

Empirical Empowerment: How methods of
evaluating women's empowerment shape
understanding of agricultural and nutritional
development in Busoga, Uganda

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Greenwich for the Degree of Doctor of Philosophy

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DECLARATION

I certify that the work contained in this thesis, or any part of it, has not been accepted in substance for any previous degree awarded to me or any other person, and is not concurrently being submitted for any other degree other than that of Doctor of Philosophy which has been studied at the University of Greenwich, London, UK.

I also declare that the work contained in this thesis is the result of my own investigations, except where otherwise identified and acknowledged by references. I further declare that no aspects of the contents of this thesis are the outcome of any form of research misconduct.

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ABSTRACT

Since the widespread adoption of gender mainstreaming within international development programming, there has been strong demand for standardised methods of measuring women's empowerment; however, there is not yet consensus on best practices. This research critically examines an increasingly popular tool, the Abbreviated Women's Empowerment in Agriculture Index (AWEA Index) and its applications in agricultural and nutritional development research and practice. Drawing on empirical mixed-methods data from Busoga, Uganda, this research closely inspects the technical details of the AWEA Index's construction as well as its conceptual assumptions and assesses its overall suitability for reflecting the lived experiences of Basoga women. The results suggest that the Index may be better suited for measuring resilience in agriculture, rather than empowerment. The AWEA Index and its variations have also been used to investigate pathways between women's empowerment and children's nutrition outcomes. This research applies these established methods of analysis to the data from Busoga and juxtaposes the results against a reproductive justice framework. Results suggest that the latter provides a more robust theoretical foundation for nuanced understanding of the complex relationships between women's empowerment and children's nutrition. In an effort to provide practical recommendations to future international development interventions, this research also synthesises the findings on women's empowerment in agriculture and nutrition, identifying intersections between all three objectives, and flagging points of potential conflict. This includes a proposed conceptual framework and method for designing international development interventions based on analysis of women's time use, labour roles, and life-course narratives.

This research presents a critical analysis of dominant theories of women's empowerment in international development, and demonstrates the advantages of alternative approaches, proposing tangible tools for future development programming. In doing so, this research directly confronts the persistent challenge of evaluating women's empowerment across diverse contexts.

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CHAPTER 1: Introduction

The pursuit of women's empowerment provokes contentious debates in the international development community. These tensions are not always apparent at first glance. Few would argue that women's empowerment is unimportant to international development, and one might expect such mainstream support to yield unified and streamlined programming. Yet, upon closer inspection of this cause, a tangled web of fuzzy definitions, diverse cultural norms, conflicting motives, and elusive benchmarks begins to appear.

If a programme's goal is to increase empowerment, is this different from increasing gender equality, gender equity, agency, power, or status? Is empowerment in agriculture different from empowerment in nutrition, or in business, or in other contexts? Does empowerment in one domain ever come at the expense of empowerment in other domains? Does empowerment mean something completely different to a younger woman compared to an older woman? A woman with or without children? An educated or uneducated woman? Who decides what constitutes empowerment? If valuing women's lives transcends culture, and is a global human right, then how much diversity exists in the ways local cultures express and protect that human right?

In this thesis, I cannot definitively answer these questions. But I do endeavour to contribute a better understanding of what it means to promote women's empowerment through international development programmes. To provide context, I first review the historical literature on women's empowerment and gender equality in international development and trace the narratives that preceded the international development community's current definitions of women's empowerment, as well as definitions of related (sometimes conflated) terms, such as gender equality and agency. Clear, meticulous definitions of these words are necessary tools for understanding the concepts underpinning current discourses about women's empowerment in agricultural development projects, nutrition development projects, and especially projects that aim to incorporate women's empowerment into both agriculture and nutrition activities. These concepts vary in the degrees to which they are explicitly expressed in academic and grey literature, and implicitly expressed in the operations of international development activities. I aim to present a clear picture of the ways in which these concepts of women's empowerment influence, interact with, and even conflict with each other.

However, to understand how differing ideas of women's empowerment appeared and evolved in agriculture and nutrition projects, it is first necessary to situate them in the broader context of theories of women's empowerment in international development, and in feminist scholarship. Although this thesis is not nearly capacious enough to accommodate a comprehensive review of empowerment theories in all international development literature and feminist literature, a pithy overview provides essential tools for tracing how theories shaped methods, observing how methods in turn shaped theories, and forecasting how innovative methods and evolving theories could shape future development practice.

With this historical foundation laid, I turn my attention to women's empowerment as it appears in agriculture and nutrition scholarship and development practice. In particular, I focus on the Women's Empowerment in Agriculture Index (hereafter abbreviated as either the 'WEA Index' or simply the 'Index'), a quantitative metric for measuring women's empowerment that has gained widespread application since its debut in 2013 (Alkire et al., 2013). The authors of this Index tackled the daunting challenge of devising a simple and intuitive – yet comprehensive and nuanced – quantitative indicator of a complex, latent social dynamic (i.e. women's level of empowerment in the context of agriculture). While this thesis cannot give the final verdict on whether the Index achieves its objectives, I aim to contribute a measured and rigorous assessment of some of its strengths and weaknesses. Several variations on the Index have emerged in recent years, and while my research is relevant to all their shared features, the data I analyse employed the Abbreviated Women's Empowerment in Agriculture Index ('AWEA Index' or 'Index'¹) (Malapit et al., 2015a). Therefore, my analyses examine this version in the greatest detail.

To this end, I closely inspect the components that make up the Index, paying particular attention to its time use domain (one of five domains in the composite Index). On a conceptual level, time use is a proxy indicator for women's empowerment (rather than a direct measure), and therefore requires cautious analysis before concluding what, if anything, differences in time use imply about differences in empowerment. As these methodological idiosyncrasies intertwine with conceptual complexities, there is a risk of distorting assessments of

¹ Where the differences between the AWEA Index and original WEA Index are important, I refer to them by their respective acronyms. I use the shorthand 'Index' both for clarity and for ease of discussing WEA Index variations as a whole, where applicable.

empowerment. I aim to clearly delineate the ways in which these methods and theories interact, to guide their application in future evaluations of women's empowerment.

As the second element of my investigation into measuring women's empowerment, I consider the ways in which women's empowerment in agriculture interplays with women's empowerment in nutrition. The concise, quantitative nature of the Index has made it an appealing tool for charting relationships between women's empowerment and nutrition outcomes, especially in children's nutrition (e.g. Bonis-Profumo et al. 2021; Cunningham et al. 2015; Cunningham et al. 2019; Malapit et al. 2015; Malapit & Quisumbing 2015; Sraboni et al. 2014; Tsiboe et al. 2018). The Index is also well-positioned to serve as a key evaluation tool in international development projects that incorporate elements of women's empowerment, agriculture, and nutrition (e.g. gender dynamics in nutrition-sensitive agriculture or bio-fortified crops).

However, discourses in international development have not yet reached a consensus on the conceptual framing of the relationships between women's empowerment and nutrition outcomes. That is, the theorised pathways between women's empowerment and nutrition outcomes are not altogether clear, and prone to instrumentalist² ideas of women's empowerment. Therefore, I first map the existing theories of pathways between women's empowerment and nutrition outcomes and locate them within broader discourses on women's empowerment in international development. I also consider an alternative conceptual framing of the relationship between women's empowerment and children's nutrition, drawing upon theories of reproductive justice. I highlight the places where these discourses align and conflict, and the implications for interpreting data on women's empowerment and nutrition outcomes.

To understand first-hand the advantages and limitations of each of the aforementioned methods and conceptual frameworks, and to ground my research in a specific context, I collected data on women's empowerment in agriculture and nutrition in Busoga, Uganda, using a mixed methods approach (for more details on the region of Busoga, see Section 3.7, p. 71). Tying

² Briefly stated, 'instrumentalist' describes concepts or actions that position women's empowerment as a means to achieving some other outcome (i.e., women's empowerment is an *instrument* for achieving something else), as opposed to something that has *intrinsic* value on its own. I explore these concepts in greater detail in subsequent chapters.

these interrelated topics together, my investigations are rooted in three central research questions:

Question 1: How do different frameworks and methods of data collection and analysis influence interpretations of women's empowerment in agriculture in Busoga, Uganda?

Question 2: What relationship(s) exist between women's empowerment and children's nutrition in Busoga, Uganda?

Question 3: How do theories of women's empowerment in agriculture align or conflict with theories of women's empowerment in nutrition?

(For more detailed articulations of these research questions, see Section 2.4, p.48.)

Building upon the discourses explored in the literature review (Section 2.2, p. 7) I use both existing precedents and competing narratives to inform my conceptual frameworks (Section 2.3, p.46) and methods (Chapter 3, p.51). The conceptual frameworks and methods I ultimately employ result from both the influence of these theoretical discourses and the location of my research within larger collaborative projects exploring methods of measuring and understanding nutrition and women's empowerment (Chapter 3, p.55). After collecting different assessments of women's empowerment in agriculture and nutrition in the context of Busoga, Uganda, I analyse my results using these conceptual frameworks, and reflect upon how the choices of both methods and conceptual frameworks construct understandings of women's empowerment. Ultimately, I hope to produce conclusions that may guide the design of international development programming focusing on women's empowerment, agriculture, and nutrition. I expect that the implications of this research will be particularly relevant to the monitoring and evaluation component of such programmes, given my focus on underlying theories of change (i.e. conceptual frameworks) and design of indicators (i.e. methods of measuring empowerment).

On the most fundamental level, I aim to understand how different interpretations (according to different conceptual frameworks) of the data I collect in Busoga could reinforce or challenge existing theories of women's empowerment in the international development community,

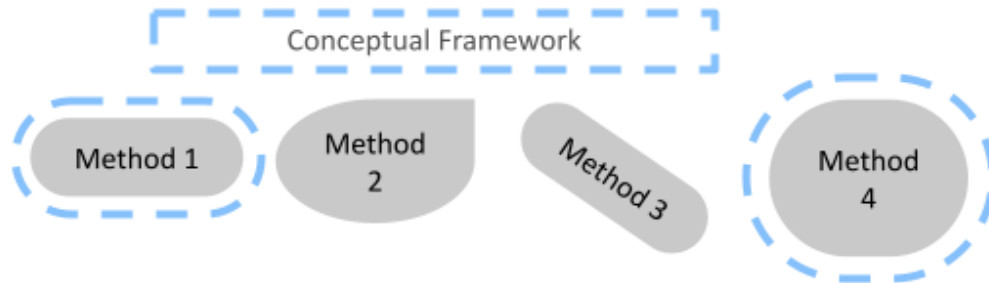
especially in the context of a research community that values analyses built upon standardised methods and quantitative data. That is, my research acknowledges that:

- 1) The choice of conceptual framework will influence how a researcher designs data collection and interprets datasets. (See Figure 1)
- 2) The choice of data collection method in turn influences subsequent analyses and conclusions (because the data collection process inevitably introduces biases, according to the types of information chosen, the types of information omitted, the standpoint of the researcher(s), etc.).
- 3) My research is situated in the context of international development communities and academia, which do not place equal value on all methods of data collection.

