

# Cooking in Crisis:

## Navigating WEF Nexus Dynamics in Everyday Practices

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## **Abstract**

While the Water-Food-Energy (WEF) Nexus, by conception, was intended to direct attention to the interconnectedness between the three resources, in practice, it has been largely used as a big framing of top-down sustainability approaches. As such, the link between the WEF nexus and everyday lives has become overlooked and invisible. Based on Social Practice Theories, this thesis offers a view into the everyday realities of the synergies and trade-offs of water, energy and food in Cape Town's townships. Taking cooking practice as the unit of analysis, this research analyses the daily challenges that the urban poor encounter at the intersection of WEF and the resilience strategies they implement to sustain the basic needs. The findings build upon existing literature and qualitative research methods, including participant observations and semi-structured interviews with households and community kitchens. The findings in addition to disclosing the direct impacts of the apparent energy insecurity on cooking practice also highlighted how this insecurity influenced the two other WEF resources, which then collectively altered the cooking practice. Energy disruptions constrained households' ability to obtain food, maintain its freshness, and essentially transform it into a (nutritional) meal. Water, on the other hand, did not have as many trade-offs with energy as food. In the face of these challenges, households were compelled to modify their cooking practices to ensure daily food provision, albeit at lower standards than previously achievable. Through resorting to alternative energy sources, food products, social networks, as well as adapting their meals and routines, households in Cape Town's township have demonstrated a considerable level of resilience. By uncovering the WEF Nexus dynamics at the home level and the households' resilience, the research provides valuable insights to assist the decision-making of urban service practitioners regarding resource efficiency and resilience initiatives in disadvantaged urban areas.

**Keywords:** WEF Nexus, Cooking Practice, Resilience, Households, Social Practice Theories, Cape Town's Townships

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# 1. Introduction

Rising temperatures, changing precipitation patterns, sea level rise, disruption of ecosystems, and, most importantly, consumerism and the expansion of urban life styles have all left their mark on water, energy, and food security. In the wake of these cumulative resource crises unfolding in cities, there has been growing interest in the Water-Energy-Food (WEF) Nexus among urban scholars and professionals (Dalla Fontana et al., 2020). WEF Nexus, introduced during the World Economic Forum as interdependencies and interactions between water, energy, and food (Wiegleb & Bruns, 2018), presents a promising avenue for conceptualising and approaching complex resource challenges. In essence, the concept highlights how operations within one sector affect the use and availability of resources in the other sectors. Within the discourse, however, the prevailing inclination is towards addressing the WEF Nexus as a framework for managing large-scale systems of supply across the three sectors through integrative policy coordination, to foster resource security and sustainability (Torres, 2018) rather than a way of everyday thinking and practising. Indeed, an extensive body of literature has addressed the concept in relation to its implications in policies (Kaddoura & El Khatib, 2017; Nhamo et al., 2020), governance (Artioli et al., 2017; Avellan, et al., 2018), and macro-scale projects (Hoff et al., 2019; Lebel et al., 2020). The increased emphasis on the top-down framing of the Nexus coincided with the neglect of its (allegedly) fundamental aspects - the intrinsic interdependency and interplay among water, energy, and food systems. Not to mention that by failing to include local voices and recognize place specific needs, such an approach raises issues around justice (Allouche et al., 2015). Several scholars have acknowledged these shortcomings and called for more focus on the bottom-up, household, and locally grounded conceptualisation of the WEF Nexus that unveils its dynamics and manifestation in everyday life (Thieme & Kovacs, 2015; Foden et al., 2019; Mguni et al., 2020; Hussien et al, 2017; Gebreyes et al.,2020).

Recognizing that WEF interdependencies extend beyond formal provision systems towards other sites and scales (Foden et al., 2019), there has been an ascending focus on the Nexus at a household level. Household level, being the unit at which provision services are both accessed and consumed through daily practices, offers a productive vantage point for understanding the everyday abstractions of synergies and trade-offs of WEF resources. In fact, the majority of WEF Nexus trade-offs are palpable at the household level, as stated by Terrapon et al. (2018). Framed in this manner, understanding the WEF interdependencies at household level, appears essential for addressing the Nexus challenges.

While the interconnections of water, energy, and food are constantly at play to support daily domestic practices, their interdependencies become particularly noticeable in the event of failure. In her work, Star remarks how basic service provisioning remains “part of the background for other kinds of work” (2002, p. 116); hence its generally invisible function becomes merely visible upon breakdown. Consider the oversight that occurs on a daily basis, where the pivotal role of water and energy in preparing food is frequently overlooked, unless carrying out this practice becomes impossible due to, for example, an energy outage. Drawing upon this, an event of failure, aside from providing insights into the (mal)function of a specific system of provision, also offers a snapshot into the interconnectedness between different systems involved in a particular work, as the disturbance in one system can have further effects on the use and access of another.

Households in the Global South are especially susceptible to being subjected to such disturbances, as many of them lack fixed access to basic services of water, energy, and food (Mguni et al., 2020). As such, over the past years, there has been a growing tendency towards researching the WEF Nexus dynamics at the household level in the Global South context. In their research on WEF security within

households in South Africa, Ningi et al. (2021) emphasised the connections between the different resource vulnerabilities, pointing out the trade-offs between collecting water, cooking meals, and accessing affordable energy sources. In light of that, the authors argue that, “at household level, the water, energy, and food sectors should be considered inseparable from household daily activities and needs” (2021, p.318). Furthermore, understanding these interrelationships is critical for developing effective policies that tackle resource insecurities and promote sustainable development. Thieme and Kovacs (2015) take a comparable standpoint and underline how Nexus themes are entangled in daily experiences. Yet, as their study is framed within the context of informal settlements, which are commonly overlooked by the state, their emphasis is not on policy but on people’s agency to change or, at the very least, cope with the Nexus challenges. According to them, marginalised urban areas constitute “repositories of experiments,” where Nexus thinking translates into practice (2015, p. 13). Primarily, this is because in such spaces the resources are exceedingly scarce, and the services in place frequently lack any spatial separation, leaving no choice but to consider their interconnectedness.

Similarly, Mguni et al. write that for Kampala’s citizens, the Nexus thinking is an inseparable part of their lives, as they must navigate and manage “the fluid socio-material logics of ensuring access to and consumption of water, energy and food daily” (2020, p. 2). The authors examine cooking practices within informal settlements, and provide an account of how vulnerabilities are constructed and reproduced through the (dis)connections at the urban WEF Nexus. Analogous to South Africa’s case, the experienced energy poverty by Kampala’s households further defines their ability to purify water and prepare, as well as, consume nutritious food. As noted, when confronted with such trade-offs, the majority of households either compromise on some basic needs or resort to more unsafe methods, both of which reinforce their vulnerabilities. However, when cooking fails completely, some resort to their social networks to attain some food security. Within this context, the authors illustrate the different kinds of households’ resilience capacities and responses that are evident at the WEF Nexus intersections, but they do not delve into its specifics as it’s not their primary focus.

Evidently, cooking practices are particularly effective for revealing the WEF Nexus dynamics, as they also constitute the unit of analysis in Foden et al. 's (2019) work on households from the UK. Contrary to other studies, Foden et al. (2019) focus primarily on the consumption processes within kitchen practices, namely cooking, eating, and cleaning, to emphasise that challenges related to the Nexus transcend the production and provision process. It is important to note that this research is conducted outside the Global South context. With that in mind, the departure from a focus on the Nexus challenges associated with WEF supply systems seems more logical. On the whole, cooking practices provide insights into the everyday realities and social processes, encompassing resource consumption and provision. Furthermore, cooking practice, as a resource-intensive performance aimed at addressing human needs, offers a vital perspective into how WEF resources availability, access to, and consumption impact human well-being, as well as how that impact is managed.

As demonstrated, few authors have complemented the Nexus literature with insights into the link between everyday domestic practices and the dynamics of the WEF Nexus. Within this group, the majority have employed Social Practice Theories (SPT) to investigate the nature of the interconnections of WEF at the scale of a house (Foden et al., 2019; Mguni et al., 2020). As they explain, SPT facilitates a lens for understanding everyday practices, such as cooking, and how they are reproduced and regulated through the provisioning and consumption of WEF material flows (Mguni et al., 2020). In the current context, SPT was utilised to underline the challenges and vulnerabilities that emerge at the intersection of the urban WEF Nexus. However, how these

challenges are navigated and managed at the household level remains a relatively underexplored topic, though there are a few notable contributions.

Looking beyond the detrimental effects of a resource crisis on everyday practices, Abi Ghanem et al. (2016) research how daily resource consumption practices, such as heating the home and cooking, adapt and evolve in times of need. Analogous to the above-discussed scholars, they acknowledge that the unavailability of resources during a crisis disrupts the order of practice, rendering its performance unfeasible. However, in their view, this disruption is temporary. As these practices are necessary for sustaining everyday life and meeting households' basic needs, their disruptions compel households to find new ways to complete them. Given this, the authors claim that, "for normal everyday life to continue, existing practices need to be modified, new linkages need to be made incorporating new technologies and artefacts, and would require knowledge and competence for the practice to be performed in a power outage situation" (2016, p. 173). This is consistent with the SPT theory, which posits that social practices are formed by combining three elements: material resources, competences, and meanings (Spaargaren et al., 2016); the required changes to make the practice performable after a disruption will pertain to these elements. Namely, when confronted with an energy crisis, households in the UK resorted to camping stoves, energy-efficient food products, and a general tendency to opt for "easy, practical, quick meals" (Abi Ghanem et al., 2016, p.176). Through this means, households were able to achieve their everyday goal (i.e. preparing main meals) despite the ongoing crisis, ultimately demonstrating a considerable level of resilience. It must be noted however, that the ability to adapt to crises is inherently intertwined with the level of vulnerability affecting a community (Nunes, 2021). In this sense, crises reveal vulnerabilities and consequently uncover the present and future ability for adaptation towards a resilient state. Studying the way in which individuals and communities face these adaptation challenges and develop strategies to overcome vulnerabilities is then crucial since it shapes their resilience.

Understanding how challenges caused by any of the WEF resources' insecurities are navigated and managed at the household level is particularly relevant given that climate change is accelerating and its effects are largely irreversible, requiring adaptation to the new state of affairs. Moreover, acknowledging that most of the WEF challenges are suffered by residents of disadvantaged urban areas that are marginalised at the policy level, it is essential to understand both the circumstances contributing to these challenges and the household agency (or lack thereof) to deal with them. This thesis seeks to address this research gap, evaluating this topic through the lens of Cape Town, a hub of the WEF crisis.

Over the years, Cape Town has been proclaimed by many as the epicentre of water and energy crises (Dube et al., 2022; Tempelhoff, 2019; Ting & Byrne, 2020), exacerbating food insecurity (Kroll & Adelle, 2022; Waldenberger, 2022). Yet, after reaching its peak in 2018, the water crisis (i.e. water drought) has been tamed through multiple measures (Jones, et al., 2021; Rodina, 2019). In light of these achievements, a few contemporary works have discussed the water crisis as though it was a resolved problem, praising the solutions implemented by Cape Town (Millington & Scheba, 2021; Robins, 2019). The energy crisis, on the other hand, since 2007 remains a critical issue, with its effects shaping citizens' everyday lives (Waldenberger, 2022). Crucially, the city's energy crisis manifests in regular power outage events, known as 'load shedding', but it is not limited solely to these experiences; energy prices and energy thefts are also prominent issues (Ibid; Marchetti-Mercer, 2023). While these issues are widespread across the country, their effects are predominantly experienced by households in townships, ultimately caused by socio-economic challenges and infrastructural deficits, as noted in a study by Borchardt (2023). The study further points out how

energy constraints impose additional challenges upon those households regarding accessing and using resources, such as food and water. Given this, the energy crisis presents a vital lens for studying the interconnected dynamics of the WEF resources and, hence, constitutes the focus of this research.

On the whole, the objective of this thesis is to complement the existing literature on WEF Nexus, household practices, and resilience by providing a view into how WEF resources are intertwined in the cooking practices among households in Cape Town's townships. By researching cooking practices during the energy crisis, the thesis aims to shed some light on both the everyday challenges that the households encounter at the intersection of WEF and the changes they implement to their practices in response to these challenges, which are reflective of their resilience. With that in mind, the following research question has been formulated:

*How resilient are the cooking practices of households in Cape Town's townships to the energy crisis?*

To properly address the topic at hand, this question can be broken down into three sub-questions:

1. How are cooking practices affected by the energy crisis?
2. How do households change their cooking practices in response to the energy crisis?
3. What influences households' resilience to the energy crisis?

The research's insights, aside from enriching the current discourse, can assist policy makers, infrastructure engineers, and urban planners in making more informed and tailored-to-the-needs decisions regarding resource efficiency and sustainability in the urban poor areas. Specifically, if Nexus is to live-up to its 'promises' of addressing resource insecurities and promoting sustainable development it is crucial to understand the everyday constraints and needs of households in relation to WEF resources. Additionally, these insights can be valuable for grasping and identifying the disparities in resource availability and consumption patterns across society, thus aiding the policymakers in addressing resource inequalities. Finally, the findings on the responses to WEF challenges at the household level may inspire and provide practical guidance for other vulnerable communities in enhancing their resilience.

The research is organised as follows. Chapter two thoroughly discusses the key concepts and theories that underpin this thesis, and builds upon them to provide a conceptual framework. Chapter three outlines the methodological approach employed in this research and the specific case study. Chapter four presents the findings, and chapter five reflects on the findings and discusses them in connection to existing literature. This is followed by a conclusion chapter in which the main research question is answered, and the research's limitations and future recommendations are discussed.

## 2. Theoretical Framework

This chapter outlines the key concepts and the theory that underpin this research. First, a general overview of Social Practice Theories (SPT) is provided, to establish a basis for conceptualising cooking as a social practice. Following that, the relationship between WEF resources and the cooking practice is discussed, and the effects that an energy crisis has on this relationship. Building upon that, this chapter introduces an approach for analysing how the energy crisis shapes the cooking practice and, most importantly, how households deal (or not) with the crisis. Within this context, the concept of resilience is introduced and its application in household-level and social practice research is reviewed. Based on that a definition of household cooking resilience is formed. Finally, the relationships between the concept of resilience, cooking practice, WEF resources, and Social Practice Theories are integrated into the conceptual framework of this research.

### 2.1. Social Practice Theories

Within the limited discourse on the everyday application of the WEF Nexus, the prevailing tendency has been towards utilising Social Practice Theories (SPT) (Mguni et al., 2020; Foden et al., 2019; Ahmed, 2024). SPT, with its roots in anthropology and sociology (Bourdieu, 1977), presents a vital lens for understanding everyday practices and how they are reproduced (Cass & Faulconbridge, 2016). In doing so, it presents the researcher with the opportunity to understand the role WEF resources play in this process. For instance, SPT aided Ahmed (2024) in analysing WEF nexus transformations in the context of kitchen practices and Mguni et al. (2020) used SPT to understand how the interconnected dynamics of these resources influence cooking practice. Interestingly, while having a similar focus (WEF nexus in cooking practice), both works adopted SPT in different ways.

Owing to SPT popularity and the lack of consensus on the definition of social practice (Spaaragen et al., 2016; Hargreavers, 2011), there is no universal theory of social practices. Yet, what is agreed upon among the practice theorists is that social practice constitutes the subject of analysis (Hargreaves, 2011; Cass & Faulconbridge, 2016; Welch & Warde, 2015). This aspect distinguishes SPT from prior theoretical approaches to societal change, which framed individuals at the core of the social reproduction process (Mguni et al., 2020). Hargreaves explains this as follows: “Social practice theory thus diverts attention away from moments of individual decision making, and towards the ‘doing’ of various social practices and the inconspicuous consumption they entail” (2011, p. 83). Put differently, SPT recognises that social practices are generally determined by habitual actions that individuals carry out without much conscious attention— rather than making rational decisions every time— hence, it focuses on the organisation of the practice rather than the individuals.

