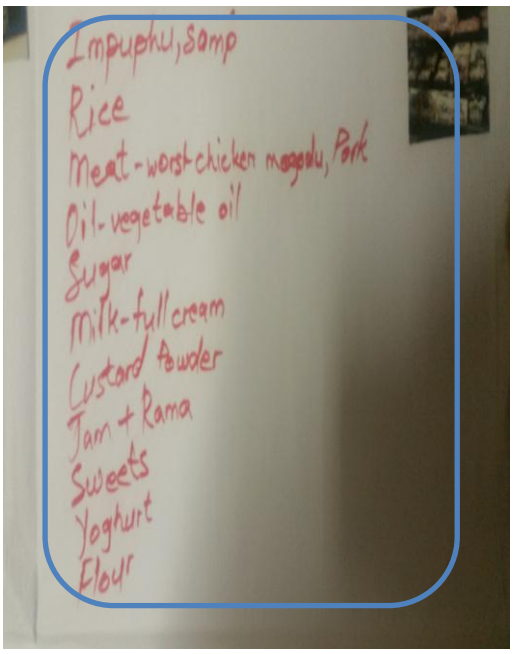


Photograph 4.18: Choice of food suppliers A (School A, group 1)

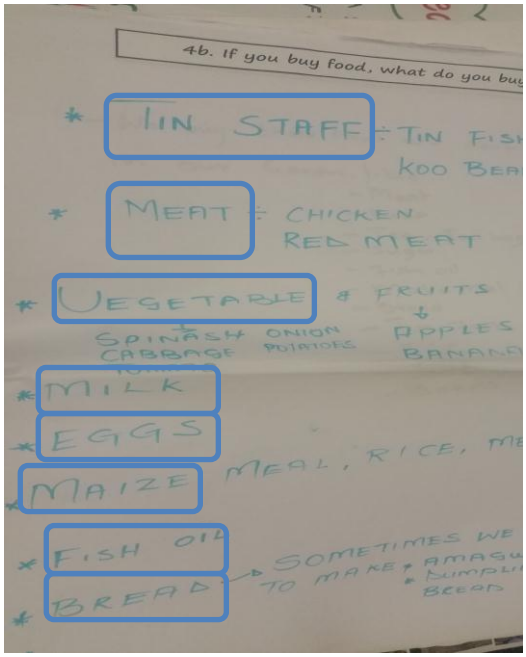
4.3.4.2 Sub-theme 4.2: Food choices during food purchasing

Most of the participants agreed that community members preferred to buy a variety of products. Participants mentioned several examples of food types usually purchased. Participants from School B for example indicated: *"mielie meal [maize], rice, mixed portion chicken, vegetables, cooking oil, spices, soups, bread, chicken feet and gizzards, eggs, polony, little bit of fruit and coca cola"* as preferred food choices (PRA-based workshop, School B, Participants 1,3,5,9). Closely related, participants from School C mentioned that they preferred to purchase: *"tin fish, KOO baked beans, rice, fish oil, sometimes we buy flour to make 'vetkoek' or dumplings"* (PRA-based workshop, School C, Participants 1, 2, 7).

Participants from School C furthermore added: *"coffee, rooibos, salt and beans"* (PRA-based workshop, School C, Participants 3, 4, 6) to the list of items. On the other hand participants from School A indicated that they prefer to purchase: *"pap and samp, cremora, sour milk, fresh milk, wors, sugar, custard powder, jam and Rama, sweets, yogurt and flour"* (PRA-based workshop, School A, Participants 1,2, 3, 5) on a monthly basis for their families. Photographs 4.19 and 4.20 provide supportive evidence.



Photograph 4.19: Food choices during purchasing A (School A, group 2)

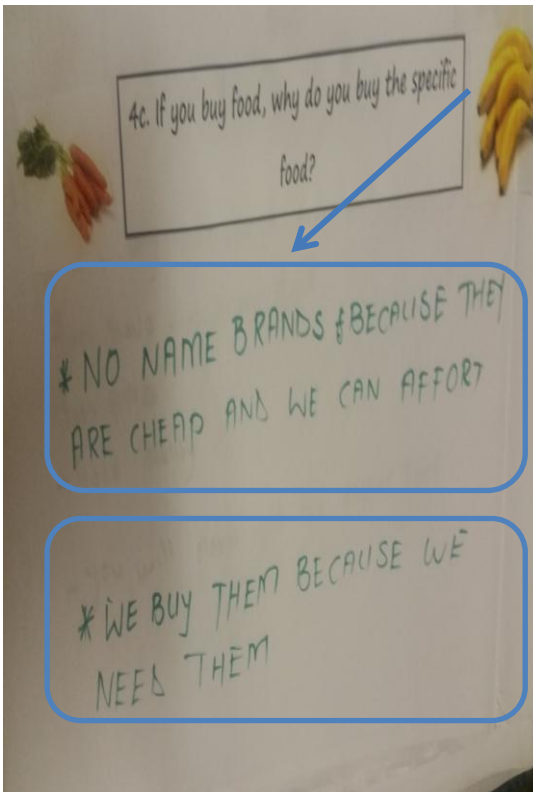


Photograph 4.20: Food choices during purchasing B (School B, group 2)

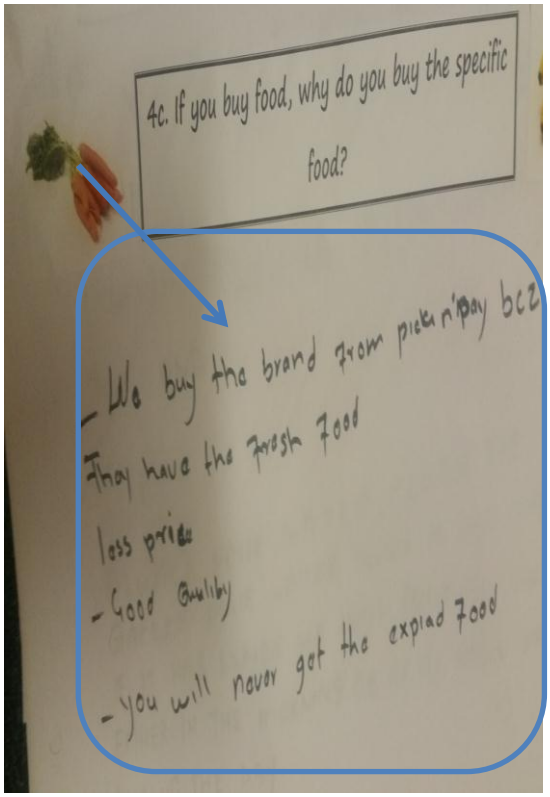
When prompted about the reasons for their specific food choices, participants identified affordability, quality and health as the main determining factors for purchasing specific food. In terms of affordability, participants emphasised that community members would purchase food that they: *"can afford"* (PRA-based workshop, School B, Participant 3). Participants from School C shared these views and concluded that community members preferred to purchase: *"no name brand because they are cheap and affordable"* (PRA-based workshop, School C, Participant 4). Health was added as factor, as: *"I buy them because they are good for the body"* (PRA-based workshop, School B, Participant 9). Participants from School A

agreed and stated that: *"they are healthy and it builds your body"* (PRA-based workshop, School A, Participant 2). Participants from School C further mentioned that: *"we buy the specific food because we need them"* (PRA-based workshop, School C, Participant 5). Participants from School C viewed quality as important when they purchased food for their families stating that: *"quality…you will never get the expired food there"* (PRA-based workshop, School C, Participant 1).

I reflected about the food choices community members made when they purchased food in my reflective journal: *"I wondered about the practicality of the community's reasons for their choices…..do they really focus on quality and healthy food? No name brands are cheaper and it made sense that they go for this option"* (Reflective journal, 20 February 2013).Photographs 4.21 and 4.22 provide a visual representation this sub-theme relates too.



Photograph 4.21: Reasons for food choices during purchasing C (School C, group 2)



Photograph 4.22: Reasons for food choices during purchasing B (School B, group 1)

4.3.5 THEME 5: FOOD PREPARATION PRACTICES IN THE RESOURCE-CONSTRAINED COMMUNITY

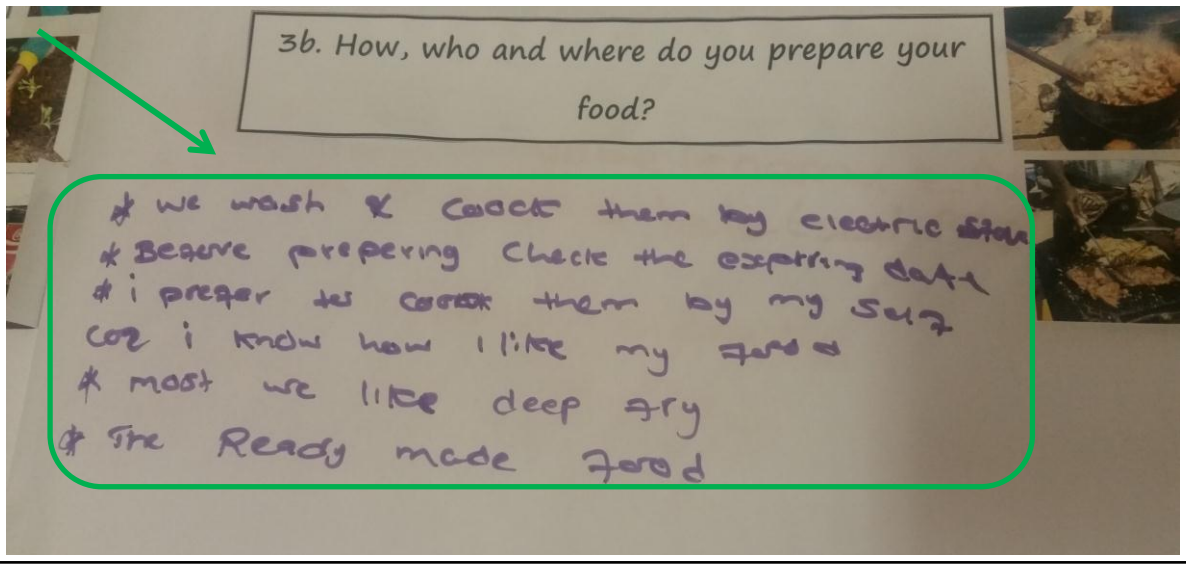
Participants indicated certain preferences for food preparation methods by the community. Furthermore, participants discussed the people responsible for food preparation. Table 4.5 provides an overview of inclusion and inclusion criteria for Theme 5.

Table 4.5: Inclusion and exclusion criteria for Theme 5

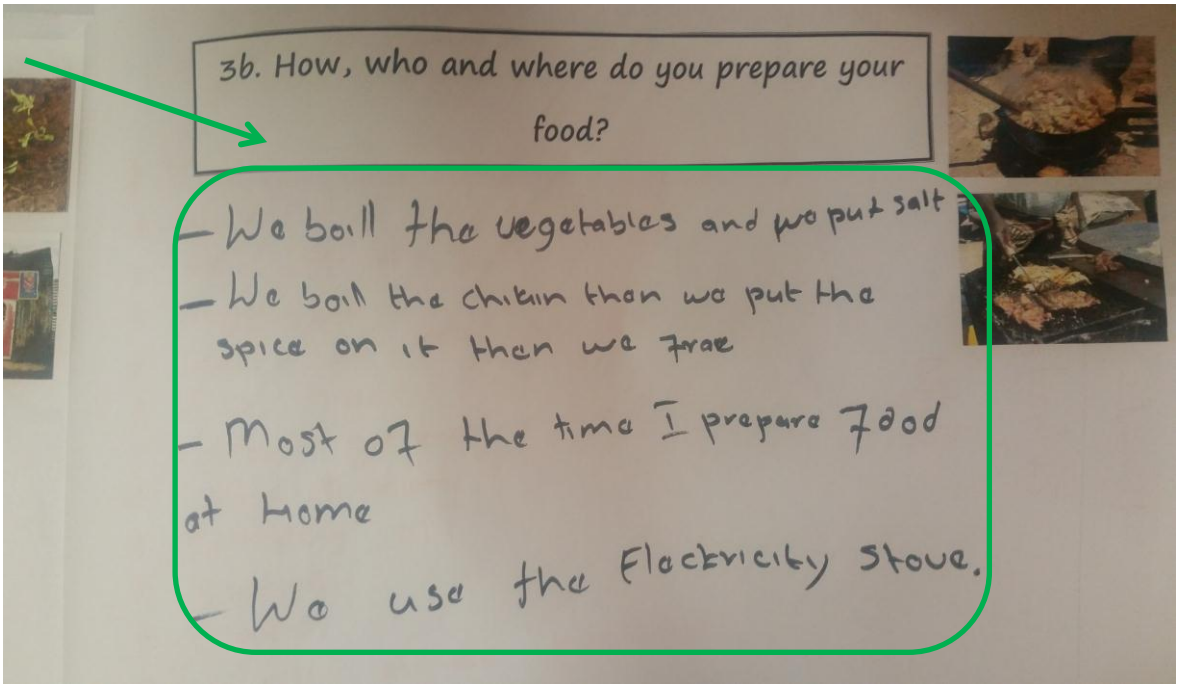
Identified sub-themes	Inclusion criteria	Exclusion criteria
Sub-theme 5.1: Food preparation methods	Any reference to food preparation methods	Contributions not reflecting food preparation methods
Sub-theme 5.2: People responsible for food preparation	Any reference to people responsible for food prepared in the community	Contributions not reflecting the people responsible for food preparation in the community

4.3.5.1 Sub-theme 5.1: Food preparation methods

Participants identified boiling and deep-frying as preferred methods of preparing food within the resource-constrained community. According to the participants from School B: *"we like to deep-fry"* (PRA-based workshop, School B, Participant 2), as opposed to participants from School C that stated: *"we boil the vegetables and put salt in"* (PRA-based workshop, School C, Participant 5) and that: *"we boil the chicken then we put spice on it and then we fry it"* (PRA-based workshop, School C, Participant 4). Participants from School C added that their preferred method of cooking food such as onions and meat is frying, and that they used salt and spices to season the food. They stated: *"we fry the onion, put the meat in, pour salt and spices and wait until it is well cooked"* (PRA-based workshop, School C, Participant 3). Generally, participants from all three schools emphasised boiling when referring to maize: *"we usually boil water, pour in the mielie meal and then you mix everything"* (PRA-based workshop, School A, Participant 1). In this regard, I reflected as follows: "*I did not hear any of the participants mentioning that they pour salt into the pap, which is an ingredient used when cooking pap"* (Reflective journal, 19 February 2013). Photographs 4.23 and 4.24 provide visual representations of the participants' views on the preferred food preparation methods in the community.



Photograph 4.23: Participants' food preparation methods A (School A, group 1)



Photograph 4.24: Participants' food preparation methods B (School B, group 2)

Most of the participants preferred electric appliances for food preparation. Participants from School B indicated that: *"we cook them by electric stove"* (PRA-based workshop, School B, Participant 6) and participants from School A added that they preferred to make use of: *"pots on the electric stove or we use a microwave oven"* (PRA-based workshop, School A, Participant 3). One participant from School B indicated that she preferred to prepare food outside her home, stating: *"I cook on the wood fire outside"* (PRA-based workshop, School B, Participant 4). In summarising the various preparation practices, one of the participants concluded as follows: *"In our community the people use gas, paraffin stoves, wood fire and electric stoves"* (PRA workshop, School C, Participant 3).

4.3.5.2 Sub-theme 5.2: People responsible for food preparation

Participants from all three schools mentioned that they preferred to prepare food themselves. Participants from both schools B and C emphasised that: *"most of the time I prepare the food at home"* (PRA-based workshop, School C, Participant 2) and that: *"we prefer to cook food ourselves"* (PRA-based workshop, School B, Participant 7). Participants concluded that the women of the community took the primary responsibility for food preparation. Participants mentioned that they also relied on their children and grandmothers to help with food preparation if they are unable to attend to it. A participant from School B indicated that she asked: *"my eldest daughter"* (PRA-based workshop, School B, Participant 8), while another participant from School A added that occasionally she relied on: *"my mother"* (PRA-based workshop, School A, Participant 1).

4.4 FINDINGS OF THE STUDY

In this section I relate the results of this study to existing literature. I highlight similarities and contradictions in terms of the themes and sub-themes I identified.

4.4.1 EATING PATTERNS OF THE RESOURCE-CONSTRAINED COMMUNITY

Members of the participating community followed a diet similar to that being described by existing literature on resource-constrained South African communities. I namely found that the participating resource-constrained community's diet consists of a limited variety of foods, as well as a low intake of fruit and vegetables as a result of poverty. This finding aligns with studies by Schönfeldt et al. (2010) and Oldewage-Theron et al. (2012), indicating that low income will contribute to low dietary diversity, which will in turn lead to poor dietary intake and micronutrient deficiencies.

I furthermore found that the participating community consumed a diet that mainly contains refined grains, starchy vegetables, added fats, sweets and fatty meats. Various studies have shown that diets follows socio-economic patterns, with families from lower socioeconomic status (SES) groups having less than optimal dietary intakes (Darmon, Lochs & Pichard, 2008; Larson et al., 2009). As such, members of the community involved in this study typically follow a diet similar to the diets of low SES groups, as described in current literature (Oldewage-Theron et al., 2006; Darmon et al., 2008; Larson et al., 2009; Schönfeldt et al., 2010),and relied on by many resource-constrained communities in South Africa. The findings of this qualitative study there for confirm that poverty generally results in poor dietary variety, thus illustrating household food insecurity.

Consistent with existing literature (Martins, 2005), maize is indicated by the findings of this study as the staple food consumed at nearly each meal in the community involved. Depending on the time of day, maize is served in different forms and with different side dishes. This finding supports the work of Kimani-Murage et al. (2010) and Oldewage-Theron et al. (2006). In addition, bread was found to be consumed on a daily basis, as also indicated by other research on current trends in resource-constrained South African communities. In this regard Steyn et al. (2003) and Kruger et al. (2006) highlight that bread is one of the most commonly consumed food types among South African community members, with bread forming part of the staple diet of most children from all backgrounds, including those from low-income groups.

I furthermore found that poultry, in the form of chicken, is the most commonly consumed meat in the community, with the flesh, heads, feet, and other parts of chickens being consumed. Martins (2005) confirms this finding by indicating that in line with current literature on the dietary patterns of resource-constrained communities, fish is also consumed relatively regularly, although not as frequently as certain other forms of protein. In this regard, Martins (2005) notes that tinned fish is the most commonly consumed form of fish by individuals from resource-constrained settings.

With regard to the consumption of fruits and vegetables .MacIntyre, Kruger, Venter and Vorster (2002) and Kruger et al. (2006) indicate that resource-constrained communities tend to eat insufficient portions of fruits and vegetables, because of limited availability and prohibitive prices. In this study, I found that community members do consume fruit and vegetables, however, that their choices were limited to primarily apples and bananas. This finding supports existing literature that relate to the diets of resource-constrained communities, such as the studies by Faber et al. (2001) and Martins (2005). Existing literature specifically indicate that lower calorie, healthy foods such as fruit, generally cost more, and that cost of food products is a barrier to South African resource-constrained communities when purchasing products (Faber et al., 2001; Martins, 2005).

In conclusion I found that the participating community generally follows a monotonous diet and that most of the monthly food budget of households is spent on maize, poultry, bread and tea. This finding confirms the work of Martins (2005) who indicate that food prices were found to be central to all food-related decisions, including which food products to buy and/or consume, and how regularly these are purchased. As has also been found in related studies (Oldewage-Theron et al., 2006; Steyn et al., 2009) my research indicates that it is not unusual for some children of this community to come to school without having eaten breakfast.

4.4.2 COMMUNITY MEMBERS' INSIGHT INTO HEALTHY EATING PRACTICES

Community members displayed an understanding of what healthy eating practices entail. They were able to provide examples of healthy food types, and indicate reasons why healthy foods benefit bodily health. Puoane, Matwa, Bradley and Hughes (2006) confirm that during inquiries into the meaning of food in relation to healthy eating, participants tend to mention that some foods are harmful to the body and can lead to, for example, heart diseases, diabetes and high blood pressure. These authors (Puoane et al., 2006) emphasise that an understanding of food in relation to healthy eating is particularly important in order to enhance the general understanding of the informational needs of communities, together with the resources required to promote nutritious consumption practices.

Although participants indicated the availability of several resources to inform healthy eating practices in the community, community members still displayed the need for information on healthy eating practices. In this regard, MacIntyre et al. (2008) indicate that resource-constrained communities are often deprived of information relating to healthy eating practices or access to reliable resources that could support informed choices or enable community members to prevent non-communicable diseases. Nutrition-related information can change this existing need of people and provide a means by which communities can improve their existing nutrition-related knowledge and gain the skills needed for developing healthy eating practices (Davids, Nkomo, Mfecane, Skinner & Ratele, 2008). Information on healthy eating practices, furthermore, can support communities to alleviate poor health and fight against household food and nutrition insecurity (David et al., 2008).

Members of the community involved in this study were found to be in need of specific guidance with regard to food-related practices, which could be provided in the form of workshops or practical demonstrations. This finding yet again supports existing literature, which notes that workshops and demonstrations can benefit communities in pursuit of healthy diets, as proposed by Faber et al. (2011). Kothari, Bhattacharjee and Marathe (2001), together with Phaswana-Mafuya and Shukla (2005), are of the opinion that the promotion of knowledge and skills development will benefit members of resource-constrained communities to make healthier food choices. Topics proposed as beneficial by these authors include the dietary significance of foods, elements of a balanced diet, suitable food choices and purchases from accessible sources, hygienic food preparation, storage, processing and preservation methods, as well as equitable intra-household food allocation in proportion to the nutritional requirements of families in resource-constrained communities. In terms of this recommendation, the findings of this study indicate the need for knowledge and skills in all the areas emphasised by Kothari et al. (2001) and Phaswana-Mafuya and Shukla (2005). The equal distribution of food along with the nutritional requirements of individual family members was not referred to in my study. This silence is most likely due to the limited extent of the study, and therefore, further research on equitable intra-household food distribution, needs to be conducted.

I furthermore found that factors influencing healthy food eating practices are not only based on individual preferences, but are also determined by social, cultural and economic factors. This finding are in line with studies of Kremers, Bruijn, Visscher, Van Mcchelen, Vries and Berg (2006); Delaney and McCarthy (2009); Teixeira, Patrick and Mata (2011); Gahagan (2012), as well as Van Dooren and Bosschaert (2013). Findings from these authors namely similarly indicate that resource-constrained communities face additional challenges when attempting dietary change to healthier eating practices (Kremers et al., 2006; Delaney & McCarthy, 2009; Teixeira et al., 2011; Reit et al., 2011; Gahagan, 2012; Van Dooren & Bosschaert, 2013).

4.4.3 FOOD PREPARATION PRACTICES IN THE RESOURCE-CONSTRAINED COMMUNITY

In terms of food preparation practices, the results of my study indicate the trend of women taking responsibility for food preparation, by means of a variety of methods. This aligns with Walsh, Dannhauser and Joubert (2007) who similarly found that food are mostly purchase on a monthly basis by the mother, who is also responsible for food preparation. Despite the community living in resource-constrained conditions, I found that most community members make use of electrical stoves when preparing food. In their study Walsh et al. (2007) similarly found that in six different resource-constrained communities in the Free State province who took part in their study, two of the communities mainly made use of primus stoves or gas plates during food preparation. In another participating resource-constrained community, most of the community members used electric stoves and coal or gas stoves. A significant number of households in the other three participating resource-constrained communities relied on coal or gas stoves to prepare their food.

This finding, however, contradicts the work of Chirwa, Ham, Maphiri, and Balmer (2010), who found that most of the households in the resource-constrained community who participated in their study, preferred firewood for cooking, while electricity was mostly used for lighting. These authors (Chirwa et al., 2010) furthermore found that, in cases where people do make use of electrical stoves, firewood is preferred for cooking food that takes a long time to prepare, in order to limit the use of electrical stoves to food that require short periods of cooking or mere re-heating of food.

I furthermore found that boiling and deep-frying are preparation practices of choice. Viljoen (2010), who undertook a study on local food preparation within a resource-constrained community, confirms this finding, as most of the traditional recipes included in her study involved the boiling of food (whether it be meat, vegetables or starch) in water with salt. Sunflower oil is seemingly also commonly used for cooking, either for frying or as an addition to recipes (indicated in the work of Faber et al., 2001; MacIntyre et al., 2002; Viljoen, 2010). In agreement with related existing literature (Spearing et al., 2012), the participants in my study also preferred meat to be served in stewed form (prepared with water, salt, tomatoes and onions) and/or fried form (fried in oil with onions), while starch-based dishes are typically prepared using only water and salt.

4.4.4 FOOD PURCHASING PRACTICES IN THE RESOURCE-CONSTRAINED COMMUNITY

I found that for those community members who can afford it, buying from larger chain-stores, local shops and informal traders was common practice. This finding aligns with the research of D'Haese and Van Huylenbroeck (2005), who also found that vendors and local shops make up the primary retail in resource-constrained communities and that the majority of households prefer to go to supermarkets in cities, as these provide a wider variety of cheaper food. Participants in my study similarly emphasised that community members' choice of shop is strongly affected by the affordability of items, which furthermore correlates with the findings of the IFPRI (2003), indicating that consumers from poor households will be attracted by price and the availability of products in supermarkets. In further support, Morapane (2012) emphasises the link between people's decision to buy from a particular supplier on the one hand and affordability and accessibility on the other.

In terms of the selection of food typically purchased by community members my findings are restricted to a range of cheaper food options, such as bread, chicken (specifically cheap cuts), tinned fish, rice, pap (porridge) and traditional spinach (morogo). This finding supports the work of several researchers (Darmon & Drewnowski, 2008; Kruger et al., 2006; Larson & Story, 2009; MacFarlane, Crawford, Ball, Savige & Worsley, 2007; Schönfeldt & Gibson, 2009) highlighting the fact that individual consumer behaviour is largely determined by poverty and socio-economic status. Families in resource-constrained communities often try to stretch their food budget by buying cheap, energy-dense food (Drewnoski, 2009). In correlation with existing literature (Temple et al., 2011), the community members in my study

thus primarily purchased affordable food, rather than considering how their choices may negatively affect the quantity and quality of the food they consumed.

4.4.5 FOOD PRODUCTION PRACTICES

In terms of food production practices, the community preferred to grow their own vegetables, due to home-grown vegetables being affordable and some community members valuing the health benefits of vegetables. Existing literature confirms that vegetable gardens can potentially contribute to addressing the challenge of hunger and malnutrition by making nutritious food accessible to people living in poor circumstances (United Nations, 2015). Even though D'Haese and Van Huylenbroeck (2005) view the capacity of local vegetable production as limited, Faber et al. (2013) similarly emphasise the possibility of vegetable gardens in generating income and helping consumers to save money, especially in view of rising food prices. A number of participants in my study confirmed that business opportunities could indeed arise from vegetable gardens. More specifically, vegetable gardens hold the potential to empower community members and if developed and managed effectively, it can contribute to commercial production and broader community development (Faber et al., 2013).

On an educational level, various topics that community members would benefit from, if these were to be presented to them during information sessions, were identified. This finding aligns with related studies (Faber et al., 2002; Ruel&Levin, 2000), which note the possible positive impact of an educational component in health-related interventions for communities. Nutrition education, which presents society with information on the dietary significance of food, can for example be accomplished by conveying knowledge on approaches to improve food production, crop selection, safe storage of food, preservation of nutrients during food preparation and the avoidance of food waste (Tontisirin, Nantel & Bhattacharjee, 2002; Woolford & Fellow, 2009; Faber & Laurie, 2011).

Although the majority of the participants in my study were acquainted with basic food-production strategies and methods, it became apparent that their approaches towards the acquisition of food were confined to their daily nutritional practices, allowing little opportunity for them to financially gain from sustainable small household gardening practices. A silence that is indicated by the findings of my study relates to poultry farming and the extent to which it is commonly practiced in the specific community. One can assume that the size and space of any of the township stands would not really allow for sustainable large-scale farming, and that the water supply to many households may be unreliable and complicate poultry farming, yet these are mere hypotheses that require further research.

4.5 CONCLUSION

In this chapter, I presented the results of the study in terms of the five themes and related sub-themes that I identified. I then contextualised the results against the backdrop of existing literature, by highlighting both similarities and inconsistencies, and identifying silences.

In Chapter 5, I conclude this mini-dissertation by offering conclusions in terms of the research questions I formulated in Chapter 1. In addition, I present the potential value and limitations of the study, and conclude with recommendations for future training, practice and research.

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CHAPTER 5
CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In Chapter 4 I discussed the themes and sub-themes that emerged following inductive thematic data analysis. Thereafter, I interpreted the results against the background of existing literature, foregrounding the findings of this study. In this final chapter I provide an overview of chapters 1 to 4, and then come to conclusions in terms of my research questions, as formulated in Chapter 1. I identify potential limitations of the study and indicate the contributions of this research, and conclude with recommendations for future training, practice and research.

5.2 OVERVIEW OF PRECEDING CHAPTERS

In **Chapter 1**, I presented an overview of the study and described the rationale, together with the topic I explored, namely parents' perceptions of the food consumption practices and nutrition-related needs within a selected resource-constrained community in the Bronkhorstspruit area (Gauteng). Subsequent to formulating related research questions, I presented my working assumptions and clarified the key concepts that guided the study. Hereafter, I introduced the paradigmatic choices made, as well as the theoretical framework that guided my research. I provided a brief overview of the methodological strategies I employed and concluded the chapter with a summary of the ethical guidelines and quality criteria to which I adhered throughout the study.

In **Chapter 2**, I discussed current literature on the global food and nutrition scenario, and provided an overview of food security, as well as the prevalence of hunger and malnutrition in South Africa. Hereafter, I emphasised the Millennium Development Goals (MDGs) as global response to extreme hunger and poverty, and described existing food and nutrition-related challenges generally experienced in resource-constrained communities. I furthermore explored general food consumption practices in South African resource-constrained communities, and outlined national initiatives in support of food and nutrition-related needs within South Africa. I concluded the chapter with an explanation of the theoretical framework that guided this study, namely Bronfenbrenner's eco-systemic theory.

In **Chapter 3**, I discussed Interpretivism as selected epistemological paradigm and qualitative research as methodological approach. I explained how I utilised Participatory Reflection and Action (PRA) as research design, and highlighted how I selected the research sites and participants, as well as the manner in which I generated data through three PRA-based workshops, observation, field notes reflection, as well as audio and visual strategies. Throughout, I related these data generation strategies to the purpose of the study and the research questions I formulated in Chapter 1. I also described the process of inductive thematic data analysis and interpretation I completed. I explained how I respected

ethical considerations and adhered to quality criteria throughout the study, and then concluded Chapter 3 with a description of my role as qualitative researcher.

In **Chapter 4**, I presented the results of the study, in terms of the five main themes and related sub-themes that emerged following inductive thematic data analysis. The five themes relate to daily eating patterns, ideas on healthy eating, and food production, purchasing and preparation practices in the participating resource-constrained community. I then presented the findings of the study against the background of current literature and indicated similarities, differences and silences that came to light.

5.3 CONCLUSIONS

In this section, I draw conclusions based on the study I have completed. I first address the secondary research questions and then attend to the primary question that guided the study, as formulated in Chapter 1.

5.3.1 SECONDARY RESEARCH QUESTION 1

What are the food consumption practices of families in the Bronkhorstspruit area?

Participants in this study generally consumed a diet consisting of limited variety in terms of food products. Community members chose and consumed meals primarily consisting of refined grains, starchy vegetables and fatty meats, because these items were affordable and easy to obtain. Furthermore, this research indicated that monthly food budgets were often mostly spent on maize, bread, tea and chicken. As such, the link between poverty and food choice remained central in the food choices that low income groups made, often resulting in choices that were less optimal in terms of nutrition and balance. Therefore, although factors such as tradition could be associated with the diets of, for example, various cultural groups in society, it was my conclusion that income and access to food remained to be the most important contributing factor for food choice, purchasing and consumption patterns. Furthermore, I concluded that the specific resource-constrained community consumed a monotonous diet based on their socio-economic status and the financial resources available.

In line with current trends indicated by existing literature, this study also indicated that supermarkets in cities, vendors and local shops provided for the primary retail in resource-constrained communities. Community members of the participating community, who could afford it, preferred to purchase food from larger chain-stores, due to a wider variety of cheaper food, yet they were in the minority. Based on the findings of this research and similar studies, it was thus evident that community members' food purchasing patterns and their choice of food sources was once again strongly determined by the affordability of items and availability of products. As with the choice of products, community members' food buying practices were, therefore, co-determined by poverty and socio-economic status.

In terms of food production practices, several community members focused on growing their own vegetables, due to the affordability of home grown vegetables, and the possibility of generating an income and supporting fellow community members in this way. To this end I posited that vegetable gardens could empower individual community members to engage in commercial food production and, in turn, contribute to community development.

The participants in this study identified a variety of methods for food preparation, specifically by women, in the community. Most of the community members made use of electrical stoves when preparing food, primarily using the methods of boiling and deep-frying. Participants namely preferred meat (mostly chicken with water, salt, tomatoes and onions) in boiled and/or deep-fried form (in sunflower oil with onions), while boiling starch-based dishes.

When synthesising the findings I obtained, it became clear that community members' dietary patterns offered little variety and that they consumed a large amount of refined food. This highlighted that food prices were central to all food-related decisions. Poverty and the lack of sufficient financial means, in turn, affected the quality and quantity of food consumed in resource-constrained communities. As such, the findings of this study emphasised that members of resource-constrained communities would choose their food and food sources according to the criteria of affordability and availability.

5.3.2 SECONDARY RESEARCH QUESTION 2

Which knowledge and attitudes do parents demonstrate in terms of food choice, food production and food preparation in the participating resource-constrained community?

Based on the findings of this study, it was evident that community members viewed food in relation to healthy eating. They seemed aware of the fact that some food items were harmful to the body and might lead to heart diseases, diabetes and high blood pressure. In this regard, I asserted that even though community members understood food in relation to healthy eating and possessed basic knowledge on healthy food consumption practices, they might benefit from additional knowledge on healthy eating practices.