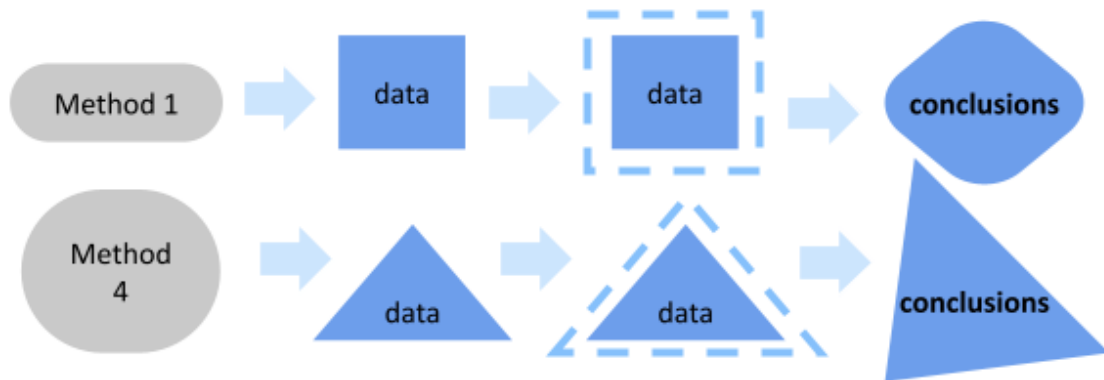
Therefore, the following literature review maps the conceptual frameworks, methodologies, and cultural context in which my research is situated.

Figure 1: Interactions between conceptual frameworks and methods
(Source: Author's illustration)

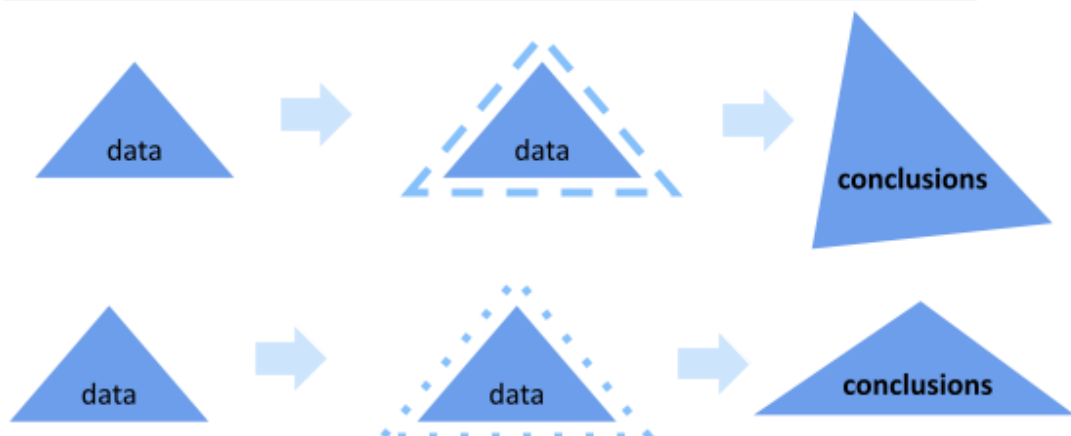
The conceptual framework helps to choose which method(s) to use.



Different methods produce different data, and potentially different conclusions, even with the same conceptual framework.



Different conceptual frameworks produce different analyses, and potentially different conclusions, even with the same dataset.



CHAPTER 2: Literature Review, Conceptual Frameworks & Research Questions

2.1 Introduction

In this chapter I set the stage for my research, beginning with a review of current literature related to women's empowerment, agriculture, and nutrition. The scope of this review includes a brief history of women's empowerment in international development (section 2.2.1, p. 8), definitions of empowerment and related terms (section 2.2.2, p.11), reasons for evaluating empowerment (section 2.2.3, p.14), methods of evaluating empowerment, with a focus on the Abbreviated Women's Empowerment in Agriculture Index (section 2.2.4, p.15), and the theoretical and empirical intersections between agricultural development, women's empowerment, and children's nutrition (section 2.2.5, p. 31).

Building upon the discourses outlined in the literature review, I delineate the conceptual frameworks that I apply in my research (section 2.3, p. 46). In brief, this comprises two opposing types of conceptual frameworks (theories based on an instrumentalist valuation of women's empowerment vs. theories based on an intrinsic valuation of women's empowerment) applied to three interrelated subject areas: 1) women's empowerment and agricultural development, 2) women's empowerment and children's nutrition, and 3) women's empowerment, agricultural development, and children's nutrition (i.e. when integrated into a single development programme).

Finally, I establish the three core research questions that structure the body of this research (section 2.4, p. 48), including each question's scope and rationale. These three questions mirror the subject areas described in section 2.3; briefly stated, they are:

- 1) How do different frameworks and methods of data collection and analysis influence interpretations of women's empowerment in agriculture in Busoga, Uganda?
- 2) What relationship(s) exist between women's empowerment and children's nutrition in Busoga, Uganda?

3) How do theories of women's empowerment in agriculture align or conflict with theories of women's empowerment in nutrition?

2.2 Literature Review

2.2.1 Women's Empowerment in International Development

As Global North-led international development emerged following World War II, initiatives targeting women mostly took the form of welfare and relief projects, rather than encouraging economic activity (Buvinic, 1986). This approach reflected prevailing social attitudes toward women in several ways. First, as recipients of welfare aid, women were considered vulnerable, similar to children, the elderly, the sick, and the disabled, whereas men were viewed as agents with the capacity to change their economic circumstances. Second, because these programmes focused on delivering food and other basic needs to women, while establishing economic opportunities for men, they reinforced the idea that women's primary roles in households are as mothers, and that child-rearing is their greatest contribution to a country's economic development. Third, undervaluing of women's labour appeared not only in the attitudes toward women in the Global South, but also toward the Western women involved in organising women-focused programmes, which were often heavily dependent on Western women's unpaid labour (Buvinic, 1986).

During the 1970s, the welfare approach to women in development began to fall out of favour. In a landmark study, Boserup (1970) critically examined the assumption that women made only minor economic contributions to their households. From her analysis of women's economic roles, particularly in agriculture, she concluded that women's economic contributions were vastly underestimated or ignored, both within and outside the home. At the same time, modernisation theory fell under criticism from proponents of dependency theory, which rejects principles of Western/Global North cultural superiority and argues that colonialism and globalisation have created a world structure that exploits developing countries and perpetuates the dominance of developed countries. These rising calls for a change in development's consideration of women culminated in the UN's declaration of 1975 as International Women's Year and 1976-1985 as the Decade for Women. These events produced new approaches in development collectively described as Women in Development (Moser, 1989; Rathgeber, 1989). Looking back on the unfolding of these approaches, Moser (1989)

roughly categorised them as the equity approach, anti-poverty approach, efficiency approach, and empowerment approach.

The equity approach drew upon the idea that women are active economic participants, yet have not benefited from development projects, and may even have been negatively affected by them. For example, if women in a society do most of the agricultural harvesting, and a development initiative increases crop yields, then work burdens increase for women but not for men. Furthermore, if women do not have equal access to managing household finances, then the profits gained from higher yields will benefit men more than women (Boserup, 1970). The equity approach sought to recognise women's economic activities and ensure that women benefit from projects as much as men, deliberately redistributing power as necessary. This approach was short-lived, in part because of an absence of trusted methods for measuring gender equality and empowerment at the time (Moser, 1989). In addition, some development agencies resisted tackling gender inequality because they believed it either constituted the imposition of cultural hegemony, or that women would be uninterested in feminism until their basic health needs (somehow divorced from feminism) were met (Moser, 1989).

The anti-poverty approach developed in response to the difficulties of the equity approach, reducing the emphasis on women's inequality, and instead focusing on simply reducing women's poverty. These projects argued that women's unequal access to productive capital, such as land tenure or loans, were at the root of gender inequalities, and that supporting women's economic growth concurrently produces gender equality. However, these projects tended to promote traditional divisions of labour, rather than create employment opportunities for women in roles dominated by men. They also often failed to recognise women's unpaid domestic labour, or women's capacity to be the household's primary earner (Moser, 1989). In addition, with gender equality demoted to an indirect effect of development projects, tangential to central objectives, many projects aligned with the anti-poverty approach during planning stages, but then resembled the welfare approach when actually implemented (Buvinic 1986).

The efficiency approach similarly focused more on limitations on women's productivity than gender inequality. It took this argument even further, reasoning that increasing women's economic activity is not only good for women, but is also a powerful tool for increasing global development overall. Thus, failing to fully incorporate women into the global economy is

discriminatory; but more to the point, it is a waste of labour resources. Equity again was seen as a by-product of, rather than prerequisite for, development. This approach was very popular with governments and development organisations, as it was much less difficult to integrate into capitalist expansion, and it dominated international development programs following its appearance in the mid-1970s (Moser, 1989). In this respect, the efficiency approach allowed women and gender to become prominent elements in development discourses, despite the inherent tensions between maintaining capitalist growth and disrupting gendered power dynamics (Cornwall et al., 2007; Razavi, 2017).

The empowerment approach, as described by Moser, was nascent at the time of her writing (1989) and not widely recognised. While similar to the equity approach, it grew out of feminist movements in the Global South, and thus was not imposed upon nations by Western institutions. In the spirit of these feminist movements, the empowerment approach extended beyond a simple tabulation of women's traditional roles and obstacles, and recognised broader, intersecting issues of gender, race, class, and culture, positing that the redistribution of power is essential to international development.

The arguments of the empowerment approach became steadily more common in the early 1990s, gaining global prominence at the 1995 4th World Conference on Women in Beijing. This meeting produced the United Nations (UN) Beijing Declaration and Platform for Action, which identified gender mainstreaming as a key component of attaining gender equality (Krook & True, 2010), and stated that:

“It is essential to design, implement and monitor, with the full participation of women, effective, efficient and mutually reinforcing gender-sensitive policies and programmes, including development policies and programmes, at all levels that will foster the empowerment and advancement of women.”