In light of this, it becomes particularly important to clarify what the notion of social practice entails. According to the most cited source, social practices comprise various routine ways of moving the body, understanding and wanting, handling and using objects, shared across different places and times (Reckwitz, 2002, p. 250). Think of the cooking practice, an everyday, universal practice, which results from coming together of various routine activities (Mguni et al., 2020), such as knowing and collecting the needed ingredients, chopping vegetables, and using the stove to address physiological and physical needs. Several scholars have acknowledged this multifaceted structure of cooking practice, analysing the ‘smaller’ cooking processes to understand the complexity of cooking practice. For instance, Foden et al. (2019, p.411) distinguished seven processes that comprise “kitchen practice”: acquiring food, storing, preparing, cooking, eating, dealing with leftovers, and clearing up.



This thesis determines the primary objective of cooking practice to be food provision and, thus, regards only five out of the seven processes as productive, omitting the two tasks related to food disposal. According to this idea, the cooking practice is made of the following five processes:

1. Acquiring process: activities directed at sourcing the needed ingredients for cooking. This can take various forms, ranging from shopping, and gardening, to borrowing items within a community.
2. Storing process: measures that maintain the freshness of the food products, extend their shelf life, and prevent their spoilage.
3. Preparing process: actions taken to make food, and other materials ready for the cooking process, such as gathering all the necessary items, rinsing, water purification, cutting, and peeling.
4. Cooking process: steps involved in transforming the ingredients into a finished product, a meal. This process generally—though not necessarily—involves using heat and various cooking methods, ranging from boiling, frying, steaming, and roasting to baking.
5. Eating process: activities surrounding the consumption of a meal, including, setting the place for eating, serving a meal, and finally consuming it.

Each process represents a moment in which various courses of action can be undertaken (Foden et al., 2019), with each action shaping every other process accordingly. For instance, what is bought during grocery shopping defines the necessary measures to conserve it and the methods used to prepare and cook it. Additionally, concerns about products' shelf life and their conservation inform the acquiring process and, consequently, the type of meal cooked and consumed. These dynamics illustrate the interdependencies between these processes and, in a way, imply that any changes or disruptions that occur during the processes can significantly impact the cooking practice—affecting food (in)security.

### 2.1.1. Elements of Practice

In addition to conceptualising practices in terms of the numerous routine processes, SPT acknowledges another aspect of them. According to SPT, practices are determined and organised by several interconnected elements. These elements are addressed in the earlier stated definition, albeit subtly. Drawing on this definition, Shove et al. (2012) put forward three elements that collectively constitute practice and shape it through their (continuous) interactions. The elements that underpin every practice are:

1. Materials refer to “all objects that are used by practitioners to perform a practice”, ranging from technologies, infrastructure, and products, to tools (Heidenstrøm, 2020, p. 382).
2. Competences encompass two sub-concepts: practical skills and background knowledge, which help practitioners execute a practice appropriately.
3. Meanings are defined as “the significance of performing a practice” (Ibid), in the form of ideas, values, emotions, motivations, beliefs, and purposes (Abi Ghanem et al., 2016; Van Kesteren & Evans, 2020).

In this understanding, cooking practice consists of and emerges from the interrelation of the three elements. To illustrate, cooking appliances, such as a stove, are generally used in cooking. Yet to make use of the stove, practical knowledge of how to operate it is first required. Finally, cooking ideas and cultural preferences can influence the choice of the type of stove used; some might prefer to cook

using a gas stove because it conforms with their culinary traditions. A stove is just one of many materials utilised in cooking, with the WEF resources being central to its execution (Mguni et al., 2020)—without energy, the stove itself will be unusable.

### 2.1.2. Materiality, WEF resources and cooking practice

At first glance, cooking practices may seem to be solely about transforming food into a meal, and the recipes reflect that, as they generally list all food ingredients necessary to make the dish but omit information such as the needed water and energy to cook it in the first place. However, when analysed more closely, the significance of water and energy resources in this practice also can be noted. For instance, water aside from being required in boiling and steaming, is also used to rinse and soak food products during the preparation processes (Serventi & Servetini, 2020). Additionally, it is an ingredient itself, used to dissolve and extract flavours and bind other ingredients together. Regarding energy, cooking practices in African kitchens heavily rely on energy-related activities for heating food (and water), refrigeration, mixing and blending the ingredients, and lighting the cooking space (Ahmed, 2024).

According to Mguni et al. (2020), the utility of these (overlooked) WEF resources becomes merely apparent when the performance of cooking practice fails. Remarkably, this might explain why cooking practice has been acknowledged as an energy- and/or water-intensive practice particularly, by those researchers who have focused on the crisis of one or more of the WEF resources (Abi Ghanem et al., 2016; Hasselqvist et al., 2022; Heidenstrøm & Kvarnlöf, 2018; Kadibadiba et al., 2018; Mguni et al., 2020; Ngoma, et al., 2018). Following their line of thought, this thesis regards WEF resources as crucial materials for the execution of cooking practice. Take an example of a soup, which requires water as the base of the broth and is then cooked (using energy) with food ingredients, such as vegetables and meat. Without one of these materials, making soup can be difficult or even impossible, underscoring the Nexus of these resources in cooking practice, where water and energy security can plausibly influence food security. In other words, cooking practice is seen as a ‘moment’ when WEF resources converge in the process of meal production (Mguni et al., 2020, p.8).

The WEF resources are considered as materials in cooking practice under ‘ordinary’ circumstances, in a non-crisis event. However, this thesis analyses cooking practices during an energy crisis manifested in power outages and, thus, presupposes some level of disruption to the energy supply system. With the idea of WEF Nexus in mind, it also means a subsequent change in the two other resources, which can have significant repercussions on the performance of cooking practice, as it relates to its material elements. To illustrate, power outages might hinder the water purification process, directly affecting households’ clean water supply for cooking. Considering this, materials will be conceptualised in two ways throughout this thesis. First being the objects that are used by practitioners to perform cooking practice under the condition of stable electricity supply, such as, electric stoves, ovens, fridges, light bulbs, as well as energy-intensive food; the second being, all objects that are used/incorporated when the electricity service is unstable (power outage event), for example, gas stoves, candles, and energy-efficient food (Heidenstrøm, 2021).

### 2.1.3. Elements of cooking practice under energy crisis

Materials are not isolated from the other practice elements, namely competences and meanings. Their interconnected nature requires all practice elements to be altered alongside materials changes to

sufficiently perform cooking practices. Heidenstrøm explains it as follows, “When materiality changes, the practitioner also needs other competences to perform the practice, and the organisation of the practice, as well as how it is linked to other practices, changes” (2021, p. 53). Hence, analogous to the conceptualisation of materials, the two other elements of cooking practice during an energy crisis cover all the competences and meanings that facilitate the practice under such circumstances. These adjusted definitions are as follows:

1. Materials refer to all objects that are used by practitioners to perform a cooking practice under energy crisis, ranging from infrastructure (except electricity infrastructure), kitchen appliances and products, to kitchen utensils.
2. Competences encompass both practical skills and background knowledge, which help practitioners execute a cooking practice under energy crisis appropriately.
3. Meanings are defined as the significance of performing a cooking practice under energy crisis, in the form of ideas, values, emotions, motivations, beliefs, and purposes.

Analysing the changes in the elements of practice that occur as a consequence of the energy crisis, enables understanding both how the crisis impacts cooking practice and how households cope (or not) with the energy crisis in their cooking—highlighting the newly introduced elements of practice along with their linkages. Moreover, such a perspective is productive for identifying resilient cooking practices and, thus, is employed as the theoretical lens for analysing what the abilities of households to respond to the energy crisis are. The following section clarifies in further detail how this is done and what is understood by resilience.

### 2.3. Resilience

When considering the disruptions of daily power outages to the cooking practice, the concept of resilience becomes particularly relevant. In line with the SPT assertions, everyday social practices, such as cooking practice, have an inherent elasticity, which allows them to absorb the disruptions (Trentmann, 2009). From this perspective, the cooking practice may be temporarily interrupted by a power outage but not completely stopped as it evolves and responds to ‘new’ circumstances in order to ensure fundamental needs (Heidenstrøm & Kvarnlöf, 2018; Mguni et al., 2020). Within this context, the concept of resilience starts to unravel. However, what precisely constitutes resilience?

Resilience, similar to SPT, has no universal definition. Resulting from its widespread use and importance, the discussion of resilience frequently revolves around rectifying what the concept is not rather than delineating what it entails. For instance, Bene et al. write how resilience is “no [longer] simply about resistance to change and conservation of existing structures, or even about buffer capacity and persistence to change while maintaining the same function” (2012, p. 124). This is to say, that resilience should not be reduced to the idea of ‘bouncing back’ to a pre-crisis state, as it has been commonly practised within the engineering domain. Such conceptualisations imply a capability to return to a pre-crisis state (at all times); nonetheless, this is far from reality (Paton et al., 2006). Not to mention that they fail to capture the possibilities emerging from disaster’s alterations.

As previously mentioned, the energy crisis in Cape Town manifests in power outages that occur on a daily basis or, to put differently, are part of everyday life; thus, instead of fixating on returning to a pre-crisis state (i.e. cooking with constant access to electricity), the focus should be on establishing a new normal, as argued by Hasselqvist et al. (2022). In the context of this thesis, the ‘new normal’ is

understood as fulfilling the cooking practice's function, that is, food provision, despite an unstable electricity supply. Taking this perspective, however, requires recognising that there is not one but several ways and means to attain resilience outcomes.

Considering this, Bene et al. (2012), along with Meerow & Newell (2019), distinguish between different intensities of disruption and connect these with three kinds of capacities, each varying in the degree of responses: absorptive (coping), adaptive, and transformative. Arising from their reasoning is the idea that resilience doesn't result merely from the ability to 'bounce back' (absorptive capacity), but also from the two other capacities. Their studies, however, address resilience in terms of capacities that are productive in assessing the preparedness of a system to deal with future disruptions but do not reflect the current state of resilience, which is one of the objectives of this thesis.

Hamborg et al. (2020) acknowledge this problem and define resilience in relation to four resilient behaviours— observable phenomena of actual responses of a system to distributions. The resilient system behaviours include toleration, restoration, adaptation, and transformation. To clarify, toleration refers to system behaviour that absorbs the effects of disturbances without significantly impacting the function fulfilment; restoration alludes to actions and responses of a system that restore its function after disruption (i.e. 'bounce back'); adaptation encompasses activities that prepare the system for disturbance, enhancing its tolerance and restorability; transformation refers to actions and responses that fundamentally and permanently change the system in a way that renders it entirely resistant to a particular disruption (Hamborg et al., 2020; Hasselqvist et al., 2022). It is important to emphasise that it is not necessary to engage in all four resilient behaviours to achieve resilient outcomes. According to Hamborg et al. (2020), the context in which resilience is evaluated and pursued determines what resilient behaviours are necessary to enhance. To clarify, when evaluating resilience to low-impact disturbances, where the resilience goal is to maintain the function of a system, engaging in toleration or restoration behaviour alone may be adequate. However, in the case of a more severe crisis, where the desired outcome is to bypass any disturbances, adaptation and transformation behaviours are generally ought.

Resilient behaviours, in particular, have found application in research on household resilience, as they allow researchers to observe how households respond to disruptions, as well as evaluate them according to a context-specific resilience goal. For instance, while exploring households' role in reaching a renewable energy future, Hasselqvist et al. (2022) acknowledge the four resilient behaviours and draw upon them to conceptualise resilience. They propose the following definition: "As an interwoven part of everyday life, household energy resilience is to ensure a good life through adjusting what activities that are performed, when they are performed and how they are performed in the face of expected and unexpected power outages and shortages as well as to prepare for future adjustments of activities and to more fundamentally change to reduce the need for adjustments" (Ibid, p.3). In this understanding, toleration, restoration, adaptation, and transformation are an integral and seamless part of everyday life, and they transpire within the context of activities that are performed by households daily.

Furthermore, research by Abi Ghanem et al. (2016) proposes a perspective of how these resilient behaviours are carried out in an everyday life context. In their view—informed by SPT—a disruption causes an interruption or even destruction of interrelations within and between the elements of the practices (materials, competences, and meanings). In turn, this creates a new state of affairs, necessitating appropriate modifications in all the elements for everyday life to continue. Notably, it is these modifications that the concept of resilience directly pertains to: "Resilience can be defined and understood as modifying the performance of practices through changing material elements, gaining

knowledge for how ‘to do’ things during a power cut, and accepting new meanings for achieving comfort, convenience and cleanliness” (2016, p.178). From this perspective, changing how everyday practices are performed is central to the concept of resilience, and these changes concern materials, competences, and meanings, as asserted by SPT. As such, the elements of practice contribute to the ability of practitioners (i.e. householders) to exhibit resilient behaviours.

Aside from Abi Ghanem et al. (2016), there are a few other scholars who directly engage with SPT to understand households’ resilience. Mguni et al., in particular, draw on the theory to highlight the emerging “practices of everyday resilience-building” to navigate the vulnerabilities brought by (dis)connected systems of WEF provision (2020, p.1). Among others, they note how households resort to alternative energy sources for cooking in the face of rising energy prices, and when this is not an option, they turn to their social networks to borrow energy or food directly. Nevertheless, it is important to mention that while their study provides crucial insights into how household resilience can manifest in cooking practice, it does not provide a detailed account of the specific materials, competences, and meanings that assist the practitioners in responding to the WEF crisis. Instead, the authors consider households’ cooking practices in a broader sense and identify ‘resilient practices’ within them.

Such a perspective is divergent from that of Abi Ghanem et al. (2016) and Heidenstrøm (2020; 2021), who assert that resilience is not to be understood as practice in itself but as interwoven in everyday practices. That is to say, it is an outcome formed in the performance of everyday practice. Analysing resilience through such a perspective brings attention to the numerous resources households possess by merely engaging in their everyday practices, which are particularly valuable in coping with disruptions but frequently taken for granted in resilient studies (Heidenstrøm, 2021). Take, for example, social relationships and networks of practitioners, which typically result from everyday social interactions between people and can aid practitioners (as competences) in times of crisis, as shown by Mguni et al. (2020). Additionally, taking daily walks through a neighbourhood may enhance an individual's knowledge of where to find and purchase specific items (competence), including those that are useful during a disruption, for instance, alternative energy sources. In light of that, Heidenstrøm (2021) encourages researchers to go beyond the idea of resilience being merely about deliberate and conscious actions, such as stocking supplies, and consider those that naturally result from the course of everyday life and its practices.

The above-discussed perspectives on resilience are seen pivotal in forming an understanding of how everyday households' resilience can be manifested in cooking practice and, hence, form the framework for this research. In line with Hasselqvist et al.'s (2022) thought, this research recognises that there are various resilient behaviours that contribute to household resilience. Yet, zooming into these behaviours and classifying each response under a specific type of behaviour is not the objective. Furthermore, the idea of resilience being interwoven into everyday practices is central to this research. Following Abi Ghanem et al.'s (2016) approach, this research conceptualises resilience in relation to the elements of practice. Here, it is important to emphasise that the elements of practice perform a different function within the context of resilience than a practice. More specifically, they do not directly comprise resilience but rather determine/contribute to practitioners’ ability to respond to disruptions that arise in everyday practice and appropriately modify such practice, which is resilience (Abi Ghanem et al., 2016; Heidenstrøm, 2020).

By combining these perspectives and applying them in the context of this research, the following definition of household cooking resilience has been developed: Intertwined in everyday life, household cooking resilience is to ensure food provision in the face of regular power outage events.

This is done by modifying the performance of practice through adaptation and transformation of materials, developing and enhancing knowledge and practical skills of how to carry out cooking processes when afflicted by power outages, as well as tolerating new meanings for achieving functionality of the cooking practice.

## 2.4. Conceptual Framework

In light of the above discussion, this research employs SPT as a lens for understanding how resilience behaviours manifest in the process of changing household cooking practices to adhere to the energy crisis. The theoretical approach is illustrated in Figure 1, which integrates all the key concepts and outlines how these concepts interact. First, the figure illustrates how the energy crisis influences the security of all WEF resources, which constitute key materials of the cooking practice. As materials, competences, and meanings are constantly at play to support the households' cooking practice, a change in the material elements caused by the crisis will lead to a disruption of the whole practice system and a temporary breakage of the interlinkages between all three elements. This disturbance of the system, in turn, will have repercussions on all five cooking practice's processes, as each of them is heavily dependent on the WEF resources. However, as the cooking practice plays a key role in supporting households' basic needs, its failure will compel households to find new ways to complete the practice. According to SPT, this will require new linkages to be made by incorporating new materials, competences, and meanings that can help practitioners execute a cooking practice during the energy crisis appropriately. It is within this context, that vital changes to the cooking practice take place, some of which can aid households in fulfilling the cooking practice function, that is, ensuring food provision, which is indicative of resilience.