Participants were able to mention different examples of balanced diets and confirmed that their community were supposed to consume balanced meals, consisting of a variety of items that contain carbohydrates, vitamins, proteins and nutrients. They emphasised the importance of drinking eight glasses of water per day, and realised the nutrients that certain food choices imply. However, despite being knowledgeable, community members were primarily driven by the price of food products when deciding what to consume. For this reason, some members of resource-constrained communities would produce their own food, primarily vegetables, in the case of this study.

Research findings indicated that resource-constrained communities were often deprived of access to reliable resources that could potentially expand their knowledge and attitudes relating to healthy eating

practices. Schools, clinics, the television, radio, home-based workers, door to door campaigns and magazines might have provided valuable sources of information for resource-constrained communities that might be, as in the case of this study, in need of specific guidance in this area. Workshops and practical demonstrations might also benefit such communities in terms of making healthier food choices in pursuit of healthy dietary patterns.

I thus proposed that community-based organisations, such as women's groups and health promotion committees, can be established to utilise and develop community members' current knowledge and skills on healthy eating practices, in order to strengthen and benefit resource-constrained communities as collective entities. Knowledge could potentially contribute to people in resource-constrained communities addressing unhealthy eating practices, making better food choices and preparing food in a more suitable way, within the financial constraints they face. I, therefore, concluded that community members in resource-constrained contexts might benefit from some form of intervention or change, in support of improved food consumption behaviour and nutrition-related practices.

5.3.3 SECONDARY RESEARCH QUESTION 3

What are the nutrition-related needs of the community?

Community members in this study emphasised that their eating patterns can be attributed to the affordability and availability of food, resulting in them often consuming energy-dense food. As such, causal factors that may contribute to the inferior diet of individuals in resource-constrained communities include poverty, high food prices, the environment and limited access to food. Although the majority of the participants in this study were acquainted with basic food production strategies, it was clear that their approaches to the acquisition of food were confined to their daily nutritional practices.

Participants subsequently indicated the need for specific information regarding healthy eating practices and the health aspects of different kinds of food. They also wanted to know how they can support ill community members through a healthy diet and the need for knowledge on different types of foods that may prevent or fight diseases and support the digestive system. Besides health-related benefits, knowledge was required on food preparation in a manner that would retain nutrients and be beneficial to the body. In addition, participants emphasised the need for information on the advantages and disadvantages of additives, as well as sodium (table salt) consumption.

The various nutrition-related needs identified by the participants foreground the possible positive impact of training workshops or educational components in health-related interventions. To this end, I assert that nutrition-related needs within resource-constrained communities can be supported by promoting information on healthy eating in general, yet also by focusing on specific topics such as methods of refining food production, produce variation, appropriate storage, preservation of nutrients during food preparation, and the avoidance of food waste.

5.3.4 SECONDARY RESEARCH QUESTION 4

In the parents' view, what could be included in an intervention aimed at promoting community-wide health and well-being?

Despite the existing food production activities community members practiced at the time of the study, they indicated that the community could benefit if presented with specific information and skills related to food production. Participants highlighted that they wanted to know more about vegetable gardening and specifically indicated their need to learn about garden maintenance and composting. Participants furthermore indicated the need to expand their current knowledge on soil, pest control and the growth of plants. In addition, they wanted to acquire information on the time vegetables take to grow and expressed the need to learn about crop rotation and seasonal planting, farming in general and the acquisition of entrepreneurial skills.

As such, all these topics can form part of interventions following the promotion of health and well-being in resource-constrained communities. Health promotion interventions accentuate the role of individuals, communities and organisations as action-oriented agents in an effort to enhance quality of life, development and well-being within an identified geographical context. An important advantage of delivering health promotion interventions at community level is the possibility of positive, informed changes related to health promotion behaviour and beliefs.

5.3.5 PRIMARY RESEARCH QUESTION

What are the perceptions of parents regarding the food consumption practices and nutrition-related needs of a resource-constrained community?

Parent participants perceived this community as one that was significantly affected by poverty and unemployment in the different ecosystems (mainly the macrosystem and exosystem). This determined what community members ate, as well as where they sourced their food and how they prepared their meals. As such I could conclude that poverty and unemployment would have a detrimental effect on the food consumption practices and nutritional needs of resource-constrained communities. As indicated by Bronfenbrenner (2005), factors impeding the macro- and exosystems would thus directly affect the individuals and their systems.

It was clear that the participating community required guidance on food consumption practices and nutrition-related needs. Based on the principles of Bronfenbrenner's ecosystemic theory, the value of interventions, such as the school-based health promotion intervention that was developed following this study, was emphasised. Participants' willingness to collaborate with one another as community members and with the research team, emphasised yet another aspect of Bronfenbrenner's theory, namely that different systems and contexts were viewed as permeable in connection with individual needs and the possibility to facilitate positive change.

Closely related to parents' perceptions on the food consumption practices of the community, a further conclusion could be put forward, namely that parent participants were able to see how the community might benefit from additional training and education on food consumption practices and nutrition-related needs. In this regard, I proposed that parents might perceive fellow community members as suitable candidates for an intervention focusing on information and skill transfer in the areas that had been identified. I furthermore posited that the parents of this community realised that changes within the microsystems of the school and households would potentially result in positive change both internally and in other micro-systems (such as other families in the community), thus effecting change within the mesosystem. This illustrated Bronfenbrenner's (2005) theory that change in one system would cause a ripple effect in other systems. As such, I proposed that, even though the community was perceived to be negatively affected by factors in their macrosystem (poverty), changes in the micro-systems might affect positive change and support community health and well-being, despite the challenges that were faced.

5.4 POSSIBLE CONTRIBUTIONS OF THE STUDY

The study provides a detailed description of the dietary patterns of a resource-constrained community in South Africa, and the reasons for certain food consumption practices in the community, in terms of food choice, purchasing, production and preparation practices. Furthermore, this study provides insight into the views of community members (parents), regarding information that could be included in potential future interventions that may benefit resource-constrained communities. The study also adds to the knowledge base on South African parents' perceptions of the food consumption and nutrition-related needs in resource-constrained communities, which is an area of knowledge that has not been explored extensively to date.

As such, this study contributes to existing knowledge on health-related behaviours in the South African context, as well as the challenges that are being faced. For professionals involved in community-based interventions or community work, such as psychologists, counsellors and social workers, an enhanced understanding of the consumer behaviour and nutrition-related needs in resource-constrained communities can inform the manner in which they view and approach working with such communities, enabling them to apply their specialised knowledge and skills in a manner that is suitable in the South African context.

Although not a specific aim of this study, the workshops that were held may have brought about awareness amongst parents of the current status of their community's food consumption practices and nutrition-related needs. Parents were seemingly inspired by the workshops to take action in support of other community members, wanting to guide others in making healthy and informed decisions. This intention aligns with the underlying philosophy of participatory action research, namely to set in motion reflection and some form of action, or ideas for action, among participants.

Within the broader research project, the findings of this study informed the development of the Win-LIFE health promotion intervention (by Karien Botha), which was subsequently implemented in the three participating schools, with Intermediate Phase learners. The findings of the study can also inform follow-up studies within the broader project, as well as related community-based interventions in future.

5.5 CHALLENGES AND POSSIBLE LIMITATIONS OF THE STUDY

One limitation that relates to the recent study is the lack of generalisability of the findings, as only 22 parents in a specific community participated. However, I merely aimed to obtain an in-depth understanding of parents' perceptions of the food consumption practices and nutrition-related needs of a specific resource-constrained community. The findings may be transferred to a similar context based on the in-depth descriptions and background provided in this mini-dissertation, which is in line with interpretivist research, without generalizing the results.

As this study forms part of my training as educational psychologist, I had to remain mindful of what my role as qualitative researcher entailed throughout the research process. As a student in educational psychology, I have been trained in various fields, one of which is community-based interventions. I often found myself thinking of ways in which I could work with the community members to solve problematic situations that I was made aware of during the study. To this end, I had to rely on reflexivity and debriefing sessions with my supervisors, in order to remain focused on my role as researcher (and not interventionist) in this particular process.

The difference in culture between the participants (Zulu culture) and myself (Tswana culture) (as well as my co-researcher and supervisors who are Afrikaans) may present as a potential limitation, as I might have drawn conclusions based on my subjective frame of reference, shaped by my own cultural beliefs. I thus remained aware of this possibility, continually reflected on my experiences and aimed to provide a detailed description of the participants' expressions regarding food consumption practices and nutrition-related needs. Through member checking I ensured that the themes indeed reflect the participants' sentiments. Despite my awareness of this possibility, the fact that I also come from an African background served as advantage as participants could identify with and relate to me easily. As this study followed an interpretivist paradigm, I also believe that the creation of shared meaning could only occur in a subjective manner between individuals.

As an English second language speaker engaging in research with participants who are also English second language speakers, I finally faced the potential challenge of the participants not being able to fully or clearly express themselves, or me not fully understanding their intention. I therefore asked the on participants to use their home language (IsiZulu), which I could fortunately understand. As IsiZulu is also not my first language, I carefully attended to non-verbal messages and relied on other sources of data such as visual data techniques as a way of overcoming this potential challenge. I also used member

checking in order to ensure that I correctly understood and interpreted the contributions of the participants.

5.6 RECOMMENDATIONS

In the following section I make recommendations for training, practice and future research, based on the findings of the study.

5.6.1 RECOMMENDATIONS FOR FUTURE TRAINING

The findings of this study highlight the potential role of community members (parents) in supporting communities, working in collaboration with educational psychologists. Not only might parents be involved in gathering information about community members' needs and practices, they may also be involved in health promotion interventions and facilitating change amongst their families and within the wider community. As such, this study can serve as an example of a project involving community members as agents of change, providing basic principles that might be employed by educational psychologists when involving others (such as parents) during interventions with either individuals, or groups of people. Training of students in helping professions, such as educational psychologists, counselors, social workers or teachers, in PRA methodology may add value, as this can provide a valuable platform to work with community members in resource-constrained settings, with the possibility of eventually facilitating positive change.

This study may thus serve as example when training students in the relevant professions (for example, social workers, educational psychologists and counselors). Current training in community-based interventions may potentially be enriched with the findings of this study, because of the South African context of a resource-constrained community in which the research was undertaken. As such, the study offers insight into the situation in which many South Africans find themselves, thereby providing locally relevant information to practitioners working in resource-constrained communities.

5.6.2 RECOMMENDATIONS FOR FUTURE PRACTICE

I recommend that the findings of this study be practically applied in the resource-constrained community where the study was undertaken. Even though the developed Win-LIFE intervention focused on enriching the Grades 4 to 6 Life Skills and Natural Sciences curricula, I suggest that the findings should be taken a step further, by arranging information sessions and workshops for parents of the participating community. Such sessions could involve the Departments of Health, Higher Education and Agriculture, who may participate by presenting guidelines and practical skills in areas such as vegetable gardening, nutritious food choices, healthy food preparation and production. The Win-LIFE research team can also fulfill a primary role.

The findings of the study should furthermore be conveyed to parents of similar communities, whether in a formal or informal way. In addition, this sharing of findings can be accompanied by information sharing sessions in such additional communities, thereby reaching a broader audience and informing more people of suitable diet selections and purchases from accessible sources, components of a balanced meal, food safety, storage and preservation, different food preparation methods, as well as food production in the form of vegetable gardens.

5.6.3 RECOMMENDATIONS FOR FUTURE RESEARCH

Based on the findings of this study, I suggest future research in the following areas:

- A participatory study on the potential value of home-based vegetable gardens in resource-constrained communities, and the entrepreneurial possibilities of such an initiative.
- A participatory study on poultry farming and the extent to which it is commonly practiced in the specific resource-constrained community.
- Follow-up case studies to further explore the factors that affect the food choices of individuals from resource-constrained communities.
- Follow-up case studies to further describe the influence of culture and religion on food choice and food preparation in resource-constrained communities.
- Follow-up case studies to further explore intra-household food allocation in relation with the dietary requirements of families in resource-constrained communities.
- Follow-up case studies to further explore ways of making healthy food choices within a context of poverty that are affordable yet nutritious.
- A participatory study on community members' knowledge on the preservation of nutrients during preparation practices and the avoidance of food waste.

5.7 CONCLUDING REFLECTIONS

In this study I explored and described parents' perceptions of a resource-constrained community's food consumption practices and nutrition-related needs, in the Bronkhorstspruit area, in Gauteng, South Africa. As such, this study provided baseline data for the development of the Win-LIFE health promotion intervention, reflecting parents' voices of the community. The findings of the study highlight the need of community members with regard to the production, purchasing and preparation of food.

Findings of this study furthermore emphasise that economic factors and poverty are determining factors in the food choices and purchases in the particular community. Parents' perceptions confirm that the community's food consumption practices are not sufficient in terms of food choices and dietary diversity as said, often due to a lack of sufficient resources and limited financial means. Based on the reality of the South African context, the focus should perhaps fall on informing poverty-stricken communities about healthy choices that are affordable, and initiatives that may be pursued to self-produce high quality healthy food, such as fruit and vegetables.

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APPENDICES

Appendix A

Informed consent letters of parents

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Department of Educational Psychology

19 February 2013

To Whom It May Concern

REQUEST FOR YOUR PARTICIPATION IN A RESEARCH PROJECT

You are invited to participate in a research project that investigates the manner in which schools could improve change in communities by empowering children.

For this research, we will be conducting discussion sessions and workshops with you as parents. We want to ask you questions on healthy eating and eating habits. During these discussions you will be asked to share your thoughts with us. Audio recordings of the discussions will be made and photographs will be taken.

We herewith request your participation in the sessions. Any person is free to withdraw from the project at any time should he or she wish to do so. You will be allowed full access to any of the data gathered during the data collection process, as well as the final results of the study.

If you are willing to participate in this study, please sign the attached letter saying that you participate willingly in this project, you understand you may withdraw from the research project at any time and that you give permission for photographs to be taken during the discussions.

Yours sincerely,
Deliwe Khumalo

Building and Room no
University of Pretoria
Private bag X20, Hatfield 0028
Republic of South Africa

Tel: Number
Fax: Number

Email address
www.up.ac.za

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Department of Educational Psychology

19 February 2013

INFORMED CONSENT:

PARENTS

Having read the letter concerning your research, I understand the following:

- ☐ I will take part in focus group discussions regarding food, nutrition, well-being and consumer behaviour in the community;
- ☐ Sessions will be observed and recorded;
- ☐ My identity will be kept confidential if I choose so;
- ☐ I can choose to withdraw from the research at any time;
- ☐ I will have full access to any of the data gathered during the research process.

I am willing to participate in this study: YES / NO

My face may be shown in photographs and publications following this study: YES / NO

....

Signature Date

Building and Room no
University of Pretoria
Private bag X20, Hatfield 0028
Republic of South Africa

Tel: Number
Fax: Number

Email address
www.up.ac.za

Appendix B

Informed consent letters of school principals

PERMISSION TO CONDUCT RESEARCH AT MSHULUZANE-MAYISELA PRIMARY SCHOOL

Dear Mrs Karien Botha

Having read the letter concerning your request to conduct research at Mshuluzane-Mayisela Primary School, I hereby grant / ~~do not grant~~ you permission to do research which will involve staff members and learners at my school.

Signature

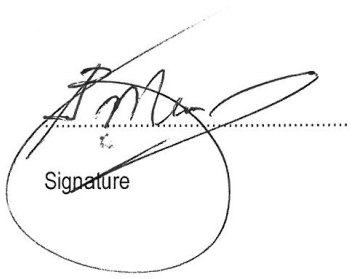
15/January 2013

Date

PERMISSION TO CONDUCT RESEARCH AT VEZULWAZI PRIMARY SCHOOL

Dear Mrs Karien Botha

Having read the letter concerning your request to conduct research at Vezulwazi Primary School, I hereby grant / do not grant you permission to do research which will involve staff members and learners at my school.



Signature

29/08/13

Date

PERMISSION TO CONDUCT RESEARCH AT KGORO PRIMARY SCHOOL

Dear Mrs Karien Botha

Having read the letter concerning your request to conduct research at Kgoro Primary School, I hereby grant / do not grant you permission to do research which will involve staff members at my school.

pp Sutu.
Signature

26-02-2013
Date

Appendix C

Ethics clearance certificate

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
Faculty of Education

RESEARCH ETHICS COMMITTEE

CLEARANCE CERTIFICATE	CLEARANCE NUMBER: UP 12/09/02 BOTHA 16-004
DEGREE AND PROJECT	MEd Parents' perceptions of the food consumption practices and nutrition-related needs in a resource-constrained community
INVESTIGATORS	Deliwe Maria Kumalo
DEPARTMENT	Educational Psychology
APPROVAL TO COMMENCE STUDY	
DATE OF CLEARANCE CERTIFICATE	24 August 2016

Please note:

For Master's application, Ethics Clearance is valid for 2 years
For PhD application, Ethics Clearance is valid for 3 years

CHAIRPERSON OF ETHICS COMMITTEE: Prof Liesel Ebersöhn

CC Bronwynne Swarts
Karien Botha
Ronel Ferreira

This Ethics Clearance Certificate if issued subject to the following conditions:

1. A signed personal declaration of responsibility
2. If the research question changes significantly so as to alter the nature of the study, a new application of ethical clearance must be submitted
3. It remains the student's responsibility to ensure that all the necessary forms for informed consent are kept for future queries

Please quote the clearance number in all enquiries

Appendix D

Permission to conduct research by school principals

GAUTENG PROVINCE
Department: Education
REPUBLIC OF SOUTH AFRICA

For administrative use:
Reference no. D2013/223

GDE RESEARCH APPROVAL LETTER

Date:	29 October 2012
Validity of Research Approval:	4 February 2013 to 27 September 2013
Name of Researcher:	Botha C.J.
Address of Researcher:	526 Suider Street
	Pretoria North
	0182
Telephone Number:	082 074 9611
Fax Number:	012 420 5511
Email address:	karien.botha@up.ac.za
Research Topic:	Schools as sites for social change: Facilitating adjusted behaviour in resource-constrained communities by empowering children
Number and type of schools:	THREE Primary Schools
District/s/HO	Gauteng North

Re: Approval in Respect of Request to Conduct Research

This letter serves to indicate that approval is hereby granted to the above-mentioned researcher to proceed with research in respect of the study indicated above. The onus rests with the researcher to negotiate appropriate and relevant time schedules with the school/s and/or offices involved to conduct the research. A separate copy of this letter must be presented to both the School (both Principal and SGB) and the District/Head Office Senior Manager confirming that permission has been granted for the research to be conducted.

The following conditions apply to GDE research. The researcher may proceed with the above study subject to the conditions listed below being met. Approval may be withdrawn should any of the conditions listed below be flouted:

Office of the Director: Knowledge Management and Research
9th Floor, 111 Commissioner Street, Johannesburg, 2001
P.O. Box 7710, Johannesburg, 2000 Tel: (011) 355 0506
Email: David.Makhado@gauteng.gov.za
Website: www.education.gpg.gov.za

1. *The District/Head Office Senior Manager/s concerned must be presented with a copy of this letter that would indicate that the said researcher/s has/have been granted permission from the Gauteng Department of Education to conduct the research study.*
2. *The District/Head Office Senior Manager/s must be approached separately, and in writing, for permission to involve District/Head Office Officials in the project.*
3. *A copy of this letter must be forwarded to the school principal and the chairperson of the School Governing Body (SGB) that would indicate that the researcher/s have been granted permission from the Gauteng Department of Education to conduct the research study.*
4. *A letter / document that outlines the purpose of the research and the anticipated outcomes of such research must be made available to the principals, SGBs and District/Head Office Senior Managers of the schools and districts/offices concerned, respectively.*
5. *The Researcher will make every effort obtain the goodwill and co-operation of all the GDE officials, principals, and chairpersons of the SGBs, teachers and learners involved. Persons who offer their co-operation will not receive additional remuneration from the Department while those that opt not to participate will not be penalised in any way.*
6. *Research may only be conducted after school hours so that the normal school programme is not interrupted. The Principal (if at a school) and/or Director (if at a district/head office) must be consulted about an appropriate time when the researcher/s may carry out their research at the sites that they manage.*
7. *Research may only commence from the second week of February and must be concluded before the beginning of the last quarter of the academic year. If incomplete, an amended Research Approval letter may be requested to conduct research in the following year.*
8. *Items 6 and 7 will not apply to any research effort being undertaken on behalf of the GDE. Such research will have been commissioned and be paid for by the Gauteng Department of Education.*
9. *It is the researcher's responsibility to obtain written parental consent of all learners that are expected to participate in the study.*
10. *The researcher is responsible for supplying and utilising his/her own research resources, such as stationery, photocopies, transport, faxes and telephones and should not depend on the goodwill of the institutions and/or the offices visited for supplying such resources.*
11. *The names of the GDE officials, schools, principals, parents, teachers and learners that participate in the study may not appear in the research report without the written consent of each of these individuals and/or organisations.*
12. *On completion of the study the researcher/s must supply the Director: Knowledge Management & Research with one Hard Cover bound and an electronic copy of the research.*
13. *The researcher may be expected to provide short presentations on the purpose, findings and recommendations of his/her research to both GDE officials and the schools concerned.*
14. *Should the researcher have been involved with research at a school and/or a district/head office level, the Director concerned must also be supplied with a brief summary of the purpose, findings and recommendations of the research study.*

The Gauteng Department of Education wishes you well in this important undertaking and looks forward to examining the findings of your research study.

Kind regards

.....

Mrs Faith Lindiwe Tshabalala

(Acting) Director: Knowledge Management and Research

DATE: 29/10/2012

Office of the Director: Knowledge Management and Research
9th Floor, 111 Commissioner Street, Johannesburg, 2001
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GAUTENG PROVINCE
Department: Education
REPUBLIC OF SOUTH AFRICA

For administrative use:
Reference no. D2014/309 A

GDE AMENDED RESEARCH APPROVAL LETTER

Date:	26 November 2013
Validity of Research Approval:	10 February to 3 October 2014
Previous GDE Research Approval letter reference number	D2013/223 dated 29 October 2012
Name of Researcher:	Botha C.J.
Address of Researcher:	526 Sulder Street;;
	Pretoria North
	0182
Telephone Number:	082 074 9611
Fax Number:	012 420 5511
Email address:	karien.botha@up.ac.za
Research Topic:	Schools as sites for social change: Facilitating adjusted behaviour in resource-constrained communities by empowering children
Number and type of schools:	THREE Primary Schools
District/s/HO	Gauteng North

Re: Approval in Respect of Request to Conduct Research

This letter serves to indicate that approval is hereby granted to the above-mentioned researcher to proceed with research in respect of the study indicated above. The onus rests with the researcher to negotiate appropriate and relevant time schedules with the school/s and/or offices involved to conduct the research. A separate copy of this letter must be presented to both the School (both Principal and SGB) and the District/Head Office Senior Manager confirming that permission has been granted for the research to be conducted.

2013/11/27

The following conditions apply to GDE research. The researcher may proceed with the

Making education a societal priority

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above study subject to the conditions listed below being met. Approval may be withdrawn should any of the conditions listed below be flouted:

1. *The District/Head Office Senior Manager/s concerned must be presented with a copy of this letter that would indicate that the said researcher/s has/have been granted permission from the Gauteng Department of Education to conduct the research study.*
2. *The District/Head Office Senior Manager/s must be approached separately, and in writing, for permission to involve District/Head Office Officials in the project.*
3. *A copy of this letter must be forwarded to the school principal and the chairperson of the School Governing Body (SGB) that would indicate that the researcher/s have been granted permission from the Gauteng Department of Education to conduct the research study.*
4. *A letter / document that outlines the purpose of the research and the anticipated outcomes of such research must be made available to the principals, SGBs and District/Head Office Senior Managers of the schools and districts/offices concerned, respectively.*
5. *The Researcher will make every effort obtain the goodwill and co-operation of all the GDE officials, principals, and chairpersons of the SGBs, teachers and learners involved. Persons who offer their co-operation will not receive additional remuneration from the Department while those that opt not to participate will not be penalised in any way.*
6. *Research may only be conducted after school hours so that the normal school programme is not interrupted. The Principal (if at a school) and/or Director (if at a district/head office) must be consulted about an appropriate time when the researcher/s may carry out their research at the sites that they manage.*
7. *Research may only commence from the second week of February and must be concluded before the beginning of the last quarter of the academic year. If incomplete, an amended Research Approval letter may be requested to conduct research in the following year.*
8. *Items 6 and 7 will not apply to any research effort being undertaken on behalf of the GDE. Such research will have been commissioned and be paid for by the Gauteng Department of Education.*
9. *It is the researcher's responsibility to obtain written parental consent of all learners that are expected to participate in the study.*
10. *The researcher is responsible for supplying and utilising his/her own research resources, such as stationery, photocopies, transport, faxes and telephones and should not depend on the goodwill of the institutions and/or the offices visited for supplying such resources.*
11. *The names of the GDE officials, schools, principals, parents, teachers and learners that participate in the study may not appear in the research report without the written consent of each of these individuals and/or organisations.*
12. *On completion of the study the researcher/s must supply the Director: Knowledge Management & Research with one Hard Cover bound and an electronic copy of the research.*
13. *The researcher may be expected to provide short presentations on the purpose, findings and recommendations of his/her research to both GDE officials and the schools concerned.*
14. *Should the researcher have been involved with research at a school and/or a district/head office level, the Director concerned must also be supplied with a brief summary of the purpose, findings and recommendations of the research study.*

The Gauteng Department of Education wishes you well in this important undertaking and looks forward to examining the findings of your research study.

Kind regards

Makhado
.....

Dr David Makhado
Director: Education Research and Knowledge Management

DATE: 2013/11/27

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GAUTENG PROVINCE
Department: Education
REPUBLIC OF SOUTH AFRICA

For administrative use:
Reference no. D2015 / 375 A

GDE AMENDED RESEARCH APPROVAL LETTER

Date:	14 January 2015
Validity of Research Approval:	9 February 2015 to 2 October 2015
Previous GDE Research Approval letter reference number	D2014/309 A dated 27 Nov 2013 and D2013/223 dated 29 Oct 2012
Name of Researcher:	Botha C.J.
Address of Researcher:	526 Suider Street; Pretoria North; 0182
Telephone / Fax Number/s:	082 074 9611; 012 420 5511
Email address:	karien.botha@up.ac.za
Research Topic:	Schools as sites for social change: Facilitating adjusted behaviour in resource-constrained communities by empowering children
Number and type of schools:	THREE Primary Schools
District/s/HO	Gauteng North

Re: Approval in Respect of Request to Conduct Research

This letter serves to indicate that approval is hereby granted to the above-mentioned researcher to proceed with research in respect of the study indicated above. The onus rests with the researcher to negotiate appropriate and relevant time schedules with the school/s and/or offices involved. A separate copy of this letter must be presented to the Principal, SGB and the relevant District/Head Office Senior Manager confirming that permission has been granted for the research to be conducted. However participation is VOLUNTARY.

The following conditions apply to GDE research. The researcher has agreed to and may proceed with the above study subject to the conditions listed below being met. Approval may be withdrawn should any of the conditions listed below be flouted:

CONDITIONS FOR CONDUCTING RESEARCH IN GDE

1. The District/Head Office Senior Manager/s concerned must be presented with a copy of this letter;

Office of the Director: Knowledge Management and Research
9th Floor, 111 Commissioner Street, Johannesburg, 2001
P.O. Box 7710, Johannesburg, 2000 Tel: (011) 355 0506
Email: David.Makhado@gauteng.gov.za
Website: www.education.gpg.gov.za

2. A copy of this letter must be forwarded to the school principal and the chairperson of the School Governing Body (SGB.)
3. A letter / document that outlines the purpose of the research and the anticipated outcomes of such research must be made available to the principals, SGBs and District/Head Office Senior Managers of the schools and districts/offices concerned;.
4. The Researcher will make every effort obtain the goodwill and co-operation of all the GDE officials, principals, SGBs, teachers and learners involved. Participation is voluntary and additional remuneration will not be paid;
5. Research may only be conducted after school hours so that the normal school programme is not interrupted. The Principal and/or Director must be consulted about an appropriate time when the researcher/s may carry out their research at the sites that they manage.
6. Research may only commence from the second week of February and must be concluded before the beginning of the last quarter of the academic year. If incomplete, an amended Research Approval letter may be requested to conduct research in the following year.
7. Items 6 and 7 will not apply to any research effort being undertaken on behalf of the GDE. Such research will have been commissioned and be paid for by the Gauteng Department of Education.
8. It is the researcher's responsibility to obtain written parental consent and learner;
9. The researcher is responsible for supplying and utilising his/her own research resources, such as stationery, photocopies, transport, faxes and telephones and should not depend on the goodwill of the institutions and/or the offices visited for supplying such resources.
10. The names of the GDE officials, schools, principals, parents, teachers and learners that participate in the study may not appear in the research report without the written consent of each of these individuals and/or organisations.
11. On completion of the study the researcher must supply the Director: Education Research and Knowledge Management with one Hard Cover, an electronic copy and a Research Summary of the completed Research Report;
12. The researcher may be expected to provide short presentations on the purpose, findings and recommendations of his/her research to both GDE officials and the schools concerned;
13. Should the researcher have been involved with research at a school and/or a district/head office level, the Director and school concerned must also be supplied with a brief summary of the purpose, findings and recommendations of the research study.

The Gauteng Department of Education wishes you well in this important undertaking and looks forward to examining the findings of your research study.

Kind regards

.....

Dr David Makhado

Director: Education Research and Knowledge Management

DATE: 2015/01/16

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Office of the Director: Knowledge Management and Research
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Website: www.education.gpg.gov.za

For administrative use:
Reference no. D2016 / 399 A
Enquiries: Diane Buntting 011 843 6503

GAUTENG PROVINCE
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GDE AMENDED RESEARCH APPROVAL LETTER

Date:	19 February 2016
Validity of Research Approval:	19 February 2016 to 30 September 2016
Previous GDE Research Approval letter reference number	D2015 / 375 A dated 13 January 2015 D2014 / 309 A dated 27 November 2013 and D2013 / 223 dated 29 October 2012
Name of Researcher:	Professor C.J. Botha
Address of Researcher:	526 Suider Street; Pretoria North; 0182
Telephone / Fax Number/s:	082 074 9611; 012 420 5511
Email address:	karien.botha@up.ac.za
Research Topic:	Schools as sites for social change: Facilitating adjusted behaviour in resource-constrained communities by empowering children
Number and type of schools:	THREE Primary Schools
District/s/HO	Gauteng North

Re: Approval in Respect of Request to Conduct Research

This letter serves to indicate that approval is hereby granted to the above-mentioned researcher to proceed with research in respect of the study indicated above. The onus rests with the researcher to negotiate appropriate and relevant time schedules with the school/s and/or offices involved. A separate copy of this letter must be presented to the Principal, SGB and the relevant District/Head Office Senior Manager confirming that permission has been granted for the research to be conducted. However participation is VOLUNTARY.

The following conditions apply to GDE research. The researcher has agreed to and may proceed with the above study subject to the conditions listed below being met. Approval may be withdrawn should any of the conditions listed below be flouted:

CONDITIONS FOR CONDUCTING RESEARCH IN GDE

1. *The District/Head Office Senior Manager/s concerned, the Principal/s and the chairperson/s of the School Governing Body (SGB.) must be presented with a copy of this letter.*

Office of the Director: Education Research and Knowledge Management ER&KM)
9th Floor, 111 Commissioner Street, Johannesburg, 2001

2. *The Researcher will make every effort to obtain the goodwill and co-operation of the GDE District officials, principals, SGBs, teachers, parents and learners involved. Participation is voluntary and additional remuneration will not be paid;*
3. *Research may only be conducted after school hours so that the normal school programme is not interrupted. The Principal and/or Director must be consulted about an appropriate time when the researcher/s may carry out their research at the sites that they manage.*
4. *Research may only commence from the second week of February and must be concluded by the end of the THIRD quarter of the academic year. If incomplete, an amended Research Approval letter may be requested to conduct research in the following year.*
5. *Items 6 and 7 will not apply to any research effort being undertaken on behalf of the GDE. Such research will have been commissioned and be paid for by the Gauteng Department of Education.*
6. *It is the researcher's responsibility to obtain written consent from the SGB/s; principal/s, educator/s, parents and learners, as applicable, before commencing with research.*
7. *The researcher is responsible for supplying and utilizing his/her own research resources, such as stationery, photocopies, transport, faxes and telephones and should not depend on the goodwill of the institution/s, staff and/or the office/s visited for supplying such resources.*
8. *The names of the GDE officials, schools, principals, parents, teachers and learners that participate in the study may not appear in the research title, report or summary.*
9. *On completion of the study the researcher must supply the Director: Education Research and Knowledge Management, with electronic copies of the Research Report, Thesis, Dissertation as well as a Research Summary (on the GDE Summary template). Failure to submit your Research Report, Thesis, Dissertation and Research Summary on completion of your studies / project – a month after graduation or project completion - may result in permission being withheld from you and your Supervisor in future.*
10. *The researcher may be expected to provide short presentations on the purpose, findings and recommendations of his/her research to both GDE officials and the schools concerned;*
11. *Should the researcher have been involved with research at a school and/or a district/head office level, the Director/s and school/s concerned must also be supplied with a brief summary of the purpose, findings and recommendations of the research study.*

The Gauteng Department of Education wishes you well in this important undertaking and looks forward to examining the findings of your research study.

Kind regards

.....

Dr David Makhado

Director: Education Research and Knowledge Management

DATE: 2016/02/22

Appendix E

Transcriptions and analysis

of posters

(Schools A, B and C)

School A

Question 2a: What is healthy eating?

Group 1:

You must eat food with all nutrients

Vitamins

Carbohydrates

You eat clean food

Don't eat junk food

Theme 2 (Sub-theme 2.1)
Parents' understanding of healthy eating practices. These parents demonstrated their understanding with the inclusion of nutrients, as part of healthy eating practices, and one guideline from the South African Food-Based Dietary guidelines

Group 2:

Apple

Grapes

Cakes

Burger

Theme 2 (Sub-theme 2.1)
These parents demonstrated their understanding of healthy eating practices with examples of healthy and unhealthy food

Question 2b: How do you know this is healthy eating?

Group 1:

They always tell us at the clinic

Some workshop

Group 2:

They always tell us at clinic

Theme 2 (Sub-theme 2.2)
Parents indicated the resources informing parents about healthy eating practices

Question 2c: What do you want to know more about healthy eating?