(UN, 1995, p. 3)

Soon after the release of this declaration the term ‘gender mainstreaming’ became shorthand for this process of integrating women into development. The key difference between gender mainstreaming and all preceding development approaches is that it positions gender equality as not only a goal of projects specifically devoted to empowerment, but a cross-cutting issue to be integrated into *all* levels of international development, regardless of what other project objectives or frameworks are employed. This concept marked a transition from Women in

Development to Gender and Development (sometimes abbreviated as WID and GAD) (Cornwall, 2007). Building upon postcolonial and postmodern feminist theories, the GAD approach brought the structural causes of gender equality to the forefront of development discussions (Rathgeber, 1989), and emphasised the importance of participatory methods that allowed women to shape their own empowerment (Jaquette, 2017). GAD proponents also advocated for recognising gender equality as a worthy development goal in its own right, rather than merely as a tool for increasing economic growth (Jackson, 1996). For example, the Millennium Development Goals, created by the UN in 2000, included gender equality and women's empowerment as a standalone goal. Today, most development institutions, including national governments and multinational non-profits, have adopted policies pledging to incorporate gender mainstreaming.

However, despite the widespread rhetoric centring gender equality and women's empowerment in international development, consensus on how to define, promote, and measure empowerment remained elusive (Cornwall et al., 2007). As international development projects have faced increasing pressure to incorporate women's empowerment into their activities, there has been a concurrent demand for standardised methods to evaluate and document women's empowerment.

2.2.2 The Difficulty of Defining Empowerment

To evaluate women's empowerment, the first step is to define empowerment. This is not as straightforward as it might at first appear. There are many ways to hold or exercise power, and many ways for that power to increase. To complicate matters, some words that are similar to empowerment – such as agency, power relations, autonomy, and equality – often appear in discussions about empowerment, and the distinctions between these terms are not always clear. Fortunately, with a close examination of where these terms converge and diverge, these empowerment-adjacent terms can provide a crisper image of what precisely empowerment is.

Agency & Autonomy

In studies of women's empowerment, when agency is considered, it is most often equated with women's decision-making (Kabeer, 1999b), though some measurements of agency have also included mobility and attitudes/beliefs (Salem et al., 2020). Some authors frame agency (women's individual goals and decisions) in contrast to structure (the gender norms in the

surrounding environment that create the opportunities to make decisions); only when these two elements exist together can empowerment take place (Desai & Johnson, 2005; Alsop et al., 2006; Samman & Santos, 2009). In an alternative framework, Sen (1985) proposes a broader definition of agency: “what a person is free to do and achieve in pursuit of whatever goals or values he or she regards as important” (p. 206), and empowerment is simply the “expansion of agency” (Ibrahim & Alkire, 2007) over time (Samman & Santos, 2009). For Malhotra and Schuler (2005), agency places focus on the role of women themselves in the empowerment process. They write:

“Hypothetically there could be an improvement in equality by various measures, but unless the intervening process involved women as agents of that change rather than merely as its beneficiaries, we would not consider it empowerment. However desirable, it would merely be an improvement in outcomes from one point to another” (p. 72).

Here Malhotra and Schuler articulate a slippery paradox: that focusing exclusively on (allegedly) objective outcomes when evaluating empowerment is missing the point. This distinction between receiving material benefits and experiencing expanded agency still eludes many agricultural development programmes (Johnson et al., 2018).

This psychosocial aspect of empowerment is often glossed over in quantitative indicators and indices (Malhotra & Schuler, 2005; Pratley, 2016). To incorporate it into measurements, it may be helpful to consider the methods used in research on subjective well-being. Survey questions that assess well-being might include asking individuals how their current life compares to their best/worst possible life, whether they feel happy or stressed, and whether they are happy with the amount of freedom in their life (Graham & Nikolova, 2015). O’Hara and Clement (2018) paired these less visible markers of empowerment with the Women’s Empowerment in Agriculture Index by piloting a quantitative measure of critical consciousness. This consisted of a set of survey questions measuring perceptions on domestic violence, intra-household gender dynamics, and women’s place in politics and education.

However, in some cases quantitative methods may be insufficient for fully understanding how women exercise agency in decision-making, and how this relates to empowerment (Ghuman et al., 2006). When researching the relationship between intimate partner violence and women’s food and nutrition insecurity in Bangladesh, Lentz (2018) found a framework of “burdened agency” helpful for understanding how women make choices about feeding

themselves and their families. Interviews revealed how women navigate a highly constrained environment – weighing risks (e.g. triggering a violent partner, going hungry, or compromising their children’s nutrition) against their available coping strategies. The rich detail captured by the interviews demonstrated how “burdened agency” more accurately described women’s lived experiences than the traditional tropes of “heroic” runaways and “passive survivors” commonly used in studies based solely on quantitative associations. Research seeking to better understand the psychological processes underlying women’s actions (or lack thereof) might also incorporate theories of self-efficacy, i.e. the degree to which an individual believes that their actions are likely to achieve their intent (Bandura, 1977; Conger & Kanungo, 1988). A woman may make fewer or less persistent attempts to exercise agency if previous attempts have not yielded benefits; conversely, strengthening psychological empowerment can help women grip tighter control over their own lives (Henry, 2011; Hansen, 2015).

While autonomy often functions as a synonym for agency (Richardson, 2018), it can also connote a narrower range of decision-making abilities, such as financial autonomy (Shroff et al., 2011) and “choices that affect herself and her family within her own particular context” (Carlson et al., 2014, p. 1). Autonomy also tends to describe an individual’s actions in relation to other actors, rather than the deliberate planning that agency implies. (For example, an autonomous vehicle sounds much less intimidating than a vehicle with agency.) Empowerment differs crucially from autonomy and agency in that empowerment is a process (Kabeer, 1999b; Malhotra & Schuler, 2005), whereas autonomy and agency usually describe a static ability (Agarwala & Lynch, 2006; Pratley, 2016).

Individual & Collective Empowerment

In addition to the importance of understanding the exercise of agency at the individual’s psychological level, Ibrahim and Alkire (2007) articulate the conjoined truth that increased exercise of agency (i.e. empowerment) can only occur when the conditions of surrounding institutions change. Therefore, empowerment must be analysed at multiple levels, from the individual to the institutional. Kabeer (1999) describes these levels of empowerment as immediate, intermediate, and deeper; Malhotra and Schuler (2005) describe them as micro-, meso-, and macro-levels. Targeting disempowerment at the institutional level would require interventions that aim to transform gender norms and support women’s organising and activism, giving space for women to navigate their own pathways of empowerment, as advocated by

Cornwall (2016). Cornwall & Rivas (2015) also stress this point, stating: “Empowerment is fundamentally about changing power relations. It is not just about improving women’s capacities to cope with situations in which they experience oppression or injustice” (p. 405). However, current measurements of women’s empowerment typically focus on individuals acting within existing power structures, rather than groups organising to challenge them (Oxaal & Baden, 1997; Malhotra & Schuler, 2005).

Fluid Definitions

Defining and measuring empowerment is exceptionally difficult. Some methods of evaluating empowerment eschew a definition prescribed by the researchers, and instead ask the women participating in the research how they themselves define empowerment, and use this as the starting point for their research design (e.g. Galie & Kantor, 2016; Ickes et al., 2017; Volker & Doneys, 2020). It is important to acknowledge that some feminists argue that empowerment’s elusive nature is not a problem to solve, but an indication of its deep value. According to this perspective, we should embrace the stance that empowerment can never be fully pinned down and taxonomised (Kabeer, 1999b; Cornwall, 2016). Nevertheless, existing theoretical frameworks of empowerment, albeit imperfect, provide a strong foundation for designing rigorous evaluations of empowerment. However, all too few studies take the crucial first step of acknowledging these theories and incorporating them into research design (Richardson, 2018).

2.2.3 Motives for Evaluating Empowerment

As previously described in the history of gender mainstreaming’s emergence in international development, development organisations face heavy pressure to measure women’s empowerment across all their project portfolios. However, this requirement does not necessarily lead to projects devoted to women’s empowerment. The practice of using women’s empowerment as a tool to achieve other development goals is called instrumentalism. In instrumentalist approaches, women’s empowerment is an explanatory variable, while other outcomes (e.g. economic productivity, dietary quality) are the response variables. In contrast, human rights/capabilities approaches (Nussbaum, 2001; Kabeer, 2005) treat women’s empowerment as a response variable, and design interventions that prioritise empowering women as an intrinsically valuable outcome.

Instrumentalist arguments for empowering women often rely on stereotypes that essentialise women, suggesting that women should receive development investments because they are more selfless, responsible, caring, hardworking, cautious, and practical than men (Kabeer, 1999b; Chant & Sweetman, 2012; Cornwall & Rivas, 2015; Chant, 2016). In the case of agriculture, theorised pathways between women's empowerment and agricultural productivity propose that women might be more economically efficient investment recipients (than men) because 1) they have fewer resources to begin with (and thus will likely have higher marginal returns), 2) they have more practical spending habits and 3) they plant more nutritious crops in more ecologically sustainable ways; however, evidence that these instrumentalist pathways exist is far from clear (Anderson et al., 2020). This strain of argument is not new or unique to international development; a similar instrumentalist (and essentialist) argument appeared in the eco-feminist claims that women have a more intimate, intuitive understanding of nature than men and are therefore better stewards of the environment (Leach, 2007). Global public health scholars have also observed instrumentalism in women's health programmes, where demands for economic efficiency and quantifiable outcomes have driven a shift toward simple indicators (e.g. maternal mortality and women's participation in health services) without concomitant attention to gendered power relations that underlie health issues (Gideon & Porter, 2015).

While it is now standard practice to first state that the goal of empowering women and achieving gender equality has intrinsic value, many development organisations and researchers follow this statement with a multitude of other benefits for the economy, public health, fertility rates, and food security (Chant & Sweetman, 2012). Efforts to measure, especially to quantify, women's empowerment have thus far grown in an international development atmosphere cloudy with instrumentalist arguments. As Kabeer presciently pointed out in 1999, "Instrumentalism requires the translation of feminist scholarship into the discourse of policy... This attempt at translation entails efforts to quantify the claims of gender advocacy" (p.1). In the following section I take a closer look at the nature of these translation attempts.