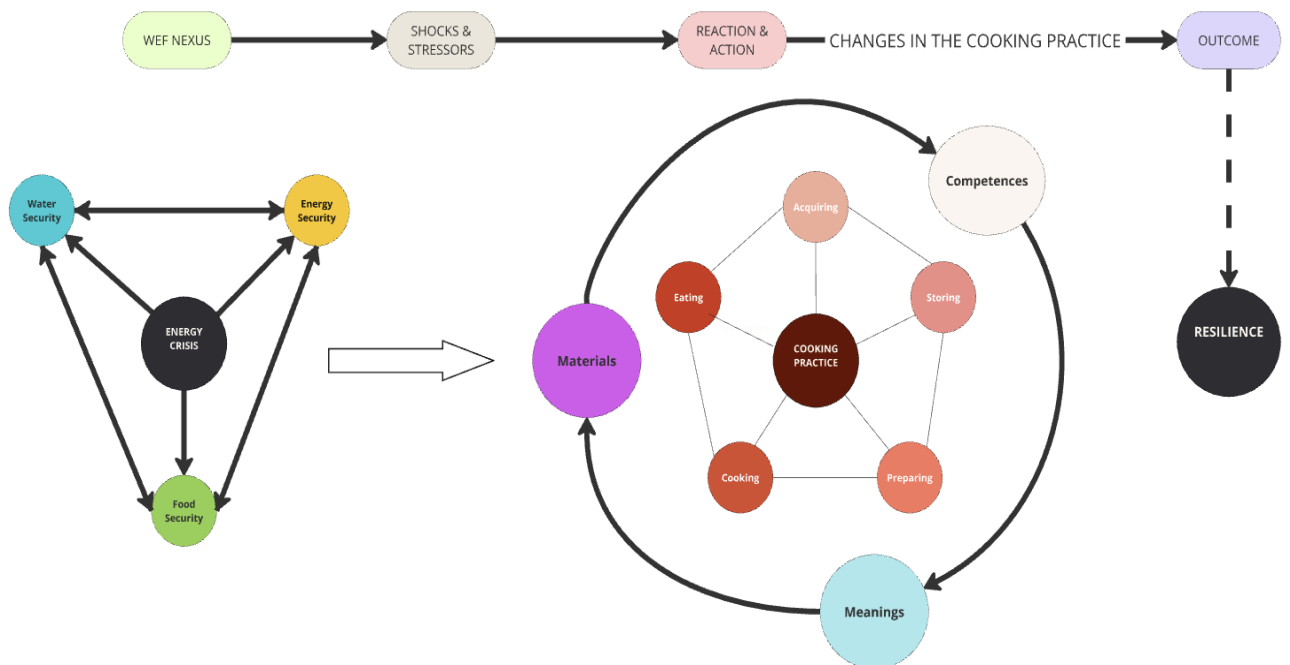


Figure 1 - Conceptual Model

### 3. Methodology

This thesis builds upon both primary and secondary sources. Regarding the latter, the thesis engages with the academic literature on the WEF Nexus, everyday practices, Social Practice Theories, and resilience to develop an overarching idea of how everyday practices engage with the WEF Nexus, as well as how resilient behaviours are embedded within these practices. Moving onto the primary sources, this research employs qualitative research methods, encompassing both semi-structured interviews and participant observations. Owing to its descriptive and holistic nature, the qualitative approach was considered the most productive for understanding households' experiences with the energy crisis, specifically how it affects their cooking practices and how they respond to it. Moreover, such approach facilitates comprehensive understanding of a culture and society and, hence, it refrains from making sweeping generalisations (Hennick et al., 2011), which aligns with the primary objective of this research— providing insights into the everyday WEF dynamics within the context of a specific case study. Recognising that repercussions of the energy crisis are not experienced uniformly by everyone (Borchardt, 2023), this research employed the case study approach to facilitate a comprehensive understanding of the challenges, responses, and needs of the (allegedly) most vulnerable community to energy crisis effects, namely households in Cape Town's townships.

#### 3.1. Case Study - Cape Town's Townships

The European impact at the Cape was thoroughly transformative (Western, 2002); dispossession from land and exclusion from urban areas in the region have been central to people's struggles in Cape Town since the seventeenth century (Miraftab, 2007). Decades of racial discrimination and the apartheid state have resulted in the rich white minority to reside at the base of Table Mountain and the impoverished non-white majority to occupy the sandy expanses of the Cape Flats, where townships are concentrated (Western, 2002). Townships— described by Jürgens et al. as dormitory settlements that do not contain substantial 'urban elements', namely infrastructure (public services, recreation, transport, and green spaces)— descended from the spatial concepts of the apartheid era (2013). Moreover, the lack of infrastructure and necessary resources has contributed to townships and other informal settlements experiencing significantly high levels of unemployment (Cant, 2017). Being a product of apartheid, townships exhibit several infrastructural deficits (Ewing, 2021). For instance, only 47.6% of households have piped water inside their homes ("Gugulethu Urban Farming Initiative (GUFI)," n.d.). Many low-income households like those in the townships struggle to afford access to the electrical grid too, with at least 43% across South Africa being considered as 'energy poor' (without access to sufficient, reliable, safe, and environmentally considerate energy) (Baker & Phillips, 2019). As such, the experience of resource insecurity is an integral part of many residents of townships, namely that related to the energy crisis.

The ongoing energy crisis (i.e. load shedding) is primarily attributed to the country's legacy of the apartheid system (Swilling, 2014). Being confronted with the crippling effects of rising debts brought on by the international sanctions and increased military expenditures, the apartheid state had to resort to privatisation strategies, which among others, transpired into the energy system (2014, p. 3188). Consequently, a dual electricity supply system has emerged; the city's energy system has been operated by the municipal electricity distributor and Eskom, a "monopolistic state-owned electric provider" (Waldenberger, 2022, p. 2). With the latter, generating the majority (98 per cent) of the electricity consumed in Cape Town and essentially dominating the city's energy grid (Jaglin, 2014). This means that the city's security of electricity supply is dependent on Eskom's transmission grid, which is highly susceptible to transmission losses and insufficient maintenance (2014, p. 1401).

Besides, the effectiveness of the system is further impeded by limited cooperation between the two electricity supply distributors (Swilling, 2014). Though, only a limited percentage of it is directly supplied by Eskom to the end users, in particular, those in townships (2014). The greatest impact of these shortcomings is loadshedding, which resulted from the neglected maintenance by Eskom, forcing South Africans to adjust their daily lives and be prepared for severe load shedding periods (Lawson, 2022). With that in mind, this research regarded Cape Town's townships as the most appropriate site to investigate the topic at hand, due to the severe and daily issues confronting these areas and their communities.

Gugulethu, a township in the Western Cape, was initially identified as a productive site for investigating the vulnerabilities at the urban WEF nexus and the associated adaptive strategies response at the household level. Nevertheless, at an early stage of the data collection process, such an approach (i.e. narrowing down to one site), was deemed ineffective since it hindered the collection of an adequate sample size. Consequently, the research area was reformulated and expanded to account for multiple Cape Town townships: Gugulethu, Mfuleni, Phillipi, Khayelitsha, Nyanga, and Eerste Rivier. Beyond Gugulethu, no township was chosen for any explicit characteristics as participant recruitment was assisted by social partners, staff, and students from the University of the Western Cape (UWC), who had participants available across the region.

### 3.2. Research Population

Householders who resided in Cape Town's townships and engaged in cooking practices have been identified as the target population for this research. Hence, it was this group that this research aimed to reach and study. Yet, acknowledging that performance of cooking practices requires financial means, knowledge of, physical capabilities and experience in acquiring, storing, preparing, and cooking food (Mguni et al., 2020), this research set additional criteria for the research population: people aged between 22-70. Framing the research population within these criteria, reduced the likelihood of ethical issues, without (significantly) jeopardising the feasibility of recruiting a sufficient sample of participants.

Community kitchens operating in townships were also determined to be key participants in this research, owing to their active involvement in cooking practice and contribution to the community's resilience in this regard. Moreover, given that community kitchens, by definition, are designed to address food insecurity, including their perspectives in this research also allows for a broader understanding of this challenge in the community, as well as other issues confronting them. Lastly, as both of the interviewed community kitchens were established in the founders' homes, their experience, to some extent, may be reflective of those on the household level—providing a more comprehensive view of the cooking practices and resilience behaviours within the townships.

The research sample consisted of 17 individuals: 13 individual households and two community kitchens (including three community kitchens founders and an associated local farmer). The participant recruitment relied on purposive and snowballing sampling, as well as gatekeepers. Snowballing sampling is a method through which one identified participant assists the researcher in establishing contact with other potential participants (Hennink et al. 2011). In this context, one acquainted participant assisted the researcher in recruiting other households within her neighbourhood. Regarding the gatekeepers, the staff and students from UWC, who have previously engaged in research in the township context, have provided help in entering the field site and



establishing connections with the community leaders and the research population directly. Furthermore, a coordinator of a farming initiative in Gugulethu, who plays a vital role in the township—assisting local community kitchens with their operations—also acted as a gatekeeper, arranging meetings between the researcher and the community kitchens.

### 3.4. Data Collection & Processing

To obtain the data, semi-structured individual interviews (n=9), semi-structured group interviews (n=2), and participant observations (n=2) were conducted among the research population. In addition, two semi-structured interviews (one individual and one group interview) with community kitchens founders were held. Table 1 presents a detailed overview of the data material.

Table 1. Data Material

Identification	Household Characteristics	Interview Context
Household 1, Gugulethu, Cape Town	<b>Woman (unknown)</b> , living in an informal housing (shack)	At home interview, 34 minutes recording.
Household 2, Mfuleni, Cape Town	<b>Woman (49)</b> , Daughter (unknown age), Grandson (unknown age), living in a RDP (governmentally funded) house	At home interview, 31 minutes recording.
Household 3, Mfuleni, Cape Town	<b>Woman (43)</b> , Man (unknown age), Son (unknown age), Son (unknown age), living in a RDP house	At home interview, 27 minutes recording.
Household 4, Mfuleni, Cape Town	<b>Woman (47)</b> , Daughter (27), Son (16), Granddaughter (8), Granddaughter (1,7), living in an RDP house	Group interview at home, 33 minutes recording. Participant observations
Household 5, Mfuleni, Cape Town	<b>Woman (27)</b> , Man (unknown age), Son (unknown age), living in a informal housing	Group interview at home of household 4, 33 minutes recording. Participant observations
Household 6, Mfuleni, Cape Town	<b>Woman (39)</b> living in a RDP	At home interview, 18 minutes recording.
Household 7, Mfuleni, Cape Town	<b>Woman (35)</b> , Man (unknown age), Son (under 1 year), living in a RDP house	At home interview, 38 minutes of recording.
Household 8, Mfuleni, Cape Town	<b>Woman (38)</b> , Daughter (17), Daughter (8), living in a formal housing	Hybrid Interview (online & at home interview, 56 minutes of recording.
Household 9, Philippi, Cape Town	<b>Woman (32)</b> , Man (unknown age) Child (unknown age), Child (unknown age), Child	Group interview at work (farm), 38 minutes recording

	(unknown age), Child (unknown age), living in an informal housing	
Household 10, Philippi, Cape Town	<b>Woman (35)</b> , Husband (unknown age), Child (2), Child (7), Child (9), Mother-in-law (unknown age), Father-in-law (unknown age), Brother-in-law (unknown age), Sister-in-law (unknown age), living in an informal housing	Group interview at work (farm), 38 minutes recording
Household 11, Nyanga, Cape Town	<b>Woman (65)</b> , Daughter (32), Granddaughter (16), Grandgranddaughter (0,3), living in a formal housing	At work interview (school), 31 minutes of recording.
Household 12, Khayelitsha, Cape Town	<b>Man (unknown age)</b> , Grandmother (unknown age), living in a formal housing	At work interview (school), 44 minutes of recording.
Household 13, Eerste River, Cape Town	<b>Woman 46</b> , Son (unknown age), Son (unknown age), living in a formal housing	Online Interview, 29 minutes of recording
Community Kitchen 1, Gugulethu, Cape Town	<b>Woman (61), Woman (37), Man (unknown age)</b> living in a formal housing	Group interview at the community kitchen, 1 house and 29 minutes of recording.
Community Kitchen 2, Gugulethu, Cape Town	<b>Woman (unknown age)</b> , living in a formal housing	At community kitchen/home interview, 30 minutes of recording.

\*Interviewees in bold

Semi-structured interviews were determined as the most appropriate method for this research, as they allowed the researcher to obtain an in-depth understanding of the studied topic directly from the participants (Hennick et al., 2011). In doing so, they provided insights into the participants' perspectives, opinions, values, and, most importantly, personal experiences (Saldaña, 2011), which are central to this study. Moreover, the semi-structured format facilitated more flexibility and, therefore, the ability to adapt questions or their order depending on participants' responses (Mason et al., 2019). This, in turn, facilitated the opportunity to delve deeper into specific themes and explore the new ones that emerge during the interview.

The interviews were conducted with both households and community kitchens; hence, two distinct interview guides were created, one for the households and one for the community kitchens (Appendix 1). Both of the interview guides included an initial section focused on the socio-demographic information of the participants.

The interview guide for the households drew heavily on their experiences with cooking (both within and outside of the power outage context) and their strategies to deal with the repercussions of the energy crisis on their cooking. Consistent with the theoretical framework, the questions concerning households' responses to the crisis revolved around the three elements of practice, exploring what materials households resorted to, what skills and knowledge aided households in performing the practice, and the meaning that emerged from it. The questions for community kitchens included similar questions to those of households, focusing on their cooking practices during the energy crisis. However, as opposed to households, the interviews with community kitchens also explored the founders' perspectives of the community, particularly the challenges faced by its members.

Both interview guides were moderately informed by a practice-based talk approach, a method used to verbalise the typically non-linguistic, or overlooked aspects of practice in interview settings (Heidenstrøm, 2020). In the research, this method was utilised to shape the questions around performativity, meaning, they were formulated to focus on specific acts and behaviours in particular scenarios. An example of such a question from the interview guide is: "What do you do when you are hungry during load shedding?".

Following the recommendations from prior studies, the researcher informed each participant on the specific focus of the research and the type of information that was relevant to it before each interview. Providing such information allows participants to recognise the important aspects of their everyday practices, which they could otherwise omit during the interview because they perceived them as mundane (Hitchings, 2012). Aside from this information, the participants were informed about the practical and ethical aspects of the research (see Appendix 2). Regarding ethical implications, anonymity and full confidentiality were assured, and the consent to record the interviews was asked from all the participants.

It was intended to conduct the interviews at the participants' homes, as such a setting yields information on the physical spaces in which cooking practice is performed, and reduces the inconvenience for households by not having to travel to other locations. However, this was not feasible in all cases, due to time and security restrictions, as well as households availability. In such instances, the interviews were conducted online and at participants' working places. Due to personal choice, in-kind donations were given to all participants interviewed in-person.

Moving onto the second method. To obtain a more comprehensive view of the cooking practice and its dynamics in the context of Cape Town's townships, the research utilised participant observations. The primary focus of the observations was on the material elements; in other words, all the objects utilised by the practitioners to perform the cooking practice, ranging from water, food, and the type of energy used, to the cooking appliances. Aside from merely identifying the materials, attention was devoted to how participants used these materials, the types of cooking methods, as well as practical skills and knowledge employed to facilitate an understanding of cooking practice's competences. The observations were accompanied by informal conversations about the specific activities the participants were engaged in, as well as a broader reflection on the practice; this provided some insights into the meanings of the cooking practice. To consolidate the information obtained from observations, the researcher took notes.

Regarding data processing, all the interviews were transcribed. Subsequently, the data collected through both interviews and observations was analysed using a three-step method. Firstly, using an inductive approach, the researcher identified the main codes emerging from the data. Secondly, these

codes were then grouped into three categories, namely: “cooking practice in the townships’ context”, “impacts of the energy crisis”, and “households’ responses”. In the final step, the two latter groups were further analysed in accordance with the conceptual framework. Namely, “impacts of the energy crisis” were categorised according to the five cooking practice processes to indicate the specific points of the cooking practice at which the disruptions transpire; “households’ responses” were analysed using the lens of social practice theories, particularly, the three elements of practice to highlight the aspects of households resilience.