How can you help sick people to eat healthy food

Theme 2 (Sub-theme 2.3)
Parents indicated their informational needs in terms of healthy eating practices

Question 3a: Where do you get your food from?

Group 1:

From the garden

From Shoprite or Spar

From Charlies Spaza

From the woman at the corner

Group 2:

You plant seedlings in the garden.

We buy at – Shoprite, Spar, Pick 'n pay

Spaza Shop

Social Worker

Fruit shop

Theme 4 (Sub-theme 4,1)
Parents indicated their preferred choice of food supplier

Question 3b: How, who and where do you prepare your food?

Group 1:

Pour water into the pot.

When the water boils you cook the pap.

I wash everything that is going to be cooked.

We make beef stew

My mother or me and my daughter

At the kitchen

Group 2:

Boil water and pour mielie meal and you mix.

I wash everything that is going to be cooked.

Put everything in the pot.

Put the pot on the stove or use a micro oven or deep fry

My granny or my child in the kitchen.

Theme 5 (Sub-theme 5,1 and 5.2)
Parents indicated their food preparation methods and the people responsible for preparing the food

Question 4a: If you buy food, where do you buy?

Group 1:

I buy food at Shoprite or tuck shop and from ladies selling in the neighbourhood

Group 2:

Town & Tuck shop

Street corner and ladies selling in neighbourhood

Theme 4 (Sub-theme 4,1) Parents indicated their preferred choice of food supplier

Question 4b: If you buy food, what do you buy?

Group 1:

Maize meal, salt & fish oil

Sugar,tea, cremora & Rama

Chocolate and sour milk

Meat & Fresh milk

Group 2:

Pap, samp and rice

Meat – wors + chicken veal, pork

Oil – vegetable oil

Sugar

Milk – full cream and yogurt

Custard powder& jam

Sweets& flour

Theme 4 (Sub-theme 4,2) Parents indicated their preferred choice of products during purchasing

Question 4c: If you buy food, why do you buy specific food?

Group 1:

Food that I can eat.

Group 2:

They are healthy

It builds the body/ it is good for the body.

Theme 4 (Sub-theme 4,2) Parents indicated their reasons for purchasing specific products

Question 5a: If you produce food, what do you produce?

Group 1:

Potatoes, corn, onion, spinach, beans, tomato, sweet potato, cabbage, pumpkin, carrots

Group 2:

Potatoes, spinach, tomato, onions, carrots, cabbage

Theme 4 (Sub-theme 4,1) Parents indicated their choice of products during food productionpractices

Question 5b: If you produce food, why this choice?

Group 1:

It builds the body/ good for the body and they are healthy

Group 2:

Small Space and they build the body/ they are good for the body

Theme 4 (Sub-theme 4,1) Parents indicated their reasons for specific products during food productionpractic

Question 5c: If you produce food, how do you produce the specific food?

Group 1:

You use chicken dung or sawdust to prepare the soil.

You water them and after two months you can eat them.

Group 2:

Prepare the garden with fertilizer

Buy seeds, fork, spade, hosepipe, and bucket

Put seeds in soil and water after two week they come out

Theme 4 (Sub-theme 4,2) Parents indicated productionmethods utilised during food production

Question 5d: What would you like to know more about food production?

Group 1:

Why do the potatoes I plant have worms?

Theme 4 (Sub-theme 4,3) Parents indicated information and skills needed during food production

Group 2:

I want to know how I can be a commercial farmer who supplies the market with produce; How to make compost, how long does it take to grow a plant?; Which season do we plant certain

School B

2a. What is healthy eating?

Group 1:

Pap and morogo

It has strength and is healthy

Brown bread

Soft porridge (mabele)

It gives us power

Theme 2 (Sub-theme 2.1)
Parents' understanding of healthy eating practices. These parents demonstrated their understanding with the inclusion of nutrients, as part of healthy eating practices, and one guideline from the South African Food-Based Dietary guidelines

Group 2:

Is food that gives your body energy and mind stability

Orange has vitamin c. it build a healthy and strong body

Milk builds strong bones it has Calcium

Carrots is good for eye sight

Cabbage is good for a healthy skin

Fish give energy

Pap gives stamina

Question 2b: How do you know this is healthy eating?

Group 1:

It is food that is good for the body.

It fills you up for longer

It has strength it is what we eat in our homes

Theme 2 (Sub-theme 2.2)
Parents indicated the resources informing parents about healthy eating practices

Group 2:

It has been going from generation to generation

It has been approved by nutritionist

Even the teachers talk about it

The food magazine

Question 2c: What do you want to know more about healthy eating?

Group 1:

The processing of it

What sickness does it cure?

If you're obsessed what kind of food should you eat?

The expecting mothers, what they must eat

How to cook theme in a different way & the right manner

How does it help our digestive system?

How long does it have to be stored in the fridge?

Group 2:

Potatoes pumpkin and carrots are healthy

Peas because it is food that do not have fat

Theme 2 (Sub-theme 2.3)
Parents indicated their informational needs in terms of healthy eating practices

Question 3a: Where do you get your food from?

Group 1:

Most of our food we get it from groceries store, preferably Spar

Some we plough from our garden like tomato & spinach

Fish from the river / fishing

Group 2:

Tomatoes we find in the garden

We plant

NC Supermarket

Spar

Theme 4 (Sub-theme 4,1)
Parents indicated their preferred choice of food supplier

Question 3b: How, who and where do you prepare your food?

Group 1:

We wash and cook them by electric stove

Before preparing check the expiry date

I prefer to cook them by myself

Most we like deep-fry

Group 2:

I cook pap and meat I use salt and water when cooking.

Myself and my eldest child

I cook on the wood fire outside

Theme 5 (Sub-theme 5,1 and 5.2)
Parents indicated their food preparation methods and the people responsible for preparing the food

Question 4a. If you buy food, where do you buy?

Group 1:

We buy them from Venda's market

Farmers market

Super market

From the fisher man that sell to our homes

Shoprite

Group 2:

Tuck shop

Varuku

Sipho

Thokoza

From the women who sell at the taxi rank

Theme 4 (Sub-theme 4,1)
Parents indicated their preferred choice of food supplier

Question 4b: If you buy food, what do you buy?

Group 1:

Mielie meal

Rice

Mix portion (chicken)

Vegetable

Little bit of fruit

Red meat

Chicken gizzard

Eggs & polony

Cooking oil

Spices

Soups

In all house groceries

Group 2:

Bread

Coca cola

Papa veal

Pap and chicken feet

Theme 4 (Sub-theme 4.2) Parents indicated their preferred choice of food

Question 4c: If you buy food, why do you buy specific food?

Group 1:

Because we like them

We can afford them

Because they are good for the body

Question 5a: If you produce food, what do you produce?

Group 1:

We produce vegetable eg. Potato, tomato, spinach, cabbage, spring onion

We produce chickens

Group 2:

Tomatoes

Vegetables

Pumpkin

Spinach

Theme 4 (Sub-theme 4,1)
Parents indicated their choice of products during food production practices

Question 5b: If you produce food, why this choice?

Group 1:

We produce them because we can eat them

We can make a living out of them

They are easy to maintain and affordable

Group 2:

Because that is what we eat on a daily basis, it is healthy

Question 5c: If you produce food, how do you produce the specific food?

Group 1:

We start by cultivating the soil then you plant a seed, then it produce the food you want

For you plant rotten potato then they come out fresh potato

Group 2:

Turn the soil

You sprinkle fertilizer on the soil

You water the garden

Plant seedlings

Theme 4 (Sub-theme 4,2)
Parents indicated production methods utilised during food production

Question 5d: What would you like to know more about food production?

Group 1:

The maintenance of the garden

plant

Group 2:

Wheat

Sunflower

Rice

I want to know how they are planted

Theme 4 (Sub-theme 4,3)
Informational needs regarding food production

School C

Question 2a: What is healthy eating?

Group 1:

Healthy eating is about eating a balanced diet, meaning eating food that have fats, carbohydrates, vitamins, proteins. Also making sure of drinking 8 glasses of water daily.Fats: Cheese

Vitamins: Fruits and vegetables

Carbohydrates: Cornflakes

Protein: Red meat

And not eating expired food. Not too much sweets

Group 2:

Balanced diet foods: Fruits and vegetables, Eggs & low fat milk, Livers

100% juice

Theme 2 (Sub-theme 2.1)
Parents' understanding of healthy eating practices.

Question 2b: How do you know this is healthy eating?

Group 1:

Through books – libraries, clinic pamphlets and magazines

Media – television, radio] food programs

Clinics – health promotes – health talks and home base workers – door to door campaigns

In schools – Workshop, LO teachers, Peer education

Group 2:

We have seen them from the television

We heard from the radio

We are taught from the clinic

We read from the magazines.

Theme 2 (Sub-theme 2.2)
Resources informing healthy eating practices.

Question 2c: What do you want to know more about healthy eating?

Group 1: ***Theme 2 (Sub-theme 2.3)***

Informational needs healthy eating practices.

Tin stuff

How long do they take to expire – 15 month / year / years

Why some of the tin stuff are expanded but the expired hasn't arrived e.g. 3/12 are expanded but 9 are still fine

Why are damaged can foods poisoners, what is the cause. Duration of shelf life before and after cooking also vegetables – how long do they have to stay in the refrigerator before and after cooking.

More information about food addictives food preservations

Disadvantages and advantages of raw salt & cooked food

Group 2:

We would like to know more about, what type of food that we can eat to prevent diseases like diabetes, high blood, cancer, heart disease.

To prevent disabilities from unborn / stillborn child and also when they are growing

Duration of food in the refrigerator before it can be eaten.

Question 3a: Where do you get your food from?

Group 1:

Garden (home made, local center, kids care center)

Street vendor (Town rank, local, door to door, vendors)

Shops (local shops – Brikor t-shop & Sipho Thokoza and tuck shops – Vukuzenzele t-shop

Towns (malls, mini market, market, super market (Checkers, Cash a Carry)

Farms such as chicken and vegetables (spinach and potatoes)

Group 2:

We get from our garden

We get from the market

We get from the Rank. Women who sell in the street

Theme 4 (Sub-theme 4,1)
Parents indicated their preferred choice of food supplier

Question 3b: How, who and where do you prepare your food?

Group 1:

Chicken meat – fry onion – put my meat – pour salt and spice – wait until it's well cooked.

Who – myself – and my children

Where – gas, paraffin stove, wood, fire, electricity stove

Group 2:

We boil the vegetables and we put the salt

We boil the chicken then we put the spice on it then we fry

Most of the time I prepare food at home

We use the electricity stove

Theme 5 (Sub-theme 5,1 and 5.2)
Parents indicated their food preparation methods and the people responsible for preparing the food

Question 4a: If you buy food, where do you buy?

Group 1:

Shoprite

Cash 'n carry

Local shops

Spar

Chicken centre

Pick 'n pay

Food hyper

Lanham Super market

Theme 4 (Sub-theme 4,1)
Parents indicated their preferred choice of food supplier

Question 4b: If you buy food, what do you buy?

Group 1:

Tin stuff: Tin fish and Koo beans

Meat: Chicken and red meat

Vegetables (spinach, cabbage, onion, tomato, potato) & Fruits (apples, banana)

Milk

Eggs

Maize meal, rice, meal rice

Fish oil

Bread – sometimes we buy flour to make amagwinya (fat koek) or dumplings (amadombolo bread)

Theme 4 (Sub-theme 4,2)
Parents indicated their preferred choice of food

Group 2:

We buy those that we do not have in our garden like:

Meat

Rice

Tea, Teabag, coffee, rooibos

Sugar

Fish oil

Mielie meal

Bread

Tin Fish

Egg

Salt

Beans

Question 4c: If you buy food, why do you buy specific food?

Group 1:

No name brands because they are cheap and we can afford

We buy them because we need them

Group 2:

We buy the brand from the pick 'n pay because they have fresh food

Good quality

You will never get the expired food

Question 5a: If you produce food, what do you produce?

Group 1:

Spinach, Chicken, Onion

Group 2:

Spinach, Onion, Tomatoes, Green beans

Theme 4 (Sub-theme 4,1)
Parents indicated their choice of products during food productionpractices

Question 5b: If you produce food, why this choice?

Group 1:

It is affordable for local people and give vitamins to people

Affordable than red meat, more fresher than braai pack

Food without onion they are not nice, onion gives taste to food. Affordable you can buy each than in a pack

Is mostly used by households cheap if you buy from homemade garden than at shops

Group 2:

We plant those vegetables because we save money because at the market is to cost; We plant because it is easy to plant we only need water, the sun and fertilizer

Theme 4 (Sub-theme 4,2)

Parents indicated production methods utilised during food production

Question 5c: If you produce food, how do you produce the specific food

Group 1:

Step 1: Cultivating of land make a land to be fertile

Step 2: Plant seeds into a bucket /soil until are show some green heads (iplanjies/seedlings) then we plant into the land

Step 3: Always pour water, clean the garden. Pour water twice a day then if it has leaves we will pour it once either in the morning or afternoon not during theday.

Step 4: Sell, cook

Theme 4 (Sub-theme 4,2)
Food production methods

Group 2:

we start by turning the soil then

we mix with fertilizer then we water the soil so that it is ready for planting.

when we plant corn we prepare the soil and then we plant the seed the we water after 7 days without a sign of the plant it means

Question 5d: What would you like to know more about food production?

Group 1:

Other methods of food production

How to take care of the soil in order to produce good food

How to kill insects that eat plants (different methods)

Seasonal production– info on how we differential plants that are the same but planted in different season. Also other plants

Theme 4 (Sub-theme 4,3)
Informational needs regarding food production

Group 2:

I would like to know why our plants have worms.

why the plants do not grow properly and

why carrots are too small

Appendix F

Field notes

School A: Visit 1

Date 19/02/2013

Time 14-00 15h40

PRA-based workshop with parents

Facilitators: Deliwe & Karien

5 ladies attended; discussion in IsiZulu

Do not understand English well

Some of them can't read & write

Form 2 groups of 3 and 2 participants

Very warm inside the classroom

Very noisy outside

'Prompt' them: question 2b.....we added TV and Radio

Occasionally magazines

do not really buy magazines

Zithobeni has no spar, shoprite and Pick-an-Pay

Rama= butter (margarine)

How do price, quality and availability influence food choices

Reasons for vegetable gardens

Influence of question 1?

What can sick people eat to help them? As well as children and elderly?

Kind of sickness?? HIV, marasmus

Preference?

Plant/buy [plant is cheaper & more available]

Prefer to grow their own spinach

very expensive to go to town with a taxi (R32 to go to town & back)

quantity is small

Quality: good, clean quality = expensive

When you have lots of produce what can you do with extra food?

Give some to the orphanage and people living in shacks

Zithobeni= No take a ways only 'Sphahlo'(same as bunny chow)

Porridge: 7h30 at school in the mornings

Pap & fish & vegetable/ samp beans or rice with pea soup, butternut & pumpkin

After school: orphans eat before they go home; sometimes fruit

What food do they bring from home? Bread with polony, milk, juice & snack (chips, sweets, fruit)

'Some people give their children money because some ladies sell their things outside the school'

'Also sell food like pap and or rice and soup'

Only 5 ladies working in the kitchen currently: contract to and they do not get paid for the work

Also want to learn more about 'how to cook and bake nice food?'

'Want to learn more about cooking'

Visit 1: School B

Date: 20/02/2013

Time: 13h30- 14h45

PAR workshop discussion with parents

Facilitators: Deliwe and Karien

Participants: 9 (2 males & 7 females)

Discussion in IsiZulu

Tea with sugar (usually black, but sometimes with cremora)

Concentrated juice ("Wild Island") mixed with water

Want more information about:

-bloatedness

-constipation

-what must expectant mothers eat

-If you are obese, what are suppose to eat

-food that cures cancer

-How to cook in different ways

Question 2b (we added TV and clinic)

Go to town (Spar) and plant self

Go fishing at Bronkhorstspruit dam ('karp')

Use gas stoves and electric stoves, some microwave ovens

Sometimes cook on fire outside usually pap, meat and soup

Deep-fry – usually chicken, potato

Prefer to plant cabbage & potatoes

Buy their food from the 'Farmer Market' on weekends and 'Sipho Thokoza' (local supermarket)

Want to know more about certain plants: watermelon, mealies & pumpkin

Participants indicated several aspects that they require more knowledge & information on

-the maintenance of the garden
-how to make compost
-which seasons do we plant specific food?
-how to plant wheat, sunflower & rice?
They prefer to produce their own food because it is affordable & easy to maintain.

Visit 1: School C

Date: 26/02/2013

PAR workshop discussion with parents

Participants: 9 (male and 8 females)

Time: 13h00- 15h15

Discussion IsiZulu

Prefer tin fish (Lucky Star) and cabbage

Breakfast: they prefer Rama on bread and sometimes porridge with sugar
Use fish oil for cooking
Like tomato & onion
For lunch we prefer beans

Struggled with question 2c- we gave them example

Want to grow the following in the vegetable gardens tomatoes, onions, spinach, beetroot and cabbage

'Mkhozi'= women who sell dry food & mealies

In terms of healthy eating the participants indicated:

"We would like to know more about what type of food that we eat to prevent diseases like diabetics, high blood, cancer, disease ..... and what to eat to prevent disabilities from born/stillborn child and also when they are growing....."
"We also want to know about the duration of the food in the refrigerator before it can be eaten....."

"We buy (no-name) brands because they are cheap and we can afford it"
"We buy them, because we need them"

"We plant vegetables because we save money, because at the market it is expensive"

"I would like to know why plants have worms"

"Why do our plants not grow properly and why are our carrots so small"

Prefer to produce their own food because it is affordable to local people.....it gives vitamins to people.

They are very informed in terms of where they get information about healthy eating- they've indicated all the possible resources.....TV, radio, clinics, workshops, schools, books,pamphlets, peer education, magazines, door-to-door campaigns, health talks, home based care workshops and Life Skills teachers

I am unsure about magazines ??

They required a lot of information in terms of (tin stuff) –how long does it take to expire? Why are some tin stuff expanded? Why are damaged tins dangerous?

They prefer to produce spinach, onions, tomatoes, potatoes and in some cases breeding with chicken.

Visit 2: School B

Date: 28 August 2013

Time: 14h00-14h45

Facilitators; Karien, Elzaan, Deliwe and Prof Fraser

(Member checking and second round of data generation

2 new teachers from another school ('new' school combined with Vezulwazi)

Total: 12 teachers (3 males; 9 females)

Teachers were not really enthusiastic to participate some of them of them slept during the session

"They only plant flowers and not food .....you can't eat flowers"

(Participant 2) (Very knowledgeable and positive about the project-seems as if he really wants to contribute in terms of knowledge and skills)

Visit 2: School C

4 September 2013

Time: 14h00-15h00

Participants: 9 (2 males; 7 females)

Member checking and second round data generation

Dr Mphahlele forgot about our meeting

Not everyone 'wants' to attend

Participants want to include the following

-soil testing kits (Prof Billy) (supply)

-"include Home Economics as a subject so that children can practice at school .....it doesn't help that there are lots of information they cannot practice it....."

Then they can show everyone at home

"Self-fertilisers..... how to make your own....."

"What happens if you do not eat healthy foods?" ".....TV: diabetes

Information on different types of cooking oil .....because they only buy thecheapest....."

Visit 3 School A

9 September 2013 (14h10-15h00)

Participants: 8 (4 males & 4 males)

Member checking & 2nd round data generation (Question 4 –Elzaan)

Facilitators: Karien, Elzaan & Deliwe

Previously 11 participants attended the PRA workshop-this time only 8 teachers were available

Mr Tutu indicated that the rest of the school will be writing the "ANA" from tomorrow

The teachers that did attend the session, really co-operated very well enjoyed the session. Most of them really made a valuable contribution

Mr Tutu indicated that the community need more knowledge on soil.....and indicated that soil need to be taken to the laboratory foe sis. They need knowledge on when kind of produce will be suitable in certain soil types

Mr Tutu (participant 1) also indicated that the community also need more knowledge and information in terms of fertilizers –'what type of fertilizer will besuitable for certain type of produce?'

Participant 1 also indicated that the community must know that certain fertilizerswill poison their produce-the community must be taught how to make organicfertilizer

Participant 2 (female) indicated that the community needs skills, knowledge andinformation in terms of the marketing of their own produce.

Participant 1 felt very strongly about organising the community (or individuals in the community into co-operatives to sell their produce as a group. He indicated that the government has money to support these co-operatives. Participant 1

indicated that the community needs support on the process of becoming this kind of funding from the government.

Participant 3 (female) mentioned that the community also need knowledge skills and information in terms of packaging of the product (marketing) if they want tosell their own produce.

Participant 1 again emphasised the importance of establishing 'co-operatives' in terms of 'Banking'. He indicated that the community experts/organisations to come to the community and give them some sort of training in cooking andbaking.

Participant 1 also indicated that the community need 'How to start own home industry'?" he also indicated that the community need help to start their "....own small factories"

Participant 3 mentioned that the community also need information on the use of oil. She indicated that most of the time the community only fry their food. She was adamant that the community must rather steam or boil their food. They also need information on the type of oil available so that they don't only buy the cheapest oil available.

In terms of question 4 the participants agreed upon specific activities that might be included in the current curriculum

Technology: safety measures when using equipments and hygiene when handling food,

Participant 1 again indicated the importance of crop rotation- he mentioned that the community must be aware of shallow and deep roots plants. He also indicated a method where one covers the ground with leaves (didn't get the reason for this method==)

At the end one of the younger male participant wanted to know if today's session was the final session and inquired about whether their names will be part of the manual

Another participant was bit sceptical about the parent's need and asked whether the participants actually indicated THAT specific need.....we indicated that they actually did.....in their language IsiZulu and that Deliwe did the translations afterwards.

Appendix G

Transcriptions of Audio recordings

(member checking)

Male Presenter: I'm glad to see the teachers are here, I know you want to go home and start preparing supper and all those things. I know the tension under which you are always are at this stage of the year. As part of this project of ours, Karien and company they will introduce themselves, she will explain to you exactly what they have to do today of the previous session that we have done and what we have sorted out.

Male Presenter: Afternoon

Respondents: Afternoon

Male Presenter: I am William Frasier, I'm also with the University with the faculty of Education. I'm from the Science Education Department and I am also part of the …Project where we deal and work with the curriculum component. I am a Curriculum specilaist, that's my part. I want to thank you once again for your hospitability, thank you for allowing us to use the school. Thank you for allowing us to do research with these kids and um, that's a wonderful gesture from you and we appreciate that a lot. The purpose of today is just to capture, again some of the work is to cross check because we have to, we have to make sure that what we report is correct and therefore we want to thank you for doing that. Um each of them will introduce themselves again. Karien will go and give us an explanation about what she expects and then we will take it from there. Thank you so much, Thank you ladies and gentlemen.

Female Presenter: Afternoon again everyone, thank you for having us here today. I don't know if you can remember when we were last here in February, Professor Ferreria and Elzane asked you some questions about what do you think the community needs in terms of food production and food choice andfood preparation. So today we just want to check the data that we gathered from, um, February, just to see if we are on the right track and we did record everything you said about the community. So that is the main reason and then we want to ask you some other questions about the curriculum. "What do you think we can include into the existing curriculum as well?", because you are the knowledgeable teachers that work with the children everyday, so we really value your input into this project extremely. Um I just want to ask you, um, because previously myself and Deliwe we worked with the parents, so I was not in the teachers group. I just want to know, You are the same teachers here today that were in February as well?

Respondents: Yes

Female Presenter no 2: Hello Everyone

Respondents: Hello

Female Presenter no 2: Hope you are all well. You, I can see all the faces that are here today and are so happy. This will be a lot quicker here today than the last time… As I wrote on here, just how is everyone doing? I know it's a longest term, and now it's ..far into this long term and everyone is a bit tired. Are you ok? Are you still going to be able to stay awake for today? Ok, but thank you for being here. Uh, like Prof Frasier said we know it's a busy time and they really stretching you at this stage so we not going to stretch you much longer, we just want to give a little feedback and get some feedback from you.

Respondent: Ok

Female Presenter: Ok, so the teachers that weren't here, just to bring you up to speed the last time that we met, we spoke about four questions regarding the community and we asked these questions. We asked, what do people in this community typically eat every day? And then you gave us some feedback on what they eat for breakfast, and lunch and dinner and what the kids eat at school and what the parents eat when they are at home. Then we also spoke about where do the people buy the food? Where do the members in the community get their food, buy their food? How do they get the food that they eat every day? And then we spoke about is there some specific knowledge and skills that you think the parents and the people in the community require, um according to you, what do you think that they need to learn or what skills can be transferred to them, specifically when it comes to food production, food choice and food preparation. I don't know if this is too long ago to remember this stuff still. And then the last one, the question that we asked what information, sorry that is just Deliwe she was also here the last time, she was with the parents. Um, the last question that we asked the last time was how do you think we can take the school curriculum to teach the children skills that they can then transfer to their parents. So how can we use the curriculum to give the parents the knowledge and the skills that you would as teachers feel that they require. Ok, so we not going to speak about the first two questions, um about what people eat and where the food comes from because that was very clear and it came out very clearly what you wanted to tell us and thought and we got the same answer, so we happy with that.

Right, so we just want to talk about, I'm just basically going to tell you what you told me, say yes you agree or no you don't on what we going to write up. Everyone felt that parents definitely need some information and some form of workshop when it comes to food preparation, food … and food production. So a lot of people said yes we do need information and some form of workshop, do you agree with that?

Respondents: Yes

Female Presenter no 2: Ok, then the specific things that you mentioned, that you feel that in terms of food production people need information on how togrow vegetables and the specific things that came out is maybe giving them some form of starter package, maybe giving them seeds and equipment that they need to maybe start their own vegetable garden. Specific equipment because maybe a lot of them don't have the equipment that they need to grow a vegetable garden. A lot of them, a lot of you felt that people need to realise that it is something that they can do by themselves and they need to be independent in this and that information needs to be transferred to them. Um, you felt that the community members needed information on what conditions you need for plants to grow, for vegetables to grow. They need information on soil types,specific soil types, crop rotation, fertilizers and they need some information on what are the best types of plants to grow in which season, so seasonal plants. In terms of drainage and water supply, you felt that people needed maybe knowledge skills, maybe resources, and one of the things that came up are maybe JoJo tanks, that people need that specifically. Then the other one is entrepreneurial skills, so how can we teach parents and community members, maybe take these plants that they have now grown and sell them to create an income and then also the medicinal value of some herbs and some vegetables, to maybe learn about that and that they can get a lot of what they need from the plants that they grow. So is there something else, specifically with growing vegetables that you felt you feel we missing or you happy with this information? Do you agree with this?

Female Presenter no 1: Is there something we can add to add value to the manual that we want to write?

Female Presenter no 2: So you approve?

Respondents agree

Female Presenter no 2: Like Karien said, remember that we spoke about it, right in the beginning of the year, that the aim of all of this is to come back at a later stage with manuals that teachers can use and parents can use so that they can eat more healthy, produce food, choose healthy food so that we can come back and give meaningful training and meaningful skills to the community. So if you feel that if there is anything missing from what I am mentioning you must please just tell us. Another thing in terms of food production is that you felt people can be given some information on how to breed their own livestock as well as baking. How they can bake their own bread, how they can bake their own food. I don't know if there is anything else there, so you agree with that?

Respondents agree

Female Presenter no2: Anything specific you want to add to that, not? You must just tell me if there is something you want to hand, just chip in or put up your hand, ok. Then in terms of choosing food, you indicated that a lot of the community members maybe need more information, what is healthy eating? How do I eat healthy? What does healthy eating and a healthy diet entail? Also what is a balanced diet, you indicated that we need to tell people about food groups. We need to tell people about the required intake for the different food groups. Maybe giving parents or community members some guidance about what they have to buy when it comes to food, maybe some ideas for a menu? Giving people ideas for a menu, shame everyone looks very tired.

Respondents laugh

Female Presenter no 2: So it's not me, everyone is just tired. Shame I am sorry, we really appreciate it and I always make, the kids I teach, if they tired, jump up like this , we could try that?

Respondents laugh

Female Presenter no 2: Ok then you also felt we must tell people about the disadvantages of buying junk food and fast food and um, the nutritional value of foods,so they can check on the labels. People said we must maybe teach them how to check the labels nutritional value as well as expiry dates. Um this one came up, and I don't know if it has to do with the fact that they sometimes get old food from pick n pay, that's one of the things that you mentioned that they get food from the places so I don't know if that came up. Another thing with food, that's all with food choice. Is there anything else you feel we need to give

parents and community members more guidance with when it comes with choosing food and what they eat every day:

Female Presenter 2: Ok so nothing to add to this. Ok and then the last one that we spoke about when it comes to what knowledge and skills do you think we can give to parents and the community was how to prepare food and the things that came up there was that maybe people don't have the right appliances, so that is also with the vegetable gardens where they don't have the right equipment, that they don't necessarily have what they need. Uh cooking methods came up a lot, so you said the people should know that you should not just deep fry everything, you mustn't boil it till it's dead. They must learn about different ways of cooking food, steaming it, things like that as well as the time. Like I said, don't overcook it is something that came up. Then, um, maybe giving people healthy recipes that they can follow. One that came up a lot is storage and preservation of food, that you felt people can be given skills on how to preserve food. Hygiene came up a lot, that people must rinse their food, they must wash their hand. You feel that people need guidance with that and also use of salt and spices. You mentioned that people use a lot of salt and spices and that is something that they shouldn't be doing according to you and they need guidance with that. As well as the importance of water, um drinking water as well as getting water as part of your diet. Is there something else that you feel when it comes to preparing food that you can give more skills and knowledge to?

Respondent: ….

Female Presenter no 2: Difficult questions lately. Ok, so the main thing, the important thing is that you say, yes we agree with this or no we don't agree, this is not what we said, this is not what we feel in this community. Are you happy with what we have summarized?

Respondent: yes it's true

Female Presenter: ok good, that is what is important to us at this stage.

Male Presenter: A question outside out of that, do you know of any projects running in the community here that covers components that's there. Are there any projects being done at present that are dealing with healthy recipes, preservation, hygiene or isn't there anything that you know of?

Respondent: No

Male Presenter: No, not currently

Female Presenter: Just the projects that give food

Respondent: Yes

Female Presenter: That's what came up last time, not that they train people in these things

Respondent: No

Male Presenter: ok

Background talking.

Female Preseneter 3 (Deliwe): Says hello in African Language. I was doing the same thing as Elzane just with the parents and from what we discussed and the question I posed to the parents. What I am going to tell you know are the needs that the parents have highlighted to us in the meeting. This is about healthy eating, they want to know how long the food has to be stored in the fridge and when it comes to tin stuff, they want to know how long do they take to expire, is it just months, year or years. They want to know shelf life before and after cooking, anything that they cook before and after, how long should they stay. And with vegetables they want to know how long they have to stay in the fridge before and after cooking. The duration of food in the fridge before it can be eaten, like anything that is stored in the fridge, how long can it stay there before they can consume it and how does it help, anything that they eat, how does it help their digestive system. They want to know what sicknesses the different foods can cure and how does it help their digestive system. And how would you know as a person, more about the types of foods you can eat to prevent diseases like diabetes, high blood, cancer and heart disease. They want to know how to cook them in a different way and in the right manner. And if you are obese, what kind of food should you eat? What must expectant mothers eat and how long must the food be kept in the fridge, kept coming up again and then why some tin stuff are expired but the expiry date has not yet arrived. For example if you buy things in twelve, in bulk, you'll find that three of the twelve has expired and the nine still ok, what causes that? Why can damaged food poison us. They also want to know more information about additives and preservatives. They also need information and skills regarding food production that is why do the potatoes they plant have worms? The want to know how they can be commission farmers who can supply market with produce and other methods of food production. They also want to know how they can take care of their soil in order to produce good food and how to kill insects that eat

theirplants and how to use different methods in doing that. They want to know about seasonal production, information on how different plants that are the same, what I can explain are plants that are green, so cabbage, the food groups, how is it that how does it get planted in different times so that you always get your nutrients from that. They want to know, how it is, why do plants not grow properly. They usually get small carrots and they want to know how to maintain their gardens, how to make compost and how long it takes to grow plants. Which season do they have to plant certain things like weed and sunflower and they want to know, how they always are, how weed and sunflower are planted. That is what our parents need to know from us.

Female Presenter 1: Thank you Deliwe. Ok for the next part, Elzane is going to give feedback about the curriculum that you indicated specific stuff to us during February.

Male Respondent: Was the issue of the land raised there? Because in order for you to plant successfully you need land and space and then it has to do with the soil type as well

Female Presenter (Karien): yes the soil type is definitely in there

Male Respondent: Because how can I plant my vegetables and all that without having enough space?

Male Presenter: Ja

Female Presenter: Faces from last time, everyone was here from last time ne?

Respondents: yes (Start working from here)

Female Presenter: Ok, thank you so much for being here, you look more awake than the other teachers we worked with (laughs), they were sleeping while we were working. Cause I know the third term is a long one and a busy one and we all tired, so thank you for that. So like Karien said last time, just to remind you again my name is Elzane, um, so we spoke a bit about how are you, I know you tired but other than that I hope everyone is well. Last time that we met, we asked you to give us some feedback on what you think in terms of the community, what do people in the community typically eat everyday and you made very nice posters for us in groups saying what they eat for breakfast, lunch and supper or what you think. Then also you made posters saying where do they get this food from. And then the important questions for us were the one's where you answered what do you think what do parents and the community need to learn and what skills do they need so that they can actually

prepare, produce and buy food, in a manner that is going to be best for them and health wise what are the options. So we going to look at the question you answered on knowledge and skills that you feel parents need and we also going to talk about the feedback that you gave us that you said what type of food we can incorporate in the school curriculum. So I am basically going to tell you today what you told me and then you must say yes we agree or no we don't or there's something you'd like to add then we add it. Ok, so if you have any questions you can ask otherwise we will proceed.