2.2.4 Methods of Evaluating Empowerment

While defining empowerment is still an unresolved debate, one of the most widely used definitions in international development is "the process by which those who have been denied the ability to make strategic life choices acquire such an ability" (Kabeer, 1999b, p. 435). Because empowerment is a process, this implies that studies must measure empowerment at

more than one point in time (Lee-Rife, 2010). As Cornwall (2016) wrote: “...empowerment is a process, not a fixed state nor an endpoint, let alone an easily measurable outcome to which targets can be attached” (p.344). In addition to being a continuous process, empowerment is multi-dimensional, and its dimensions do not necessarily change simultaneously (Malhotra & Schuler, 2005; Richardson, 2018) or linearly. Cornwall & Rivas (2015) object to excessive reliance on prescribed quantitative outcomes for documenting women’s empowerment, arguing that these tools are poorly suited to capturing the changes in power relations that are at the heart of empowerment.

Despite these inescapable complexities, women’s empowerment is often treated as a quality that is, if not static, at least relatively stable, much like income or religion or age. A researcher evaluates a woman’s level of empowerment not by comparing her to her earlier life, but by comparing her to other individuals in a population. In a sense, the difference between evaluating empowerment as a category versus a process is something like the difference between documenting age versus aging. Either approach may be appropriate in different contexts and may be applied jointly. In practice, however, this distinction is often overlooked, and standardised definitions of empowerment do not align with standardised methods of evaluation.

One challenge of using quantitative methods for measuring empowerment is that they tend to be administered – often as questionnaires – at a single point in time. Another challenge is that they risk insufficiently incorporating cultural and historical context, including the perspectives and values of the women themselves (Kabeer, 1999b). While quantitative data can certainly provide cultural and historical information (e.g. past social surveys can be very illuminating), rarely are existing datasets comprehensive enough to depict a thorough and accurate context that needs no qualitative corroboration. Failure to adequately understand the cultural and historical context risks perpetuating patriarchal norms– the exact opposite of empowerment (van den Bold et al., 2013; Richardson, 2018). Unfortunately, in a funding environment that favours quick and cheap evaluations (Collins, 2016), and an academic environment biased toward quantitative data as inherently more rigorous, this crucial contextual information all too easily falls by the wayside (Cornwall, 2016). As Kabeer (1999) points out: “changes in access to valued goods are far simpler to measure, regardless of context, than the subtle and open-ended negotiations that may go on within culturally differentiated families in connection with

improvements in access” (p. 48). The inevitable variations in historical context, social norms, and individual experiences suggest that standardised quantitative indicators of empowerment, while potentially informative, have difficulty functioning as standalone evaluations of empowerment. To attempt to use an empowerment index in this manner is akin to flying a jet with only one working engine – not impossible or futile, but not a reliable standard practice either. A more rigorous approach is to use quantitative indices in conjunction with qualitative methods, to obtain a more comprehensive understanding of empowerment in a particular context (Akter et al., 2017; Richardson, 2018).

While the importance of understanding cultural and historical context must not be underestimated, it is also true that evaluations of empowerment cannot be completely contained in a precise, isolated, purely local context. As described in the preceding section, the very premise of practising human-rights-based international development depends upon the idea that certain values transcend all cultures and nations. Thus, a daunting challenge at the heart of evaluating empowerment is recognising and grappling with any tensions that appear between the observations of (often foreign) researchers and the experiences of women seeking empowerment (Kabeer, 1999b; Malhotra & Schuler, 2005).

In finding the right balance between quantitative and qualitative methods, as well as local norms and global standards, each investigation of women’s empowerment will settle upon different indicators that are relevant for its context. As much as possible, these indicators should build upon existing theories of empowerment (Richardson, 2018), favour direct assessments of empowerment over indirect proxies (Kabeer, 1999b), vigilantly avoid implicit bias, consider multiple dimensions of empowerment, and strive to incorporate diverse methods and sources of data (Richardson, 2018). In the following section, I examine the Abbreviated Women’s Empowerment in Agriculture Index, and the ways in which it might meet or fall short of these principles.

Abbreviated Women’s Empowerment in Agriculture Index

Aiming to provide a measurement of empowerment as a “simple, intuitive, and visible headline figure” (Alkire et al. 2013, p. 75), the Women’s Empowerment in Agriculture Index aggregates multiple indicators of empowerment under five domains of agricultural production: production decisions, income, resources, leadership, and time. These five domains, and the sub-domain

indicators they contain, illustrate that empowerment is a multi-dimensional concept. They do not encompass every conceivable aspect of empowerment, but this is not necessarily a deficiency; such an encyclopaedic index would be too unwieldy to implement. Researchers can attach additional context-specific indicators to the Index as needed (Alkire et al., 2013).

In its development, the WEA Index explicitly built upon existing theories of empowerment. These included Kabeer's (1999) definition of empowerment and distinctions between resources, agency, and achievements as aspects of empowerment. The authors of the Index stated that the tool focuses on agency (i.e. examines direct indicators of empowerment) (Alkire et al. 2013, p. 73). Their selection of five domains of empowerment was based upon the five domains of agricultural programmes that the United States Agency for International Development prioritised: 1) decisions about agricultural production, 2) control over income, 3) access to – and decision-making power about – productive resources, 4) leadership in the community, and 5) time allocation. The authors also linked the decision-making domains to Kabeer's (1999) and Alsop et al.'s (2006) theories of empowerment, which centre on the ability to make choices. They stated that the leadership domain corresponded to Narayan's (2002) definition of empowerment, which included individuals' ability to hold institutions accountable for the impacts on their lives. All five domains are specific to the context of agriculture in rural areas of the Global South (especially Bangladesh, Guatemala, and Uganda, where the initial versions of the Index were piloted). But its intended application is global, and therefore its indicators are, by design, as broad and context-nonspecific as possible (a characteristic critiqued by Galie & Kantor, 2016).

The Abbreviated Women's Empowerment in Agriculture Index, as its name suggests, is a shortened version of the original Index, developed in 2015 in response to critiques that the original Index was long and resource-intensive to administer, especially for small development projects (Malapit et al., 2015a; Malapit et al., 2017). The Abbreviated Index maintains the five domains of measurement and the same general method of calculating empowerment scores but reduces the number of indicators (and their associated survey questions) from ten to six. Each domain accounts for an equal share (20%) of the overall empowerment score, and each indicator has a binary cut-off, meaning that an individual above the cut-off receives one point, while an individual below the cut-off receives zero points. The summation of the five domains' weighted scores creates a scale from 0 (least empowered) to 1 (most empowered). The

suggested adequacy cut-off for overall empowerment is 0.8 (i.e. empowerment in at least four out of five domains) (Malapit et al., 2017). See Table 1 for a summary of domain calculations. Below I give an overview of each of the five domains, as they appear in the AWEA Index. (See Appendix D, p.305, for the complete survey.)

Table 1: Index domain cut-offs and weights

(Source: Malapit et al., 2015a)

Domain	Indicator	Adequacy cut-off	Weight
Production	Input in agricultural production decisions	Some input into at least two decision categories	1/5
Income	Input in spending decisions	Some input into any spending category other than minor expenditures	1/5
Resources	Asset ownership	Ownership of at least one major or two minor assets	2/5
	Credit access & decisions	Some input into decisions about at least one loan	1/5
Leadership	Group membership	Member of at least one group	1/5
Time	Hours spent working	Worked 10.5 hours or fewer in one day	1/5

Production Domain

The production domain measures women's level of input in agricultural decisions. The Abbreviated Women's Empowerment in Agriculture Index divides agricultural activities into four categories: food crop farming, cash crop farming, livestock raising, and fishing/fishpond culture. Beyond these broad descriptions of activities, the Index does not specify types of decisions (e.g. when/what to plant, how often to weed, whether to use mechanised/animal/manual power, which postharvest processing methods to use, how much of a crop to sell or consume, where to sell, etc.). Rather, women consider their overall impression of all decisions made, and report which individual(s) normally makes the decision. She also reports whether she participates in no/few/some/most/all decisions, and whether she feels to a

small/medium/high/no extent that she could make her own personal decisions if she wanted to. An individual is scored as empowered in this domain if she has some input into at least two categories of decision-making (or feels to a medium/high extent that she could if she wanted to).

Income Domain

Similar to the production domain, the income domain measures women's input into decision-making; in this case, the decisions concern how to spend household income. Decisions about income are divided among the four activities listed in the production domain as well as income from non-farm economic activities and wage/salary employment. The survey also asks women how much they participated in decisions about major household expenditures (e.g. land, a motorcycle) and minor household expenditures (e.g. food and toiletries), and the extent to which they could participate in such decisions if they wanted to. All response codes for questions in the income domain are identical to those in the production domain. If an individual has some input into any of these categories *except* minor household expenditures (or feels to a medium/high extent that she could if she wanted to), then she is scored as empowered in this domain.

Resources Domain

The resources domain is the only domain with two indicators instead of one. The first indicator concerns asset ownership. Women's ownership of major assets, such as land, has been associated with increased intrahousehold bargaining power, especially in decisions about household expenditures (Doss, 1999). Asset ownership, especially when supported by effective legal protections, can also provide women with a stronger safety net in the event of divorce or separation (Doss et al., 2014). The Abbreviated Women's Empowerment in Agriculture Index survey asks whether women own (solely or jointly) a list of fourteen items (see Appendix D, p.306). If she owns at least two minor assets (i.e. poultry, non-mechanised farm equipment, or small consumer durables) or one major asset (all other items), then she is scored as empowered on this indicator. The second indicator concerns credit. The survey asks about the respondent's access to and use of different sources of credit. If someone in the household has taken out a loan (of any kind) in the past twelve months, and she has had input in decisions made about that loan, then she is scored as empowered on this indicator. The asset indicator is weighted with twice the value of the credit indicator, meaning that the respondent's asset score composes

two-thirds of the overall score in the resources domain, while the credit score composes the remaining one-third.

Leadership Domain

The leadership domain differs from the other four domains in that it relates to not only individual empowerment, but purportedly also collective empowerment, albeit at an individual level (Alkire et al., 2013, p. 74). Production decisions, income decisions, assets, credit, and time have a direct connection to the ability to control agricultural activities. The rationale for including leadership as one of the domains is that gaining social capital through involvement in community groups might connect that individual to sources of agricultural information or inputs, and also might give an individual more confidence speaking in public and influencing community decisions. Thus, the survey asks whether the respondent is a member of several different types of groups (not only agricultural groups). If she is an active member (self-identified) of any group, then she is scored as empowered in this domain.