## 4. Findings

This chapter presents the research findings on how Cape Town’s energy crisis affected the cooking practices of households in townships and how these disruptions compelled households to change their practices, ultimately providing insights into their resilient behaviours. The findings derive from participant observations and semi-structured interviews with households and community kitchens. This chapter consists of three sections, each addressing a specific theme that emerged from the data analysis process, namely “cooking practice in townships”, “impacts of energy crisis”, and “households responses”. First, the core aspects, dynamics, and challenges of the cooking practice in the context of Cape Town’s townships are outlined, highlighting the food insecurities faced by households. The second section unveils the implications of the energy crisis on the cooking practice. The section begins by discussing the city's energy system, specifically its instability associated with the intermittent energy supply, known as load shedding. This facilitates a better understanding of the context in which cooking practice challenges materialise and sets a ground for the subsequent segment. Following that, an account of how the energy crisis unfolds in participants’ cooking practices is provided, zooming into each practice’s process. Lastly, the households’ responses to the emergent challenges are discussed in line with the social practice theory, outlining the interrelated elements of everyday practices: materials, competences, and meanings.

### 4.1. Cooking Practices in Townships

Performing cooking in Cape Town starts well before stepping in front of the stove, and extends beyond the kitchen. For the majority, the process began with planning the meals and how to obtain the ingredients, which is a continuous thought that was carried into the workday. Time to prepare the meal, an individual's financial circumstances, weather conditions, family preferences, as well as products at hand were identified by interviewees as influencing their decision on what to cook. Regarding the latter, the ingredients were generally acquired from local vendors or supermarkets. Four of the thirteen households supplemented the buying of food with self-cultivated vegetables, sourced from their personal gardens or farms where they are employed. Moreover, a large, main grocery shopping took place once a month in most households, determined by the schedule of the monthly income or governmental assistance. In some cases, this was complemented by sporadic, need-based shopping. Yet, there were instances that this was not a viable option, one household, in particular, without access to a fridge had to make daily shopping trips.

Once the ingredients are collected, the preparation procedures are undertaken, and it typically coincides with the cooking process. In particular, to make *soft pap* (maize meal porridge), first, the

water was poured from an at-home or a communal tap into a kettle, which was then used to sanitise the water for cooking. It was also said that this practice accelerated the further process of boiling the water on a stove— an electric stove. Once the water is boiled, the maize meal would be added to the pot, and then thoroughly mixed.

This demonstrates the extensive dependence of the households' cooking practices on water, energy, and food resources. Yet, their access and availability was not always guaranteed, as remarked by all interviewees. During the discussions on cooking practices, food insecurity was a frequently cited problem, with households accentuating how the practice was routinely affected by food insecurity. Whilst being recognized as a systematic and long-term issue intricately linked to post-apartheid government's segregation and inequality challenges, the problem has been exacerbated by the COVID-19 pandemic. As explained by an NGO community kitchen founder, the COVID-19 pandemics, besides directly impacting labour and income (i.e. available budget for food), also brought a stop to operations of governmentally funded organisations in the area which restricted the most disadvantaged peoples access to aid at that time. It was within this context that vital mobilizations and initiatives among households transpired, resulting in the formation of a community kitchen network, involving 43 establishments, who fed 4300 people every day. In the period following the pandemic, however, there was a general trend of withdrawal of donations, leaving less than 10 kitchens currently in operation.

On an individual level, food insecurity was generally framed in terms of the rising food prices and households inability to purchase it rather than its physical availability. To illustrate, a few years ago \$42,64 USD was enough to sustain a six-person household's monthly needs, but it currently secures only two bags of food, covering two weeks' worth of meals, as one interviewee reported. As remarked by multiple interviewees, in South Africa there is enough food for all, and the problem is rooted in its distribution:

*“In South Africa, somebody is deciding who can get food, when to get the food. Which all circulates around... having money! So it's ShopRite [a supermarket] who is deciding who can go buy there...only people, who have got money, but a certain amount of money” (Community Kitchen 1, 2024).*

Food prices aside from purely determining the access to food also prescribe the quality of the accessed food. Indeed, the focus group with community kitchen members and a local farmer revealed how the food quality and pricing are generally disconnected, impelling people to opt for low quality and nutritional value food. Furthermore, this typically happened without people being aware of it, which is exemplified by the following quote:

*“There are a lot of things that people are eating that are not aware that are also poisonous... into their own system. And is a regular thing for people that don't have a choice. And I believe governments' duty... responsibility is to stop them..all of the supermarkets...what they sell, that is not nutritious, that is a danger to people's lives” (Community Kitchen 1, 2024).*

Poor nutrition among the community, in addition to being a result of high pricing in respect to households income, were said to be a reflection of the government's insufficient actions within the food sector. Specifically, the households raised concerns over the chemicals in the food that were available at the stores, and eventually they themselves were consuming, due to the lack of affordable and convenient alternatives to fit their lifestyle. Additionally, a common complaint was that the food sold in the shops was past the due date or even spoiled. This was evident with small, local stores,

which are rarely regulated, and hence constitute a risk to consumer's health— violating the fundamental provision of the national constitution about the right to have access to sufficient food.

In spite of these challenges, most households strive to provide three meals per day, including breakfast, lunch and supper. Yet, their nutritional value can not always be guaranteed, with households resorting to bread or ready-to-eat meals at times of need or urgency, when the access to other resources, such as energy is limited.

## 4.2. Cooking in the Energy Crisis: “The no electricity is killing us.”

The preceding section discussed the realities of the cooking practice in the township context, shedding some light on the daily struggles that households are confronted with regarding food provisioning. The following section expands on this topic, providing insights into the implications of the energy crisis on households' cooking practice. Firstly, the participants' experiences with the energy crisis are presented to provide a comprehensive view of the crisis from their perspective. Secondly, the impacts of the energy crisis on the performance of each cooking practice's process are reviewed.

### 4.2.1. Energy insecurity

Electricity, as the primary source of energy in Cape Town, plays a vital role in the execution of cooking practice. Namely, 12 out of 13 households remarked electricity as the most used and/or preferred energy source for cooking, utilising it to power appliances such as electrical stoves, fridges and microwaves. Such inclination stemmed generally from the ease of accessing and managing electricity, compared with other energy sources, as remarked by one household: *“My preference is electricity, it's easier to buy electricity anywhere. You buy it... for example 100 Rand [\$5,30 USD] gives you 40 kJ. And then you put it in your box and it works.”* (Household 8, 2024)

All of the households who had access to electricity obtained it through Eskom's services. When discussing the electrical arrangements, one of the households in Gugulethu mentioned Eskom's current project directed at installing electricity boxes in registered dwellings, including her own shack, and connecting them to the national grid. Being able to obtain an electric box, aside from increasing households' comfort, was also said to enable diversion from the reliance on other people, and thus be in control over their electricity consumption and expenditures. Nonetheless, it did not guarantee reliable and consistent access to energy. The following statement by one of the households highlights that: *“‘Oh, there is load shedding again. Why ESKOM is doing this to us?’ Everyday, it is our song in South Africa.”* (Household 2, 2024)

In fact, all households with a connection to Eskom's electrical grid have reported experiencing load shedding. The stated frequency and intensity of their occurrence, however, varied across the participants. For the majority, it was a daily experience, with its intensity ranging per day and being dependent on the stage of the load shedding. To illustrate, stage four entails 8 hours, 4 times over a day for 2 hours, of no electricity supply. The same households also expressed that the energy crisis was escalating. For instance, a household from Mfuleni noted:

*“Sometimes when it's the weekend, sometimes they used to stop load shedding because it was the weekend. Or Saturday or Sunday, there used to be no load shedding. But now, over the weekend there is no supply. We are even saying, 'Monday to Sunday the same thing'.”* (Household 4, 2024)

Contrastingly, households from Nyanga, Eerste Rivier and Gugulethu said that load shedding has improved to some extent throughout the years, highlighting that it is not a daily occurrence. The differences across townships in relation to load shedding were also evident beyond the aforementioned qualities. Specifically, the timing of the load shedding varied per area, or even within sections of a township.

Whilst load shedding, by definition, is designed to deliberately limit access to electricity, by error, it also facilitates the development of other substantial energy supply issues, namely, energy theft or commonly called cable theft. As the load shedding interferes with lighting, it reduces visibility and consequently, households' surveillance capacities, creating favourable conditions for cable theft to take place. As noted by one interviewee, it typically occurred after 8 or 10 PM, when most of the households were at home, and the streets were unprotected. Among households, energy theft was generally regarded as more problematic than load shedding since it often resulted in longer periods without energy supply, additional costs, and even the need to relocate. A participant from Mfuleni, who previously lived in Langa, shared her experience with energy theft:

*“There are also other problems in the place I lived before, it was an informal settlement. We had other problems besides load shedding, I think once we went without energy for 3 months, I think that was the longest. The energy broke down, also because of energy theft. People didn't have the money or ways to get energy so they would just steal from their neighbours. And often it just broke and then no one could fix it. Even Eskom couldn't do anything with it because it was an informal settlement. So I had to move out from there to my house.”* (Household 8, 2024).

As evident, the impacts of cable theft could be far-reaching, eroding the energy infrastructure and ultimately leaving the entire community without access to electricity for months. Though those from whom it was directly stolen were faced with additional challenges, particularly, the burden of covering the costs related to the generated increased energy usage under their name. Such instances besides constraining the already limited budget of households, were also said to restrict their access to needed electricity units. A household, who was charged with a fine worth \$ 428,53 USD, following the energy theft committed by her neighbour, explained how the sum was subtracted from her electricity payments, stripping her of half of the power units she paid for.

Similar experiences of receiving fewer electricity units than paid for were encountered by multiple interviewees, with energy theft not necessarily always being the problem's root cause. Following the establishment of a community kitchen at her home, one household observed a significant increase in her water consumption. Naturally, this led to increased water bills, which the municipality deducted from her electricity expenses and in doing so, reduced the number of electricity units available. Reflecting on this instance, the interviewee commented: *“Yeah the challenge is the price of water, which then affects our electricity.”* (Community Kitchen 1, 2024)

As further explained by the participants, this had heavily impacted their cooking since electricity played a crucial role in their cooking practice.

#### 4.2.2. Impacts of energy crisis on cooking practices

The energy crisis was commonly cited during the discussion of cooking practices, with the households highlighting how load shedding affected all cooking processes in several, interrelated ways. As most households expressed, load shedding made an imprint on their entire cooking routine, starting with how they acquired the products and continuing with how they ate. Consequently, its effects were difficult to track and assigned under a single, specific cooking practice process, and hence should be considered in an integrated way instead of in isolation.

With many of the store operations being digitised, such as payments, the lack of energy impaired the process of acquiring as a whole. This then not only prolonged the process but significantly intervened with the household's routine, and hence the completion of other tasks, as expressed by one household:

*"I'm a morning shopper. I like to go when there are not too many people. So I'll go into the shop and 'boom' - there is load shedding. Everything is going to stay still. The cashier... 'you can... oh, let's wait for a generator and things... And that's time... You have to be... maybe I want you to come back and do something else. But I have to be there..."* (Household 11, 2024).

The disruptions in the routine were also mentioned in relation to the store's storing challenges. The intermittent energy supply led to the refrigeration units' shutdown, thereby making the perishable food, particularly meat, stored within them susceptible to spoilage. While the severity of the problem was generally lower for supermarkets than for small, local stores, owing to their capacity to afford a generator, households reported instances of buying already-spoiled food in both types of shops. Aside from inflicting losses upon households in terms of resources, such as capital and available food products, it often necessitated them to make additional trips to the store to return the item and/or acquire a new one. The product availability in the store was also affected, limiting households' choices and convenience. Of the choices available, products close to spoiling or spoiled had reduced prices:

*"When they want to get rid of the products because they know it will go wrong. But often they give big deals, so even if you buy it you can't eat it up before it goes bad."* (Household 8, 2024)

Evidently, the energy crisis caused fluctuations in food prices, however, more frequently inflating them. In view of daily occurrences of load shedding, many shops have resorted to generators to address, among others, the above-mentioned issues. Such investments, though, came at the expense of households who faced increased prices—reflective of the store's generator use. Owning a generator was not the sole factor driving the store's prices, with rising electricity costs also influencing them. As one of the interviewee voiced out:

*"For all your food products it got worse. So it affects you...it affects your daily income. Maybe what you get in, you have to give it out on this. If I go by now, for instance, I go buy food by this particular owner of this... the shop owner. I go back... if I tell him like for instance the store around the corner they asked 10 rand [\$ 0,53 USD] for the pudding, he asked 12 Rand [\$ 0,64 USD] for that pudding I ask him "why are you asking me this price for the pudding?" He tells me: 'No, it's because my electricity is a lot of money.' What is that gonna do with me? It's not my problem"* (Household 9, 2024).



By affecting the cost of electricity, the energy crisis not only influenced the prices of food but also the household's disposable income, making financing of the food progressively challenging. This is especially critical, given that load shedding has also altered most household's shopping lists and habits, which caused an increase in spending. Indeed, as the storage disruptions were also evident at household level, most of the interviewees had to adjust their ways of shopping.

While not all households were exclusively reliant on electricity for cooking, kitchen appliances, such as refrigerators and fridges can be only powered using electricity, hence being a cause of many worries among households during power outages. The issue of food spoilage was brought up during all of the interviews, but it was most acutely experienced by those who bought groceries monthly. To explain, buying in bulk necessitates effective storage ensured the freshness of perishable products such as vegetables and meat throughout the entire month, whereas purchasing food more regularly allowed for more flexibility in this regard. On the whole, it was said to affect the amount of food that is adequate to consume at home and eventually placed another strain on the household's budget.

In addition to affecting the quality of the perishable products, the storage issues hindered households' capacity for batch cooking, since it involved storing the meals in the refrigerator. Remarkably, a participant remarked how in a situation when they tried to follow through with their meal preparation routine, they faced an additional problem, namely food waste:

*"[...] I have an experience with the expiry of the food. Maybe I'm cooking for...making three days for food, you put it in the fridge then the load shedding is coming and then the food is gonna expire [...] I just take all of this food and put it in the dirty bin because I can't do it."* (Household 6, 2024).

Again, these incidents impacted households' finances not only due to generating food waste but also by impairing cost-saving strategies (i.e. batch cooking). Moreover, the issue often persisted even after the power was back, since the regular events of load shedding compromised the operation and effectiveness of the refrigeration units. Both partial dysfunctions and complete breakages of the appliances were noted:

*"Terrible because things are getting rotten. Things will rot. You know...[laughs]. We don't have that kind of money to have things rot, you know? That's the problem. So things are rotten, things are breaking, fridges are breaking...stoves are breaking... refrigerators... You know we are worried about everything. We worried about all the electrical appliances so... because that's on and off, on and off all the time...it's breaking things."* (Household 12, 2024).

Another participant pointed out how she lost two refrigerators in a single year. A lack of access to proper (or at times any) cooling storage means for extended time, and additional expenses for their repair, were often the consequences of, as one participant described, *"bloody load shedding"* (Household 9, 2024)

The challenge of appliances being damaged was also mentioned in relation to the discussion of the preparation process. For instance, one interviewee reported that his kettle got damaged as a result of the load shedding. This created a significant challenge to households considering that the majority of interviewees resorted to water purification methods because of poor quality water—often involving the use of a kettle. Besides, the lack of energy supply caused by load shedding hindered the process to begin with. With the water being of poor quality, most households had to purify it before starting to cook, making the practice even more complicated to perform.