Background Talking

Female Presenter: The first question that we asked was the one with what, or the third question, we not going to go through those cause they were quite straightforward, what do people eat and where do they buy their food? That was very clear. With terms with regard to guidance and skills what you thought parents needed in terms of production. The things that came out was that you feel that they definitely need information about food production, that they need to be provided with some sort of workshop where they can learn about food production. Then growing vegetables was a big one that came up and the things that were brought up were maybe parents or community members could be provided with started packs cause sometimes they don't have the resources or don't have the money to start a vegetable garden, so some people said maybe starter packs and equipment can be provided to them, that they must be taught that they can do this independtly, so this is something that they can do by themselves and that they can actually grow their own vegetables. You felt that they must learn the typeof conditions for them to grow their own vegetables and to grow their own crops. You felt that they needed information on soil types, different soil types and what you can grow in them. Crop rotation also was mentioned that they needed some information maybe on fertilizers and what fertilizers to use. What type of plants to plant in different seasons, so seasonal plants. Also in terms of water drainage, how do they go about making sure water is drained properly and so when they do the planting. And then water supply, you also thought was a problem, that people maybe need JoJo tanks or maybe need something that they can use for this water supply to their vegetable gardens. People can maybe learn entrepreneurial skills so that they can maybe market and sell their own vegetables. And lastly learn about the medicinal value of some vegetables and herbs. So those are the things that came up there.

Another thing was breeding life stock, land was something mentioned that people don't necessarily have land to plant on. Also baking, with people producing their own food, people maybe need some guidance on how to bake things just maybe some classes, something that they can learn there. Is there anything else with regard to food reduction maybe you feel that you want to mention, do you maybe agree with these things? Do you feel like maybe that's what the people need?

Respondent: Yes we do agree

Female Presenter: Ok, anything else you would like to add? Not at this stage, if you think of anything later you are welcome to mention it.

Female Presenter: Then with regards to food choice you felt like people needed some guidance with regards to what is a healthy diet, what is healthy eating? A balanced diet, what is a balanced diet, they need to learn about food groups , they need knowledge on the required intake of the different food groups. what to buy, shopping lists was something that came up and also ideas for menus for everyday, that's also something that was mentioned. You also felt people need to know about the disadvantages of junk food, why they shouldn't be eating that, the nutritional value of food and also expiry dates. Ok, anything else on food choice that you feel people need guidance with? Is this what you felt, do you want to agree with it?

Respondents: Yes

Female Presenter: Do you want to mention something else ma'am?

Respondent: I think that we should know the risk that we are facing concerning the results of eating healthy food.

Female Presenter: So people almost need to know what is going to happen if I don't eat healthy food.

Respondent: If they can listen to the new like last time they were saying in five years to come most of the South Africans will be suffering from sugar diabetes

Female Presenter: So they just need to be aware of the risks of unhealthy diet and unhealthy eating

Respondent: yes

Female Presenter: So almost telling people what could go wrong and not just telling them what they should do, they must know why they must do it

Respondent: MmmHmm they must learn about the news so that they can understand the results

Female Presenter: So just what is going on in the world?

Respondent: Mm Hmm

Presenter: Ok anything else? Yes, ma'am

Respondent: We need to also stress the importance of drinking water

Female Presenter: I almost think it came up somewhere else again later but thank you, so we will talk about that one as well.

Background noise and talking while she finds her place

Female Presenter: Ok, another thing that they mentioned, different appliances and using different appliances and maybe people don't necessarily have the appliances. One that was mentioned was different cooking methods and for how long times things should be cooked for something you felt. Healthy recipes were something that came up as well. This is with regard to food preparation, so how people prepare their food. Storage and Preservation of food came up as well, hygiene was one that was mentioned quite a bit and saying people need to know to wash their hands, rinse the food and so on. Use of salt, a lot of people felt that people use too much salt and too much spices in their food and then the importance of water like you mentioned. Is there something extra that you would like to add to what people should get knowledge and skills on when it comes to the way that they prepare their food.

Respondent (male): I think the other thing is the use of cooking oils

Female Presenter (Karien): Some information about…

Respondent (male): Ja some information on different types of cooking oil cause some they go for the cheapest and sometimes it's not healthy for you

Female Presenter: Because the cooking methods, some people mentioned they mustn't deep fry their food but they didn't say people must look at the different type of oil advise, that's a nice one. So the types of oils. Yes ma'am

Respondent (female): Under the storage of food, some people are not aware that even if they food can be stored in the refrigerator, even if it stays there for a long time it changes and it becomes not ok. So they think that if it is in the refrigerator, no matter how long it is ok

Female Presenter: Ok so just adding on the storage and earlier we mentioned expiry dates and food can still expire just so that people make sure when they put things in the fridge. Ok, so then, anything else then? Ok so putting things in the fridge that also has an expiry date. Ok anything else?

Then the next question that we looked at was where in the different learning areas do you think you can take what the parents need to know, knowledge and skills, how can we use the curriculum or different subjects to teach this to the children so that they can take that knowledge to their parents at home. A lot of the things that you mentioned here is already part of the syllabus so when we go through it, I want you to try and think of things that aren't in the syllabus that you think we can do with the children so that parents can learn knowledge and skills about food choices and preparation at home as well so they can take that knowledge home to their parents. So maybe if you want to, if you think of things that maybe aren't in the syllabus already.

Ok so with Natural Science people mentioned that children can learn about seasonal plants, chicken farming, growing plants and plant types, the parts of plants that we eat, soil types, ecosystems, food pyramids, nutrition and pest control. Ok, anything under natural science you want to mention.

Ok I think I will go through all of them quickly and if you think of anything else maybe raise your hand then at the end and we can talk about it. Technology you mentioned that they can learn about equipment that they use maybe in the kitchen or wherever when it comes to using food, preserving and processing food. Packaging or storage of food, cooking methods and different cooking methods and then caring for the environment. With Languages, ideas that came up, was that we could use food related themes in the classroom, they can work with recipes in the classroom, nouns related to food, the uses of water, poems related to food, communication skills so that they can communicate what they have learnt in the class outside of the classroom. They can learn about HIV/AIDS, food labels and you mentioned comprehension tests about food and nutrition and they can learn a bit about entrepreneurship in the languages. Under Mathematics you mentioned measurement, counting different food groups, we can use ratio to teach them about food groups and then cooking time. In EMS, economic wants and needs, four factor production, entrepreneurship, advertising, budgeting or saving, saving food or water and opportunity costs. Life Skills diet, food groups, refusal or assertiveness skills, exercise, hygiene, physical education and useful plants. Then Arts and Culture, traditional food, painting or sculptures about food and nutrition, creative beddings at the school, maybe at the garden, the colours of food can be used or explained and maybe drama or song on healthy eating. Then the last subject,

Social Skills, types of farming; climate; different climates; soil types; learning about water; using water; global warming; different types of crops; indigenous food and food from different countries, those were all the things that were mentioned under the subjects. Is there something else that you can think of under a specific, you don't have to be a maths teacher to give maths suggestions or so, you can give suggestions about any subject, how you feel we can teach them about.

Female Respondent: The other thing is the learners need to learn about the self made fertilizers, like the compost. And during our times, we were having a competition, the schools were competing with the vegetables that they planted in their schools. They were having the beetroot ….(African language spoken) where the other schools, we go to the completion where they be judging which vegetables are best and the learners will have learnt they we have won because we did this and this and this. So the information can be transferred back to the community.

Female Presenter: Ok, so do they have the competition?

Female Respondent: Yes we did have, now we don't have competition in our curricular but when we were school kids we would have school competition, plant the vegetables at schools and there would come a time when we were going to compete with the vegetables and then they would check and tell you, "yours is having a problem, it seems your compost was not ok and so on and so on". They giving us the explanation

Female Presenter: That's nice, then they can learn about gardening about what works and doesn't

Female Respondent: Yes, then when they say we go and plant, we plant and we have the knowledge. We find ourselves without the teacher

Female Presenter: They can maybe do that in one of the subjects if there is extra time, ok. Any other ideas?

Male Presenter: While we are switching, are the cooking teams aware of the different menus that's on the website of the National School Feeding Schemes, for schools that the national department has made available? Of all the different menus that are there. You know about that or not? And next question, do you think there is a need for parents to be informed of different cooking menus, cooking courses or whatever?

Respondents: Yes

Male Presenter: There is a need for that

Male Respondent: A problem will be both of the parents aren't working, it will be the problem of getting those food, but I think if they have the knowledge, how they find that they will cook them.

Female Presenter (Deliwe): Good afternoon. Ok I am working with the team but I was working with parents when I was here. So I am going to share the feedback that I got from the parents, what they think they need to be. The information about healthy eating, they want to know how long does it take to store food in a fridge. This is what you highlighted, that they need to understand that the food sometimes does expire and they need to know a lot about tin stuff, how long do they take, how long does it take for that tin stuff to expire? And the duration of stuff, after and before cooking. Before cooking food and after cooking food, for how long can the food be edible? And about vegetables, they want to know how long they have to stay in the fridge before and after cooking. The duration of food in the fridge before it can be eaten, like raw food, your frozen veggies and stuff like that, how long must it stay in the fridge before you can eat it. And then how long does it help? They would like to know more about how does it help with our digestive system? How does the food help with our digestive system? What kind of sickness does the food they eat cure? How does it help our digestive system the type of food that we can eat to prevent diseases like diabetes, high blood pressure, cancer and heart disease. They also want to know how do they cook the food in different ways and in the right way. They want to know if a person is obese, what kind of food should that person eat? And then what must expectant mothers eat? This one is repeating itself, it is coming over again, they need to know how long must the food be in the fridge and why some of the tin stuff is expired but the expiry date isn't been reached. When you buy them in the shops, some of them has expanded, why is It so? They want to know why that happens. Why are damaged can food piousness, they want to know why damaged can foods are piousness? They want more information about additives and preservatives. They need information and skills required regarding food production. And they want to know why do the potatoes they plant have worms sometimes. They want to know how they can be commercial famers where they can supply the marker with produce and they want to know other methods of food production. They also want to know how to take care of the soil in order to produce good foodand

how to kill insects that kill plants and they need to know different methods of doing that. They want to know more about seasonal production, on how different plants are the same can be planted at different times. For example if you are using your different greens, your cabbage, your broccoli which one must you plant when you do crop rotation. They want to know why do plants not grow properly and why are their carrots so small, why is their produce so small. And the maintenance of the garden, how do they maintain the garden, how do they make compost and how long does it take to grow a plant? And in which season do we plant specific plants, for example, weed, sunflower and they want to know how they are actually planted. So that is all the parents need from the manual.

Female Presenter : Is there anything else that you need, that you thought of while Deliwe was speaking, that you thought of?

Male Respondent: I think they should get information on how to acquire the land and how big, then maybe checking the type of soil in the land

Female Presneter: Ok, we will add that in

Female Presenter: I think what was nice that as the teacher you mentioned most of this stuff and this is what the parents gave us, I think that is a nice thing to see what you view of the parents what their needs and knowledge skills are quiet accurate so it means you know the people that you work with.

Female Presenter: Ladies and gentlemen, thank you so much for your time. We just need your names and your surnames please and we thank you and will see you again. Thank you for helping us with this project.

Respondents: Ok, thanks

Male Presenter: Ladies and gentlemen thank you so much, we appreciate it and thanks, we appreciate cause next week, week after next the school closes and we can't work in the fourth quarter, then the Department said no cause you busy with exams and all the other stuff. If you want to take some more, something to eat, um more than welcome, help yourself and thank you. And for the participants and researchers, thank you so much for your caring and hard work

Presenters: Thank you

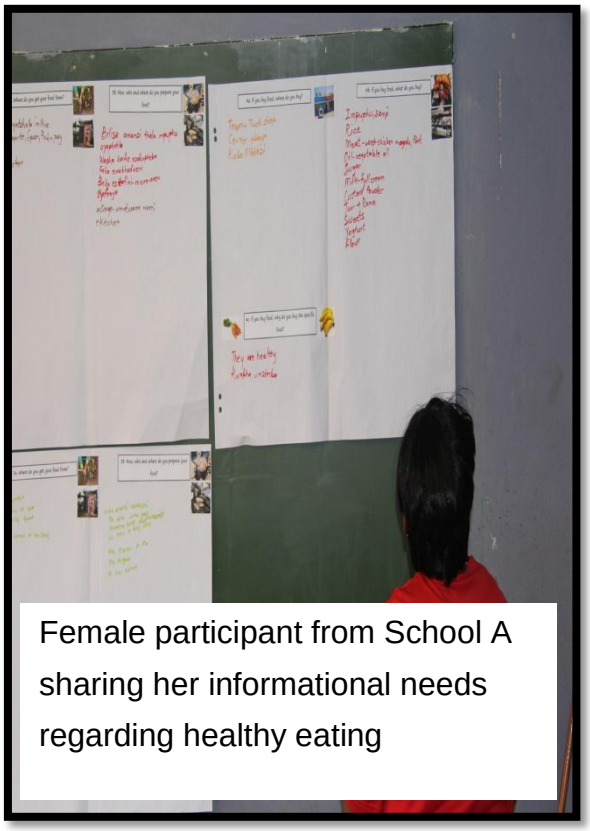
Appendix H

Photos of data generation

 Four female participants from School C, discussing the eating patterns of the resource-constrained community during the PRA-based workshop	 One female participant from School C, describing available resources to inform healthy eating practices of the resource-constrained community
 Four female participants from School C, sharing their informational needs in terms of food production practices during the PRA-based workshop	 One female participant from School C, indicating available food suppliers in the resource-constrained community during the PRA-based workshop
 Posters from School B, indicating the food preparation practices in the resource-community	 One female participant from School B, talking about the food purchasing practices of the resource-constrained community during the PRA-based workshop

Participants from School B, sharing their daily eating patterns with each other

Participants from School B, sharing their daily eating patterns with each other

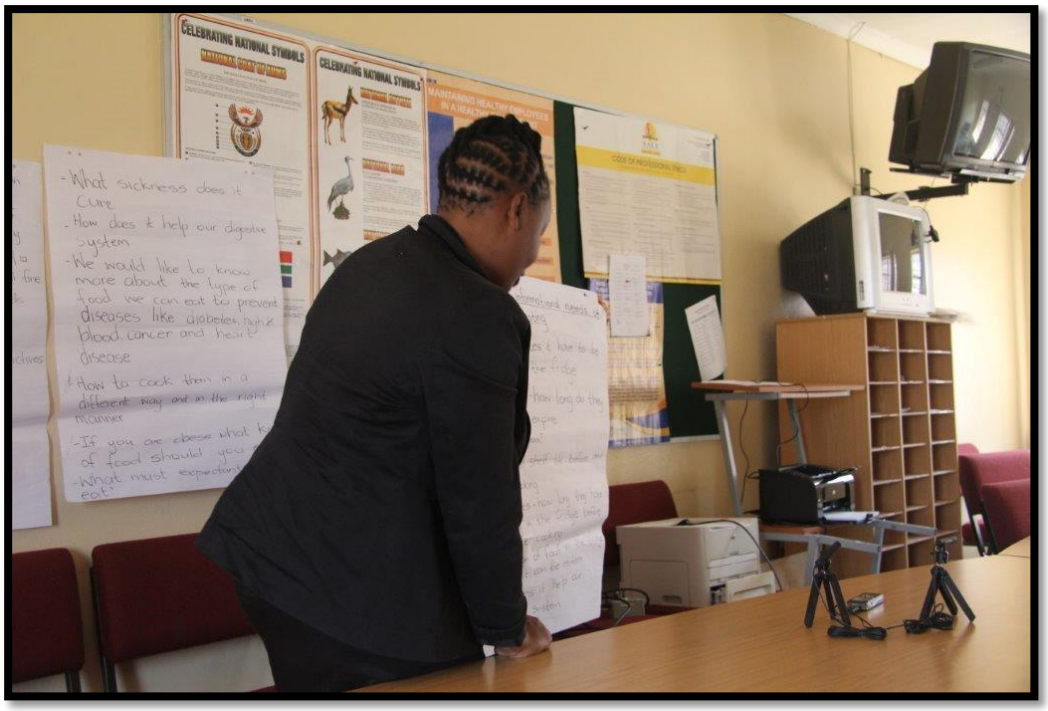


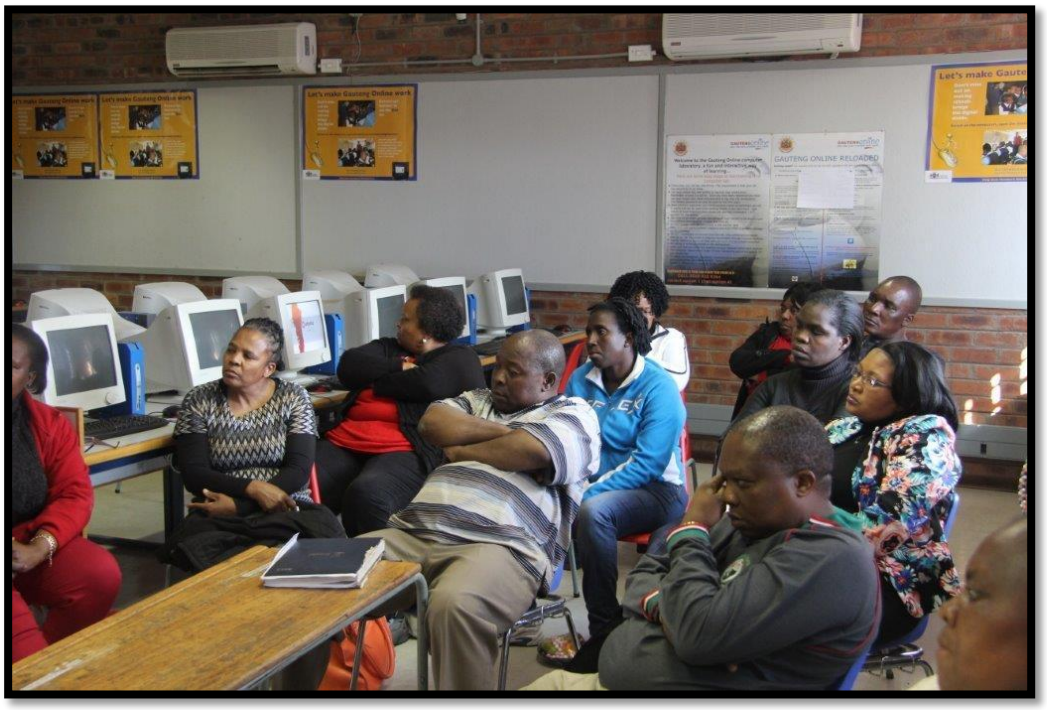
Female participant from School A sharing her informational needs regarding healthy eating

Participants from School A's posters

Appendix I

Photos of member checking session





Appendix J

Reflective journal

Date: 19/02/2013

Site: Schools in the Bronkhorstspruit area

In preparation or my first visit I met with my supervisor, in this meeting I get a clearer understanding of what I need to do, and what my supervisor's expectations are. In the meeting I realise I am going to conduct my data generation soon. Before my first visit to the schools I wondered how the reception will be like, if parents will be there. I wondered if the parents will not have expectations that are not in line with the research (like thinking it is an employment opportunity). I was concerned about me being able to fulfil my role as a researcher and suppressing my teacher role that I play every day. I wondered if the parents will be able to answer all the research questions we are going to ask and whether they will be willing to share information on what they eat in their home with us and amongst themselves. I was worried about the language that we were going to use, I thought that most of the time when we engage with parents in English they do not fully understand. I was concerned about our safety seeing that I will be travelling with a team of white people to a "township" especially due to the crime factor. I was excited and nervous about the first data generation, I think that it cannot be that bad I needed to calm myself down, think positive and do what I am suppose to. At this point what goes through my mind is my budget, *(how I am going to raise my travelling expenses: petrol and toll gates?)*, despite all the challenges in my head I knew it will be done and I am looking forward to it. (Both Karien and Ronél made me feel at ease). I am hopeful. On my way to the school, I was anxious about what was going to transpire. I re-read the Win LIFE proposal just to make sure I understood my role. I had a brief discussion with my research supervisor on how the process was going to be conducted. My role on the research site was that of a field worker/co-researcher with my supervisor and co-supervisor and the Win LIFE team.

I was a little nervous on my role as it was my first time conducting a field work, but soon realised that my facilitation skills came in handy. My supervisors' presence made me feel at ease. It helped to see that even though the school is in a resource-constrained community, the school was well resourced (they had water and electricity, i.e good infrastructure – even a computer lab).At first school, one of the teachers shows us the room they prepared for our research.

There are only 4 participants present, I felt disappointed in the number, but I was positive we will get enough information from them. All the research team members are present, I feel ready to conduct my data generation. Introductions and rapport was easily established with the participants. The participants seemed to understand what the research is about and their rights and roles in the research. The consent forms were signed. The participants seemed to be happy to be part of the research. All equipment we need is working well. One participant asks “if they are free to talk in their own language (I indicate to them that it is 100% okay to do that). I was impressed by the level of co-operation and participation by the participants. They did not hold back and seemed to be happy about the intentions of the study. It seemed that they saw the initiative as an answer to their everyday challenges on nutrition. However I wonder if the participants from school A have televisions and radios if they only emphasise that they learn about healthy food at the clinic. School B and school C seem to be aware of the relevant sources of information that tell them of healthy food. The participants shared a lot about their nutritional needs in the community. I was impressed on how effective they communicated their needs to us as strangers. The participants were very open and seemed honest about their challenges. I think that affordability in this community is of paramount importance and it is good that they produce vegetables that are not complicated, plants that are easy to grow and are of value to their bodies. I also liked that they are already planting something, which to me means they are willing to support themselves and their families. I only wonder how they keep their families, especially children, motivated to eat the veggies. I also wonder about the available space and good soil to grow these vegetables in, as well as whether they are able to sustain the supply for family consumption on a regular basis.

I observed that the school have a feeding scheme programme. The school also had a vegetable garden although the garden looked very dry and the plants were not looking good (I thought they might be faced with the challenge in this regard).According to the participant the vegetable garden is away of the school of compensating for what is not provided for the feeding scheme supplies provided by Department of Education. I thought that the vegetable garden was a good initiative seeing that the parents were also involved in maintaining them.

However I also thought that due to their position and being a resource-constrained community they may be faced by challenges in maintaining the food garden (the garden was dry and the plants did not look good). Perhaps they needed more information on how to maintain the gardens. I was impressive when observing the feeding scheme process in practice and to see how many kids benefit from it. I thought the menu was healthy and balanced. I then realised how much a positive the study will be in this community. Participants wanted to know more about crop-rotation, healthy food preparation methods, how safe canned food are, food storage, healthy foods, healthy eating habits, soil fertilization, growing healthy produce. This made me see how much they needed the Win LIFE intervention and how relevant the study as to this community. I wondered about the practicality of the community's reasons for their choices…..do they really focus on quality and healthy food? No name brands are cheaper and it made sense that they go for this option. My experience during the first data generation session was a do I interpret what I experienced during the event (fruitful and rewarding first time experience, the value of team work, the using multiple devices in research, constant observation, the importance of the relevancy of the intended intervention, proud of my communication skills (multi lingual) in identify their needs, co-operation, learning more about others.

Date: 20/02/2013

The second and third sessions of my data generation at the two respective schools, I was more confident as I have now gained experience from the first visit to the school. PRA workshops with the use of magazines, picture and posters were a very good way of initiating discussions with the participants. Participants were able to identify and discuss their need pertaining to nutrition in the community. I was impressed by the way the participants were able to put their points across. The participants seemed to value the sessions and were open about their challenges pertaining to nutrition and they were willing to learn more so that they can help themselves and their community. The knowledge of how to lead a healthy life especially through proper food consumption seemed to be very important to the participants. The level of chronic diseases seems to have made the participants aware of a need to be assisted by knowledgeable people. The participants seemed eager for an intervention programme that will

assist them in the needs they have identified in the PRA workshops. I am aware that we consume leftovers in the morning for breakfast in my community in Mamelodi. It can be pap and anything we ate the previous night for dinner or what is available from the fridge. I wonder why the participants from school B and school C did not mention that. We also consume fat cakes and pork spread ("dibabi" and "mafali") for breakfast. Some buy baked cookies and tea at taxi ranks for breakfast. A factor that I thought was of interest in resource-constrained communities has been that some of the children only eat their meals at school; they do not eat breakfast at home. I wonder what community members do to try and eat a balanced meal for dinner, seeing that they have mentioned that a healthy diet is a balanced meal. Pap and meat and a lack of variety on their dinner plates seem like a daily phenomenon. This community seems poor and they may not be able to buy food for a balanced meal on a daily basis. Things I might have loved to experience differently if there was, balanced group allocation (literacy levels and education level) minimising the noise, heat, venue, and time of day, although I learned to adapt to the conditions.

The biggest lesson I have learnt is that as researcher I am at the mercy of my participants. They can cancel reschedule at awkward times for me but I must do it according to their schedule. I experience not having control over the situation especially if there are other things that I needed to do (being at work and going to class). I also learned that this comes with the territory. We were well received at all three the participating schools. At the first school there were only five participants present, I felt disappointed in the number, but we managed to collect sufficient data from them. Rapport was easily established with the participants and I was impressed by the way the participants were able to put their points across. The PRA-based workshops went well and I was able to fulfil my role easily. I am glad I am able to speak IsiZulu well because I was able to explain the questions to the parents in their own language and they had the opportunity to answer in their own language, which I think helped us as research team to get rich information from the parents. I was impressed by the level of co-operation and participation by the participants. They did not hold back and seemed to be happy about the intentions of the study. I was concerned about the parents' understanding of the consent form that they have signed and I wondered if they really understood as most of the parents' literacy

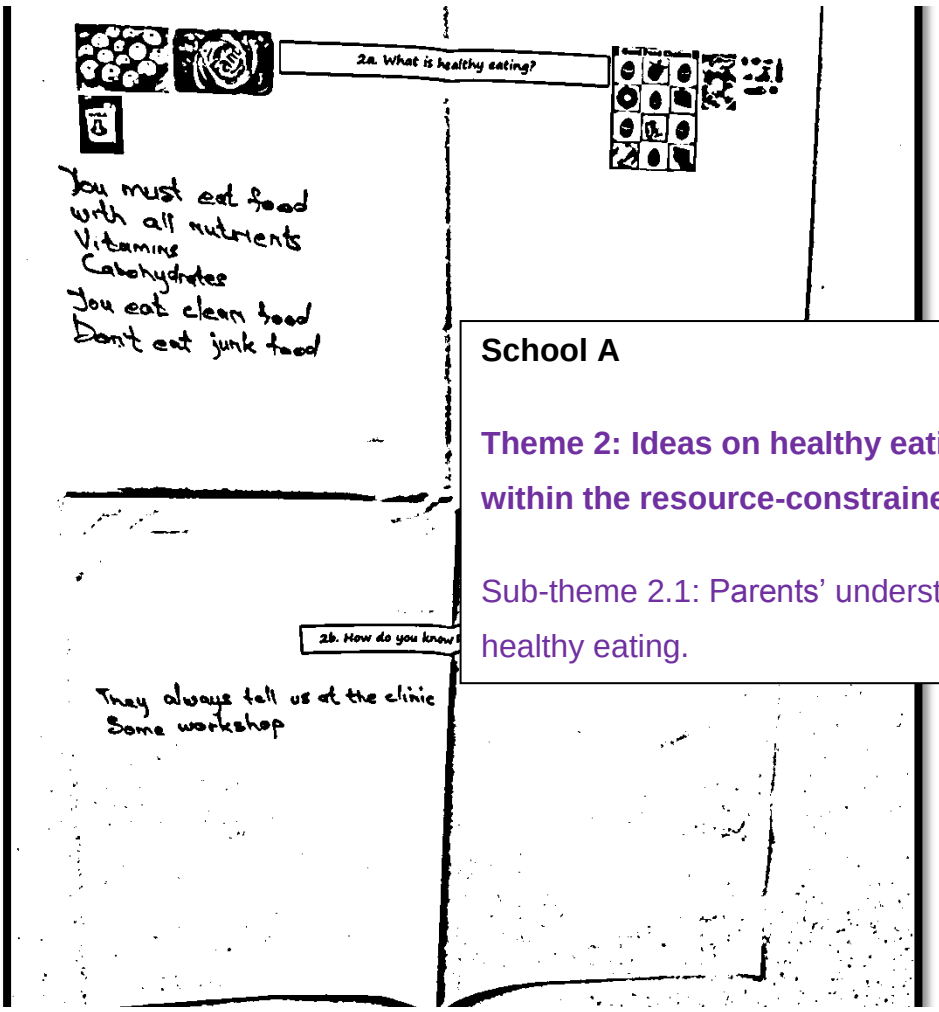
level is low, although I was confident that I explained it well. From this experience I leaned that (there can never be enough time when discussing bread and butter issue with concerned/affected people). Data generated from the PAR workshops proved too be a lot as my experience with translating the data, transcribing the data and coming up with theme was very tedious and time consuming as this was the first time I was doing it. It was sometimes frustrating to me as I got confused and doubted my competence in this regard. This meant a lot of reading in doing it correctly and re doing it (repeating the processes) in order to ensure quality.

Member checking: The experiencing was so exciting and rewarding as the time I spend on the generated data through translating and coming up with themes was validated as being the true reflection of what the participants said. The participants agreed with the themes as what they have communicated and regarded as their needs. It was really validating that processes I had to engage in were done so competently. I was so happy with the experience and atmosphere during member checking. The correlation between all three schools in this resource-constrained community and my research and Elzaan's was so amazing, as teacher and parents' data communicated the same things about the community. From all the three school I have been to, I wondered how parents use the land they have as the yards are smaller and in my community of Mamelodi I noticed that people use the space they have for shacks or rooms they rent out as a form of an income, so I wonder if this is not happening in this community too. If there is some space left, what they plant the same crop over and over. Mostly spinach and different green leaves (morogo). In my community of Mamelodi there is a challenge with mice eating the seedlings and some produce, so I was wondering if the community in the Bronkhorstspruit area does face the same mice challenge. Which is something I did not hear them mentioning. The participants do have some knowledge in planting vegetables, however I think they need current methods and ideas regarding using their produce for a way of sustainable income and food supply for their families. I wonder how they think of themselves if they plant in their yard. In my community people eat "fatkoek" (magwenya or dibaby) for breakfast as it is cheap and conveniently available. I wondered if what the participants were being honest when they mention what they eat for breakfast especially food that need to be

regularly bought like cornflakes that need milk (which seems expensive to maintain under their circumstances). In my community what we eat mostly bread, butter and jam or fatkoeks and soft porridges. I wonder what the effects of the amount of pap that we eat as a "culturally inherited staple food" have on our health. I also wonder what variety of vegetable the community eat, as the veggies we eat in my community are cabbage, carrots, onions, tomatoes, green beans, spinach, potatoes, pumpkin, sweet potatoes, that we buy from vendors in the street. I wonder if we do get the value for the money we pay as the veggies are forever in the sun, they are normally bought on a Thursday from the market, the vendors will keep selling them until the week after they were bought from the market, and they decolour, go off, and are not refrigerated. I wonder if the veggies we sometimes eat have any value to our bodies. I am thinking from the community to benefit from the food sold by these corner vendors, the vendors themselves need to be trained and be workshoped on how to conduct their business especially the nutritional benefits, how to store their stock, how long to keep their stock (shelve life of different veggies), and when it is time to classify their stock as a waste that will no longer benefit their customers. In my community of Mamelodi community members are eating what we call sephatlo a lot for their lunch and supper. (Quater white bread, fried polony, cheese, fried vienna or russian, fried potato chips and achaar). Frying is the methods used for preparing this sephatlo. School children eat this on a daily basis if they do not eat from the school's feeding scheme. When the parents mention their need to know more about shelve life I wondered if they will be able to discard the food that still look and smell okay on the basis of expired shelve life. In my community of Mamelodi there is a tendency from resource-constrained families to collect expired food from the dumping area for them to eat. I wonder if this practice occurs in the resource-constrained community in the Bronkhorstspruit area. I was amazed by the similarities that the community in the Bronkhorstspruit area has with my own community of Mamelodi when it comes consumption, preparation, eating patterns, the noticeable difference I experience was the lack availability of supermarkets where people can buy their food, and how this may be affecting the research participants.

Appendix K

Visual data



School A

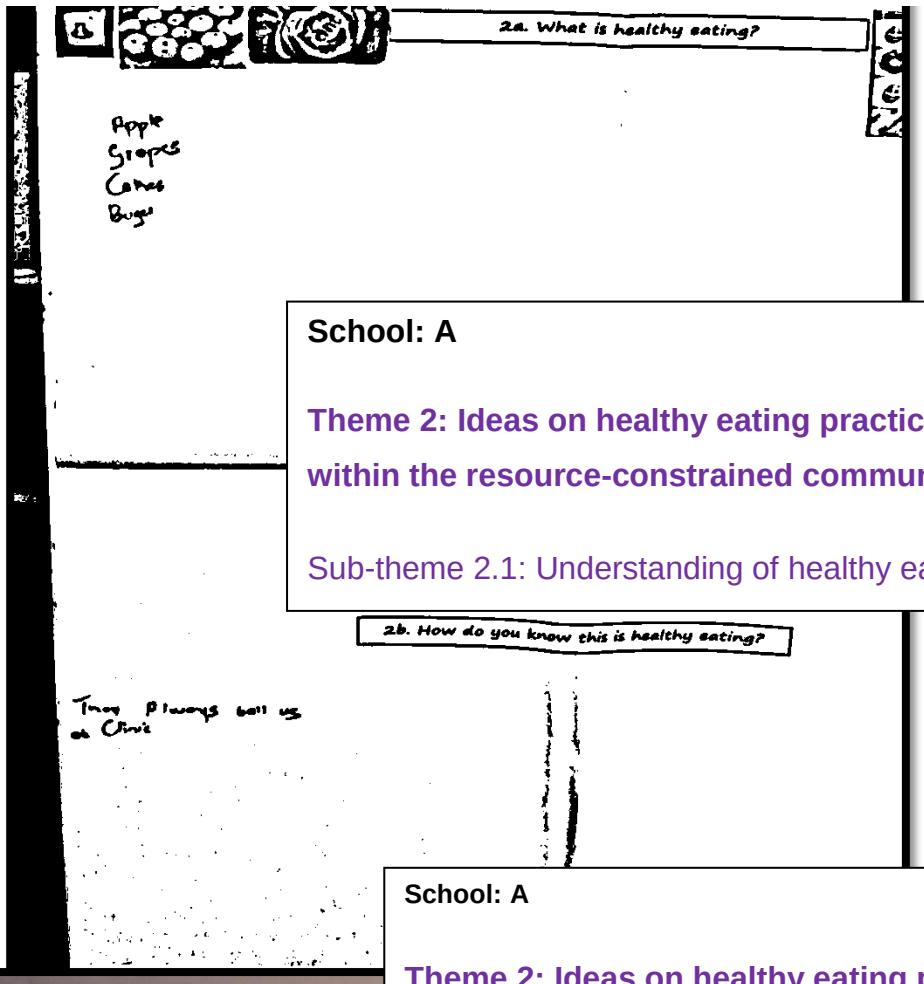
Theme 2: Ideas on healthy eating practices within the resource-constrained community

Sub-theme 2.1: Parents' understanding of healthy eating.