Time Domain

In this research, I pay particular attention to the time use domain of the Abbreviated Women's Empowerment in Agriculture Index. The time use domain attempts to demonstrate the amount of time poverty that women have (i.e. the degree to which they have insufficient time for rest, leisure, and any other activities they value). The concept of time poverty (in contrast to economic poverty) is particularly relevant for women in rural sub-Saharan Africa because so many bear a double³ burden of agricultural work and care work. Managing this workload often requires performing tasks simultaneously (in contrast to men, who are more likely to have the freedom to perform tasks sequentially) (Blackden & Wodon, 2006; Floro, 1995; Floro & Pichetpongsa, 2010; Simon et al., 2020). This multi-tasking is particularly challenging to capture (Esquivel, et al. 2008; Irani & Vemireddy, 2020; Johnston, et al. 2015; Simon et al., 2020).

In addition to simultaneity of tasks, Lentz et al. (2018) identify four other challenges in designing appropriate methods for measuring time use: granularity, seasonality, coding, and shifting workloads outside the survey sample. Granularity of activities refers to the length of

³ This thesis focuses primarily on the burdens of agricultural work and care work, but women's double labour burden could arguably be a triple burden or greater, if considering women's community work, emotional labour, or other unequal gendered divisions of labour.

the shortest time slot in which activities take place. For example, a survey that aggregates all the activities that take place each hour has coarser granularity than a survey that aggregates all activities that take place within five-minute intervals. Seasonality refers to the fact that proportions of time devoted to different activities will fluctuate with the changing of seasons (e.g. more hours spent working in the field during a harvest season, or fewer hours spent on childcare while school is in session). Coding decisions determine the level of detail in analysing the activities recorded. For example, should cooking food and bathing children both be coded as care work? Or are the distinctions between them important enough to warrant two separate codes? Finally, changes in time use may occur because work burdens have shifted to individuals outside the survey sample. When this transfer of workloads is invisible, researchers may draw blinkered conclusions about how power has shifted in a household or community.

Measuring the allocation of a woman's time throughout an entire day is also necessary for assessing the impact that agricultural technologies may have on women's time use, and by extension her empowerment. Although the introduction of a particular technology may reduce the time necessary for a task, women's overall work burden may remain the same, as women allocate the time saved to other work tasks (Johnston et al., 2018; Simon et al., 2020). And even if women do see an increase in leisure time, they may not experience any change in their power or agency. Barrett and Browne (1994) provided an example of this in their study of the introduction of cereal mills to women in the Gambia. They noted that women's welfare is not the same thing as women's equity, and improvements in the former do not necessarily lead to improvements in the latter. Despite this admonition, interest in measuring time use has waxed and waned over the last few decades and has generally shifted from broader research on gender equity to a narrower focus on women's behaviour (Johnston et al., 2015).

Understanding Care Work

When analysing time use as it relates to a particular topic – whether empowerment, nutrition, food production, or anything else – categorising activities (i.e. coding) is a necessary step. The underlying conceptual framework of the time use survey will influence the way researchers assess the value of each activity (e.g. perceptions of the activity's purpose, its beneficiaries, and its effects). However, because the activities that humans undertake are complex – with diverse, overlapping motivations for and approaches to doing a type of activity – they resist sorting into tidy categories. One example of this– highly relevant to understanding how time

use relates to women's empowerment, nutrition, and agriculture— is the distinction between activities that contribute to productive labour, and activities that contribute to reproductive labour.

In theory, productive labour results in income or another form of individual economic power. In contrast, reproductive labour, also known as care work, is unpaid and results in benefits (e.g. health, education, emotional support, social capital, public goods) for a household, a community, or society more broadly. This distinction between productive and reproductive labour is common and useful for understanding a woman's labour and empowerment, because it examines why she participates in an activity, and who benefits from her labour. However, a woman may perform an activity with multiple purposes and ambiguous results. For example, a woman may spend time growing cassava without knowing how much will be sold and how much will be consumed at home (Lentz et al., 2018). How then should researchers categorise this activity - productive or reproductive labour? This is a challenge that arises from complex motivations, and from decision-making processes that extend beyond the window of time contained in a time use survey.

An additional challenge arises from the low visibility of reproductive labour. Because care work is unpaid, and lacks the explicit, quantitative evaluation that income provides, its definitions and borders can be fuzzy. Evaluation of care work first demands recognition and identification. But again, without appraisal in terms of currency, which connects cultures and value systems across the globe, evaluation of care work depends heavily, sometimes exclusively, on social norms.⁴ In cases where researchers ascribe to social norms that are significantly different from the social norms of the time use study participants, a discrepancy may exist between what researchers and participants each consider to be care work. For example, a woman from a Western culture may believe that supervising her child while doing income-generating work counts as childcare. But a woman in rural Uganda may view supervision of her children as an implicit, pervasive responsibility and not consider it childcare (Lentz et al., 2018). These contrasting views of an activity open the door to bias in a time use

⁴ I do not mean to suggest that currency and economic value are disconnected from social norms; on the contrary, both are also expressions of social norms. However, I do think it is important to recognise that the globally shared language of currency exchange is an evaluation tool that often does not exist for care work. Furthermore, conversion of care work into economic value may or may not be an appropriate or sufficient method of evaluating care work.

study, with participants experiencing an activity in one way, and researchers potentially interpreting the activity in another way (Esquivel, 2008; Lentz et al., 2018). The researchers' analysis may not reflect the participant's reality, or only reflect a partial reality that is limited by the researchers' worldview. At a minimum, researchers must maintain acute awareness of how their perspectives may tint representations of what participants experience.

Recognising how differing perspectives of researchers and participants shape time use analysis is particularly important for accurately evaluating women's empowerment. Suppose researchers report that the time a woman spends supervising her child has changed, and conclude that, as a result, she has become more empowered or less empowered. But if the woman herself does not perceive any change in time use, will she necessarily experience a change in her ability to make choices (i.e. empowerment)? In addition, social norms and individual beliefs are not static. Suppose that a woman reports that she is spending more time on care work. This may be in part because her activities have changed, but it may also because her own perception and experience of care work has shifted (Lentz et al., 2018).

These concepts are important to keep in mind while assessing the structure of the time domain of the Abbreviated Women's Empowerment in Agriculture Index. The Index divides a 24-hour day into intervals of 15 minutes, creating a matrix of time slots and activities (see Appendix D, p.308). The researcher administering the Index asks the respondent to sequentially describe all the activities she did during the previous day, from waking up until falling asleep, and the amount of time that each activity took. Each activity is recorded as one of a list of 18 types of activities. This method of recording activities sequentially, rather than asking for the aggregate hours spent on each activity, reduces the chance of error and places less cognitive burden on the respondent (Seymour et al., 2020). Where multiple activities occur simultaneously, the researcher records only the activity the respondent considers to be the primary activity (i.e. the Index does not measure multi-tasking). The Index assesses women's empowerment by drawing a threshold at 10.5 hours. If a woman spends more than 10.5 hours working, then she is considered disempowered. If she spends 10.5 hours or less working, then she is considered empowered. As with other (economic) poverty indices, drawing a line on a continuous spectrum of time use to indicate time poverty is inherently difficult (Alkire et al., 2013; Arora, 2015; Bardasi & Wodon, 2006). However, this approach may be misunderstanding the function of time use in empowerment; the number of hours is not as important as its impact on a

woman's ability to make choices (Bain et al., 2018). An 8-hour workday could be less empowering than a 12-hour workday, depending on the purpose of the labour within the context of the woman's life. The authors of the Index have recently acknowledged this limitation and begun to explore alternative or additional measurement tools that assess *quality* of time use in addition to quantity. Thus far their investigations have been limited to quantitative assessments, e.g. reporting experiences of a pre-determined set of emotions on a Likert scale (Seymour et al., 2020).

In order to comprehensively understand the relationship between time use and women's empowerment, it is important to look not only at the allocation of scarce time within a 24-hour period, but also at the relationships between gendered patterns of labour, calculations of risk, and empowerment. For example, the sporadic and varied nature of caregiving demands on time may influence the types of income-generating labour that women undertake, e.g. a woman may favour flexible or casual employment over steady, full-time employment, to stretch her time between both reproductive and productive labour (Stevano, 2019). These constraints on her time use allocation hamper her ability to make life choices, i.e. reducing her empowerment.

Other Limitations of the Abbreviated Women's Empowerment in Agriculture Index

The Index is vulnerable to instrumentalist frameworks and applications, a risk that is perhaps always present when focusing on empowerment in a sector (i.e. agriculture) that also has tremendous economic and environmental impacts. When introducing the Women's Empowerment in Agriculture Index, Alkire et al. (2013) indulged this tendency, writing that "Empowering women and reducing gender inequalities... not only are goals in themselves but have been shown to contribute to improving productivity and increasing efficiency" (p. 71). This instrumentalist framing is important to keep in mind when implementing the Index in different contexts, and when analysing the resulting data. It is always essential to interrogate whether individual questions are measuring women's empowerment, or merely tracking women's productivity and efficiency.

In its mission to develop a single, quantitative measurement, the Index relies upon thresholds to determine whether a woman has 'achieved' empowerment in a particular domain. For example, in the leadership domain, if a woman is not a member of any group, she is considered disempowered (even if there are no groups reported in the community). In the resources domain,

if she has not used any credit sources, she is considered disempowered (even if she has access to credit but chooses not to use it). Due to the global aspirations of the Index, these thresholds are not based on evidence from the relevant context of study and are therefore subjective and prone to bias (Richardson, 2018, p. 549).