Challenges related to load shedding were particularly visible in the context of the cooking process. This essentially can be attributed to the fact that the majority of interviewees used electric stoves and ovens for cooking meals, which were rendered unusable during power outages. Consequently, impairing the household ability to execute their cooking tasks at a particular time, or entirely. Oftentimes, households had no other choice but to wait for the power to be restored, causing them to experience substantial delays in their cooking, and ultimately interfering with the daily routines. This was further exacerbated due to the inconsistency and unpredictability of the load shedding times. Notably, there was no specific time for load shedding, rather its timing fluctuated daily, posing a challenge for the households to prepare and execute their chores. Eskom makes the schedule of load shedding widely available via their app, yet, despite these efforts, the accuracy of the schedule remained in question, and was the source of many frustrations among households. Moreover, those without access or who struggled to operate mobile devices are overlooked in this context, thereby increasing their vulnerability to load shedding as it generally catches them off guard and for an unknown period.

Waiting out load shedding, though, was not possible for all – namely for those who were employed full-time and had less flexibility in managing their schedules. Due to the demands of their schedules, they experienced more difficulties navigating the load shedding times. This was especially evident in the evenings when the participants would return home to no power, sometimes for extended hours, having to forgo a cooked meal; otherwise, it would happen too late, interrupting their sleeping schedules, as pointed by one householder:

*“There are stages when you think I rather sleep without eating because if you are going to come back home at 6 and then until 10 there is not going to be electricity... By that time you are tired from work and then you think you are still em... waiting for the electricity...”* (Household 7, 2024).

In these cases, the cooking process was completely disrupted by load shedding, causing the participants to refrain from cooking a meal, and therefore, sacrificing the consumption of that meal.

Through the interviews it became apparent that load shedding also brought about lasting changes in households' cooking habits. Being faced with regular disruptions and growing restrictions on their cooking capacity, the participants were compelled to abstain from making specific dishes, especially those that were considered as time consuming. For instance, one household shared how her favourite dish, samp, due to its lengthy cooking times, became unfeasible to make because of the disruptive load shedding schedules. Consequently, a dish that was cooked daily had to be limited to once a week. Aside from samp, others also identified steamed bread and beans as energy-intensive dishes, and thus, were refrained from being cooked.

In addition to making the cooking process itself challenging, the power outages had also affected the quality of the cooked meals. Owing to its unpredictable nature, load shedding commonly caught the householders by surprise; frequently while already cooking, causing abrupt interruptions to the process, and eventually influencing its final result. For instance, one participant voiced:

*“Sometimes it's a waste because, if you for instance... if you making bread obviously after when after loadshedding when the lights is on again, then that bread it won't be perfect as the bread that you were going to make”* (Household 1. 2024).

These issues not only impacted the cooking processes, but extended towards the eating process, since they determined the quality and quantity of the food available to consume. Moreover, considering that for the majority cooking was often the only way of obtaining meals, owed to their low incomes and high costs of eating out, the failures in cooking were especially detrimental to them. Notably, during an interview one household highlighted the emotional distress that load shedding had caused him by creating difficulties in completing cooking tasks, and thus providing food for his household.

Another challenge shaping both the cooking and eating process, was related to the dysfunction or complete breakage of heating appliances, such as microwaves. Two participants reported losing microwaves due to the power cuts, emphasising how it had rendered the final cooking task, namely, (re)heating of the food, unfeasible. In consequence, the householders had to either postpone their meal times, or eat the meal cold, as alluded to by another interviewee:

*“And even then, if there's load shedding, and you've cooked, you can't warm your food. You have to wait. Let's say it's from 6 to 8... How can I eat after 8? I am an early eater [...] So I'll have to eat it as it is...cold”* (Household 11, 2024).

Additionally, when asked what are the main cooking challenges experienced by householders as a consequence of load shedding, a few participants identified the lights to cause problems at all stages of cooking, but particularly eating, as they were forced to eat in the dark.

### 4.3. Changes in the Cooking Practice

Having discussed the repercussions of the energy crisis on the households' cooking practice, the following section aims to provide insights into how households navigate and manage these disruptions. The findings on this topic are presented in terms of the three elements of practice: materials, competences, and meanings of the cooking practice under the energy crisis. Through this means, the section sheds some light on the households' cooking resilience. Though, it is important to highlight that while these elements enable households' to manage the crisis, they themselves can be negatively affected. The section concludes with a table that illustrates the impacts of the energy crisis on each process of the cooking practice, as well as the materials, competences, and meanings incorporated by the households to address them (Table 2).

#### 4.3.1. Material

*“So we are struggling a lot on this load shedding, especially when you don't have the other means... when there is no electricity. Because the other people are using gas, or paraffin. So when you don't have one of these two types, it's hard for you.”* (Household 3, 2024)

Households' adaptability practices were frequently mentioned in relation to the impacts of the energy crisis, which is exemplified by the above quote. Being exposed to daily load shedding necessitated changes in participants' cooking practices, including the materials they used. In line with the preceding quote, a common change applied by households involved altering their choice of the energy source. In particular, 14 out of 17 participants have employed gas and/or paraffin in their cooking practice, as an alternative to electricity. Among those, both community kitchens have made the permanent decision to use gas as their primary energy source. This was largely credited to its

reliability and efficiency that were crucial for the successful operation of a community kitchen— that the inconsistent electricity supply couldn't sustain. Yet, for most singular households this was not a viable option. In fact, gas and paraffin were described as expensive, difficult to access, or even dangerous; hence, they generally constituted an alternative or supplement to electricity when needed. Although challenging to manage and acquire, gas and paraffin were said to aid the households in mitigating the degree of disruptions caused by load shedding: *"Oh! To cook is not a lot of problems because I used the gas."* (Household 13, 2024).

Besides investing in the alternative energy sources itself, the households had to acquire kitchen appliances specifically suitable for the energy sources used. Meaning, to make use of a paraffin canister, a paraffin heater was also needed; those who had resorted to paraffin invested in paraffin heaters. Among gas users, a small portable gas stove was most prevalent, with the exception of the community kitchen who relied on an industrial-sized stove. Incidentally, one of the community kitchen founders emphasised how gas stove was more suited to their needs, as compared to electric stove, which generally were smaller in size— not appropriate for their 160 litre pressure cookers. Additionally, use of alternative energy sources has compelled one householder to invest in a gas stove kettle to be able to prepare coffee at all times.

When discussing challenges related to the storing process, multiple households have highlighted the significance of the freezers in dealing with these issues. Owing to their insulation and the presence of frozen items, freezers can maintain low temperatures for an extended period, as opposed to refrigerators. On that account, it has been considered by many as critical in preserving the food during power outages. Reflecting upon the community kitchens struggles caused by energy crisis, one of the founders stated:

*"And I think what also helps you is that... We recently got a big freezer. But before that I remember when you put your veg... on the fridge.. You put your veggies there, and then there would be load shedding and then the veggie would be soft. And sometimes we'll try to close and it didn't close so I think.. this big freezer helped a lot [...]"* (Community Kitchen 1, 2024).

While the aforementioned materials were documented to assist the participants in managing the energy crisis impacts, their accessibility was oftentimes constrained by the households' low disposable incomes. In such instances, the households were compelled to resort to other means, particularly, alternative food products. Bread was most often referenced material in conversations of essentials during load shedding. The intentions behind its use, however, varied among households; a few participants resorted to bread purely as a last resort when being unable to obtain gas or paraffin, others consumed it any time there was load shedding. Moreover, the growing dependency on bread brought about an increase in its price, which was a concern for a few households. Within this context, two householders highlighted that they started baking their own bread, which facilitated their access to it at most times:

*"Like I said, I like baking. There will always be bread. There will only be something to put on bread with peanut butter, jam, margarine. You just... and maybe some cold drink. Yeah, because we can't even make tea."* (Household 11, 2024),

As evident, spreads and cold drinks were among the products households commonly used at times of power outages. Additionally, those who could afford it occasionally resorted to fast foods or ready-to-eat-meals sold at the supermarkets. Alterations in the product selection, though, were not

only apparent when cooking failed, but even when cooking proceeded. More specifically, electricity, gas and paraffin were all seen and treated as scarce products. Hence, the householders typically opted for food products which were quick to prepare and energy-efficient, such as tinned food, noodles, and eggs.

Acknowledging that light was essential for most of the cooking processes, one of the first materials purchased by households in response to load shedding was commonly an alternative light source. Candles were the most prevalent light substitute among participants, owing to their low costs. Despite their affordability, though, candles were not a practical option for all. One household, in particular, who lived in an informal housing remarked that it was dangerous to use candles as it may set her house on fire. In that case, the preferred options were rechargeable lights and the phone's flashlight, which one of the community kitchens also said to use. Lastly, energy saving lights and paraffin lamps were referenced by one interviewee, with the former being the more convenient and thus, preferred light alternative.

Investing in alternative products, however, was not feasible for every one and at all times. For instance, one householder voiced: *"No, it makes things very, very difficult! Because there is not always money to buy these stuff. So [we] can't budget on preps and... When we have the money we do it..."* (Household 12, 2024). The money needed to obtain alternative products often inhibited households' ability to do so, hence highlighting the importance of capital in addressing the load shedding challenges. This is exemplified by the following quote: *"So there's no survival other than having money and making sure that you go and buy [gas]."* (Household 8, 2024). Though instances of the participants obtaining additional sources of money were uncommon, many have reported trying to budget their incomes and set a sum aside for the essential products. Such cases were observable in relation to several materials including, alternative energy sources, kitchen appliances, food products, and lights.

#### 4.3.2. Competence

While materials were crucial to the execution of cooking practice, their effectiveness was generally determined by the households knowledge and skills about how to utilise and manage them. Meaning, a gas stove was to be considered ineffectual to those without any experience or background knowledge about how to operate it. Such tendencies were evident among the participants, with one householder sharing how she was the only one cooking during power outages because her children didn't feel comfortable using a gas stove. Similarly, in terms of capital, multiple participants highlighted how they had started to, or placed more emphasis on budgeting their low incomes to be able to cover the costs associated with the additional demands created by the energy crisis. When discussing her strategies for dealing with load shedding, one participant expressed:

*"So 4 o'clock you wake, there is still no electricity so you must make... take from your pocket to buy bread and stuff, which affects us because now even for your budget you must make way where to take and where to fix."* (Household 7, 2024).

Aside from managing their existing incomes, two households have also exhibited efforts to secure additional revenue streams. Lack of funds at the time of power outage, for instance, has compelled one householder to sell self-grown vegetables among the community in order to be able to purchase

food for her family. As such, budgeting and financing skills aided households in accessing and ultimately, making use of the alternative products.

Another way of accessing funds or resources itself was through the activation of households' social networks. The exposure to the same challenges made help within the community a habitual practice. This help took many forms, ranging from borrowing materials to cooking for each other. Regarding the former, money and food products were the most commonly borrowed materials among neighbours, whereas, gas and paraffin were occasionally obtained on a credit from the local vendors. As one interviewee explained:

*“That's why you make...em... like arrangements to get the paraffin and stuff. But luckily we have people like these Somalians [local vendors], yeah...of which they are very, very friendly. So I am going to go in there without no money and stuff... You ask them: 'no man, can you please help me, can you please help me?' And then they will help without the money and then whenever we have the money we have to go.”* (Household 7, 2024).

Such arrangements, in general, were formed based on personal relations between community members, and hence, were confined to those. One householder highlighted that she only asks for help from the caretaker of her children, as she doesn't have a good relationship with her neighbours. In a similar manner, a few interviewees expressed reluctance to reach for help to friends or neighbours, preferring to rely solely on their family's support. Notably, the significance of family help in managing the cooking challenges was brought up during several interviews. Practices such as 'borrowing a stove' (i.e. making a stove available for others to cook on) were noted among the extended families. On a household level, family members were taking turns to cook based on who was at home to manage the load shedding schedules. Reflecting on the cooking dynamics at her household, one participant emphasised the significance of family support in managing the cooking practice during load shedding:

*“So it's hard for the people that don't have someone at home then you come on the load shedding then you must wait for a dinner. Then you are tired or come from work then you must still cook it. At least there someone who told me... it's much better.”* (Household 3, 2024).

Despite the reluctance of a few participants towards seeking help from their neighbours, for others, the neighbours often constituted the first line of support. As previously mentioned, borrowing food products was a common practice among the neighbours, and in some cases, it extended to meal sharing. One householder also shared how she had asked her neighbour a few times to cook at her home as the load shedding time was approaching and she was still at work. These instances, though, did not occur on a daily basis, but were rather seen as a last resort option. Furthermore, its benefits were often short term. Whilst this holds true in most cases, there was a notable exception. Namely, one of the community kitchen founders has made an arrangement with her neighbour to utilise his land for the establishment of a garden. By this means, the community kitchen has secured an additional food source, which benefited them in the long term. Social networks, in this context, have increased the participant's capacity to respond to cooking challenges caused by load shedding. Yet, there were instances that this was not the case; one householder, who sought help from her neighbours in storing food, discovered at the time of pick up that they had eaten her food, exacerbating her situation.

In addition to receiving support from their neighbours and families, several householders had also sought help at their workplaces (i.e. places of opportunities). A few participants worked at industrial sites, which were typically equipped with generators. As such, at times of severe load shedding events, they commonly served as refuge places for them. This was manifested by households storing their food products, such as meat in the company's fridges, which helped them minimise the risk of food spoilage and food waste. Another householder, who worked in the food industry, remarked how she was allowed to take some of the food products produced by the company during moments of necessity— when being unable to cook meals due to load shedding.

As aforementioned, resorting to social networks was generally considered an alternative; when possible, cooking practice was performed at an individual household level. To increase the likelihood of 'successful' cooking, the majority of households had turned to the ESKOM app to track the load shedding schedules. This action had to be repeated several times throughout the day, as the load shedding times often changed. Although many critiques were raised over the accuracy of the schedules, multiple participants expressed that the app facilitated the cooking practice, reducing the probability of being caught off guard by the load shedding:

*"I will be lying to say so... As I said I always check ahead so I'll be lying... I've never experienced these things when I cook and there is electricity out because I always check ahead."* (Household 7, 2024).

With the load shedding schedules in mind, the households then adjusted their cooking times accordingly. This largely meant modifying the preparation, cooking, and eating times, as these processes were typically executed consecutively. In essence, the adjustments in cooking routines were aimed at increasing the likelihood of cooking with electricity, *"If you want to use the electricity to cook, you must make sure when the electricity is coming back, start cooking!"* (Household 4, 2024). Put differently, it was also a way to diminish the necessity for alternative products, such as energy sources, food products, and lights. As highlighted by one participant, planning the cooking times in accordance with the load shedding schedules allowed for the use of electricity, as well as helped to avoid cooking in the dark. Here it is important to note the difference between intentional and strategic adaptations made by households to their cooking routine to avoid disruptions, and those which happened in the aftermath of being caught off guard by load shedding. The former requires adapting and planning skills, and the other is simply a consequence of load shedding.

The participants also utilised their adaptability and planning skills in relation to meal selection. With load shedding occurring daily and sometimes multiple times throughout the day, the households were frequently left with little time to cook. In such instances, the majority have opted for 'quick meals' i.e. meals that were prepared in under 30 minutes, such as spaghetti. Remarkably, the meal adaptations were also observable at times when households had turned to alternative energy sources. Given that both gas and paraffin were considered expensive and difficult to access, the households tried to minimise their usage by all means. This was manifested in various ways, including changing the meals itself, as well as changing the cooking method. As discussed previously, households commonly selected instant foods, such as noodles, tinned food, and eggs, when using alternative energy for cooking. While choosing these options was shown to help conserve energy, it also came at the cost of the nutritional value of the meals. To overcome this issue, multiple households chose to adhere to their initial meal ideas but adjusted the method of cooking. Namely, instead of cooking the various components of the meal separately, they decided to cook it in one pot. In doing so, the households

reduced the cooking time and thus, the energy wastage. Moreover, cooking in one pot was also practised when one cooked using electricity and the load shedding time was approaching.

While modifying meals and cooking methods was widely practised by all, certain energy conservation strategies were applied only by a few participants. Aiming to optimise their energy use, one of the community kitchens had started soaking their samp over the night to make it softer and, ultimately, speed up the cooking time. Regarding householders, two had highlighted how they combined the tasks of cooking with heating the house to conserve energy. As they were heating their home using a paraffin heater, they would simultaneously cook the food on it, and vice versa. In this way, they achieved dual objectives while minimising energy wastage, demonstrating resource management skills.