School A

Theme 2: Ideas on healthy eating practices within the resource-constrained community

Sub-theme2.2: Available resources to inform healthy eating practices.



School: A

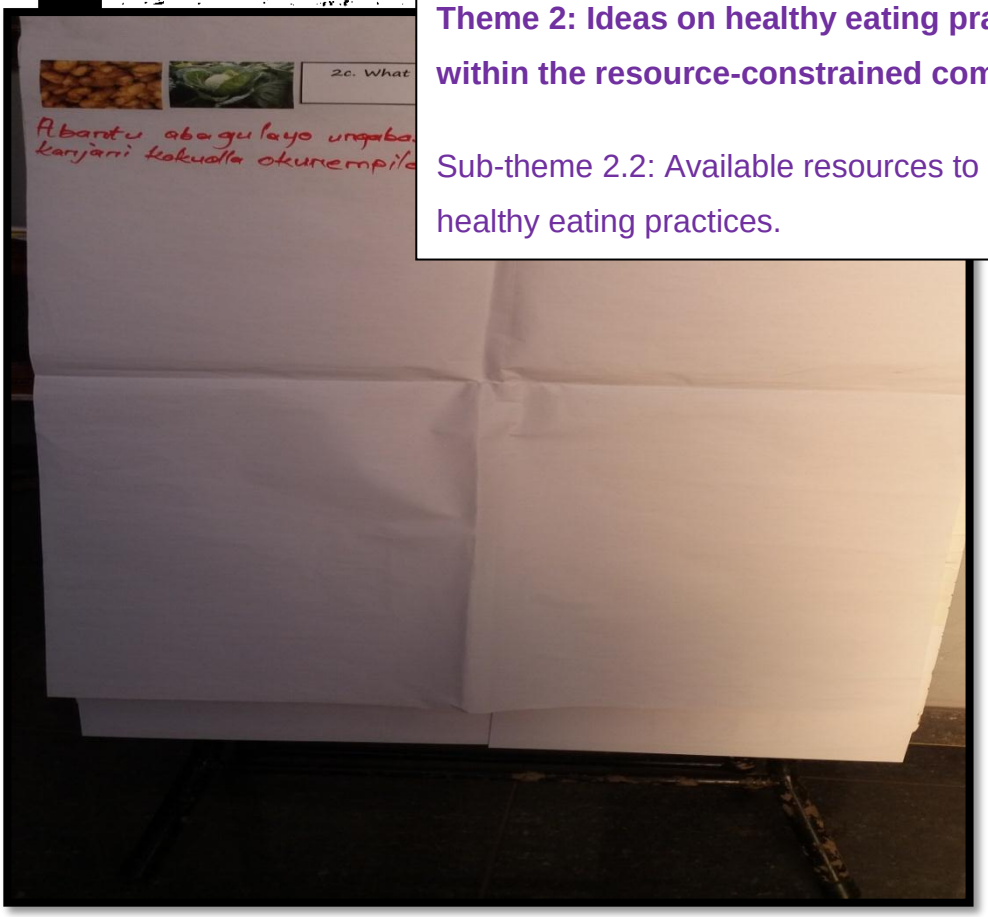
Theme 2: Ideas on healthy eating practices within the resource-constrained community

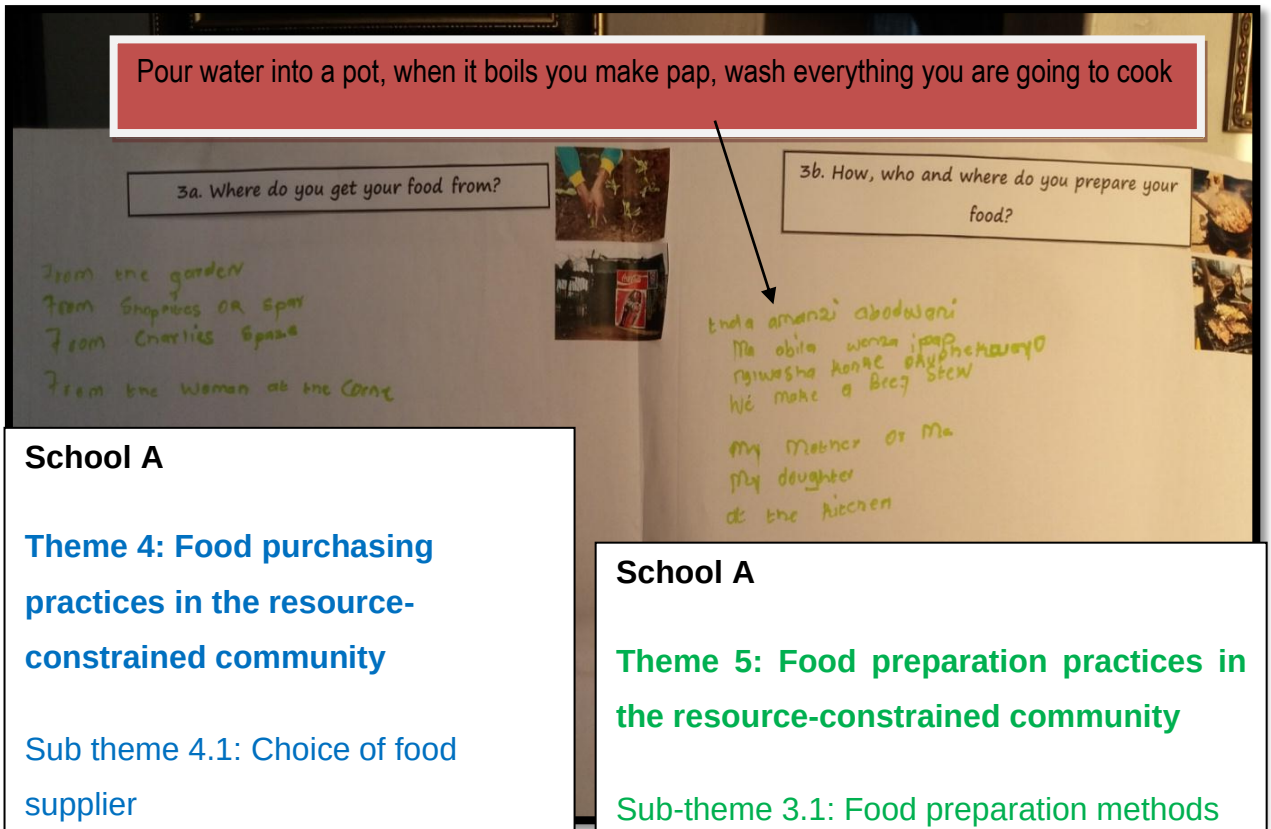
Sub-theme 2.1: Understanding of healthy eating.

School: A

Theme 2: Ideas on healthy eating practices within the resource-constrained community

Sub-theme 2.2: Available resources to inform healthy eating practices.





School A

Theme 4: Food purchasing practices in the resource-constrained community

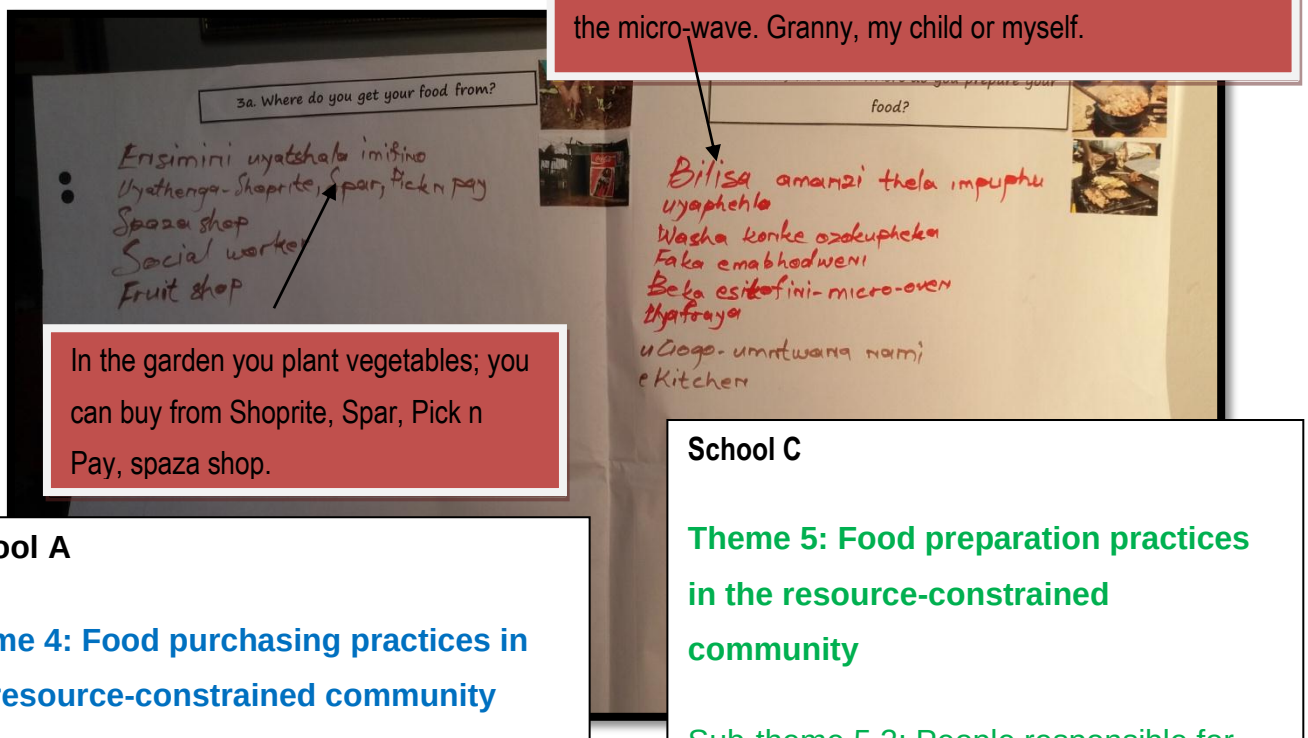
Sub theme 4.1: Choice of food supplier

School A

Theme 5: Food preparation practices in the resource-constrained community

Sub-theme 3.1: Food preparation methods

Sub-theme 3.2: People responsible for food preparation



School A

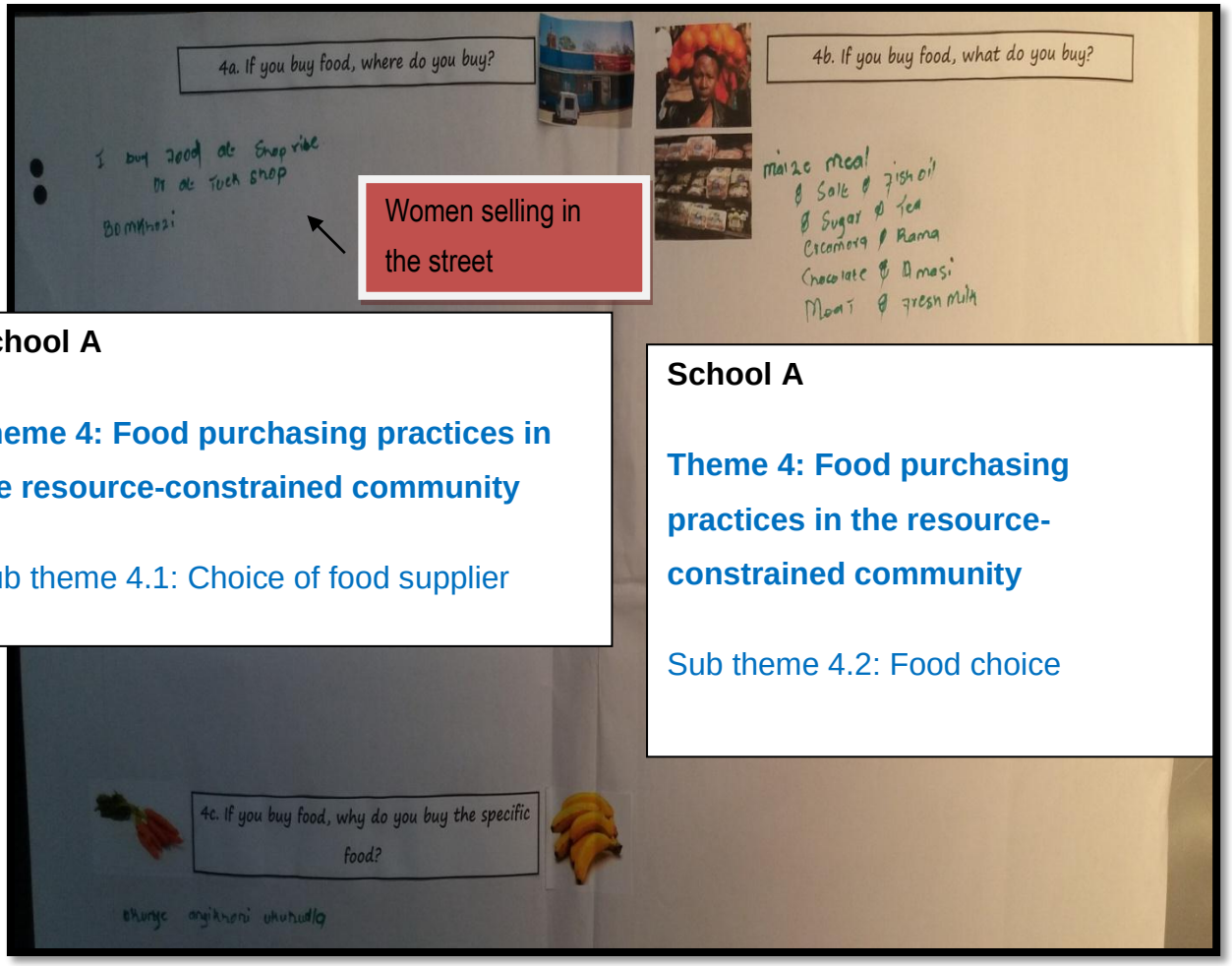
Theme 4: Food purchasing practices in the resource-constrained community

Sub theme 4.1: Choice of food supplier

School C

Theme 5: Food preparation practices in the resource-constrained community

Sub-theme 5.2: People responsible for food preparation



Women selling in the street

School A

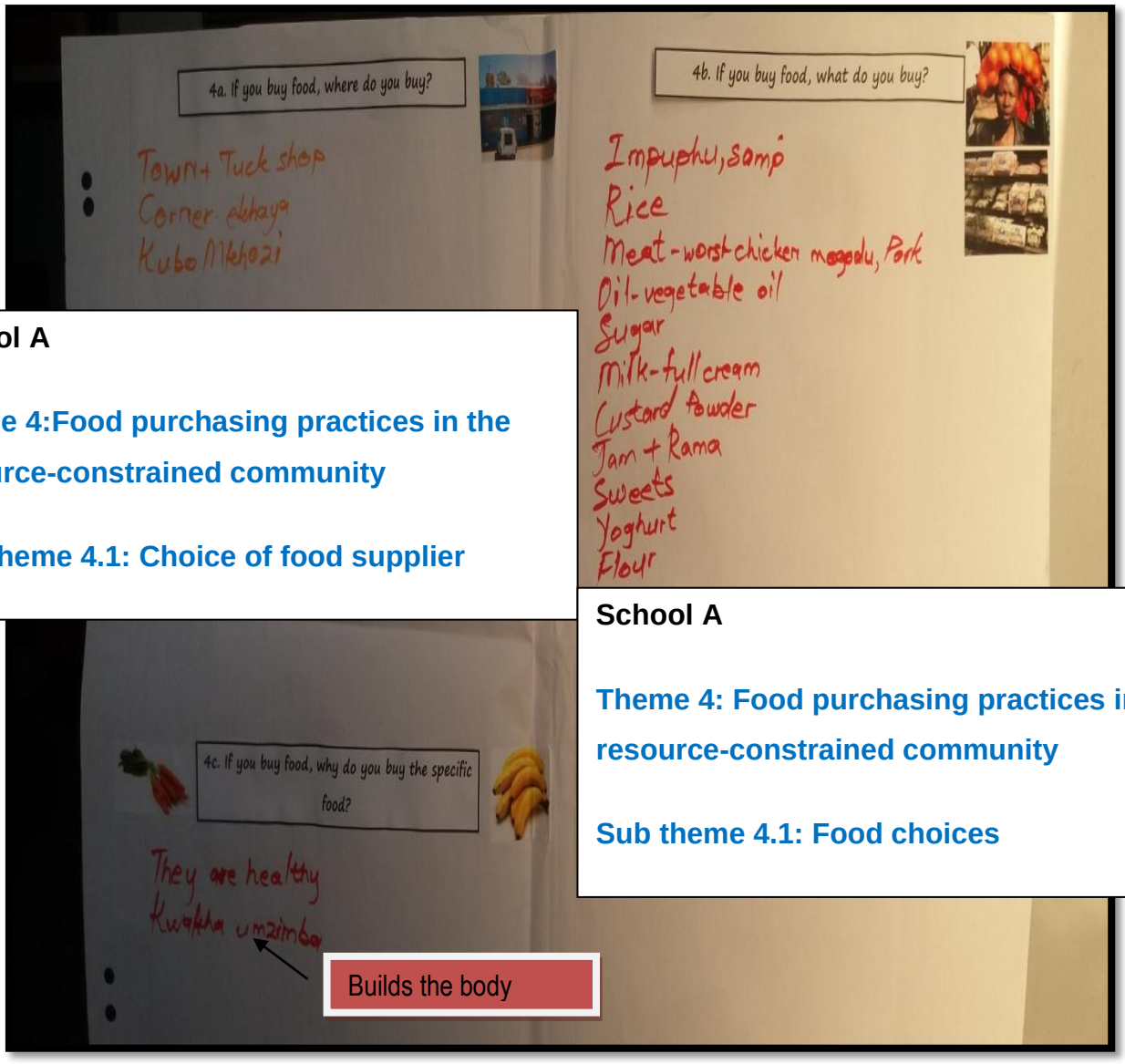
Theme 4: Food purchasing practices in the resource-constrained community

Sub theme 4.1: Choice of food supplier

School A

Theme 4: Food purchasing practices in the resource-constrained community

Sub theme 4.2: Food choice



School A

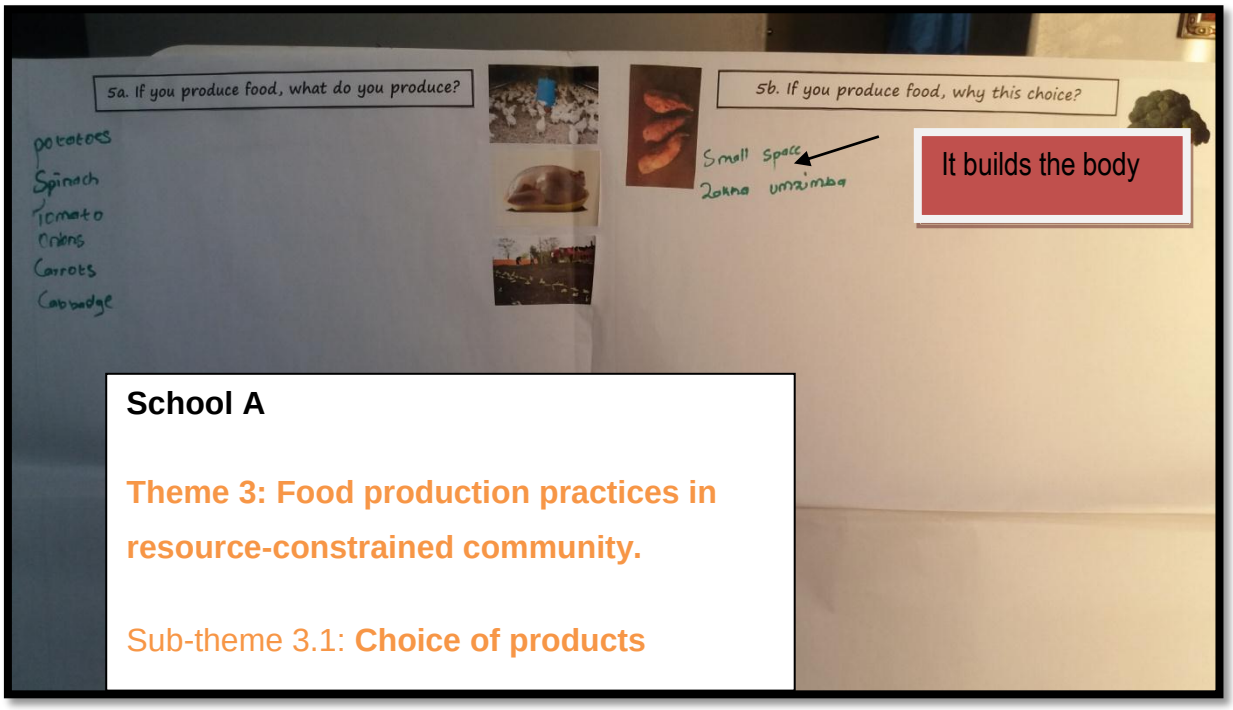
Theme 4:Food purchasing practices in the resource-constrained community

Sub theme 4.1: Choice of food supplier

School A

Theme 4: Food purchasing practices in the resource-constrained community

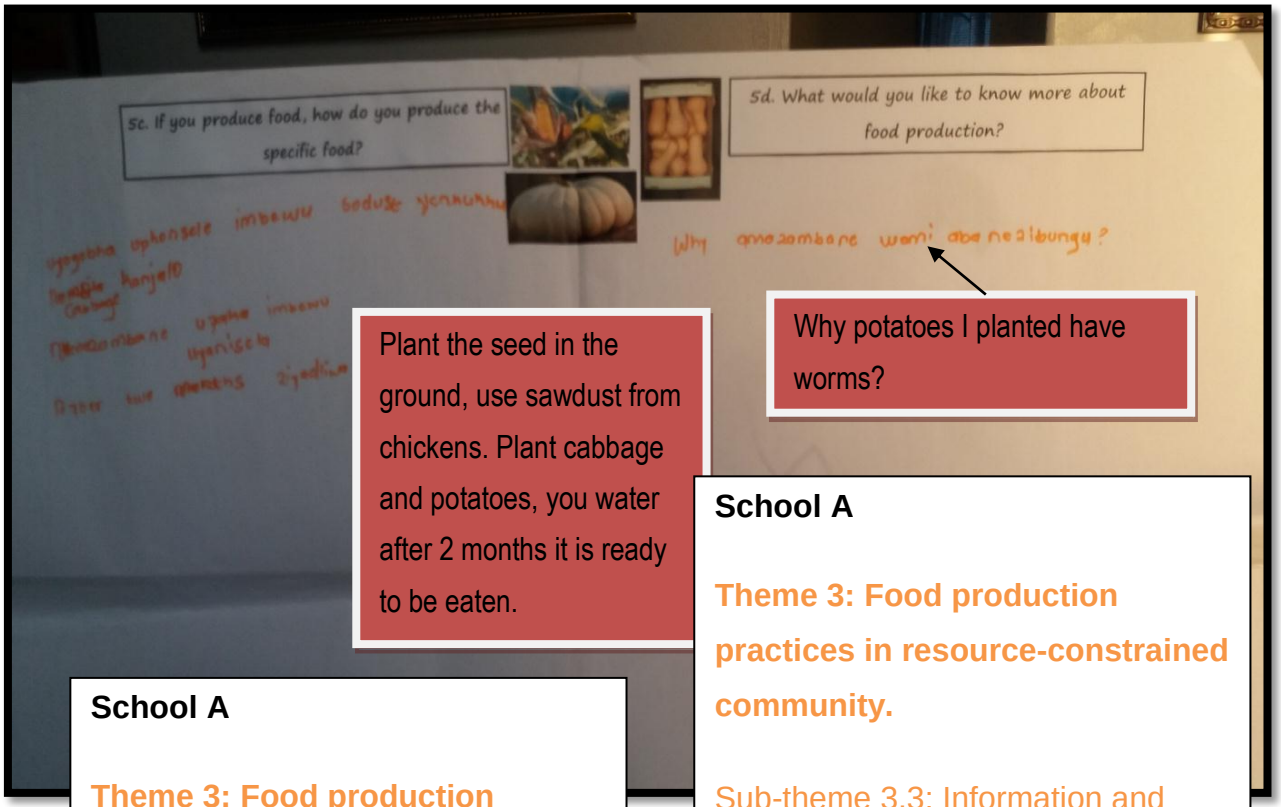
Sub theme 4.1: Food choices



School A

Theme 3: Food production practices in resource-constrained community.

Sub-theme 3.1: **Choice of products**



School A

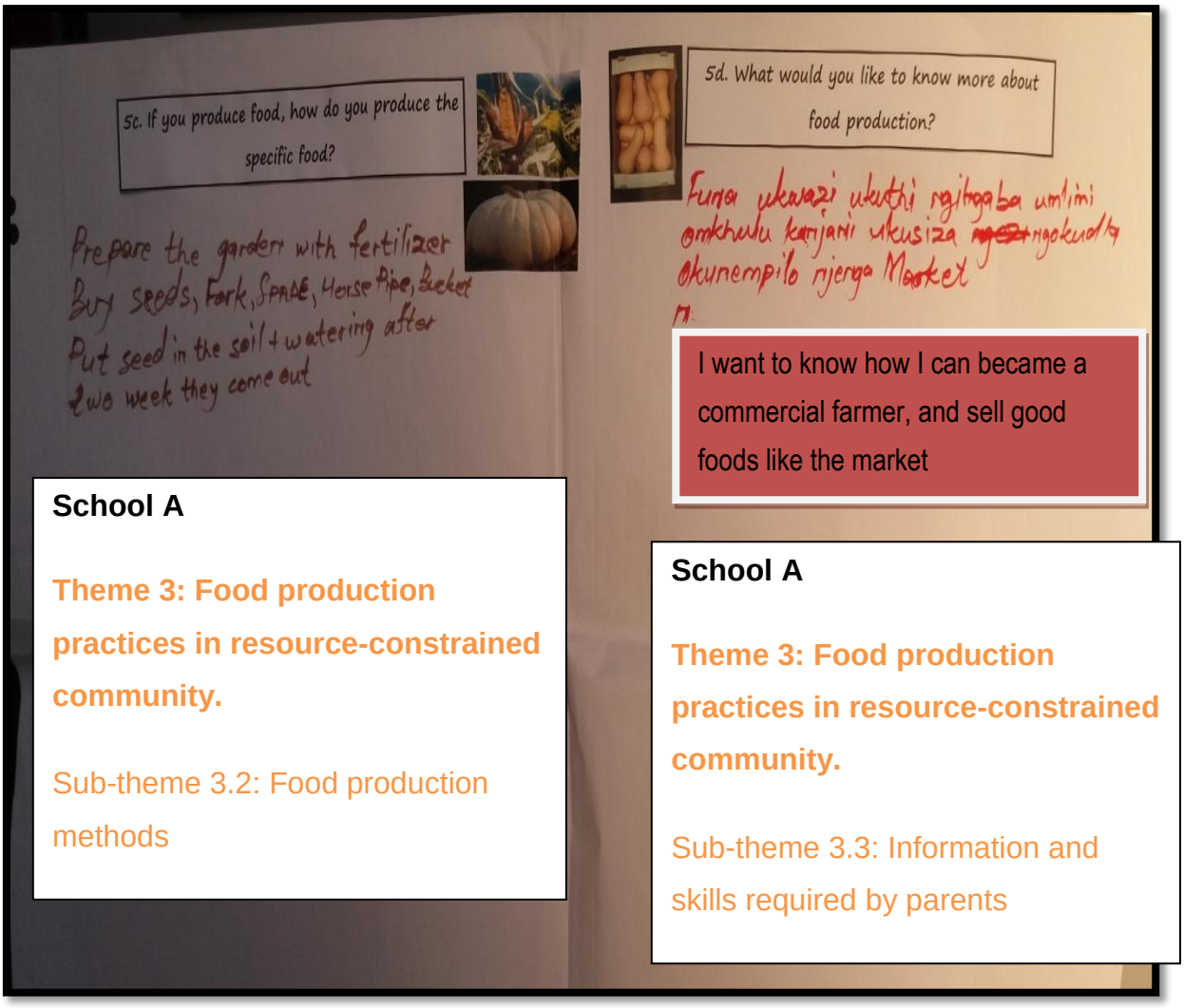
Theme 3: Food production practices in resource-constrained community.

Sub-theme 3.3: Information and skills required by parents

School A

Theme 3: Food production practices in resource-constrained community

Sub-theme 3.2: Food production methods



School A

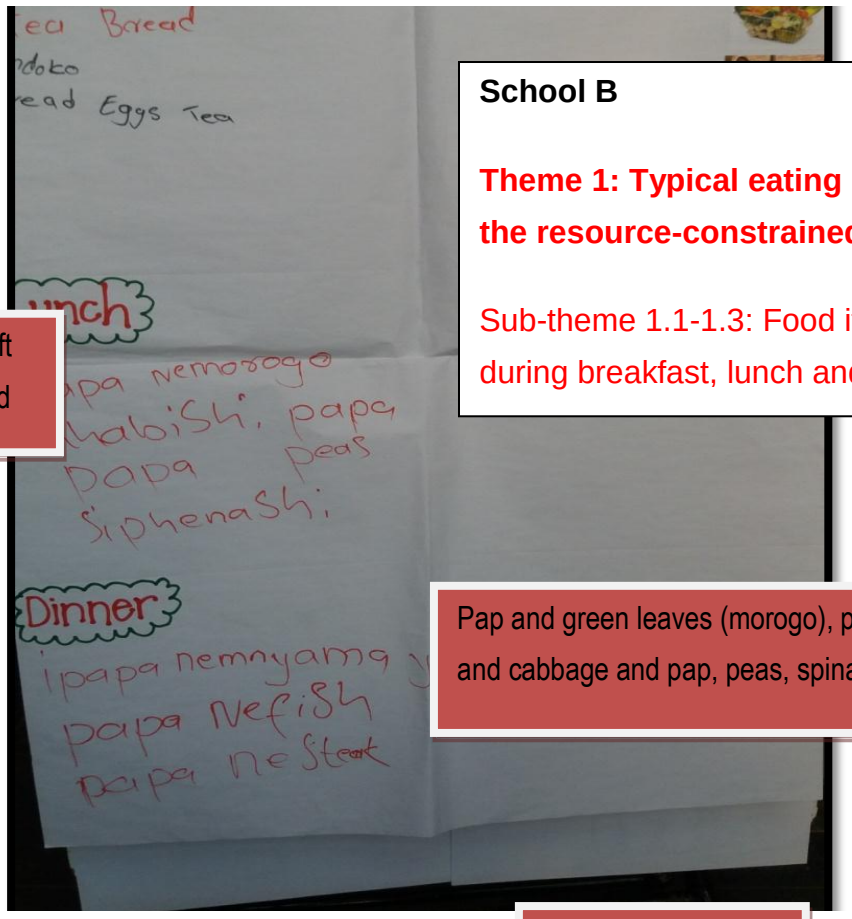
Theme 3: Food production practices in resource-constrained community.

Sub-theme 3.2: Food production methods

School A

Theme 3: Food production practices in resource-constrained community.

Sub-theme 3.3: Information and skills required by parents



School B

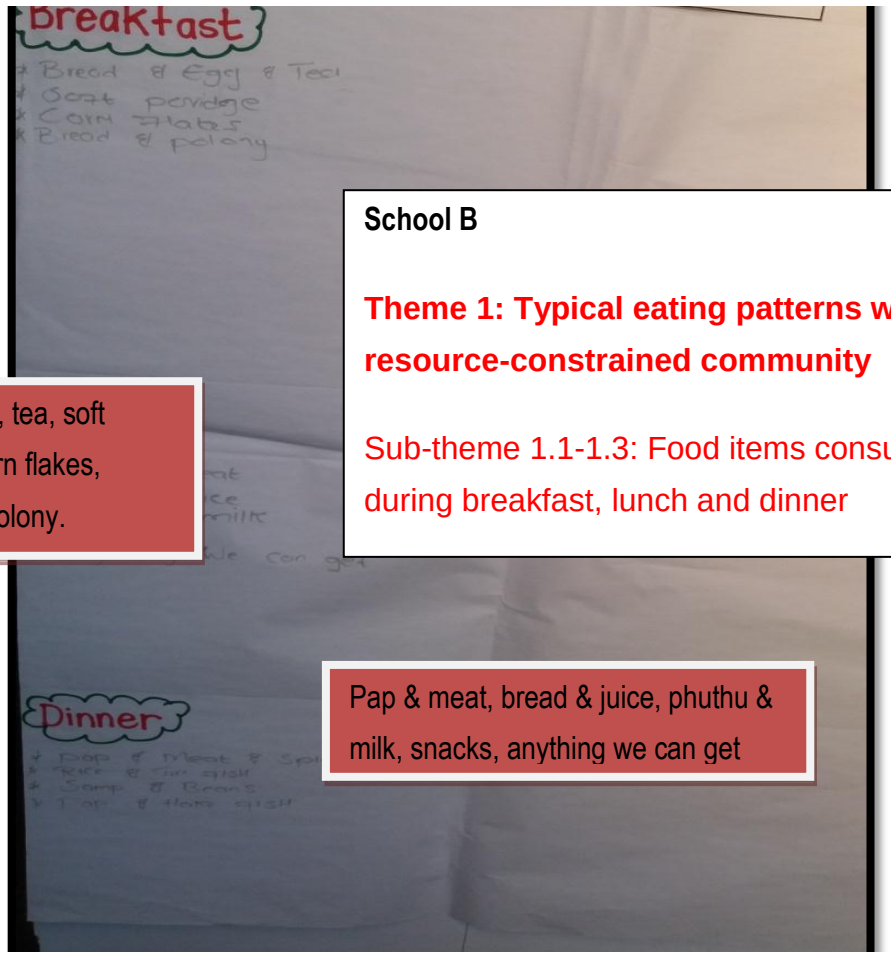
Theme 1: Typical eating patterns within the resource-constrained community

Sub-theme 1.1-1.3: Food items consumed during breakfast, lunch and dinner

Tea Bread, soft porridge, bread

Pap and green leaves (morogo), pap and cabbage and pap, peas, spinach

Pap and beef, pap and fish, pap and steak



School B

Theme 1: Typical eating patterns within the resource-constrained community

Sub-theme 1.1-1.3: Food items consumed during breakfast, lunch and dinner

Bread, eggs, tea, soft porridge, corn flakes, bread and polony.