In addition to these thresholds, the Index's aggregation of decision-making categories may bias measurements of empowerment (Agarwala & Lynch, 2006; Richardson, 2018, p. 547-8). In the production domain, which measures women's input into agricultural production decisions, the Index makes no distinction between sole decisions (where the woman makes decisions on her own) and joint decisions (where the woman makes decisions with another household member). If a woman has at least "input into some decisions" (A-WEAI, p. 2) related to at least two different activities (e.g. food crop farming and livestock raising), then the Index considers this woman empowered. Although the Abbreviated Women's Empowerment in Agriculture Index questionnaire does distinguish between the types of individuals the woman makes decisions with (i.e. spouse, other household member, or non-household member), this information has no bearing on calculating the woman's empowerment. If researchers only analyse these data according to the Index's empowerment calculation, they risk consolidating different types of decision-making, thereby biasing the measurement of empowerment (Kishor & Subaiya, 2008). Feminist scholars have spent decades investigating intra-household decision-making, and the ways that negotiations and bargaining between household adults (especially a husband and wife) enact gender norms (Kandiyoti, 1988; Agarwal, 1997). However, despite this long-standing recognition that households do not represent units of unanimous collective decision-making (Alderman et al., 1995; Agarwal, 1997), the complex, diverse, and ever-changing nature of these decision-making processes means that there is still a knowledge gap in understanding how women navigate such agricultural decisions. For example, in the context of women's decision-making about wheat production in India, Farnworth et al. (2020) identified at least six different types of strategies that women employ in response to the social norm that men (not women) are wheat farmers. Their typology shows that there are gradations between complete silence and complete autonomy in decision-making, and that recognising distinctive strategies gives a clearer picture of women's power and choices. Women may use more than one type of bargaining strategy and may choose to exercise less control in one aspect of agricultural decisions in order to gain more control in another sphere of decision-making. To more accurately understand the implications of the broad decision-

making indicators that comprise the production domain, researchers need complementary qualitative data, or at least a detailed analysis of the individual indicators in this domain (for example, see Akter et al., 2017).

Similar issues appear in the resources domain (which measures women's ownership of assets and access to credit) and the income domain (which measures women's control over income). Women's ownership of assets is classified as either sole or joint (with no distinction among different types of joint ownership). To meet the Index's threshold for empowerment in these domains, women must own one major asset (or two minor assets) and have "input into some decisions" (A-WEAI, p. 2) regarding credit and major household expenditures. Alone, these blunt categories may not accurately reflect complex intrahousehold decision-making around economic resources (Laszlo et al., 2020) and women's ability/inability to make strategic life choices.

The time domain also aggregates data in a manner that may obscure nuance. Many activities fall under the category of "domestic work", including collecting water, collecting firewood, washing clothes, and cleaning. Similarly, all harvesting of crops falls under the category of farming, regardless of whether the crop is being harvested for sale or for home consumption. The category of eating and drinking only includes instances in which eating or drinking is the main activity, and does not include small amounts of food eaten while doing another activity (e.g. cooking for children). For some research purposes, this level of granularity may be insufficient.

The leadership domain, as previously noted, differs from the other domains in that it concerns not only individual empowerment, but also collective empowerment. In their typology of different concepts of women's empowerment used in measurement tools, Gram et al. (2018) argue that measuring individual empowerment and collective empowerment are fundamentally distinct tasks, and that combining them (especially without supportive theory and evidence from the context in which the combined measurement will be used) is counterproductive to research on empowerment. Even if a modification of the survey were to only assess women's participation in agricultural groups (i.e. only her access to agricultural information and assets, rather than her community influence and social capital more broadly) wide variation exists in

the degree to which different agricultural groups can meet the needs of women who are members (Othman et al., 2020).

The Index also gives equal weight to each of the five domains (i.e. each accounts for 20% of a woman's overall empowerment score). However, some domains may have more influence than others on a woman's ability to make strategic life choices, depending on the context (Richardson, 2018). This simple summation of the five domains may obscure relationships among domains, and measurement errors within each individual domain (Agarwala & Lynch, 2005).

As previously noted, quantitative questionnaires tend to be administered at a single point in time, making them awkward tools for measuring empowerment as defined by Kabeer (i.e. a process). This handicap may be even easier to underestimate when the Abbreviated Women's Empowerment in Agriculture Index is paired with standardised, quantitative food security indicators. These indicators likewise typically only provide a single snapshot of a household's food consumption (e.g. over a 24-hour period or a week), which struggles to clearly capture the root causes of food insecurity (Stevano, 2019, p. 88). When the Index and food security indicators (e.g. diet diversity index) are used in conjunction, they may provide a sharper snapshot, but additional qualitative methods are necessary for adequately interpreting that snapshot. However, studies using the Abbreviated Women's Empowerment in Agriculture Index (or unabbreviated Index) commonly report exclusively quantitative results (e.g. Anik & Rahman, 2020; Diiro et al., 2018; Kassie et al., 2020; Yokying & Lambrecht, 2020).

Wide variations in local context (which is indispensable for evaluating empowerment) weaken the utility of a standardised indicator (such as the Index) for cross-cultural comparisons (Ibrahim & Alkire, 2007). Nevertheless, the Index is currently deployed as a stand-alone tool for comparing women's empowerment in agriculture at the national level, e.g. across countries in sub-Saharan Africa (as analysed by Meinzen-Dick et al., 2019). One potential response to the challenge of cultural variation is to standardise a single conceptual framework of empowerment and adapt indicators to local context as needed, so long as they align with the foundational framework (Malhotra & Schuler, 2005). As previously described, such a consensus on conceptual frameworks of (women's) empowerment does not yet exist in international development discourses. Nevertheless, this may be a path forward, and some of

the tools proposed by the Index and refined by its users may prove constructive, whether in their current or modified form. Identifying sound variations of Index-derived indicators will require repeated testing (including cognitive testing, to validate survey questions) across diverse contexts (Johnson & Diego-Rosell, 2015; Malapit et al., 2017; Hannan et al., 2020; Lambrecht et al., 2020).

Other Measures of Women's Empowerment

While the Women's Empowerment in Agriculture Index (and its variants) is one of the most commonly used quantitative tools of measuring women's empowerment in agriculture, it is hardly the only proposed method of measuring empowerment. Stopping short of a comprehensive review of these tools, here I give a brief overview of recently developed methods relevant to this research, either in terms of the area of empowerment (e.g. agriculture, nutrition, or care work) or geographic context (Uganda).

Seeking to ameliorate the limitations of an index designed for global application, Miedema et al. (2018) constructed a quantitative tool for measuring women's empowerment in East Africa by comparing the results of Demographic and Health Survey data from Uganda, Ethiopia, Kenya, Rwanda, and Tanzania via exploratory factor analysis and confirmatory factor analysis. Their findings support a theoretical framework of women's empowerment built upon three domains: enabling conditions (e.g. assets and social resources), instrumental agency (e.g. participation in household decision-making), and intrinsic agency (e.g. attitudes and beliefs around gender norms). Note that this characterisation of instrumental and intrinsic agency differs from that described by Chant (2016) (and applied throughout this thesis). By categorising *all* of a woman's decision-making as instrumental, Miedema et al. shift focus from the question (critiqued by Chant) of whether a woman's decisions may be instrumental to other development objectives, and instead simply asks whether a woman's decisions are instrumental to her own personal objectives. This broad theoretical framework may make the tool adaptable to many settings in East Africa, not limited to the context of development. However, the tool is also limited by its exclusive use of questions included in national Demographic and Health Surveys. The authors particularly encourage that future studies test whether this model could be used to measure individual women's empowerment as a process over time, e.g. from adolescence to adulthood. If this tool is only employed in its original format, as a means to analyse national Demographic and Health Surveys, then it is likely better suited to sketching

broad, non-causal trends in indicators associated with women's empowerment (for an example of this type of women's empowerment analysis, see Hanmer & Klugman, 2016), rather than as a direct, explanatory measurement of women's empowerment.

Aiming for even wider national comparisons of women's empowerment using Demographic and Health Surveys, Ewerling et al. (2017) proposed an index for measuring women's empowerment across all sub-Saharan Africa. Applying principal component analysis to a range of indicators excavated from the survey data, they concluded that women's empowerment could be split into three dimensions: attitude to violence, social independence (including indicators for education, employment, and age at marriage/first birth), and decision-making (on health, major expenditures, and mobility). These three dimensions somewhat mirror the three identified by Miedema et al. (2018), although Ewerling et al. did not employ the same theoretical framework. The authors validated these results against the Gender Development Index, a national index composed of average life expectancy, education, and income inequality (all indicators that are, at best, proxies for empowerment). This index quickly drew criticism from Yount et al. (2018) for weak model fit among some indicators (especially within the social independence dimension). They suggested that psychometric validation is necessary, and also pointed out that exclusive adherence to Demographic and Health Survey questions, which are only validated for partnered women of reproductive ages, limit the broad applications that Ewerling et al. encouraged (a limitation also faced by Miedema et al.). Both indices join a growing literature of strategies of sifting through the Demographic and Health Surveys with various statistical analyses, rearranging the survey questions as puzzle pieces to create a picture that renders a latent variable (empowerment) visible (e.g. Gupta & Yesudian, 2006; Kazembe, 2020).

As I explore in more detail in following sections, a woman's care work and household decision-making are closely tied to her control over her own sexual and reproductive health. Seeking to develop a framework for measuring women's empowerment in reproductive health that is relevant to sub-Saharan Africa, Karp et al. (2020) focus on the types of choices that most influence the state of a woman's reproductive health throughout her life. They propose evaluating women's empowerment in reproductive health through three key choices: sex by choice, contraceptive use by choice, and pregnancy by choice. Within each of these choices, an individual's empowerment can be understood as “the progression from the *existence of*

choice, through exercise of choice to achievement of choice” (p. 5), which builds upon Kabeer’s (1999) framing of empowerment as the culmination of resources, agency, and achievements. Rather than creating a quantitative tool for measuring empowerment, this framework aims to guide qualitative research and design of interventions.

2.2.5 Women’s Empowerment and Nutrition

Many studies have investigated connections between women’s empowerment and nutrition outcomes. However, because women’s empowerment is so difficult to define and evaluate, and in practice overlaps with many similar concepts (e.g. agency, autonomy, etc.), we might expect this ambiguity to blur conclusions about its relationship with nutrition outcomes. To further complicate matters, there is a wide range of nutrition outcomes to consider in tandem with women’s empowerment, which vary by population (e.g. women’s nutrition, children’s nutrition) and by indicator (e.g. diet diversity, height-for-age). Thus, though there are abundant studies on the relationship(s) between women’s empowerment and nutrition, much additional research is required to adequately parse the myriad variables in play. Here, I examine the existing nutrition literature most relevant to my research, i.e. studies that investigate women’s empowerment (including those using other terminology, especially those that include domains from variants of the Women’s Empowerment in Agriculture Index) as it relates to indicators of children’s nutrition outcomes (especially children’s diet diversity). I also analyse the conceptual frameworks that underlie these studies’ chosen definitions and methods, comparing their theoretical pathways for increasing empowerment and improving nutrition.