Resource management skills were also evident through participants' strategic meal planning. One householder highlighted how she planned energy-intensive meals at the beginning of the month, as it was around that time that she would receive 15 free units of electricity, granted by the state. Remarkably, it was the only participant who had mentioned this state's initiative or any governmental assistance. For other households, meal planning was closely tied to the storing process, as alluded to by one participant:

*“Well, when the power is off the... big problem is the fridge because if I buy meat for a month or three weeks, for example, we have to cook it within two weeks because there's no power. The meat... the fridge is off, the meat is rotten. So we have to cook within two weeks”* (Household 2, 2024).

By planning meal dishes at the beginning of the month, the households sought to use the available resources in an efficient way that minimises food waste. With similar intentions, the community kitchens decided to donate resources to each other when experiencing resource surplus. This not only minimised waste but also facilitated effective operations of the whole community kitchen network. At times the efforts to effectively allocate and conserve resources, however, came at the expense of participants' nutritional needs. Meaning, a few householders were opting to forgo their meals in order to save energy and food products.

Strategic planning skills were commonly utilised in the context of the acquiring and storing process. Following the regular disruptions to the storing process, multiple householders have decided to adjust their shopping practices. The most prevalent change involved shifting from bulk to piecemeal shopping (i.e. purchasing in smaller quantities), which eventually increased the frequency of shopping trips. On the one hand, this facilitated the storing process, as there were fewer products to store. On the other hand, it was said to increase the households' spending, as reported by one participant (Household 1, 2024), *“you're spending a lot now unlike buying one time”*. Notably, bulk shopping was a commonly practised method to save money, which households had to give up when compelled to switch to piecemeal shopping.

Those with the knowledge about food longevity, also utilised food preservation techniques to deal with storing challenges. Among a couple of participants, pickling and upcycling of food products was observable. Perishable foods, specifically, fruits, vegetables, and fish were subjected to the pickling process to extend their life and, ultimately, optimise their use. Regarding the upcycling of food products, while making carrot bread, one householder remarked she typically uses fresh milk, however, as her milk turned sour due to load shedding she was forced to use that to make the carrot bread. In addition, she highlighted that it was not the first time when she had done so; hence, she



knew it would work. As such, the householder's cooking experience and knowledge about food properties enabled her to accomplish her cooking task by efficiently using the available products and minimising food wastage.

Knowledge about product's properties was also shown to assist the households during the shopping, for example, it helped them to distinguish between fresh and spoiled food products. In the long term, it also contributed to households' developing a knowledge of where to find specific products within their neighbourhood, a so-called mental map. For instance, multiple participants have expressed their preference for buying meat at the butchers over the local, small shops because they have previously encountered issues related to food spoilage there. When discussing her shopping habits, one of the community kitchen founders expressed,

*"For instance, as much as I go and ask things from them [local vendors], I will never buy fish from them. I will never buy chicken because I don't know how much the chicken has been frozen and defrosted and frozen. And they are quite... they are not aware of that. Just because I've got the history of deep work in a retailer so I know the life of each and every item that's supposed to be in the freezer. So here I don't!"* (Community Kitchen 1, 2024).

In the same vein, obtaining alternative energy sources required understanding where to purchase it. As previously mentioned, gas and paraffin were considered as difficult to access due to their high costs, rising demand, and the prevalence of fraudulent vendors, as noted by one householder (Phillipi 1, 2024), *"you can't trust always people who sell the gas"*. Hence, the householders had to navigate their neighbourhood to locate places in which they could acquire the necessary products. As one householder stated:

*"Sometimes we got it at our shop or sometimes go there by the ring [to a supermarket] and then if you go there...then you at least must buy five litres [of paraffin] not a litre - so that it can last."* (Household 2, 2024)

Besides demonstrating the householder's insightful knowledge of where to acquire alternative energy sources, the statement points to another important competence, namely preparedness. By purchasing in larger quantities, the householder sought to secure the availability of paraffin over the long term; hence showcasing effective planning and resource management skills. Such tendencies were observable among multiple participants, but not only in relation to alternative energy sources. For instance, one householder noted that she ensured her alternative lights were charged at all times in case of load shedding.

#### 4.3.3. Meaning:

Households' inclination to resort to alternative means, including materials and competence, was strongly determined by the meaning they attached to the cooking practice. Those who viewed the practice as positive and significant were generally more inclined to take the necessary measures to execute cooking. This was especially evident among mothers, who saw cooking as a way of nurturing and therefore, made it their priority to provide food for their children. To illustrate, when asked about the meaning of cooking, one interviewee, a single mother answered:

*“I’m the mother of two kids so obviously I have to provide for them like cooking wise. So in that way, it becomes a responsibility but I would say that I’m not doing something that I don’t like doing; I really love cooking, so it’s a combination of both”* (Household 8, 2024).

From the viewpoint of caregivers, cooking was frequently regarded also as a passion, providing a sense of fulfilment and happiness. Nonetheless, it was the accompanying sense of responsibility for others that was the primary motivator for cooking even in times of adversity (i.e. load shedding). Additionally, it was also what essentially set them apart from the individual households, who solely cooked for themselves and oftentimes had low motivation to do so. At times of power outages, those without children commonly settled for alternative food products, such as bread, or opted to forgo the meal as a whole. For mothers the latter was not an option: “you’re not gonna let the children go sleep hungry” (Household 9, 2024). As such, they had to undertake additional measures to secure food for their children during load shedding. This typically involved adapting their cooking routines and turning to alternative energy sources. Moreover, when there was no money to buy gas or paraffin, parents had to resort to their social network to either borrow money or obtain food directly. The link between having children and exhibiting increased efforts to combat energy shortages, was highlighted by one participant who juxtaposed hers and the in-laws responses to the challenges:

*“Because they [in-laws] don’t care because they don’t have kids. You must see. They can take a piece of bread, they don’t want to worry about the kids. That’s why you...is the parent who must make a plan because you are just thinking about your kids, they must eat.”* (Household 10, 2024).

Resorting to bread and, thus, compromising on warm-cooked meals was viewed by the parents as the last resort option, after exhausting all the other possibilities. There were instances, though, when their possibilities were restricted specifically because of having children. Notably, one householder expressed that she had refrained from turning to alternative energy sources out of fear of potential risk—fuel spillage—to her children. In view of that, prioritising children’s well-being not only fostered a household’s capacity to manage load shedding but occasionally hindered it.

Similarly to the mothers’ view, the community kitchens also regarded cooking as a way to take care of others, claiming it to be their mission assigned by “God” (Community Kitchen 1, 2024). Along with this perspective came the sense of responsibility, which was referenced by all community kitchen workers. While discussing her cooking routine, one of the workers commented:

*“So there’s no way that I cannot wake up in the morning and cook breakfast. Because to take the medication they [community kitchen’s users] depend on the porridge that we do in the morning. We know... even... we know each other too much like we are a family. We are very, very close.”* (Community Kitchen 1, 2024).

Understanding the community’s dependence on their services, the community kitchen workers placed a great emphasis on executing cooking by all means and at all times. This incentive was further strengthened due to the close ties between the community kitchen workers and its users, resembling those of a “family”.

The family-like treatment also translated into the quality of the meals. Meaning, the community kitchens’ workers strived to serve meals that were up to the standards of the food they were cooking at home, in terms of taste, quantity, and nutritional value. Adherence to these cooking norms and values, however, necessitated compromises in other domains, namely the energy costs. To explain, energy

conservation methods, such as turning to energy-efficient food, often came at the expense of the meals' nutritional value, which the community kitchen was unwilling to sacrifice; hence, they bore the costs of high energy usage. Contrastingly, the households often compromised the nutritional value of their meals. This difference was essentially due to the lower financial opportunities of the households compared to those of community kitchens, which received some financial assistance in paying for gas. The degree of responsibility also played a role here. While the community kitchen had hundreds of people relying on their meals, the householders were solely responsible for their family, making it potentially easier for the households to get away with sacrificing the food standards. The discrepancy between the practices of households and community kitchens reflected the degree of importance they assigned to the meaning of cooking as a means to provide nutrients.

Another priority of the community kitchen concerned the satiety value of the meals. As explained by one of the workers, for the majority of the users community kitchens were the sole source of food therefore, it was crucial to cook meals that would keep the users full throughout the day. These practices extended well beyond the community kitchen context, with the reliance on high-satiety value foods being ingrained in the culture. Traditional South African food cooked by the kitchens and households prominently featured starchy foods, such as samp, rice, and millie meal, ensuring a satiating effect. Upholding these food customs during the energy crisis, however, was challenging; cooking starch required high energy use and, thus, came with increased expenditures on alternative energy. As such, multiple participants limited cooking the traditional meals, and those who didn't were compelled to employ the additional measures. That being the case, the meaning of cooking as a cultural act generally diminished, emphasising energy-efficiency more than anything else.

Yet, there were instances when the energy crisis provoked households to embrace the cultural cooking practices. As remarked by a few interviewees, the South African cuisine incorporated many "quick" meals, which the householders turned to in the face of load shedding. One householder, who discussed the time constraints brought about by load shedding and strategies to address them, said:

*"[...] in our culture we have so, so, so, so many...when it comes to [quick] food! Because you see now, with that meal that I'm going to cook for today it's not even going to cost me so much time. Not even an hour because it's going to be meat with pap, cabbage, with a mix of veg [vegetables]." (Household 7, 2024)..*

While discussing this matter, the householder uncovered the lid of the pot to present a traditional one-pot dish. As previously mentioned, cooking one-pot dishes was a common method to reduce energy and time wastage. Considering that, the cultural practices at times assisted the households in dealing with the load shedding, gaining a new meaning in daily cooking.

Making one-pot dishes, however, was not always a desirable and cultural practice, with households often having no other choice but to mix all their meal components in one pot— even when they did not mix nicely. In such cases, the enjoyment of cooking and subsequently, eating it was compromised:

*"It changed everything. I like to cook too many meals. Let's say, I like a full plate. Not too much but too many pots... like vegetables... different, different kinds of meals, you know? But with loadshedding you just have to fix one thing in one pot." (Household 11, 2024).*

As cooking with a limited energy supply had become the 'norm', the function of cooking practice as an enjoyable activity diminished, with one householder directly stating she had lost her passion for

cooking due to load shedding. Instead, cooking turned into a strategic practice, oriented at managing and conserving limited resources and cooking in one pot was an illustration of it. Such a shift was notable across all cooking processes. For instance, the householders compromised on the eating experience and settled for cold meals to avoid alternative energy wastage. The use of alternative energy itself left an imprint on the cooking and eating experience, as heating food with gas was generally quicker and, thus, required the practitioners to be more attentive during the process. As such, operating a gas stove was challenging for some, especially those with less experience in cooking and commonly resulted in the food being either undercooked or burned. Regarding the acquiring process, the focus shifted from being about convenience to a “hunt” for alternative products, as one interviewee described. Similarly, the storing process had lost its convenience aspect, as it was frequently impaired and, thus, had to be supplemented with daily shopping trips. These examples illustrate that with the habitual activities becoming obstructed due to load shedding, the cooking practice had undergone a substantial transformation; new materials, such as gas stoves and alternative food products, were incorporated into the practice, which then conditioned the emergence of new skills, ways of thinking, and meanings. Essentially, the meaning of cooking practice was reevaluated and centred around compromises, adaptability, and strategic planning, conveying the struggle with load shedding. One householder summed up this shift, stating:

*“Oh when there is no load shedding, you come back, you get to your kitchen and you cook what you have in the fridge, with peace of mind. Not like during load shedding that you need to constantly improvise and you end up not eating what you wanted.”* (Household 8, 2024).

Load shedding compromised the sense of spontaneity, freedom, and fulfilment associated with cooking practice and in their place emerged frustrations and stress. As remarked by multiple interviewees, completing cooking practice during the energy crisis necessitated them to stay alert at all times, and with that came endless worries. For instance, one householder shared that she was stressed about load shedding damaging her fridge every time she left home. Worries were also conveyed regarding the implications of load shedding on households’ health and finances— resorting to alternative food products was both unhealthy and expensive. Moreover, the idea of having to restore to alternatives in itself was stressful, as one householder expressed (Household 12, 2024): *“Yeah we get worried sick. We get worried sick. Because we don't have a second option... So we are going to panic more then.”*

Aside from being a stressor, the inability to execute cooking tasks due to energy challenges was said to cause frustration. In doing so, it fundamentally (re)shaped the cooking experience. During the focus group with the community kitchen, the participants discussed their frustrations with cooking during the load shedding building upon both household and community kitchen experiences. While doing so, they conveyed a decreased desire to engage in the cooking practice, implying that they viewed it as a burden. On a community kitchen level, the frustrations experienced by the cooking practitioners had further implications on those who benefited from their cooking (i.e. the community kitchen users), as alluded to by one of the community kitchen workers,

*“Then imagine you are having to serve people and you are frustrated. It's just not the best combination because you're frustrated that you are not able to do something for them [community kitchen users]. And shame they don't know your frustration. You don't want to smile and they ask ‘oh my god what happened to you?’.”* (Community Kitchen 1, 2024).

Although not explicitly stated, being exposed to frustrated community kitchen workers could diminish the user's enjoyment of the eating experience and even tarnish the general idea of obtaining food via the community kitchen. In other words, such experiences at the various cooking phases had the capacity to significantly influence the meanings individuals attached to the practice.

The social significance of cooking practice was also enhanced in the aftermath of the changes made to the cooking practice. As stated before, being exposed to the same challenges had increased the understanding within the community of each other's struggles, which further translated into numerous acts of help. In particular, employers assisted their employees by allowing them to store food at the workplace and bring food products or fresh water home at times of need; this help was founded on understanding another's issues, "*They don't have a problem because they know the problem. It happens to them also*" (Household 1, 2024). Multiple participants indicated their reliance on others to execute the practice during load shedding, highlighting the meaning of cooking as a collaborative practice. Cooking brought people together as the individuals cooperated to achieve a shared goal, namely, the completion of an individual's cooking practice. This, in turn, led to the establishment of new relations, as well as the enhancement of the already existing ones, fostering community-building.

For a few participants, the reliance on others had negative connotations, implying their lack of self-sufficiency and arising sense of being burdensome. When discussing how the damage of a fridge affected her everyday life, particularly, the cooking practice, one householder said: "It's terrible man because I don't want to disturb other people and take my meat in there [into the neighbours house]" (Household 9, 2024). Having to rely on others for the storing process, made the cooking practice as a whole complicated, since the householders had to align the timing of their cooking tasks with the availability of their neighbours. Consequently, the process of cooking extended over time and was fraught with uncertainties, demonstrating the decrease in cooking convenience and associated stability in food provision.