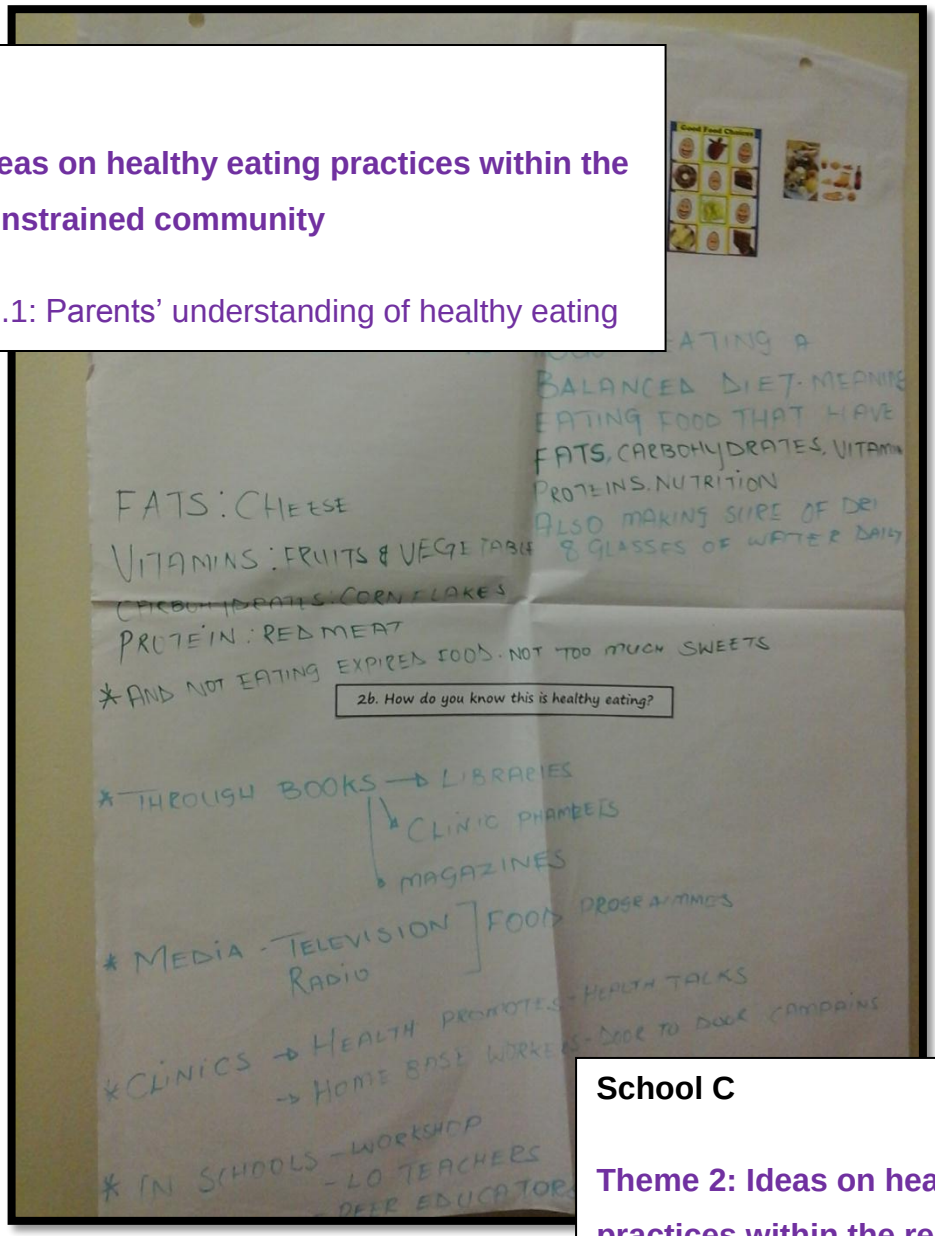
Pap & meat, bread & juice, phuthu & milk, snacks, anything we can get

Pap, meat and spinach, rice and tin fish, samp and beans, pap and fish

School C

Theme 2: Ideas on healthy eating practices within the resource-constrained community

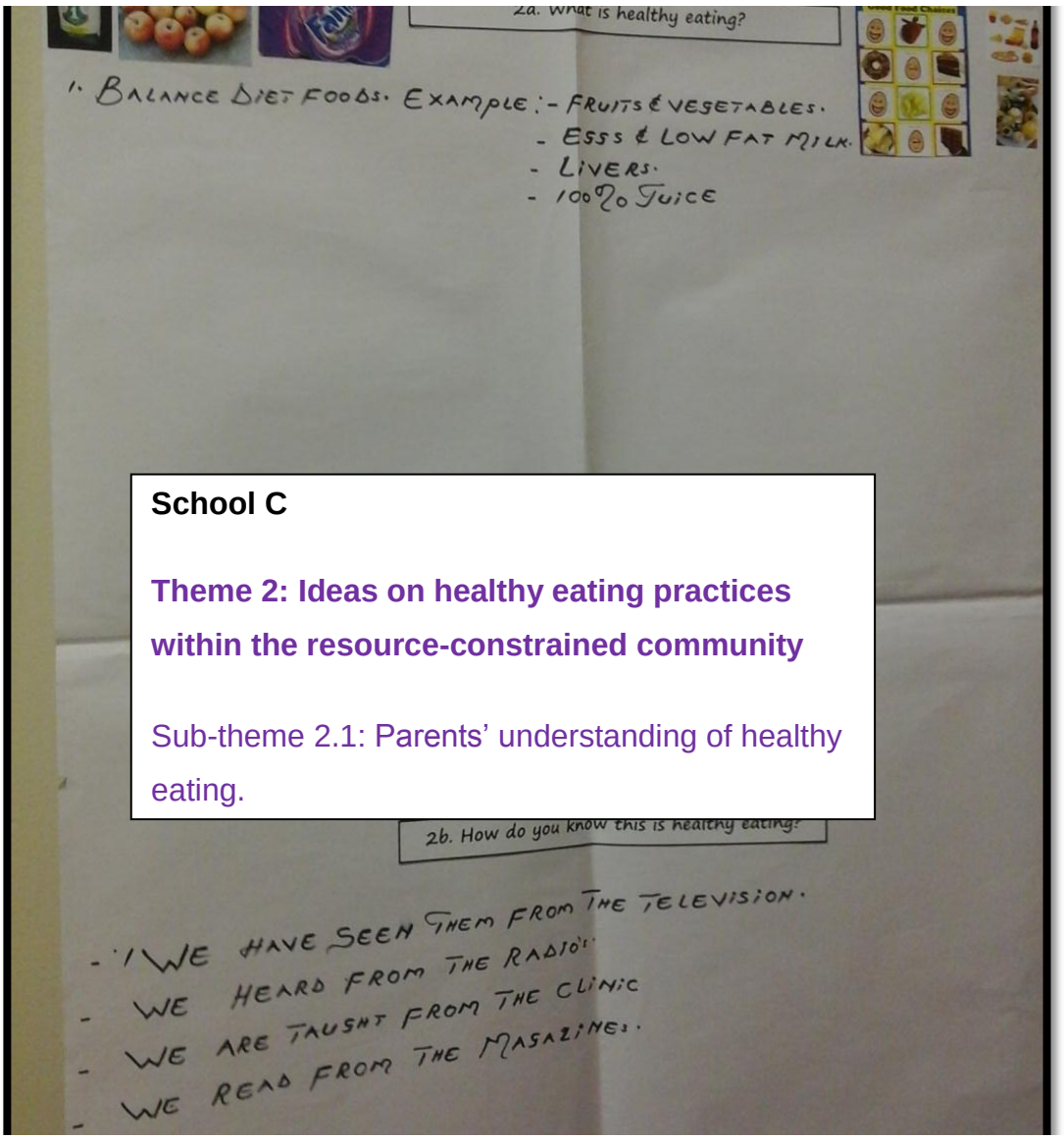
Sub-theme 2.1: Parents' understanding of healthy eating



School C

Theme 2: Ideas on healthy eating practices within the resource-constrained community

Sub-theme 2.2: Available resources to inform healthy eating practices



School C

Theme 2: Ideas on healthy eating practices within the resource-constrained community

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School C

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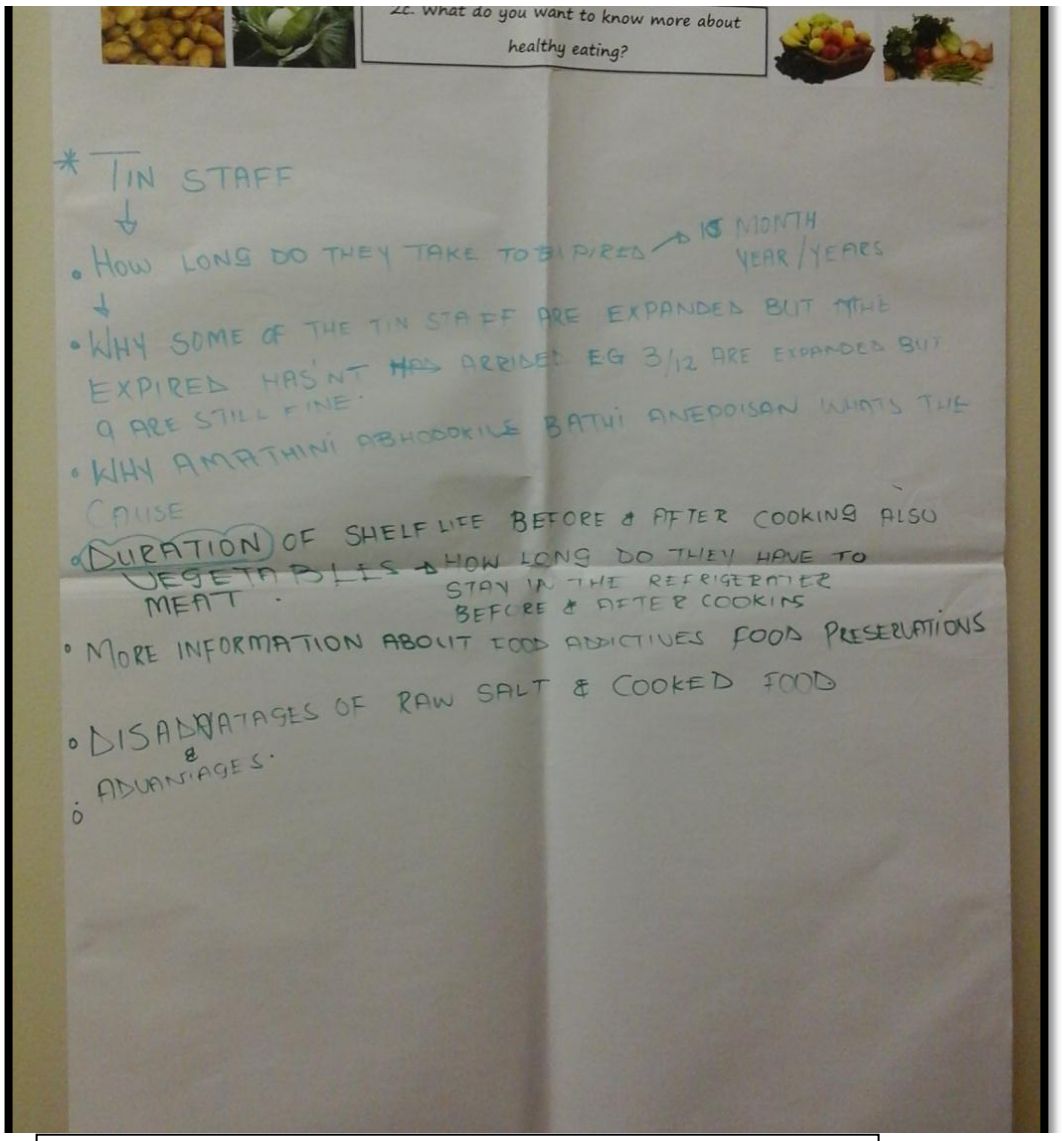
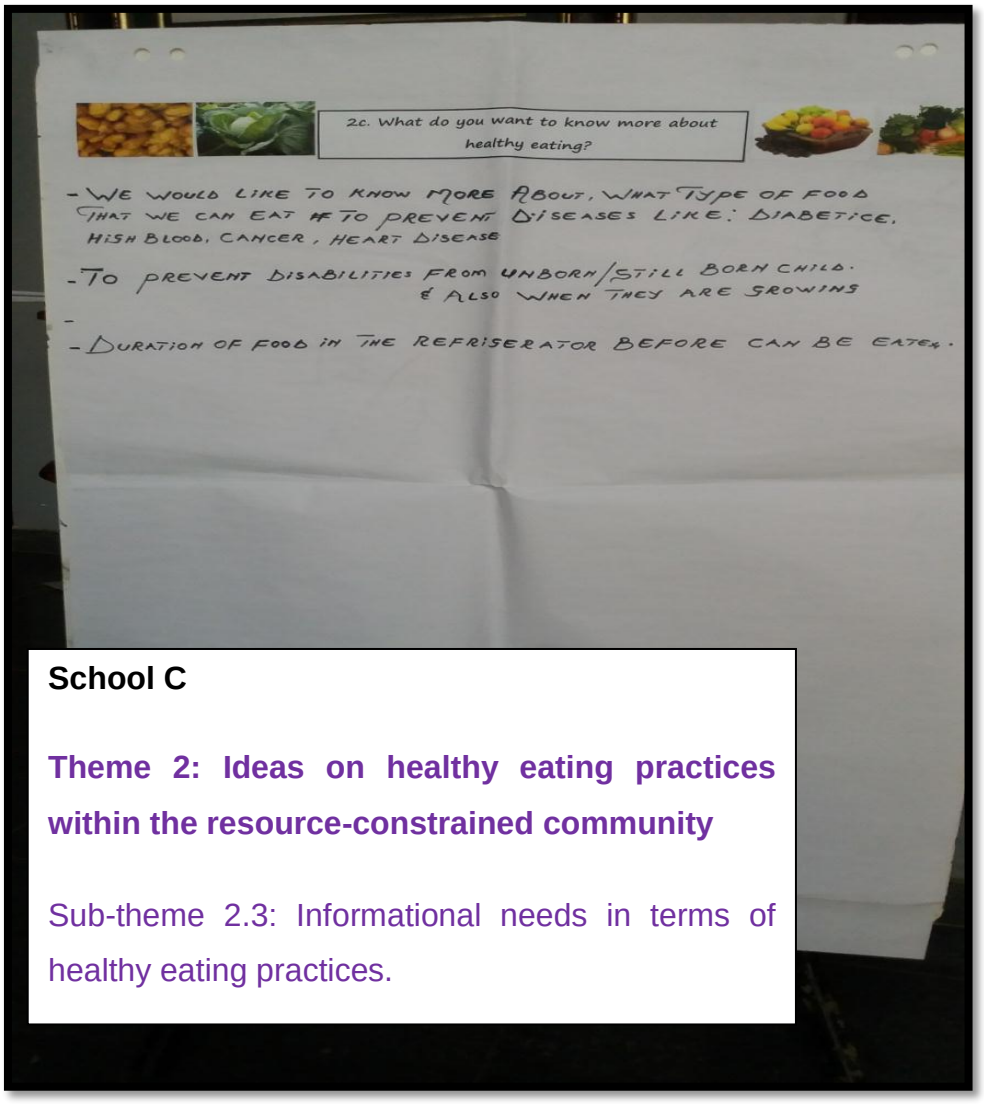


School C

Theme 2: Ideas on healthy eating practices within the resource-constrained community

Sub-theme 2.3: Informational needs in terms of healthy eating practices.



School C

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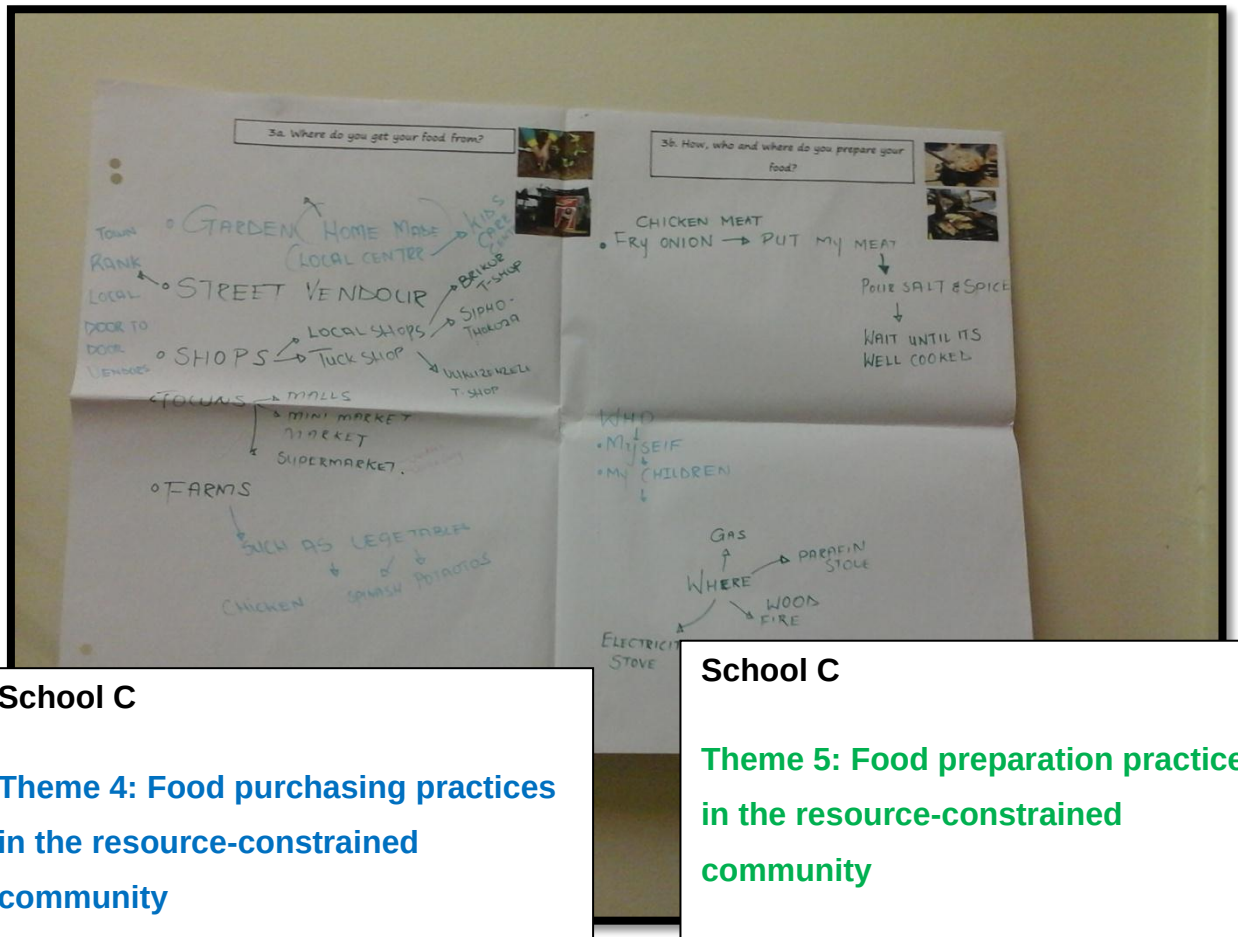


School C

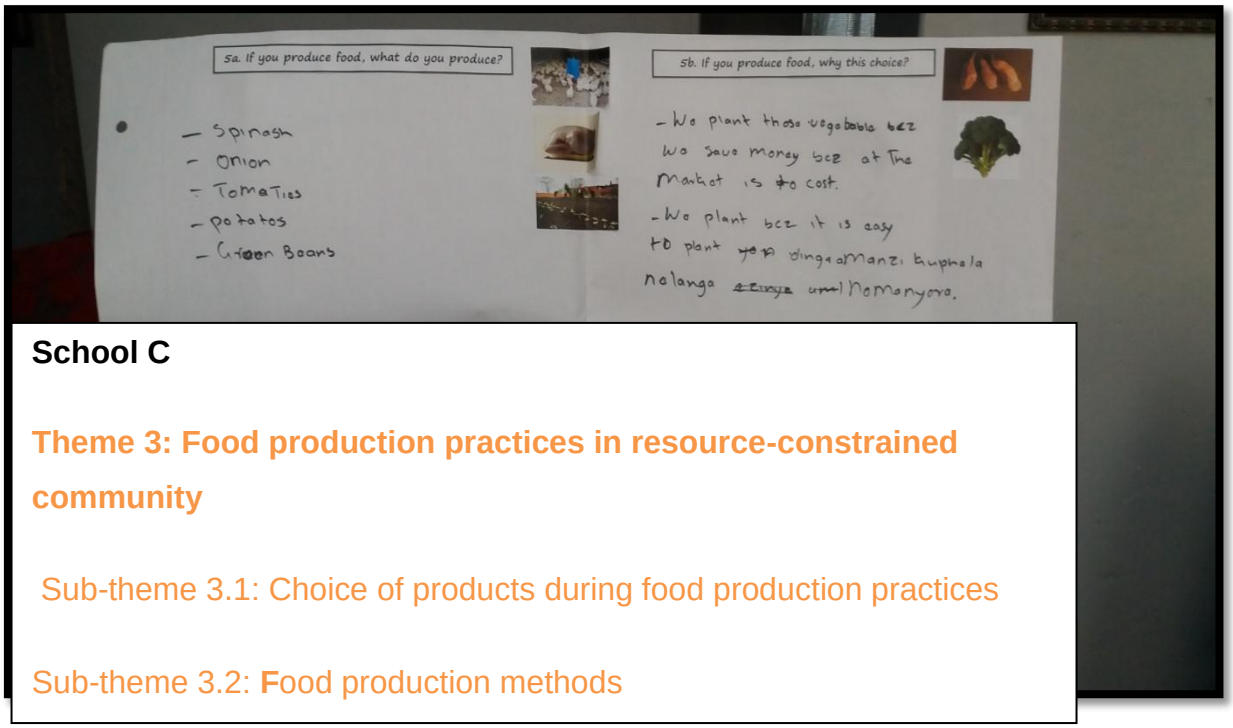
Theme 4: Food purchasing practices in the resource-constrained community

Sub-theme 4.1: Choice of food supplier

School C

Theme 5: Food preparation practices in the resource-constrained community

Sub-theme 5.2: People responsible for food preparation



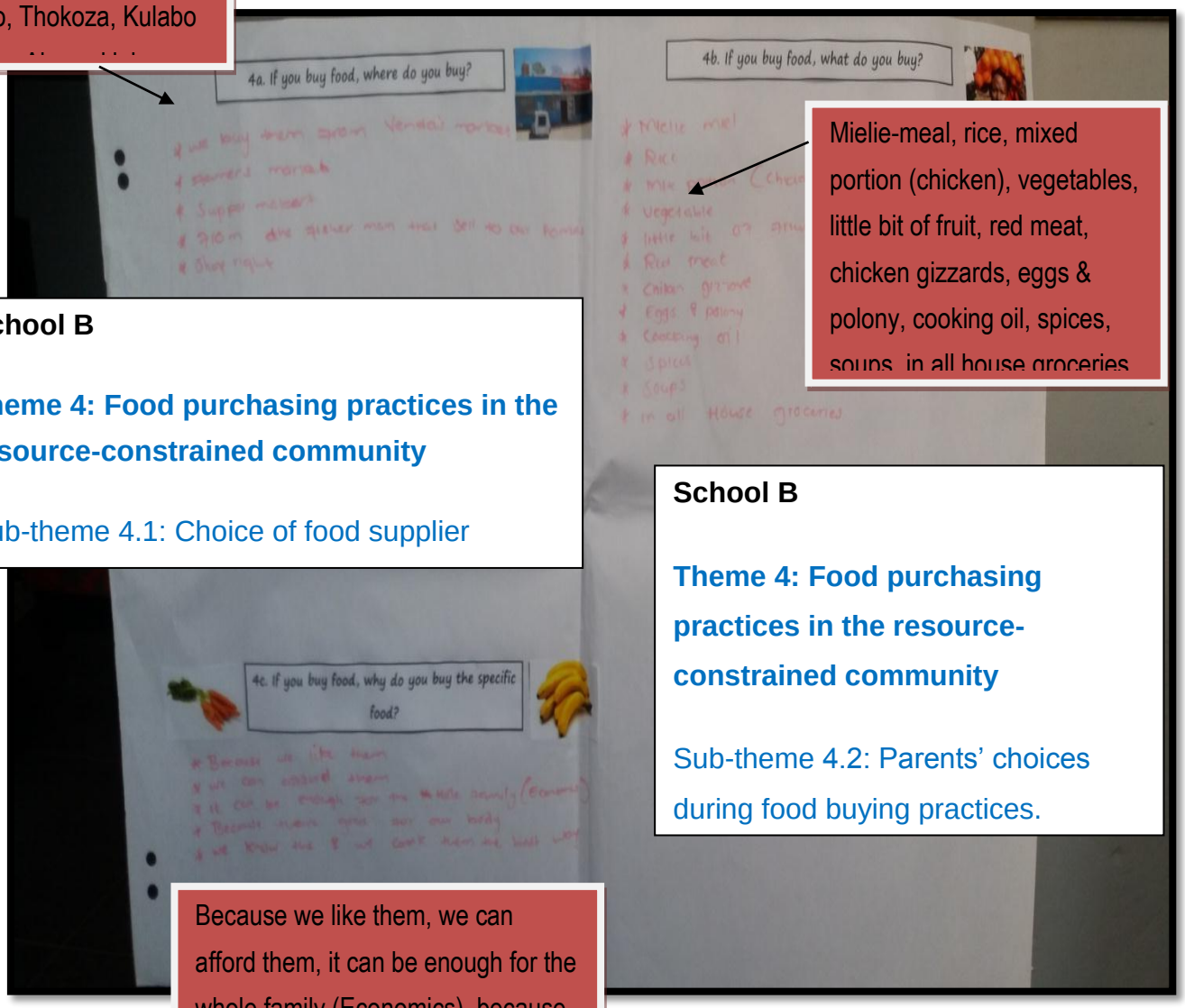
School C

Theme 3: Food production practices in resource-constrained community

Sub-theme 3.1: Choice of products during food production practices

Sub-theme 3.2: **F**ood production methods

Tuck shop, Varuku, Sipho, Thokoza, Kulabo



Mielie-meal, rice, mixed portion (chicken), vegetables, little bit of fruit, red meat, chicken gizzards, eggs & polony, cooking oil, spices, soups, in all house groceries

School B

Theme 4: Food purchasing practices in the resource-constrained community

Sub-theme 4.1: Choice of food supplier

School B

Theme 4: Food purchasing practices in the resource-constrained community

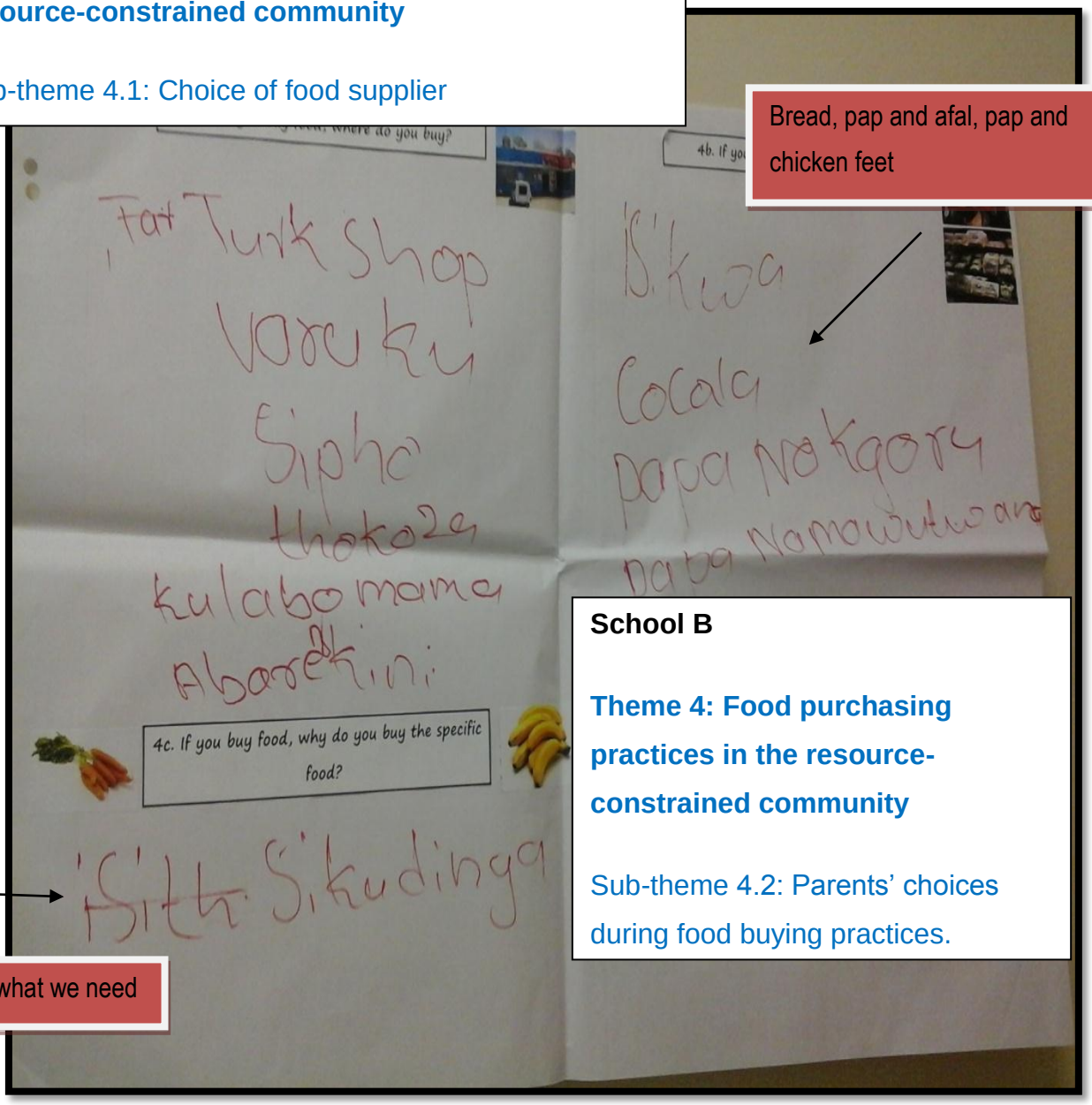
Sub-theme 4.2: Parents' choices during food buying practices.

Because we like them, we can afford them, it can be enough for the whole family (Economics), because they are good for the body, we know that we can cook the m the best way

School B

Theme 4: Food purchasing practices in the resource-constrained community

Sub-theme 4.1: Choice of food supplier



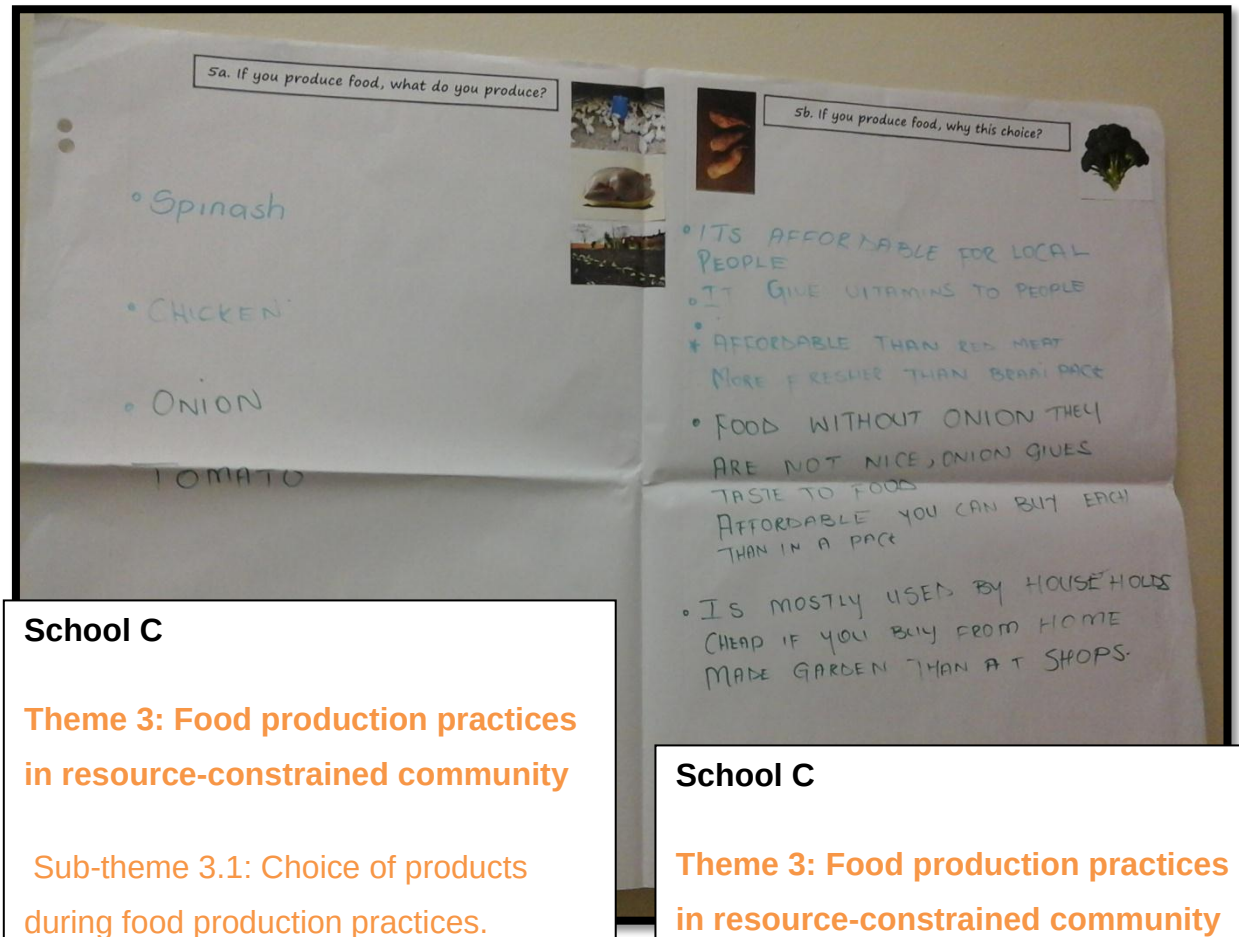
Bread, pap and afal, pap and chicken feet

Is what we need

School B

Theme 4: Food purchasing practices in the resource-constrained community

Sub-theme 4.2: Parents' choices during food buying practices.