Some studies (using different methods for measuring nutrition and empowerment) have found that women’s empowerment has positive impacts on children’s nutrition (Bhagowalia et al., 2012; Malapit, et al. 2015; Malapit & Quisumbing, 2015; Pingali & Sunder, 2017; Jones et al., 2019). Many more have found unclear/mixed relationships between women’s empowerment and children’s nutrition outcomes (Shroff et al., 2011; Ruel & Alderman, 2013; van den Bold et al., 2013; Carlson et al., 2014; Kadiyala et al., 2014; Cunningham et al., 2015; Na et al., 2015; Pratley, 2016; Ruel et al., 2018; Malapit, 2018; Santoso et al., 2019). In some cases, studies were too small or too short-term to detect significant changes in nutrition (van den Bold, 2013). In other cases, certain indicators of women’s empowerment, such as acceptance of domestic violence, appeared to have no significant relationship with children’s nutrition

(Carlson et al., 2014). As van den Bold et al. (2013) state in their review of research on women's empowerment and nutrition:

“While many development interventions seem to target women specifically or have women's empowerment as one of their objectives, no sufficient body of evidence overwhelmingly points to success in terms of improving women's empowerment, or improving nutrition through women's empowerment. It is clear that even though women's empowerment seems to have strong associations with improved nutrition outcomes, more research is needed to analyze the pathways that lead to improved nutrition.” (p. 29)

Picking up upon the authors' call to scrutinise these pathways to improved nutrition, I would add that the causal direction(s) between nutrition and empowerment are not yet clear; therefore, analysing the pathways that lead to empowerment is also essential.

However, before delving into these theorised pathways, it is important to note that some studies have even found that increasing women's empowerment may have negative impacts on children's nutrition (Carlson et al., 2014; Cunningham et al., 2014). For example, breastfeeding has been negatively associated with women's status and education (Engle, 1999; Smith, 2003), and with unacceptance of domestic violence, giving birth in health facilities, and high income (Ickes et al., 2015). Some evidence shows that when mothers increase the time they spend in agricultural activities, they tend to reduce the amount of time they spend preparing food, resulting in a household that consumes more processed foods and/or depends on other household members (especially children and other household women) to assume food preparation responsibilities (Johnston et al., 2015). The time use dimension of women's empowerment has a particularly tenuous relationship with nutrition outcomes (van den Bold, 2013; Johnston et al., 2015; Ruel et al., 2018), because caregiving requires time (often quite a lot of it). And in the process of empowerment, some women may dedicate more time to non-caregiving activities, for example, agricultural production (Komatsu et al., 2015; Simon et al., 2020), education, political organising, or leisure (Simon et al., 2020). Interestingly, time spent caring for children may be a more significant indicator for evaluating empowerment than for evaluating nutrition outcomes. Time spent supervising children is often an enormous segment of women's time use (and therefore linked to empowerment); however, there is sparse evidence of an association between quantity of childcare hours and nutrition outcomes (Engle et al., 1999; Johnston et al., 2015).

While it may be tempting to view women's empowerment and children's nutrition as paired in a simple, linear relationship, where increasing the former always increases the latter, the evidence does not support this. Not only is the relationship between women's empowerment and nutrition outcomes complex, with different dimensions of empowerment influencing different dimensions of nutrition, but sometimes the two aspirations do not share any common ground at all (Malapit et al., 2015; Malapit & Quisumbing, 2015; Ruel et al., 2018). In disentangling the merits of different combinations of empowerment and nutrition interventions, it may be useful to distinguish between "co-location" and "integration" (Ruel & Alderman, 2013; Ruel et al., 2018) of programming. That is, there is an important difference between interventions that are capable of synergistically achieving outcomes in multiple domains, and programmes that are using multiple (but ultimately disparate) interventions in the same place.

In other words, a single programme may, inadvertently, be implementing different theories of change for empowerment outcomes and for nutrition outcomes, and these theories of change may be in conflict with each other. Therefore, when designing interventions that aim to both increase women's empowerment and improve nutrition, it is essential to understand which specific dimensions of empowerment are correlated with which specific aspects of nutrition (Sraboni & Quisumbing, 2018), and to clearly articulate the pathways underpinning that association (van den Bold et al., 2013). But to articulate these relationships, and to understand the implications for future research, we must first take a closer look at how women's empowerment is defined in the nutrition literature.

Defining Empowerment, Revisited

Much like the need in international development to distinguish empowerment from terms like agency and equality, when examining empowerment in nutrition it is helpful to compare empowerment with other terms used to describe women's lives. For example, some studies examine women's status, rather than empowerment (Smith et al., 2003; Ekbrand & Hallerod, 2018). In the past, a lack of standard definitions meant that 'status' often encompassed a farrago of disparate aspects of gender inequality, from prestige to control over resources (Mason, 1986). In current literature, status usually connotes a woman's place within hierarchies, often at multiple levels (e.g. status in the household, status in the community) (Carlson et al., 2014). Because maintaining one's social status may require conforming to patriarchal norms, status

may have no correlation with empowerment, and may even be negatively associated (Kabeer, 1999b).

Other studies examine maternal autonomy, rather than women's empowerment (Agu et al., 2019; Carlson et al., 2014; Doan & Bisharat, 1990; Dancer & Rammohan, 2009; Shroff et al., 2011). First, there is a fundamental difference between studying maternal autonomy and women's autonomy. Choosing maternal autonomy as the subject of evaluation requires designing indicators of one's ability to take action as a mother, rather than simply as a human. As Kabeer (1999a) puts it, the distinction is "between functioning achievements that testify to women's greater efficacy as agents within prescribed gender roles, and those that are indicative of women as agents of transformation" (p. 27). Second, the term maternal autonomy suffers from the same ambiguity as status and empowerment, with few studies using a consistent set of indicators or definitions.

As described in the preceding section exploring definitions of women's empowerment, feminist scholars widely consider empowerment to be a process, whereas autonomy is more commonly treated by researchers as a fixed state. However, (as also observed in studies of women's empowerment in agriculture) some nutrition studies use the term empowerment to describe a woman's current condition, rather than a process (Carlson et al., 2014). In their study of children's nutritional status, Ickes et al. (2015) declined to use empowerment, agency, or any other term denoting power, instead referring to "maternal socio-demographic factors", which included literacy, giving birth at home, education, employment, marital status, age at first childbirth, acceptance of domestic violence, mobility, and decision-making. This is a more transparent approach than that taken by nutrition studies that also use an assortment of these types of indicators, but bundle them together under the umbrella of 'empowerment' without clear justification for why the particular indicators chosen are adequate for representing empowerment (for example, Imai et al., 2014; Essilfie et al., 2020).

Perhaps tellingly, despite the extensive mix-and-match of terms and definitions detailed above, the term "maternal autonomy" occurs far more often than "maternal empowerment" or "maternal agency". This choice of terminology may only reflect unconscious bias, but it nevertheless sends the message that discussions about women's roles as mothers are more

comfortable when focused on discrete actions (autonomy) rather than power dynamics (agency and empowerment).

Carefully considering these terms and definitions is the first step to understanding the conceptual pathways (i.e. theories of change) that underlie research on relationships between women's empowerment and children's nutrition outcomes. Some studies researching this topic do not clearly articulate this pathway (e.g. Chiputwa & Qaim, 2016; Ragasa et al., 2020) or endorse instrumentalist views that women/mothers (terms often used by authors interchangeably) are inherently better caregivers (e.g. Imai et al., 2014; Essilfie et al., 2020). Shroff et al. (2011) explicitly state that they "are unable to provide a conceptual framework" (p. 8) that explains the relationships between different dimensions of maternal autonomy and children's nutrition outcomes.

Among the studies that do articulate their conceptual framework, there are at least three pathways described (Malapit et al., 2015b; Kumar et al., 2017; Kumar et al., 2018):

- 1) women's role as a (primary) caregiver
- 2) women's physiological contributions to reproduction
- 3) women's choices about how to allocate resources

A widely cited brief published by the Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) project (Herforth & Harris, 2014) identified similar pathways, although described them somewhat differently, as:

- 1) "the ability of women to care for themselves and their families"
- 2) "women's energy expenditure"
- 3) "women's use of income for food and non-food expenditures" (p. 1-2)

Regardless of minor variations in their articulations, the common assumptions underpinning these three pathways warrant closer inspection.

Regarding the first pathway, Pingali and Sunder (2017) drew direct connections between women's empowerment and their ability to care for children, arguing that providing credit, extension, labour-saving mechanisation, and information networks to women boosted their productive and reproductive labour capacities, yielding positive nutrition outcomes for the whole household. The authors recognised the presence of men and boys in the household in

their tendency to receive greater quantities and quality of food, but not in their potential to contribute to caregiving and nutrition outcomes. However, some studies do note the caregiving contributions men and boys might provide, with transformed gender norms, and encourage nutrition programmes to pay greater attention to men and boys (Engle et al., 1999; Komatsu et al., 2015). Tackling this issue more explicitly, van den Bold et al. (2013) state that “women are often primary caregivers” (p. 7), but also acknowledge that care must be taken to avoid entrenching patriarchal norms (such as gendered caregiving roles). Placing the burden of caregiving solely on women not only perpetuates such norms and extorts women’s labour, it both exempts and alienates men (Chant, 2016; Sarkadi, 2014).

An exclusive emphasis on mothers as children’s caregivers not only diminishes the potential role of fathers as caregivers, but also overlooks the existing role of any other non-maternal caregivers (Johnston et al., 2015; Bezner-Kerr et al., 2016). For example, grandparents are often important sources of childcare support in Uganda and Malawi (Ickes et al., 2017; Bezner-Kerr et al., 2016). Women in the Central and Eastern regions of Uganda are sometimes responsible for caring for both their children and grandchildren concurrently (Bain et al., 2018). As Bezner-Kerr et al. (2016) point out, exclusively targeting mothers in nutrition programmes (rather than others in the household or in the community) is a risky strategy over the long-term. If the mother is unable to apply the nutrition skills she has learned (e.g. because she is overburdened by other work), and no one else has the skills to step in, then nutrition may suffer.