Table 2

Cooking Process	Energy Crisis Challenges	Material	Competence	Meaning
Acquiring	<ul style="list-style-type: none"> <li>● Not being able to purchase food at the time you wanted - disturbing the routine                             <ul style="list-style-type: none"> <li>● Prolonging the shopping experience</li> </ul> </li> <li>● Limited availability of fresh food due to refrigeration issues at supermarkets.</li> <li>● Decrease in prices due to spoilage risk</li> <li>● Difficulty in using electronic payment methods</li> <li>● Reduced availability of products due to high demand for alternative products (e.g. paraffin)</li> <li>● Increased financial burden</li> </ul>	<ul style="list-style-type: none"> <li>● Funds for the alternative products</li> </ul>	<ul style="list-style-type: none"> <li>● Financing &amp; Budgeting                             <ul style="list-style-type: none"> <li>○ Borrowing Money</li> </ul> </li> <li>● Social Network (Neighbours, Local Vendors, Friends)                             <ul style="list-style-type: none"> <li>○ Places of opportunities (Gardens, Work)</li> </ul> </li> <li>● Knowledge where-to-buy</li> <li>● Self-sufficiency (food production, gardening)</li> <li>● Strategic shopping (Piecemeal shopping)</li> <li>● Planning Skills/Preparedness</li> <li>● Knowledge about products longevity</li> </ul>	<ul style="list-style-type: none"> <li>● The focus from purchasing everything from store shifts towards self-sufficiency (gardening)</li> <li>● Acquiring process gains more social value, as the households' reliance on others increases</li> <li>● Shopping is associated with inconvenience, as the households had to shifts from bulk purchasing to daily purchasing</li> </ul>
Storing	<ul style="list-style-type: none"> <li>● Load shedding damages the cold storage appliances</li> <li>● Quality of the food is compromised</li> <li>● Waste of food &amp; having to replace the lost products</li> <li>● Increased financial burden - having to spend on rebuying spoiled products</li> </ul>	<ul style="list-style-type: none"> <li>● Freezer</li> <li>● Non-perishable food products</li> <li>● Funds for the repair expenses of broken appliances &amp; to buy freezers</li> </ul>	<ul style="list-style-type: none"> <li>● Strategic shopping</li> <li>● Meal Planning &amp; Resource management (Cooking meat quickly after buying)</li> <li>● Knowledge about electricity &amp; Preventive action (taking plugs out)</li> <li>● Knowledge about refrigeration units</li> <li>● Food preservation methods (pickling &amp; repurposing 'spoiled' products)</li> <li>● Places of opportunity (storing food at work and local shop)</li> <li>● Resource management (sharing food surplus - to not lead to waste)</li> <li>● Energy conservation</li> </ul>	<ul style="list-style-type: none"> <li>● Storing shifts from long-term storage to daily purchasing, highlighting the struggle and adaptation needed.</li> <li>● Storing process becomes a stressful activity                             <ul style="list-style-type: none"> <li>○ Stress related to financial distress (the appliances and food breaking)</li> <li>○ Stress related to reliance on others</li> </ul> </li> <li>● Storing process underscores the importance of adapting and strategic practices to minimise food waste.</li> </ul>

	and fixing appliances			
Preparing	<ul style="list-style-type: none"> <li>• Inability to use electric appliances (blenders, food processors, kettle)</li> <li>• Purification</li> <li>• The load shedding damages appliances, such as kettle</li> </ul>	<ul style="list-style-type: none"> <li>• Alternative energy sources</li> </ul>	<ul style="list-style-type: none"> <li>• Energy conservation techniques (soaking samp over night)</li> </ul>	<ul style="list-style-type: none"> <li>• The preparation processes revolved around energy conservation.</li> </ul>
Cooking	<ul style="list-style-type: none"> <li>• Not being able to cook at the time you want (change of routine - waiting out) <ul style="list-style-type: none"> <li>◦ Prolonging the cooking time</li> </ul> </li> <li>• Not being able to cook what you want.</li> <li>• Not having access to clean water because they are not able to boil it.</li> <li>• Limited cooking methods (no electric stoves, ovens).</li> <li>• Having to invest in alternative food products - reliance on alternative cooking products</li> <li>• Emotional pressure to provide food</li> <li>• Leads to the microwave not being functional</li> <li>• Having to cook in the dark</li> </ul>	<ul style="list-style-type: none"> <li>• Funds for alternative products</li> <li>• Alternative energy sources (Gas, Paraffin, Wood)</li> <li>• Alternative food products (bread, eggs, tinned food, peanut butter, margarine, jam, cold drinks, noodles, take-aways )</li> <li>• Appliances : Gas Stove, Paraffin Heater, Gas Kettle</li> <li>• Light Alternative</li> </ul>	<ul style="list-style-type: none"> <li>• Planning skills <ul style="list-style-type: none"> <li>◦ Tracking load shedding schedule</li> <li>◦ Preparation foresight</li> </ul> </li> <li>• Resource management <ul style="list-style-type: none"> <li>◦ Energy Conservation</li> </ul> </li> <li>• Alternative cooking methods</li> <li>• Adaptability Skills <ul style="list-style-type: none"> <li>◦ Adapting meals</li> <li>◦ Adapting cooking routines</li> </ul> </li> <li>• Time management (Speeding the cooking time)</li> <li>• Social Network</li> <li>• Know-how about alternative energy</li> <li>• Knowledge about what to and what not to cook (energy-efficient meals)</li> </ul>	<ul style="list-style-type: none"> <li>• Diversion from cultural practices</li> <li>• Embracement of cultural practices (many easy and quick meals)</li> <li>• Making the process of cooking frustrating and longer</li> <li>• Cooking shifts from being about the pleasure of preparing food and providing basic needs; it's a strategic activity aimed at managing and conserving limited resources such as money, water, food, and energy.</li> <li>• Cooking processes underscores the importance of collaboration and proactive planning to maintain meal preparation despite energy disruptions.</li> </ul>

Eating	<ul style="list-style-type: none"> <li>● The taste of the food changes when cooking with gas</li> <li>● The load shedding disturbs the storage process and therefore changes eating habits and impacts the diet - eating less meat at the end of the month -</li> <li>● Eating not as nutritious food</li> <li>● The load shedding disables appliances such as microwave, leading to cold or pre-cooked meals</li> </ul>	<ul style="list-style-type: none"> <li>● Light Alternative (Candles, Paraffin Lamps, Energy Saving Lights, Rechargeable Lights, Phone's Flashlight)</li> </ul>	<ul style="list-style-type: none"> <li>● Adaptability Skills <ul style="list-style-type: none"> <li>○ Adapting Eating Times</li> <li>○ Eating cold meals, quick meals</li> </ul> </li> <li>● Forgoing a meal</li> <li>● Planning skills (Charging the lights)</li> </ul>	<ul style="list-style-type: none"> <li>● The enjoyment of meals is compromised, shifting focus to solely practicality and conserving resources <ul style="list-style-type: none"> <li>○ Accepting the 'necessity' of cold meals</li> <li>○ The taste of the food is compromised</li> <li>○ One-pot meals</li> <li>○ Eating process becomes a rushed activity</li> </ul> </li> <li>● Eating process becomes a stressor due to lack of stability in food provision and worry about potential health risks.</li> <li>● Accepting the necessity of altering desired eating times</li> </ul>
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## 5. Discussion

This research sought to supplement the limited discourse on WEF Nexus and everyday life by analysing household cooking practices during Cape Town's energy crisis. While WEF resources are vital for the performance of everyday life, their synergies and trade-offs are neglected at the household level and instead addressed in relation to large-scale infrastructure systems and policies aimed at mitigating resource crises. However, with the minimal understanding of the everyday use, management, and issues of households in relation to WEF resources, the development of appropriate and effective solutions can be inhibited. The findings of this research, therefore, highlight these critical issues in the everyday practice of cooking, along with the households' resilience responses to them.

Through the lens of SPT, this research has highlighted the application of WEF resources in the cooking practice. Examining cooking practices within the context of the energy crisis not only disclosed the direct impacts of the apparent energy insecurity on cooking but also how this insecurity influenced the two other WEF resources, which then collectively altered the cooking practice. Notably, the unstable and unpredictable electricity supply significantly affected the access, quality, and use of water and food resources, consequently shaping the practice of cooking. With the water purification process being regularly disrupted due to the lack of electricity and infrastructural deficits—communal taps supplying discoloured and polluted water—households faced increased deprivation of potable water. As water is a vital cooking ingredient, its reduced availability has altered households' food availability or, at the very least, the types of meals consumed. This corresponds with Mguni et al. (2020) findings, where energy constraints infringed upon households' safe water supply, diminishing their cooking capabilities to prepare meals. Intrinsically, it points to interdependencies between WEF resources on a household level, where energy has substantial trade-offs and synergies with the two other resources.

Nevertheless, there are notable variances in household cooking experiences with the WEF Nexus across previously published works associated with the different case study contexts. As seen with Mguni et al. (2020) whose research surrounded households in Uganda, many of which possessed no access to electricity (nine out of ten households). This absence of electrical connection mitigated issues related to electrical-dependent appliances and actions. Cold food storage, for example, was of no concern for respondents in Uganda where a lack of electrical connection prevented household possession of refrigerators (2020). For residents in the Cape Towns' townships who relied on refrigerators for cold food storage, loss of power caused storage challenges and food spoilage. Electricity has a more prominent role in the cooking practice in Cape Town, and, thus, when electrical outages occur, their cooking practice is substantially obstructed.

Aside from the impacts of the trade-offs and synergies between the three resources within the home, households also bore the brunt of WEF interdependencies that transpired outside their homes. Specifically, supermarkets and local shops also faced challenges due to the lack of energy, impairing their operations. For households, these issues were perceptible in the increased food prices, decreased food quality, and transaction issues, all exacerbating the already limited food accessibility and availability. Though the relationship between energy availability and food security on a household level has been highlighted by various scholars (Ahmed, 2022; Foden et al., 2019), this was largely discussed in relation to failures of energy-demanding operations within the cooking processes. Evidently, the acquiring process also reflects this relationship, as revealed in this study. Thus, it is a largely overlooked facet of the cooking process. The study reveals that by incorporating this facet

within the cooking practice, critical energy and food trade-offs, which determine the success of households' cooking practice, can be observed.

While the water and food dependency on energy (electricity) was highly notable, the interdependencies between all three resources were captured scarcely by the data, except in one case. Reportedly, households' access to electricity was dependent on their water usage, or more precisely, the price they had to pay for it. By linking water and energy through a single invoice for all services, the city has increased households' susceptibility to the energy crisis, stripping them of energy units to cover any overdue costs of water, further decreasing their available time to use energy beyond the load shedding. This impeded access to electricity, inevitably, negatively imposed on households' ability to perform cooking practice and, thus, to provide food. Importantly, this demonstrates how the nexus of WEF resources, embedded within the broader provision of services, contributes to the vulnerabilities of households in townships.

When exploring how households' cooking practices are affected by the issues at the intersection of WEF, variations in the responses of participants were evident. Notably, the interrupted electricity supply significantly affected those who depended on electric stoves for heating and cooking their food (cooking process), as opposed to the few participants who used gas as their main energy source for cooking. These findings point to two key insights. First, it highlights the importance of the cooking process within cooking practice, as disruptions in this particular process can affect the entire course of the practice and its function fulfilment. Second, it indicates the vital role of materials in determining the households' ability to respond to the crisis, as having a gas or electric stove influenced if a household could carry out the cooking process during a power outage. Crucially, it was evident that the ability to respond to a crisis depended on the access to and active integration of materials (alternative energy sources, lights, and food products; appropriate appliances; capital), competences (know-how of alternative materials, financing and budgeting, adaptability and planning skills, resource management, social network, knowledge of where-to-buy, knowledge of product longevity), and meanings (nurturing through cooking, health-conscious cooking, cooking as cultural practice, community-building through cooking, strategic cooking, cooking as a stressor).

The composition of these elements of practice was not ubiquitous, varying amongst participants. These variations indicate that there are critical household characteristics affecting the recruitment of specific materials, competences, and meanings and, thus, households' ability to respond to the crisis (Abi Ghanem et al., 2016). Namely, household financial situations, schedules of working adults, number of dependents, children's presence, and local availability of resources shaped participants' responsiveness to the disruption. Owing to the number of dependents, the community kitchens chose to substitute electric stoves for gas stoves, as they constituted one of the most crucial appliances in the cooking practice. While householders supporting families also resorted to non-electric cooking alternatives, they were merely utilised during load shedding due to financial constraints inhibiting the investment in permanent transition. As such, most of their responses consisted of daily acts of adaptation to mitigate interruptions to their eating habits. These responses ranged from purchasing alternative food products, adjusting their cooking routines to leveraging their social networks. Lastly, single occupants homes, who generally gave cooking practice low priority as they had no dependents in the home, demonstrated minimal efforts when cooking failed. Instead, they were more tolerant of energy disruptions, resorting to instant meals or forgoing meals altogether until power returns. In this context, the number of dependents contributed to practitioners' motivation to seek alternatives and, through these alternatives, exhibit resilience behaviours.

Moreover, the financial situation was at the forefront of the participants' responses to the energy crisis. As households struggled to pay their electricity expenses, to begin with, incurring additional costs related to maintaining the alternative energy sources was not an option for everyone or at all times. Food consistently being spoiled further exacerbated households' financial situation, as they had to allocate more of their income to replace what they lost due to the energy crisis. These additional (routine) spendings to restore the normal state following a disturbance likely impacted their ability to invest in more permanent solutions.

Community kitchens experienced improved financial situations and opportunities— though still insufficient for stable functioning— enabling them to make these investments and bypass several disruptions caused by the energy crisis. As opposed to households, they did not incur significant income loss as a result of food spoilage; the high volume of community members served daily resulted in food being in constant rotation, (i.e. the food being stored for shorter periods). Additionally, community kitchens were in positions to receive support from others, both in the form of food donations and funding, facilitating their ability to invest in more permanent solutions. Considering that community kitchens' primary function revolves around cooking practice, any assistance they receive will be plausibly directed towards enhancing the performance of this practice in everyday usage and during the energy crisis. Whereas, assistance received at the household level will likely be used to cover the broader needs of the home, not particularly centred around the cooking practice.

From the data presented, it is evident that households implemented various changes to their cooking practices to ensure daily food provision during the energy crisis. By restoring, adapting, and transforming materials, developing and enhancing essential competences, and tolerating new meanings, households had repeatedly managed to provide a meal on a table. According to the theoretical framework, fulfilling a cooking practice function in the face of a disturbance is indicative of resilience. Nevertheless, this was not without stress, frustration, and loss of passion for cooking. Not to mention that, of the food that was provided, the nutritional value was more often than not compromised, as well as the quantity and portion of the meals. As such, it is important to consider if food provision merely entails the provision of any food(s) or rather encompasses a standard of quality of the food consumed; food provision in times of resilience—especially those over extended periods of time— shouldn't compromise the Cape Town's households basic rights that the country's constitution itself proclaims.

Though many households altered their practices to the best of their abilities to adhere to the energy crisis, and display resiliency, these alterations should remain in the short-term sense. In the long term, they appear to be insufficient as they already cause people emotional distress, financial burden, malnutrition, erosion of the cooking practice's meaning, and perpetuating inequalities. As these conditions have been a mainstay for years, consideration should presently look to remove communities from this constant state of resilience. Specifically, resolutions need to be sought to improve the current standard of living by bringing stability to households experiencing regular turbulence. In light of the energy trade-offs and synergies with water and food resources, mitigating the energy crisis alone would substantially improve households' well-being concerning all three WEF resource insecurities.

## 6. Conclusion

The objective of this research was to investigate the application of WEF Nexus in everyday life, particularly focusing on the households' experiences of the energy crisis in the context of their cooking practices. Being informed by the Social Practice Theories, this research offered a view into how the energy crisis impacted the practice of cooking and how modification in the elements of practice enabled households to respond to them, highlighting their resilience. Given the high level of households' electricity dependence throughout the whole cooking practice, no process remained undisturbed (e.g. storage processes with non-active refrigerators, cooking process with inoperable electric stoves, and eating processes without lights). As these processes were essential in determining the access, quality, and use of water and food resources, the disruptions within them further translated into these resource security. Namely, energy disruptions constrained households' ability to obtain food, maintain its freshness, and essentially transform it into a (nutritional) meal. Water, though a necessary part of the cooking practice, did not have as many trade-offs with energy as food; it was mainly required during the purification process. All combined, the security burden on WEF resources jeopardised households' ability to perform cooking during power outage events and at times caused a complete failure of the cooking practice.

These disruptions in cooking practice relating to materiality led households to seek alternative methods and essentially, modify their current cooking practice. Resorting to gas and paraffin, as alternative energy sources, was proven to be the most common and effective method to mitigate the cooking practice disruptions. Nevertheless, they required necessary capital, as well as knowledge and skills on how to operate them, which not every household possessed. In such instances, households arranged their cooking around the load shedding schedules, resorted to alternative food products, or turned into social networks. For the majority, the responses also involved increasing the number of shopping trips to minimise the risk of food spoilage, forgoing desired meals or at times the whole meal itself to conserve scarce resources and, thus, ensure their availability for the next day.

On the whole, it was found that households' responses were shaped by the available materials, possessed or newly developed competences, and meanings they attached to the cooking practice, as well as the interlinkages between them. As the problem was directly related to the material disruptions, the incorporation of new materials (e.g. alternative energy and food) enabled households to an extent mitigate the repercussions of the energy crisis. However, without the appropriate competence to use and manage these materials, the materials were rendered suboptimal; for example, owning a stove does not equate to being useful in a crisis if one does not know how to operate it. Finally, the type and extent of modification made was heavily dependent on the meaning that households attached to the cooking practice, reflecting their motivations, values, and purposes.