School C

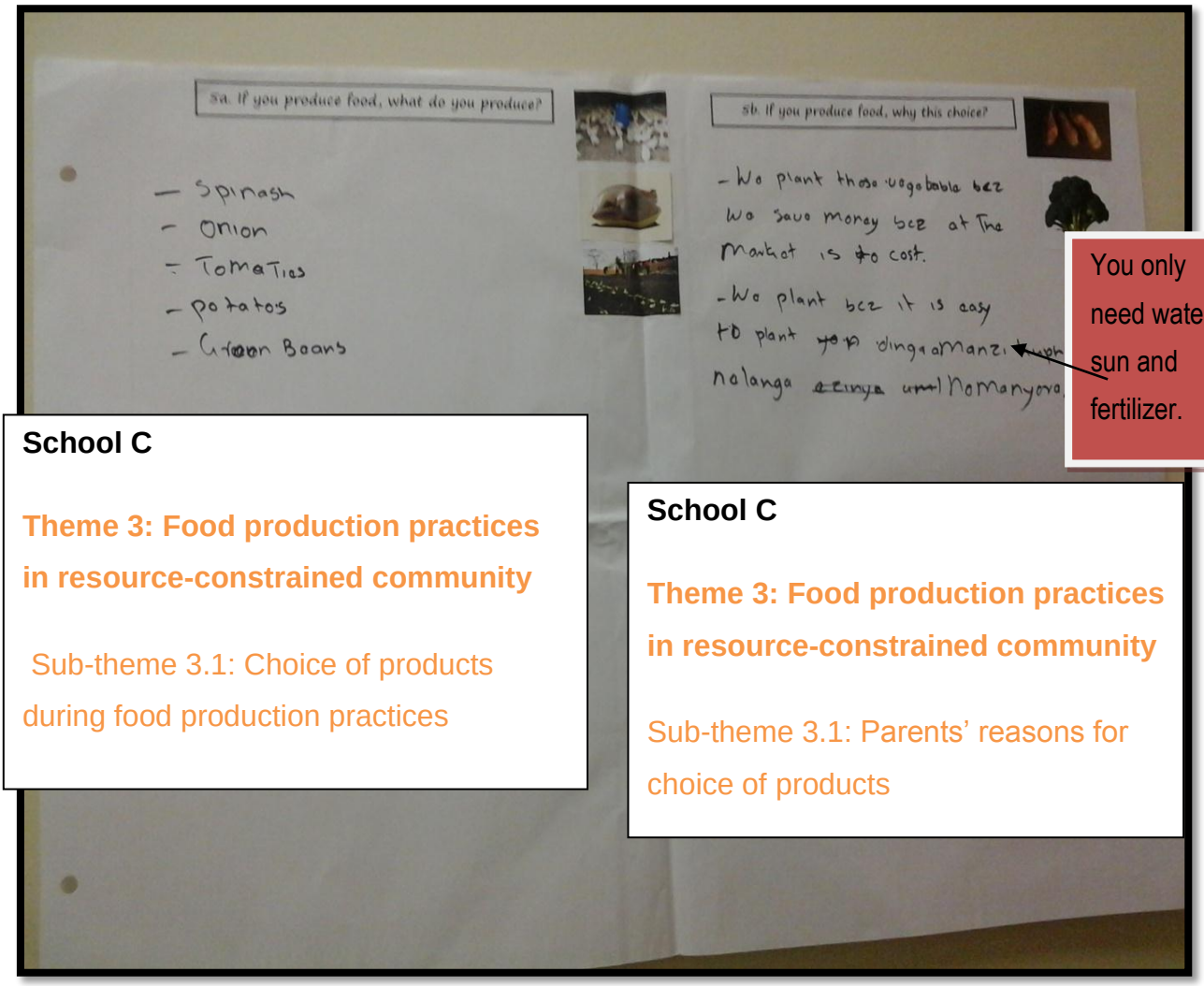
Theme 3: Food production practices in resource-constrained community

Sub-theme 3.1: Choice of products during food production practices.

School C

Theme 3: Food production practices in resource-constrained community

Sub-theme 3.1: Parents' reasons for choice of products



School C

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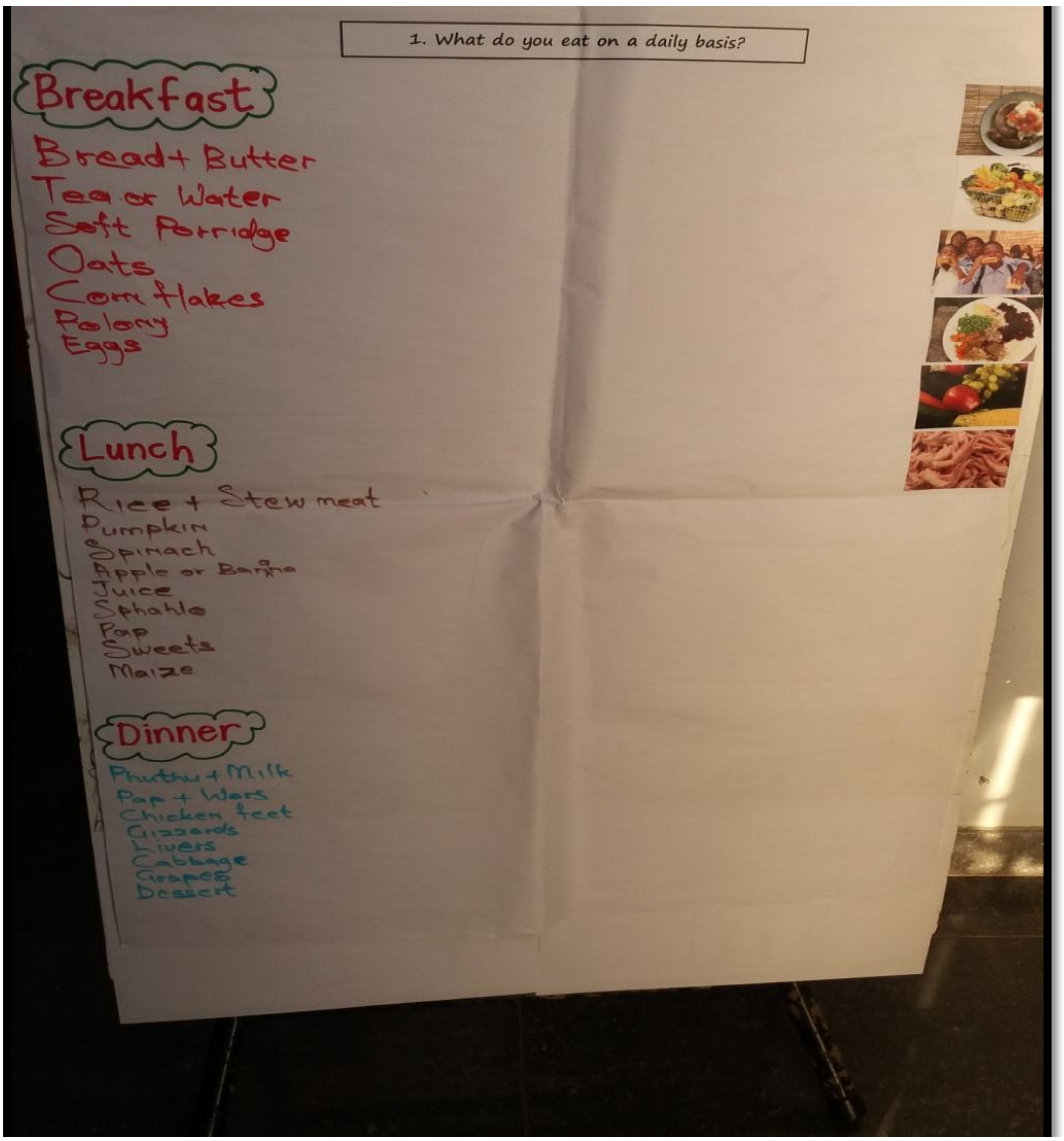
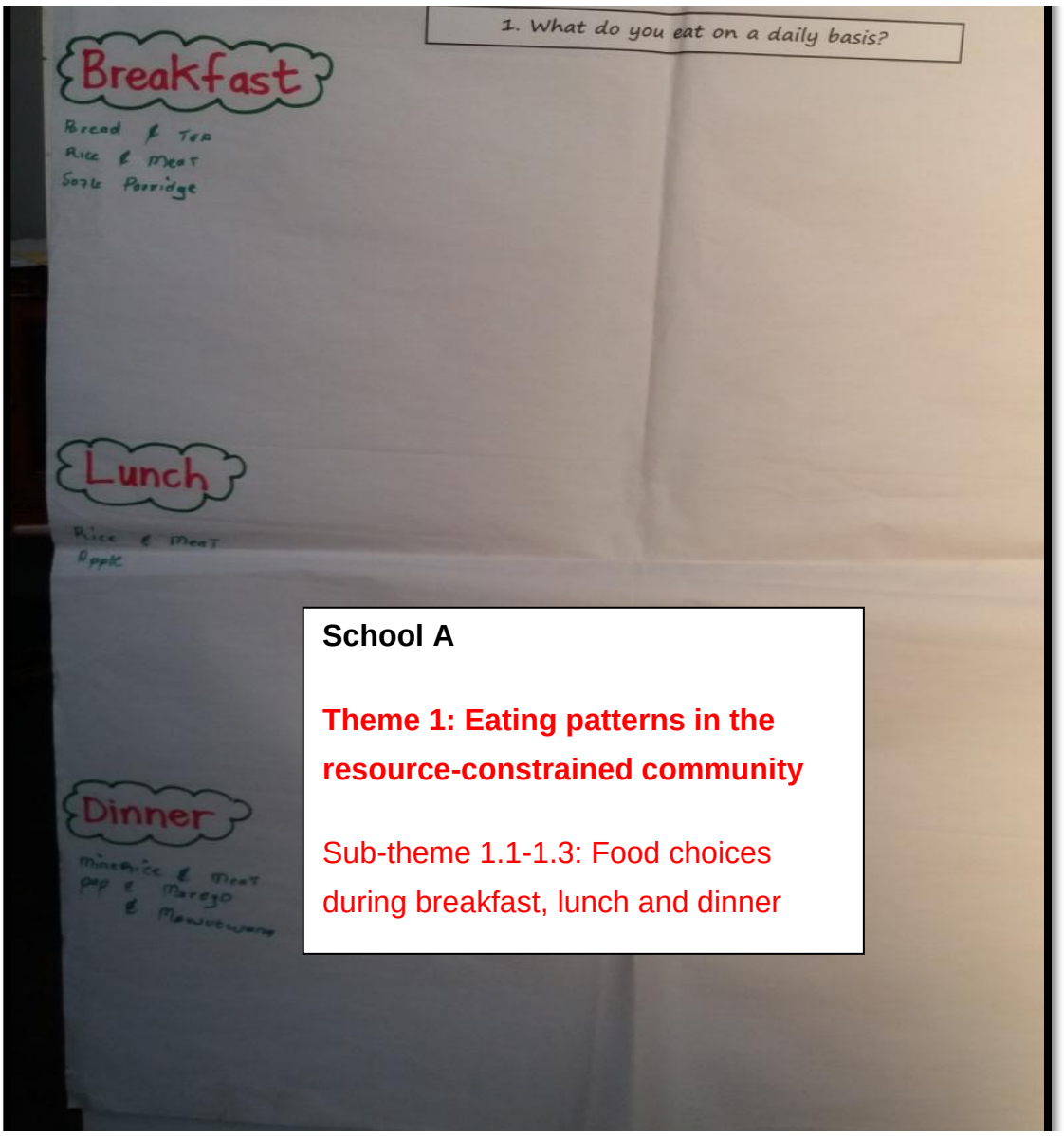


School A

Theme 1: Eating patterns in the resource-constrained community

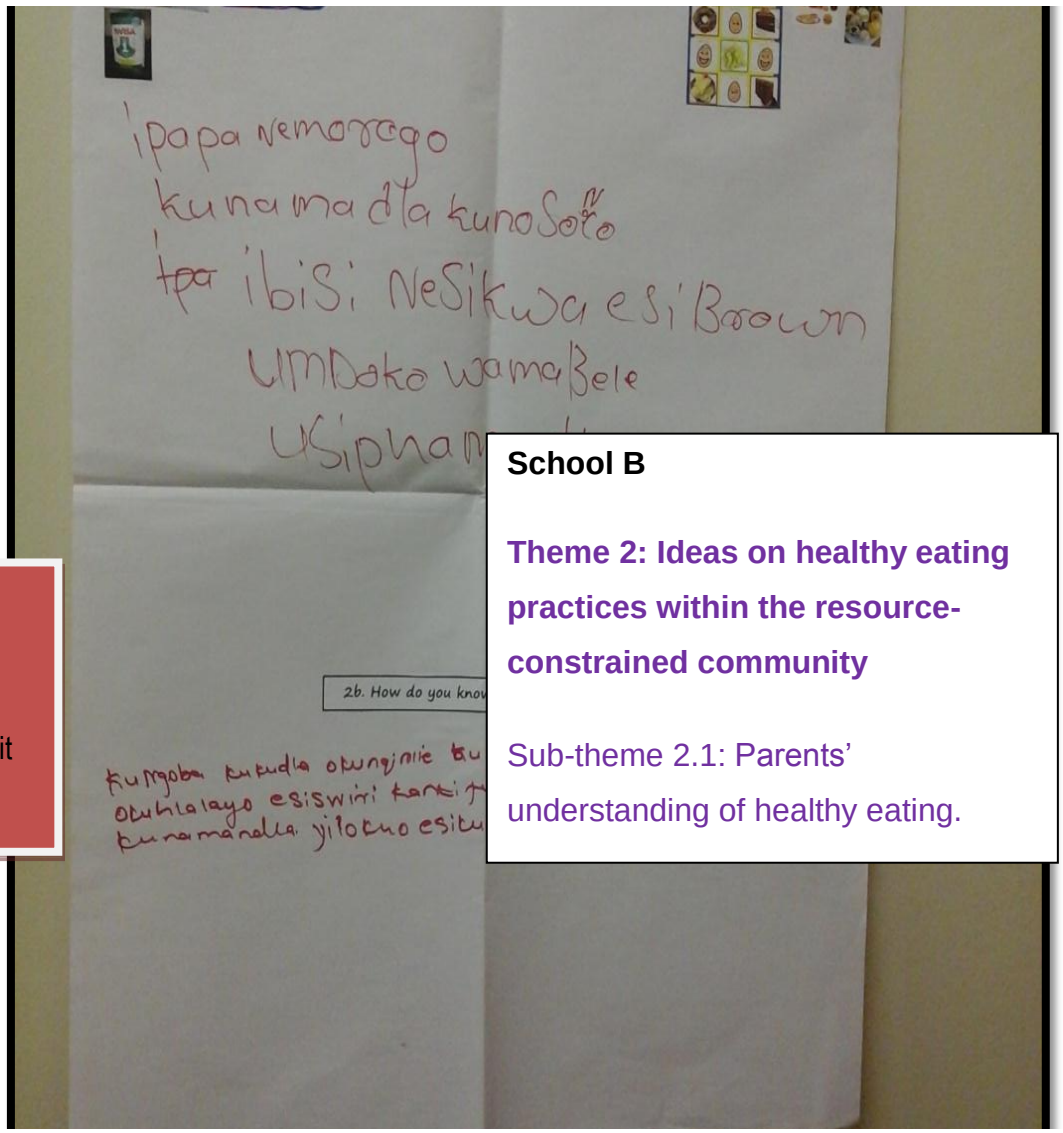
Sub-theme 1.1-1.3: Food choices during breakfast, lunch and dinner



School A

Theme 1: Eating patterns in the resource-constrained community

Sub-theme 1.1-1.3: Food choices during breakfast, lunch and dinner



Pap and morogo, have strength and nutrition, milk and brown bread, sorghum soft porridge, it gives us strength.

School B

Theme 2: Ideas on healthy eating practices within the resource-constrained community

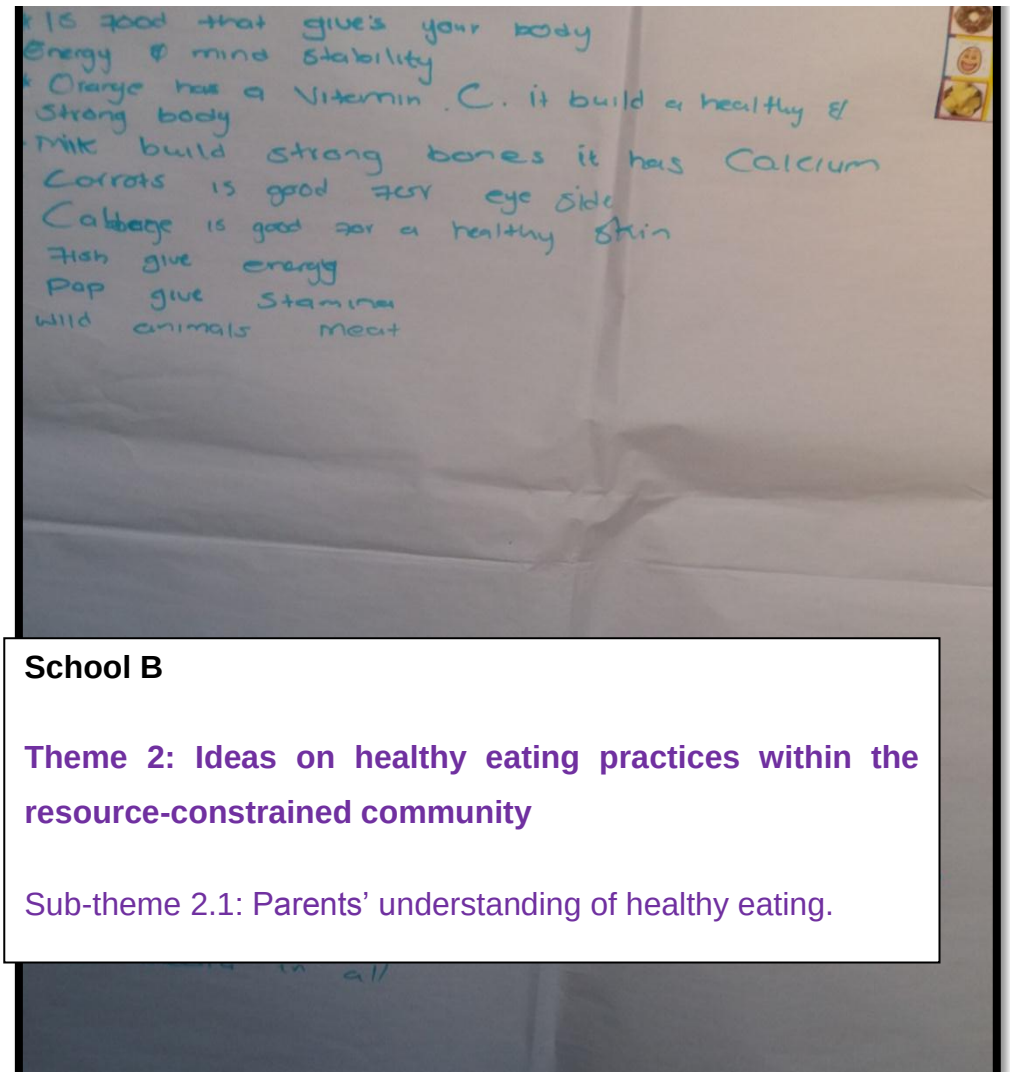
Sub-theme 2.1: Parents' understanding of healthy eating.

Because is food that is strong for a person, keeps you full for long, it is what we eat at home

School B

Theme 2: Ideas on healthy eating practices within the resource-constrained community

Sub-theme 2.2: Available resources to inform healthy eating practices.



School B

Theme 2: Ideas on healthy eating practices within the resource-constrained community

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School: B

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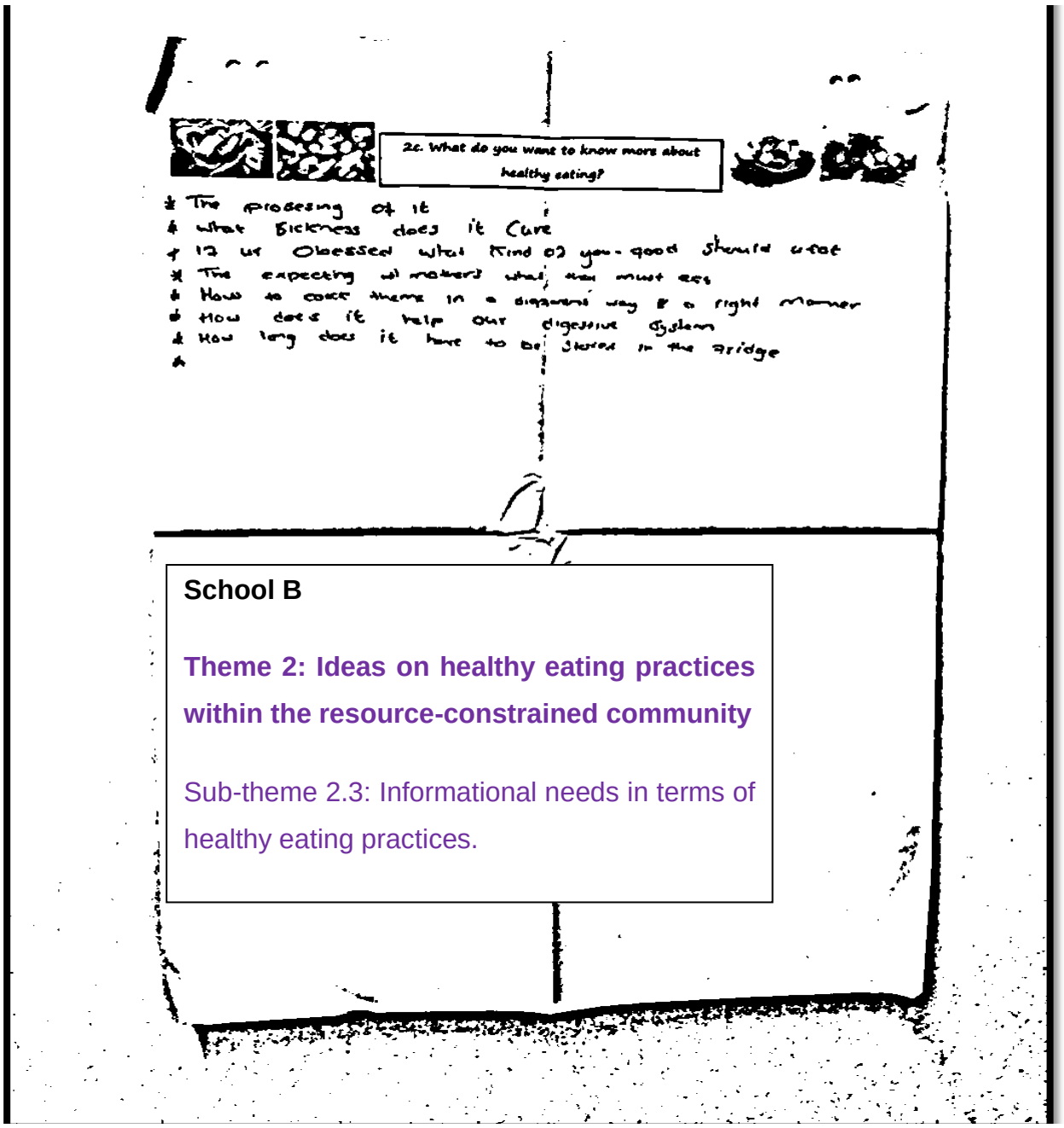
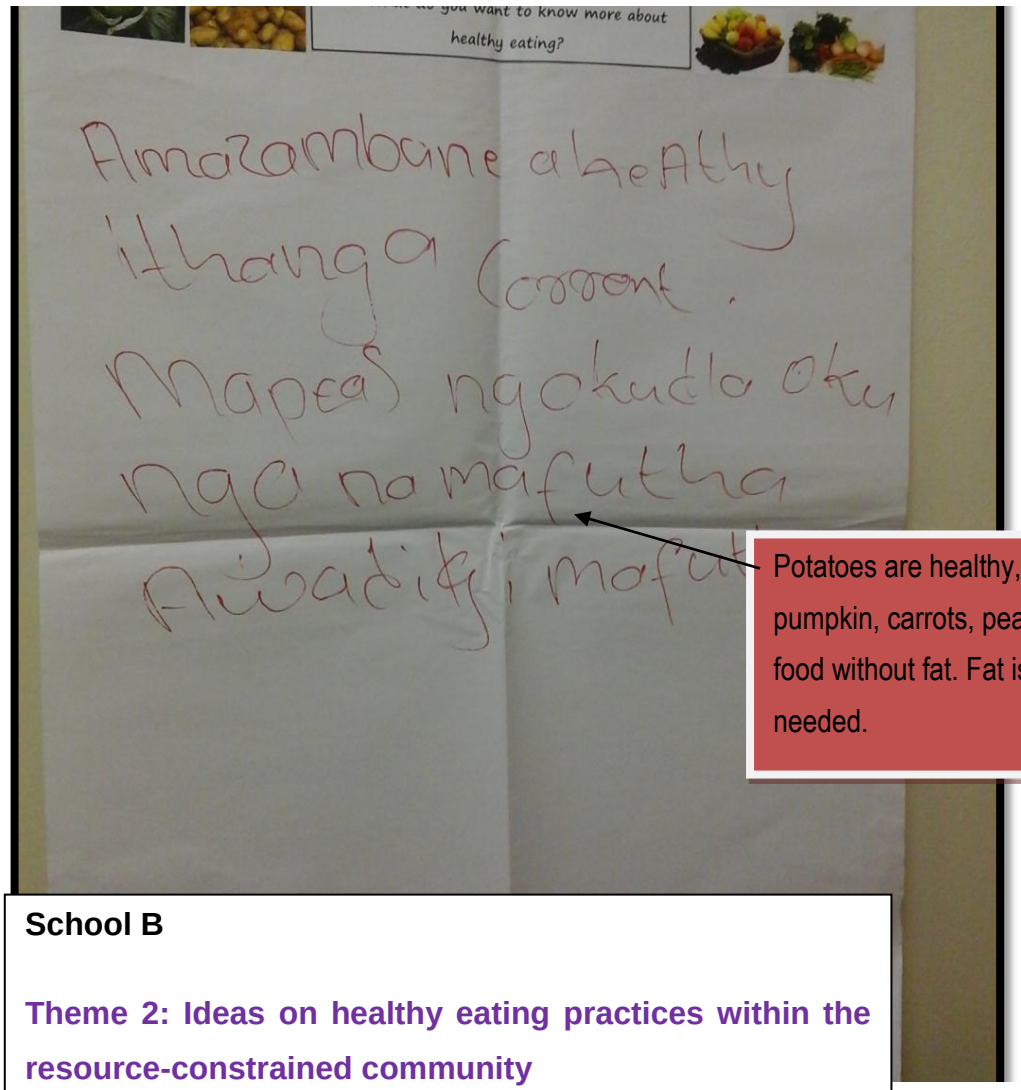


School B

Theme 2: Ideas on healthy eating practices within the resource-constrained community

Sub-theme 2.3: Informational needs in terms of healthy eating practices.

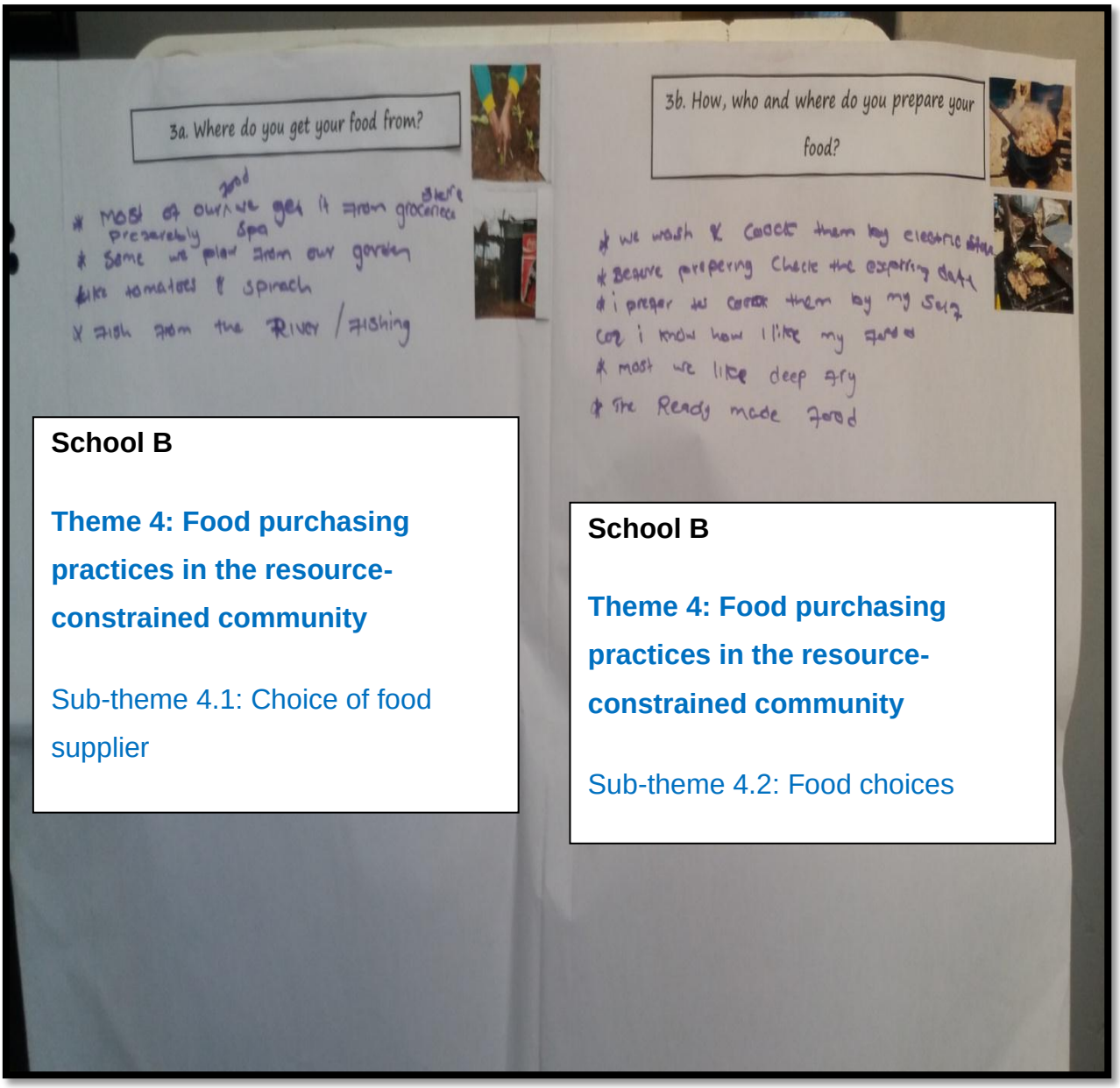


Potatoes are healthy, pumpkin, carrots, peas, is food without fat. Fat is not needed.

School B

Theme 2: Ideas on healthy eating practices within the resource-constrained community

Sub-theme 2.3: Informational needs in terms of healthy eating practices.