All things considered, the energy crisis had substantial effects on households' cooking practices, directly interfering with the three critical materials of the cooking practice, WEF resources. Nevertheless, even under the conditions of the energy crisis, households still sought to ensure daily food provision. By modifying their cooking practices through the materials, competences, and meanings, households' ability to tolerate, restore, adapt to, and (to a lesser extent but still apparent in the community kitchen context) transform from cooking disruptions was significantly enhanced. This was evident by householders' efforts to persistently secure a meal on a table, albeit at lowered standards than previously achievable. Resilience is defined in terms of function fulfilment and, thus, the households' practices are demonstrative of resilience. However, the degree of resilience wasn't

uniform among all participants; while some responses were common, others were exclusively performed by a few participants, owing to the different household characteristics, especially financial situation. Besides, the effectiveness of their responses was largely dependent on the nature of the disruption itself, as several responses were proven ineffective when power outages occurred unexpectedly or for extended periods. Taking this into account, it can be claimed that the changes made by the households in their cooking practices in response to the energy crisis, while somewhat resilient in terms of survival, are insufficient to ensure complete stability.

When considering how these insights could aid those striving for development, it is important to first understand the research limitations. Firstly, the research was subjected to time constraints, which restricted the data collection process and, consequently, the size of the sample group. Specifically, as the sample group comprised 13 households and two community kitchens, the research findings may not be generalisable to the broader population. Moreover, while extending the research area to encompass numerous Cape Town's townships was intended to increase the size and diversity of the sample, a significant number of households resided in Mfuleni, leading to an uneven representation of each township. Similarly, both interviewed community kitchens were located in Gugulethu; hence, the data gathered during those interviews may not be reflective of the situation in other townships.

Secondly, the variation of the settings in which the interviews were conducted might have affected the quality of the data. Particularly, conducting the interviews in participants' homes yielded the research insights that went beyond the verbal responses of the households, such as the physical setting of participants' kitchens, and participants themselves showing specific cooking supplies; this was unrealistic when conducting the interviews at participants' working places or online. Besides, the different setting and mode of interviewing might have contributed to a different experience among the participants, plausibly influencing their responses and, therefore, the consistency of the data.

Thirdly, as the data collection process was confined to a few field visits, multiple interviews had to be conducted on the same day, resulting in time restraints for every visit and conducting visits outside of cooking times. This, in turn, restricted the process of gathering observations of the cooking practice, ultimately resulting in only two observations being made. Given that social practices are generally performed by practitioners without much conscious attention, the research being primarily based on interviews might have failed to record vital households' cooking practices, as well as resilient behaviours—the householders themselves may not have been aware of them and therefore didn't mention them during the interviews. As such, future research should strive to incorporate participant observation or walk-along interviews—as Heidenstrøm (2020) has proposed—to supplement the findings from this research and provide a comprehensive view of households' resilience, cooking practice, as well as WEF Nexus.

As the focus of this research was particularly on households in townships— areas significantly burdened by political, social, and economic challenges, as well as infrastructural deficits—there is a need to research this topic in a different context. Future research, in particular, should investigate the implications of the energy crisis on the cooking practices of households in higher-income neighbourhoods. Insights from such research would allow comparison between the different areas in terms of challenges faced and resilience approaches, ultimately revealing how socio-economic status impacts households' resilience.

Furthermore, the data collected implied some discrepancies in the energy crisis experiences and cooking practices between participants in formal and informal housing; yet, the underrepresentation of

households in informal housing rendered meaningful comparison and well-grounded conclusions unachievable. A comparative analysis of the everyday practices of those households, would provide insights on those differences, and new insight into the provision and consumption of the WEF resources, and their Nexus.

While there are several limitations to this research, its findings offer vital insights into the everyday household-level synergies and trade-offs of WEF resources in Cape Town's townships context, as well as households' cooking resilience. Such insights constitute valuable information that can aid urban practitioners in formulating solutions that respond to the specific needs of these communities. Striving towards a thorough reformation of the city's energy sector and addressing the disparity in energy access between townships and the other parts of the city should be the central focus of the city's agenda. However, understanding the practicalities and time frame of such reformations, this research calls for medium-scale interventions that can be implemented in a shorter time frame to ensure immediate improvements in households' lives. Namely, providing households with accurate and reliable information on the load-shedding timing and duration could considerably improve households' navigation and management of the energy crisis challenges and, therefore, should be at the forefront of the city's and ESKOM's agenda. The timing of the load shedding itself should be addressed too. As multiple participants reported, load-shedding was particularly disruptive in the early morning hours, when households were under time constraints to prepare before work or school; thus unable to postpone their meal preparation time. Ensuring energy supply during these hours could alleviate households' challenges related to morning food provision and reduce their distress.

Recognising the significance of alternative energy sources in coping with cooking disruptions, a subsidy should be implemented to assist households in accessing and sustaining these resources over the long term. In the context of the ongoing load-shedding, such subsidies would be far more productive for households, compared to those currently in place, which merely grant free units of electricity. Furthermore, the City of Cape Town should introduce programmes and subsidies specifically designed to support community kitchens in their operations. Based on the findings, one form of such assistance could include reduced water tariffs or water bill subsidies. By addressing the issues related to water expenses, such initiatives could concurrently improve the kitchens' energy and food security, reflecting the assertions of WEF Nexus. Not to mention that the benefits of such initiatives would spread across the broader community, as they can improve community kitchens' operations and essentially the ability to serve others. Such initiatives, however, must take into account the specific constraints faced by community kitchens run by households in townships and, hence, provide appropriate assistance throughout the application process.

To mitigate the impacts of the energy crisis on households' cooking practices and ultimately, their nutritional intake, the city should implement additional regulations and increase oversight over the operations of supermarkets and local shops in townships. Crucially, these regulations should ensure households' access to affordable and quality food. However, this should not come at the cost of shutting down local shops; thus the provision of additional assistance for the local vendors should be considered. Given their role in aiding householders cope with the energy crisis, their presence within townships is essential.

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## 8. Appendix

### Appendix 1 Interview Guides

#### Interview Guide - Community Kitchens

##### Background information

1. Can each of you briefly introduce yourselves (eg. age, occupation) and your role or involvement with the community kitchen?
2. Could you tell me what motivated the establishment of the community kitchen?
3. How many people does the community kitchen serve? (eg. Per day)
4. From your experience in the community kitchen, could you tell me a bit about the people who come here? Who are the primary users of your services?
  - a. Are there any regulars? What do you think motivates them to return?

##### Cooking dynamics of the community kitchen.

5. How many meals do you serve per day?
  - a. Is it the same everyday or does it change sometimes? If yes, what influences it?
6. What time do you serve the meals and does the timing vary considerably on a daily basis?
  - a. What are the factors that influence the timing of your meals?
7. Could you tell me where you get the ingredients for the meals? Do you buy the food in supermarkets, local shops, community gardens or do you use your own crops?
  - a. Why that place? What is the reason behind this decision to buy there?
8. Could you tell me what cooking/preparing meals means to you? (eg. duty/goal/hobby)

##### Energy + load shedding

9. What energy sources does the community kitchen rely on for cooking and other operations?
  - a. Is the access to energy consistent?
  - b. Is it affordable?
  - c. Where do you get it from?
10. What are your experiences with dealing with these energy problems (load shedding or price of energy)
  - a. Do you normally prepare ahead of load shedding or does it often catch you off guard?
    - i. Could you give an example of how you prepare?
    - ii. *\*Dig deeper\** Could you describe what you typically do when you experience such energy problems while cooking (eg. load shedding, prices of energy)?
11. Could you tell me how energy disruptions have influenced your cooking habits?
12. What specific difficulties do you experience when preparing meals during load shedding?

- a. Which appliances are the most challenging to use?
  - b. When load shedding occurs, how do you handle the food stored in your fridge?
    - i. Do you employ any methods to extend the product longevity of your food? Such as pickling
    - ii. Did any of the appliances ever break because of load shedding?
13. How do you manage to cook/prepare meals despite the ongoing energy problems? (eg. load shedding, prices of energy)  
 \*Dig deeper\* Could you describe any strategies you've implemented to continue serving meals despite these problems? (Or do you normally just wait it out)
- a. Do you rely on any alternative energy solutions? (eg. paraffin, gas, wood)
    - i. If yes → Do you always (gas) readily available?
    - ii. When did you get it? Was there a specific moment you decided to buy it/invest in it?
  - b. What about light? How do you handle light related challenges during load shedding? Especially when it's dark and the mealtime approaches
  - c. Do you have any strategies to speed up the cooking process or minimise energy use? (Eg. cooking in one pan)
14. What support or resources do you rely on to minimise the impact of load shedding on meal service?
- a. What are the key products you make sure to have in case of load shedding? (Eg. bread or pap)
15. Have you had to give up or stop using something (eg. a product or device) in your cooking routine because of the limitations imposed by energy problems?
16. Was load shedding always a problem? Did it get worse over time?
17. How has load shedding influenced your diet and the people you serve?

#### Water

18. We talked a lot about the energy problems so now could you tell me a bit about water...How does the community kitchen manage water usage and access to it?
- a. Is the access to water consistent?
  - b. Is the quality of the water good? Drinkable?
  - c. Is it affordable?
19. What are the main challenges the community kitchen faces regarding water insecurity?
20. How does it affect the cooking practices?
21. Are there any solutions or practices employed to save some water in the kitchen operations?

#### Reflection - Educational Programmes

22. Are there any educational programs or initiatives to assist the community members in sustainable practices related to food, water, and energy?

#### Interview Guide - Households

## First Section - Background information

Nadia:

Now that we have this overview, let's start with the first part of the interview.

This part will consist of easy questions, I want to know something about you, so

1. Can each of you briefly introduce yourselves?
  - a. What is your age?
  - b. What is your current occupation?
    - i. Student
    - ii. Employed full-time
    - iii. Employed part-time
    - iv. Homemaker
    - v. Unemployed
    - vi. Retired
    - vii. Other (please specify)
2. Do you live close by? Could you tell me a bit about the area?
  - How long have you lived here?
3. Could you tell me a bit about your household? (so I could understand your home dynamics)
  - a. Do you live with your family?
  - b. How many people live with you?
  - c. Are there any children in the household?
    - i. (What kind of house is it? Informal/formal).

Understanding everyday cooking practices:

4. Could you tell me what cooking/preparing meals means to you? (eg. is it a duty, your goal, your passion?)
5. Could you talk me through a typical day of cooking in your household?
  - a. Are you usually the one preparing meals at home?
  - b. Does anyone join/help you with cooking?
    - i. \*How old were you when you started cooking?
  - c. How many meals do you prepare per day?
    - i. Is it the same (number) everyday or does it change sometimes? If yes, what influences it?
  - d. What time do you have your meals AND does the timing vary considerably on a daily basis?
    - i. What are the factors that influence the timing of your meals?  
(Eg. kids come back from school, load shedding).
  - e. Do you usually plan your meals in advance, or do you decide in the moment?

- i. If yes, what do you take in consideration when making the decision what to cook on a specific day?

## Energy Crisis

6. What energy sources do you rely on for cooking and other operations?
7. What are your experiences with dealing with load shedding? /Could you describe what you typically do when you experience load shedding?
  - i. Do you typically prepare ahead for load shedding, or does it often catch you by surprise?
    1. \*If yes, could you give an example of how you prepare yourself for load shedding?
    2. \*If not, what do you typically do when faced with load shedding? What do you usually do during load shedding time? What activities?
  - b. Could you tell me a bit more about how load shedding has influenced your cooking habits?
    - i. \*How does load shedding impact your ability to prepare meals?
    - ii. What specific difficulties do you experience when preparing and cooking meals during load shedding?
      1. Which meal preparation tasks are you unable or find challenging to perform during load shedding?
      2. What about devices or equipment? Which are you unable or find challenging to use during load shedding?
        - a. (STORING) When load shedding occurs, how do you handle the food stored in your fridge or freezer?
          - i. Do you open the fridge?
          - ii. Do you try to cook or prepare the items that may go bad (using alternative energy sources? Like gas stove)
          - iii. Do you employ any methods to extend the product longevity of your food (eg. pickling?)
          - iv. Do you make use of support from others: friends/family/neighbours/work (ex. in storing it at their fridge or cooking it there)?
          - v. Do you ever find a different purpose for the ingredients that may spoil due to load shedding interruptions? (eg. milk)
  - c. How do you manage to cook/prepare meals despite the ongoing load shedding? Could you describe any strategies or adaptations you've implemented?/ What do you do when you are hungry during load shedding?
    - i. For example, do you have any strategies to speed up the cooking process or minimise energy use, especially when dealing with load shedding?
      1. What do you cook then?

- ii. Are there any alternative energy solutions or practices implemented to reduce reliance on traditional energy source
    - i. \*Gas/Paraffin - Do you always have gas readily available?"
      - 1. When did you get it? Was there a specific moment that made you buy it? What motivated you to invest in it?
      - 2. How did you learn how to use it?
    - ii. How do you handle light-related challenges during load sheddings, especially when it's dark and let's say a mealtime/cooking time approaches? Do you use any alternative lighting solutions? Or do you eat in the dark?
      - 1. Light - Do you charge it everyday? How often do you charge it?
  - iii. How do you prioritise meal preparation tasks during load shedding to ensure timely service?
- d. Have you had to give up or stop using/ doing something in your cooking routine due to the limitations imposed by load shedding?  
(For example, is there a dish you are doing less because of how much time and energy it requires?)
- e. Has load shedding had an influence on your diet?
  - i. Do you find yourself relying more on certain types of foods or ingredients during periods of load shedding? If so, what are they?  
(Eg. What are the key resources/products/ingredients you make sure to have in case of load shedding?)
  - ii. How do you ensure access to nutritious meals despite potential food insecurity?
8. Was load shedding always a problem?
- In your opinion, did it get worse or better over time?
  - How and in what way?

#### Acquiring

9. Could you tell me where you typically get your ingredients for your meals? (eg. supermarkets, local shops, community gardens, and their own crops).
- a. What is the reason behind choosing this option/place?
  - b. How often do you go there? Do you typically do a monthly grocery and stock up? Or do you make more frequent trips to the shop for smaller shopping needs?
    - 1. Why



2. How do you get there?
- c. How does load shedding affect how you get/shop food (like going to the supermarket).
- d. What has been your experience at the store during load shedding?
  - i. Have you ever noticed any changes in how they operate or challenges they face during load sheddings (for example, regarding storing the food)?
    1. Have you ever come across any discounts or special offers due to load shedding?

## Reflection

10. Do you apply any of these strategies/tactics also when electricity is working normally?
 

For example, do you find yourself consuming the same kind of products that you bought for load shedding even on a typical day?

Do you ever opt for a gas stove over electric one to cook something even if the electricity is there? For example, to cook something quicker?

Do you apply the aforementioned strategies to minimise water usage on a daily basis or only in the face of water supply disruption.
11. Have you ever exchanged tips or advice with neighbours or friends on coping with load shedding during cooking?

## Appendix 2 - Informed Consent

Nadia:

My name is Nadia, and I am a student from Utrecht University in The Netherlands. I came to Cape Town as a part of the Nexus project, which is mainly focused on learning about water, energy and food crises in South Africa.

I, specifically, decided to do my research on how residents experience these crises and how they impact their cooking practices. That being said, I would like to ask you some questions about it.

I am interested in everyday life and learning about what you as the community kitchen do when the electricity, water supply breaks down. Some of the questions that I ask might seem silly, but they matter because they will help me learn about how residents are prepared for and deal with breakdowns.

But before I ask you for your official permission, I have to inform you about some ethical aspects of this study.

1. The whole interview process will take no longer than 45 minutes and the questions are about your personal experiences, feeling, perspective, so there is no right or wrong answer!
2. Moving on, the ethical aspects. The interview will be anonymous, so your name and personal details won't be mentioned or published anywhere.

3. I was planning to record the interview to be able to listen to it again and capture all the important information. However, I will only do so if you give me your permission for it.
4. Only I will have access to the recording, so no one else will listen to it.
5. During the interview, I will also be writing some notes down, but please don't stress too much about this because as I said at the beginning there are not right or wrong answers. It's mainly to make sure that I capture your ideas well.
6. You will be asked after the interview if there are any particular parts in the interview that you do not want us to use.
7. Lastly, I would like to stress the fact that if at any point of the interview you wish not to answer a specific question, feel free to do so.

Is everything I mentioned until now clear to you?

The interviewee:...

Nadia:

Would you like to participate in this study?

The interviewee:...