School B

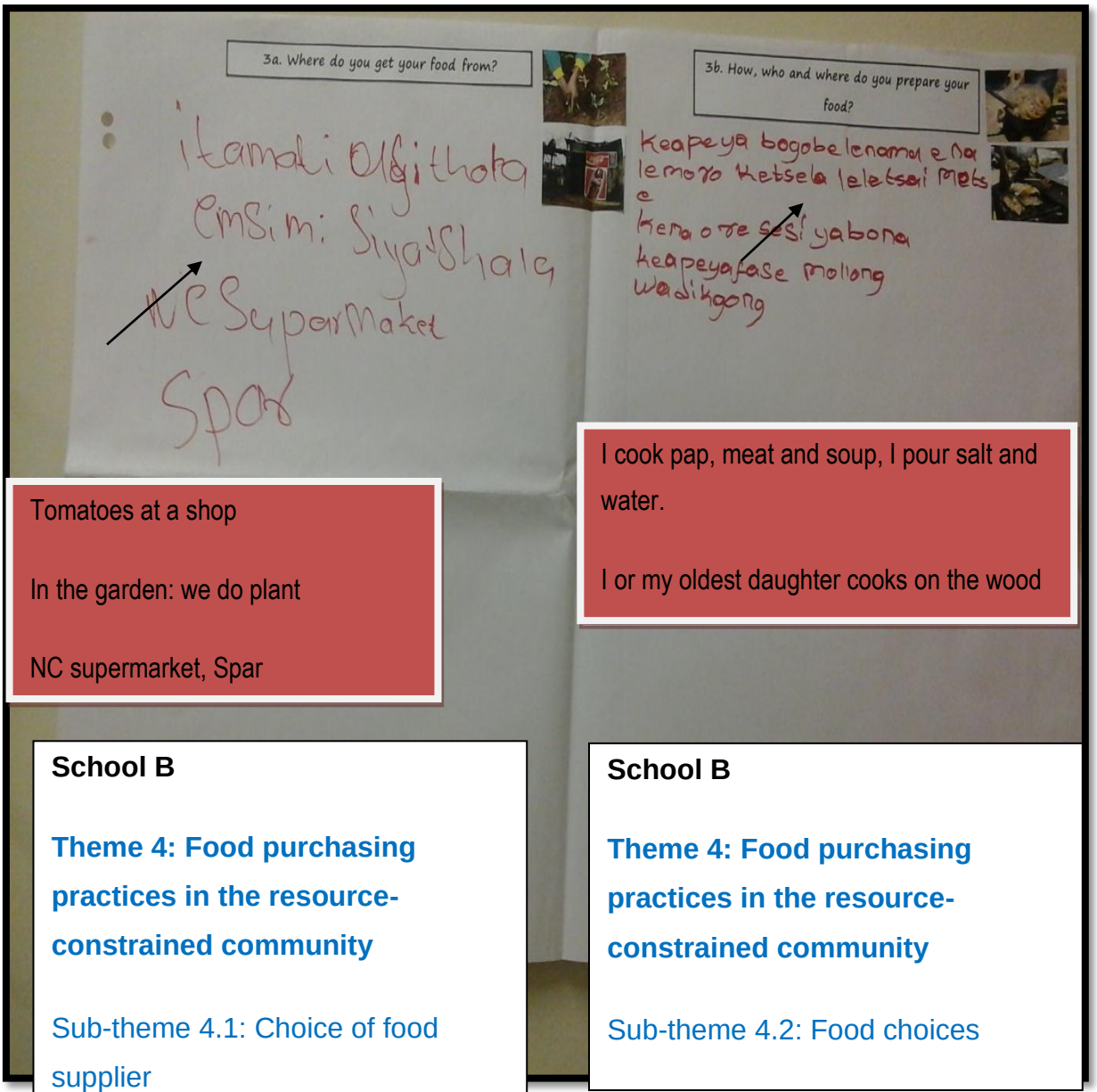
Theme 4: Food purchasing practices in the resource-constrained community

Sub-theme 4.1: Choice of food supplier

School B

Theme 4: Food purchasing practices in the resource-constrained community

Sub-theme 4.2: Food choices



Tomatoes at a shop

In the garden: we do plant

NC supermarket, Spar

I cook pap, meat and soup, I pour salt and water.

I or my oldest daughter cooks on the wood

School B

Theme 4: Food purchasing practices in the resource-constrained community

Sub-theme 4.1: Choice of food supplier

School B

Theme 4: Food purchasing practices in the resource-constrained community

Sub-theme 4.2: Food choices

School B

Theme 4: Food buying practices in the resource-constrained community

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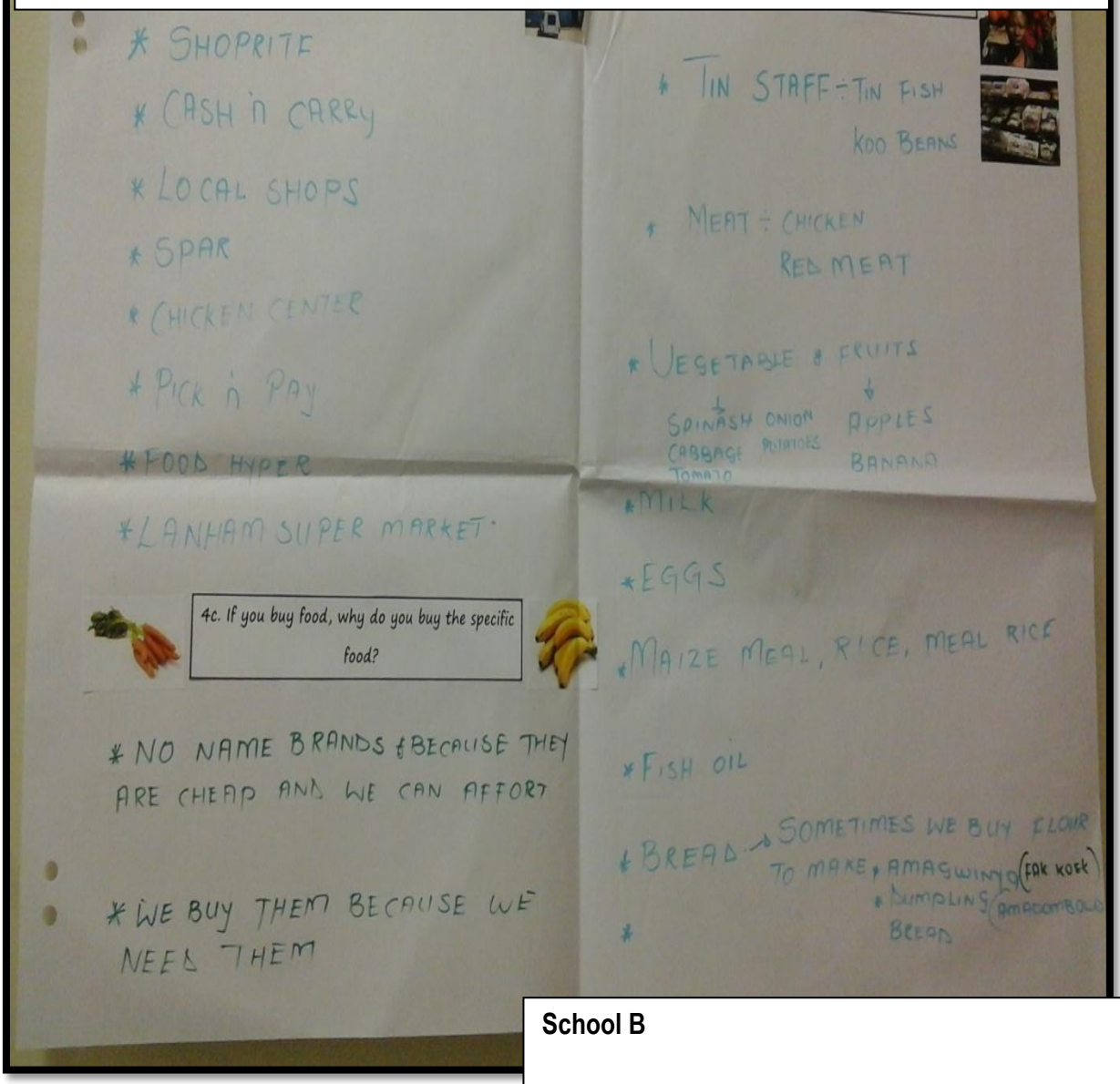


School B

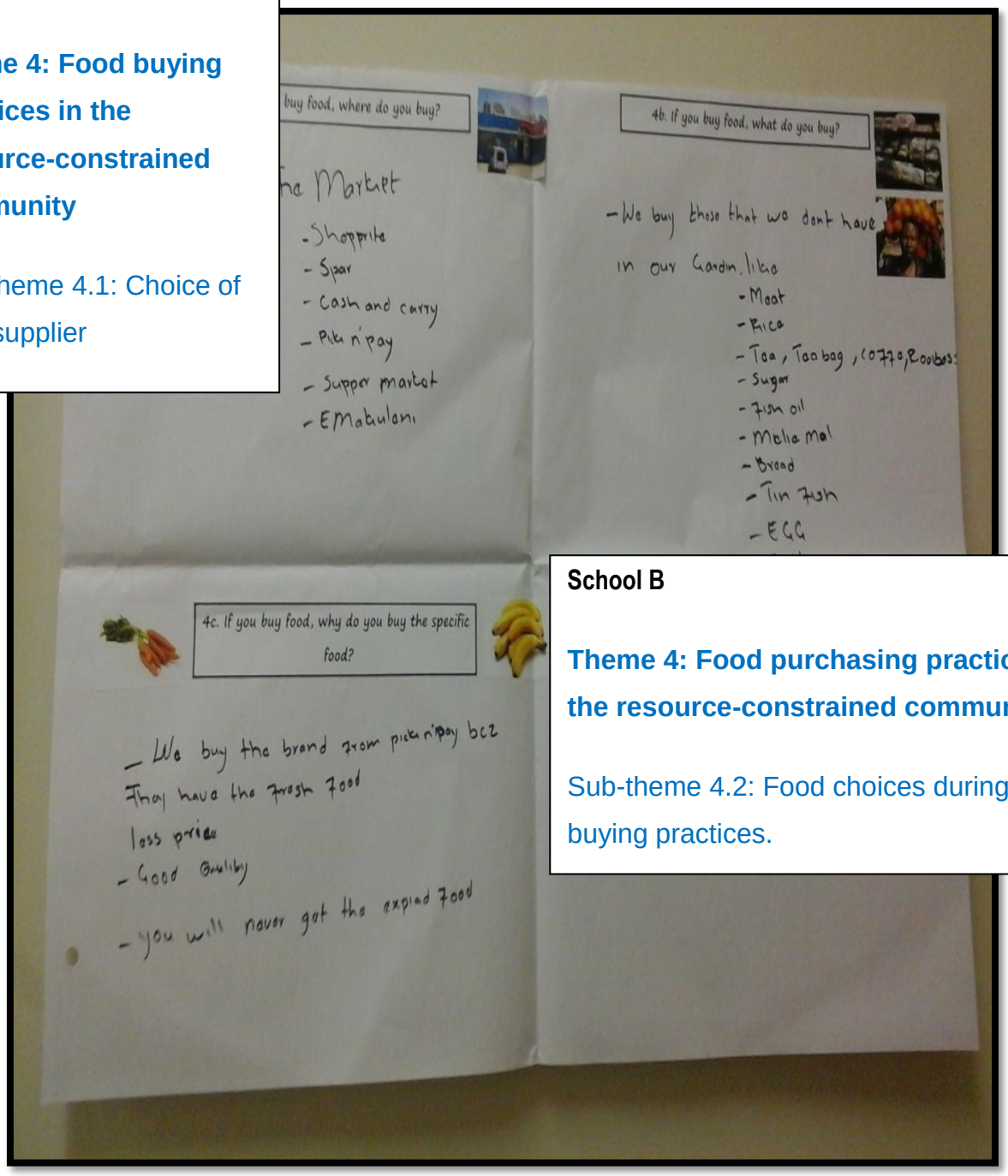
Theme 4: Food purchasing practices in the resource-constrained community

Sub-theme 4.2: Food choices during food buying practices.

School B

Theme 4: Food buying practices in the resource-constrained community

Sub-theme 4.1: Choice of food supplier



School B

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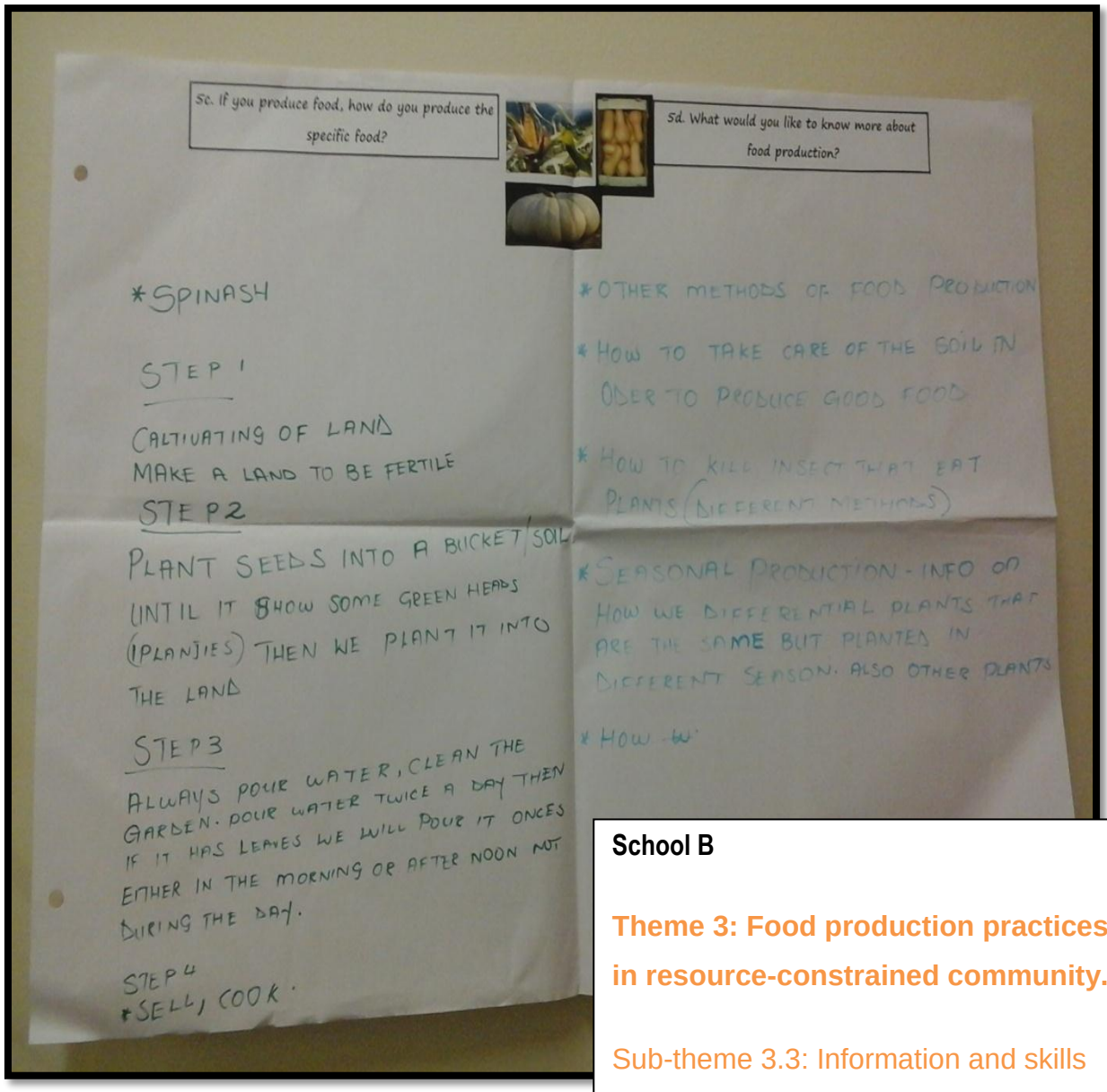
Sub-theme 4.2: Food choices during food buying practices.



School B

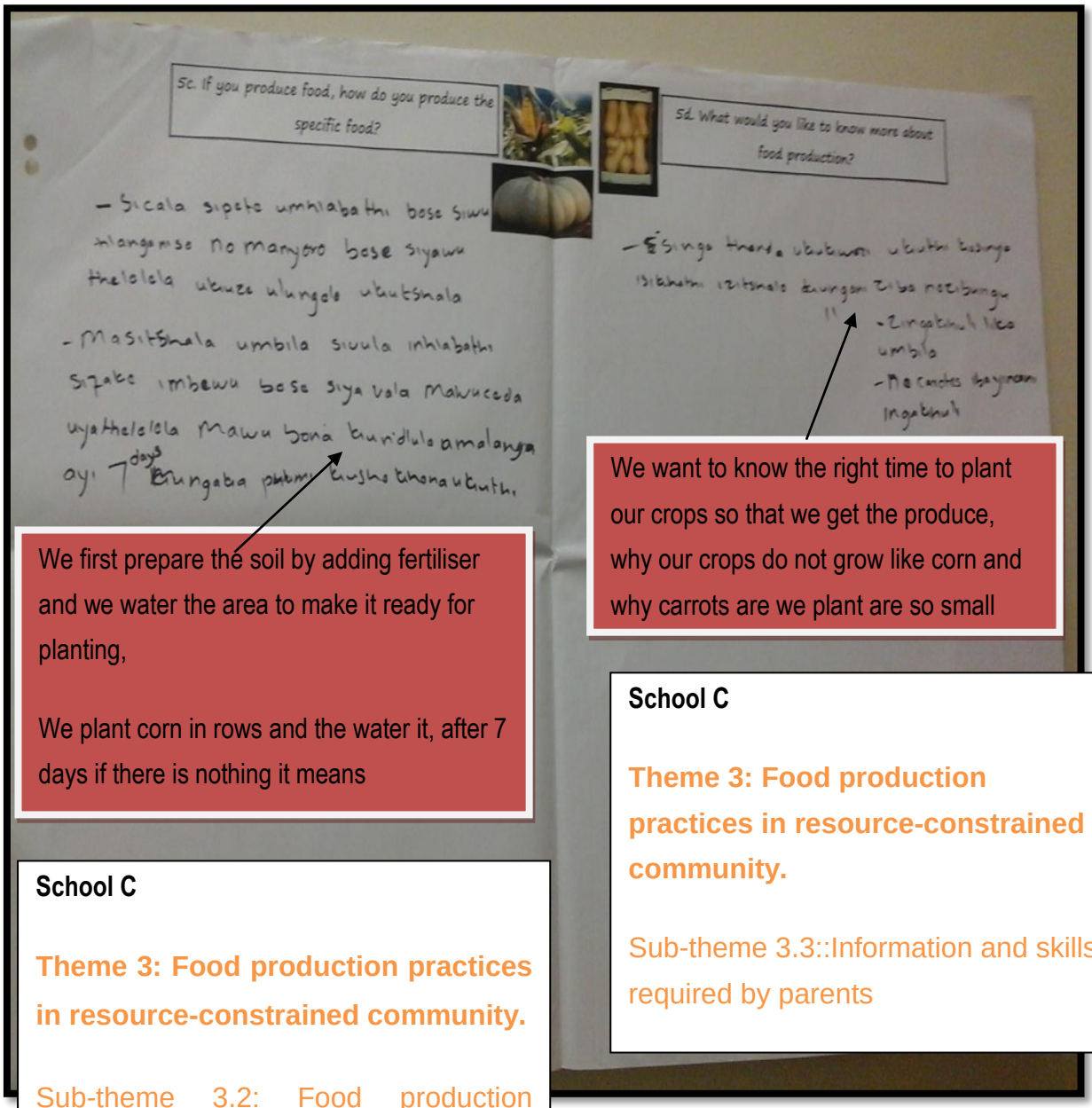
Theme 3: Food production practices in resource-constrained community.

Sub-theme 3.3: Information and skills required by parents

School B

Theme 3: Food production practices in resource-constrained community.

Sub-theme 3.2: Food production methods utilised during food production practices



School C

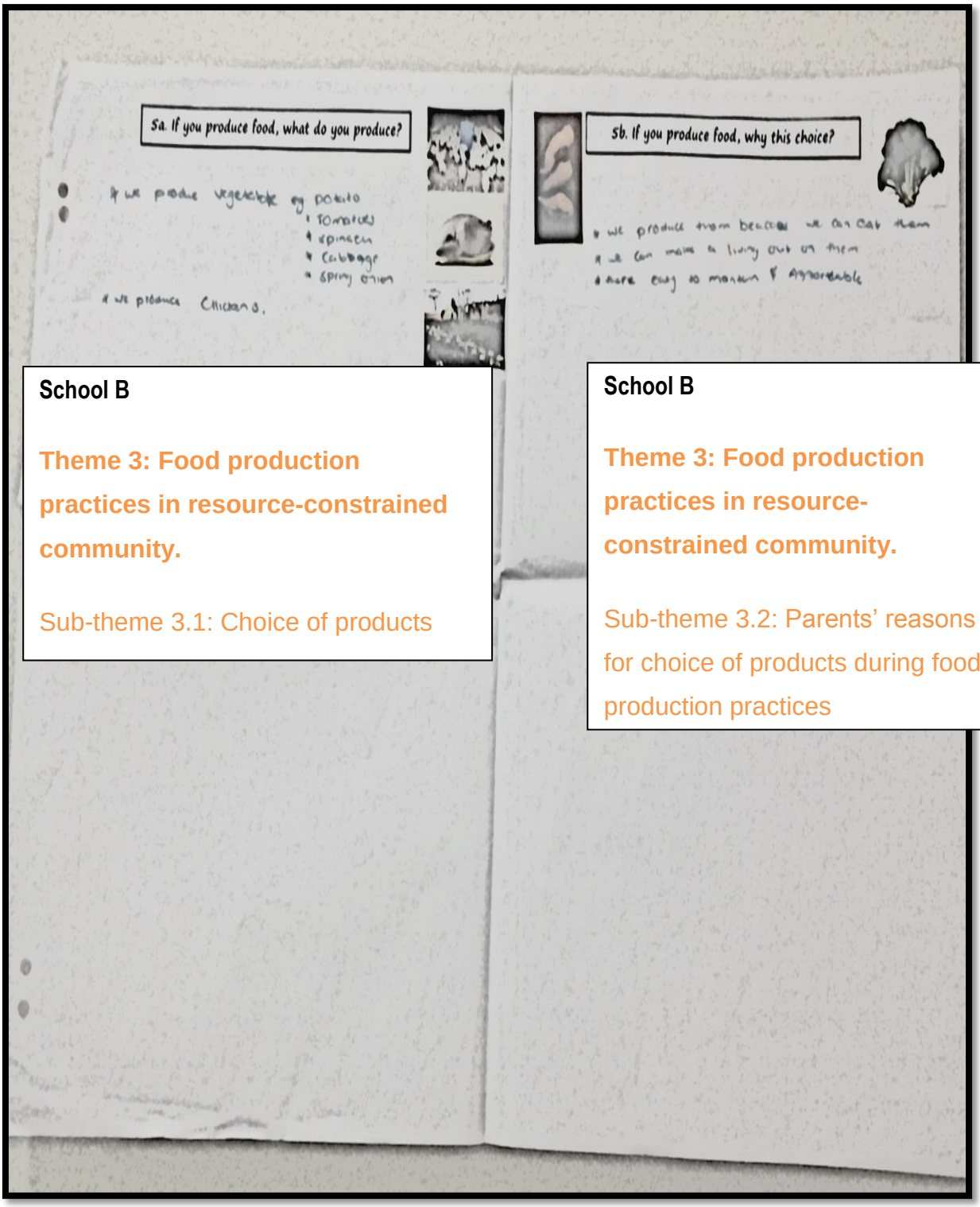
Theme 3: Food production practices in resource-constrained community.

Sub-theme 3.2: Food production methods utilised during food production practices.

School C

Theme 3: Food production practices in resource-constrained community.

Sub-theme 3.3::Information and skills required by parents



School B

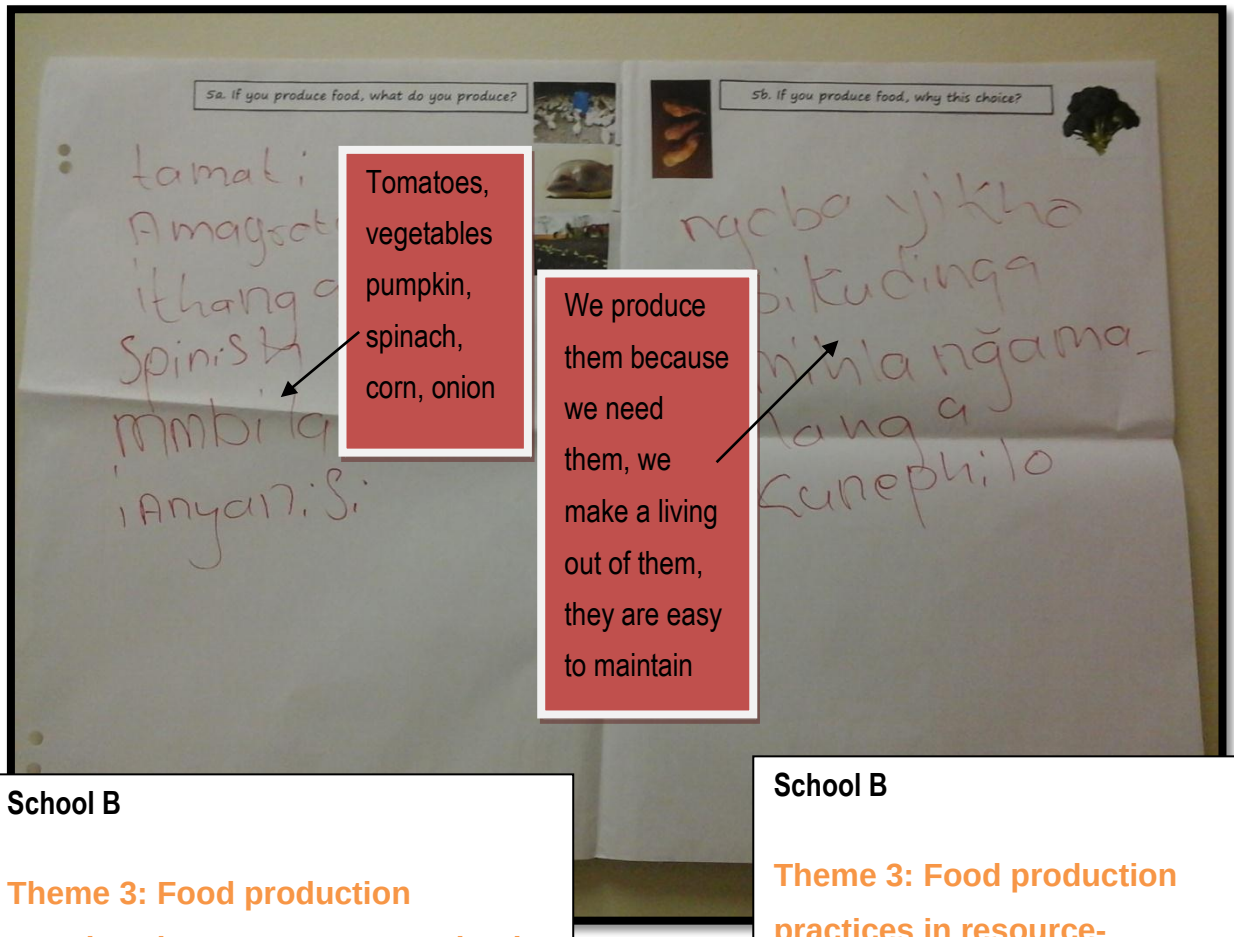
Theme 3: Food production practices in resource-constrained community.

Sub-theme 3.1: Choice of products

School B

Theme 3: Food production practices in resource-constrained community.

Sub-theme 3.2: Parents' reasons for choice of products during food production practices



School B

Theme 3: Food production practices in resource-constrained community.

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School B

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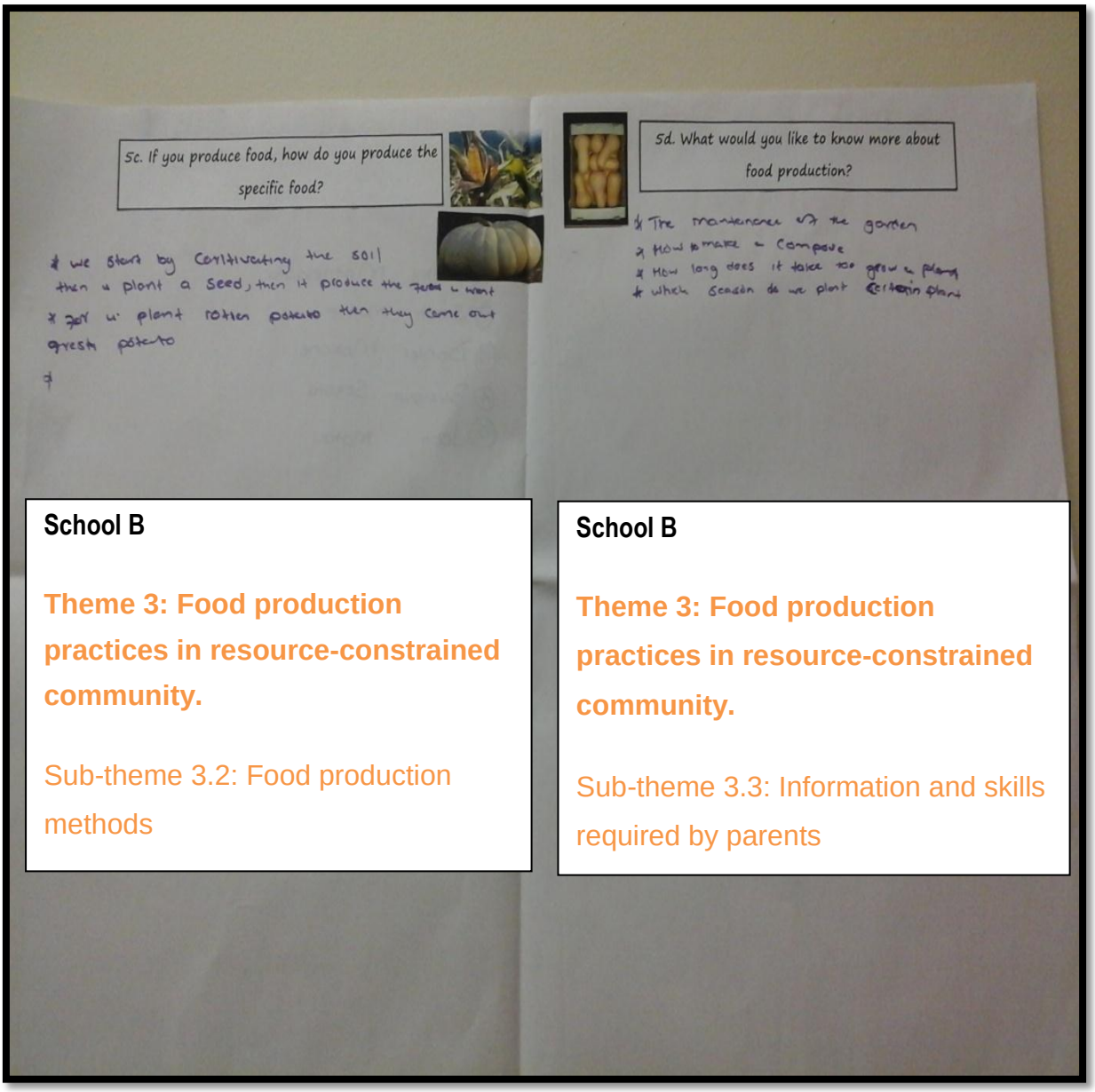

School B

Theme 3: Food production practices in resource-constrained community.

Sub-theme 3.2: Food production methods

School B

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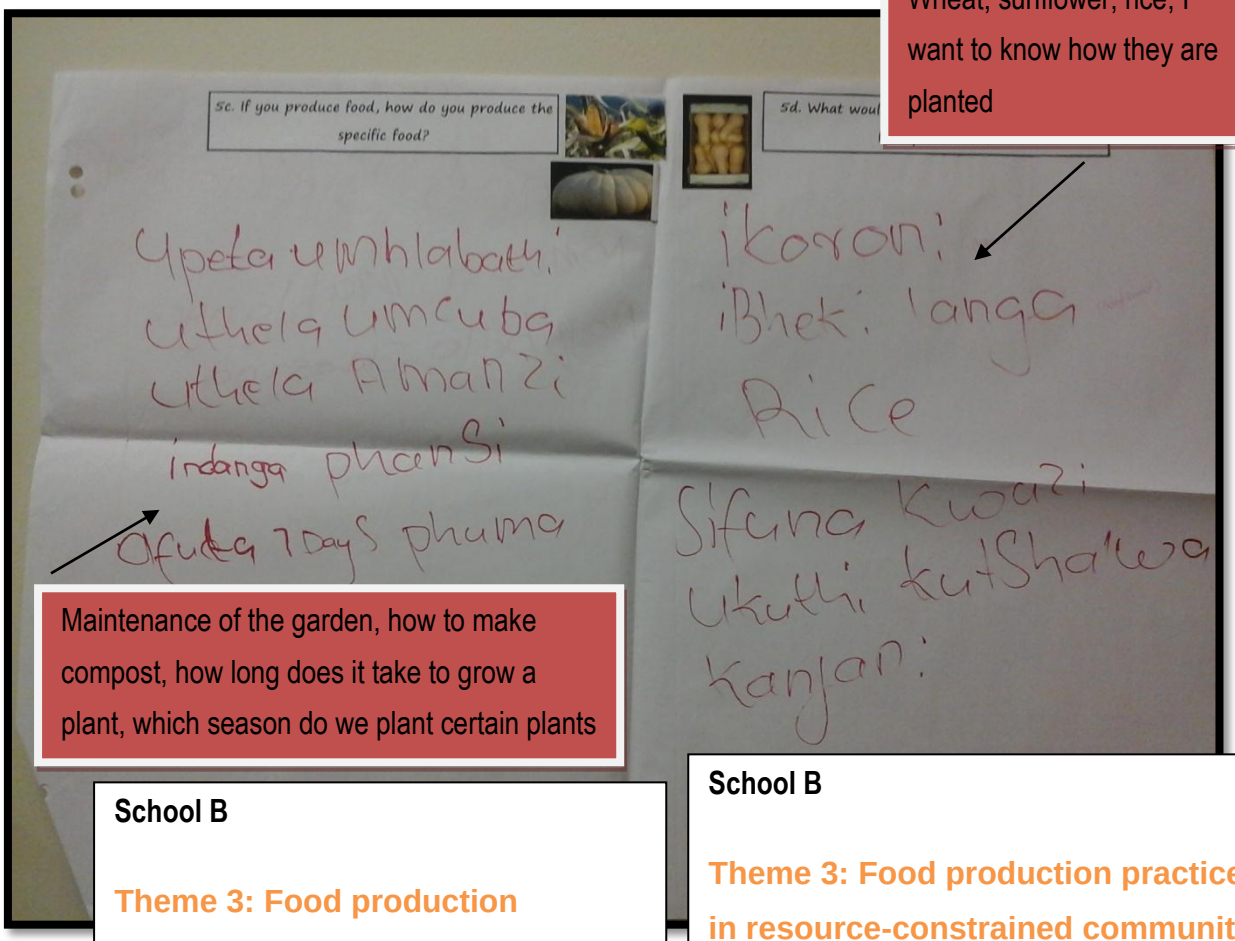

Wheat, sunflower, rice, I want to know how they are planted

Maintenance of the garden, how to make compost, how long does it take to grow a plant, which season do we plant certain plants

School B

Theme 3: Food production practices in resource-constrained community

Sub-theme 3.2: Food production methods

School B

Theme 3: Food production practices in resource-constrained community

Sub-theme 3.3: Information and skills required by parents