The second pathway is based on the idea that women’s health during pregnancy and breastfeeding significantly influences the health of children throughout their life, especially their susceptibility to non-communicable diseases (Harris, 2014). This stems from a broader theory known as the Developmental Origins of Health and Disease hypothesis (Gluckman et al., 2008) or the life-course approach (Ben-Shlomo & Kuh, 2002), which has caused nutrition programmes to prioritise ‘the first 1000 days’ (i.e. pregnancy to the child’s 2nd birthday) and pay sharp attention to the health of pregnant women and mothers of young children (Black et al., 2013; Headey, 2013; Ruel et al., 2018). This 1) entailed a pivot away from thinking about nutrition broadly, in communities, and toward a particular subset of individuals and 2) emphasised the impact of women’s pregnancy and breastfeeding decisions on children’s health. This shift encouraged a narrow focus on young women during pregnancy and a few years post-childbirth (Fox et al., 2019), and bolstered narratives that nutrition is primarily a women’s issue,

rather than one that equally concerns, for example, older children, men, or the elderly. Even in research focused on the first 1000 days, women's health indicators are often ignored in favour of foetus/child health indicators (Kinshella et al., 2020), further relegating women to being vessels for child health outcomes.

Regarding the third pathway, several studies have found that women's control over income is positively associated with children's nutrition outcomes, and that women are more likely than men to spend their income in ways that benefit the household's nutrition (Smith et al. 2003; Malapit et al. 2015). This implies that a pathway exists for improving children's nutrition by increasing women's access to resources. This pathway may exist, but attaching strings (i.e. expected nutrition improvements) to women's empowerment, in classic instrumentalist fashion, erodes the intrinsic value of women's empowerment. In addition, even in contexts where women tend to use their resources in ways that benefit children's nutrition, should we conclude that this is the only such pathway, or the best one? In theory, a man could control all household resources and adequately care for his children. Or, women and men in a household might both provide adequate care for their children, either independently or by pooling resources. If these alternative scenarios appear less frequently, why might that be the case? What social norms do nutrition interventions perpetuate or challenge when they promote one pathway (increasing women's control over income, with the expectation that she will provide better care for children) over others?

There may be strong reasons (e.g. feminist arguments) for increasing women's control over income and access to resources. However, there is a crucial difference between arguing for increasing women's control over income for the sake of women's own empowerment, and for the sake of children's nutrition outcomes. Not all pathways to improving children's nutrition lead to the same gender roles, and not all pathways to empowerment lead to the same nutrition outcomes. Therefore, there may be a risk that the gender-nutrition pathways described in nutrition literature limit women's empowerment to a narrow set of acceptable pathways. Or, as Chant (2016) incisively described instrumentalism in anti-poverty programmes: "It would appear that women and girls are not being empowered to make any choices other than those which tie them ever more inextricably to serving others" (p. 26). Some studies have revealed this instrumentalist logic by explicitly advocating for a focus on the nutritional and educational status of girls because they are expected to become mothers (Bhagowalia, 2012), despite the

fact that the same investments in girls could be based on their inherent value as humans, whether they later become mothers or not.

Basu and Koolwal (2005) scrutinised indicators of women's empowerment commonly used in assessments of child nutrition outcomes (contribution to household income, small purchase decision-making, and ability to go to the market), questioning the assumption that these indicators were in fact measuring empowerment. Rather, they argued, these indicators better illustrate a woman's ability to fulfil responsibilities to others, rather than her ability to make choices that steer her life in the direction she desires. Their findings that these indicators often correlate with positive outcomes in children's nutrition, but not women's own health, support this hypothesis. Basu and Koolwal propose that more accurate indicators of women's empowerment might include leisure activities (i.e. those with minimal economic or caregiving value) and activities that directly benefit only the woman herself (e.g. seeking healthcare for herself). Foregrounding these types of indicators would not necessarily exclude economic or caregiving activities from development interventions. For example, an intervention might seek to assist women in finding work that is less time-consuming and has a more stable income, leaving them more time and resources to pursue leisure activities. The difference is that, in this example, economic interventions serve empowerment outcomes, rather than the other way around.

Rarely do nutrition-sensitive agriculture projects measure empowerment without associating it with nutrition outcomes. If empowerment outcomes were truly on equal footing with nutrition outcomes in gender-and-nutrition-sensitive interventions, these interventions might focus on encouraging men to assume caregiving roles, expanding women's reproductive freedoms, and supporting individuals interested in organising to transform gender norms in formal and informal institutions. Such an intervention would likely be more expensive and time-consuming than simply providing assets and information to mothers, and could appear less successful by traditional metrics, especially in the short term. Perceiving lower "returns to development" (Chant & Sweetman, 2012), or returns to investment in nutrition, in this case, might partially explain the rarity of this type of gender-transformative intervention.

If, on the other hand, a study or project wants only to focus on nutrition outcomes (a laudable objective— not all problems can be or need be solved simultaneously) it might be helpful to

distinguish women's empowerment from caregivers' 'responsibilities' (the term favoured by Basu & Koolwal, 2005). Such projects would measure women's empowerment to ensure that they do no harm and do not reinforce oppressive gender norms but would focus on caregivers' responsibility as the independent variable that shapes children's nutrition outcomes. Kabeer (2016) proposes a similar framing in her examination of theorised reciprocal pathways between women's empowerment and economic growth, writing that

“It is not ‘women’ per se who drive these associations [between women’s access to resources and children’s welfare], but women in specific familial relations, most often mothers and sometimes grandmothers. This finding attests to pervasiveness of ‘ideologies of maternal altruism’, social constructions of motherhood that assign special responsibility for children to mothers” (p. 302).

It stands to reason that men with the same “specific familial relations” toward their children (living in societies that allow and encourage men to assume such caregiving roles) might take actions that support other positive development outcomes (whether economic or nutritional or otherwise).

Reproductive Justice Framework

Recall the distinction between maternal autonomy and women's autonomy (i.e. that studying mothers rather than women risks introducing instrumentalism, by thinking about women exclusively as mothers and in relation to their capacity to provide care for their children, households, and communities). However, this does not mean that evaluations of women's empowerment must be blind to the experiences of motherhood. Pursuing empowerment means that women increase agency in all aspects of their lives, including, for some, their role as a mother (or other caregiver). For many, this begins with an ability to choose to become a mother in the first place.

A reproductive justice framework could be well-suited to evaluating women's empowerment in the context of nutrition interventions. The reproductive justice movement formed in the US during the 1990s in response to the pro-choice reproductive rights movement. Founded by women of colour, the movement regarded reproductive rights narratives as too narrow, focusing too heavily on access to abortion and reflecting the relative privilege white American women had to provide for and protect their children as they wished. In contrast, many women of colour felt they had insufficient agency to choose not only *if* or *when* to become a parent,

but *how* to parent. Or, as phrased by Luna and Luker (2013), the right to not have a child, the right to have a child, and the right to parent with dignity. Therefore, they sought a broader mission than reproductive rights, defining a reproductive justice framework as “linking reproductive health and rights to other social justice issues such as poverty, economic injustice, welfare reform, housing, prisoners’ rights, environmental justice, immigration policy, drug policies, and violence” (Price 2010, p. 42).

This concept of reproductive justice was created as a tool for social movements and political activism (for examples of such community organising, see Silliman et al., 2016), but has proven to be useful across varied contexts. As Luna and Luker (2013) described it, “Reproductive justice contains multiple modes: analytic framework, movement, praxis, and vision.” (p.328). Laying the principles of reproductive justice as the foundation for a feminist theoretical framework orients data analysis toward social justice and transformative change. Specifically, a reproductive justice framework encourages interrogation of how ‘choice’ is defined and engaged. For example, in its original context, reproductive justice drew a sharp contrast between the types of choices available to privileged white American women and the choices available to marginalised American women of colour (Luna & Luker, 2013; Ross, 2010). This critique revealed how the implicit primacy of white women’s experiences shaped the American feminist reproductive rights movement (i.e. the ‘pro-choice’ movement), and as a direct consequence neglected the experiences and rights of Black women, Indigenous women, and other women of colour. The application of the concept of reproductive justice as an analytical framework necessitates centring women’s lived experiences in order to identify systemic power imbalances and infringements of human rights (Luna & Luker, 2013). Thus, a reproductive justice framework emphasises the importance of understanding the full range of reproductive choices (and barriers to choices) experienced by individuals (especially marginalised women) as essential for developing holistic, rights-based approaches to women’s collective empowerment.

Although the specific concerns of American women during the 1990s were, in many ways, very different from the concerns of rural Ugandan women today, the structure of this interdisciplinary reproductive justice framework is nevertheless helpful for reconciling the complicated relationships that exist between women’s empowerment and children’s nutrition outcomes. Indeed, the reproductive justice movement drew direct inspiration from the same

international human rights movements that spurred the inclusion of women's empowerment in international development discourses. Loretta Ross, a founding reproductive justice activist, described needing a framework that would connect to "the global struggle for women's human rights that would call attention to our commitment to the link between women, their families, and their communities" (Ross 2001, p.12)

By placing women's agency and empowerment at the centre of the conceptual framework, we can more readily see whether nutrition/agriculture/other interventions are tools for expanding a woman's ability to choose the type of parent she would like to be, when she would like to be, or whether an intervention constricts these choices. Examining not only a single snapshot within the reproductive process – e.g. providing certain nutrients given to children at a certain age – but expanding the frame to view the entire reproductive cycle reveals how important individual experiences are in evaluating empowerment. For a woman who chose motherhood and would like to provide better food to her children, a mother-focused nutrition intervention could be very empowering. But for a woman who would prefer to enter the workforce and let her husband be the primary caregiver, the same nutrition intervention could restrict her agency by entrenching gender norms. Thus, this conceptual framework allows for complex relationships between empowerment and nutrition outcomes, and recognises that there are many pathways to women's empowerment, with the characteristics of these pathways dependent on local context and individuals' lived experiences.

This framework also helps to reconcile the deeper ethics and values underlying research on empowerment, agriculture, and nutrition, which can sometimes appear to be in conflict. As Johnston et al. (2018) thoughtfully conclude their review of time use, nutrition, and agriculture studies, they ask:

"If a case study were to show the example of an agricultural intervention that raised agricultural work burdens and increased nutritional outcomes but reduced the leisure time for women, should we categorize it as a positive or negative example? Does our focus on nutritional outcomes mean that we should ignore other aspects of individual or household wellbeing?" (p. 17)

In a similar vein, Doss and Quisumbing (2019) caution that over-emphasis on agricultural productivity outcomes (e.g. encouraging women to grow more nutritious crops for home

consumption or sale) may negatively affect not only women's leisure time, but potentially also their control over income or land (e.g. if women have tenuous security over these assets, and higher-value crops shift control to household men). When there is no clear calculus for balancing the noble goals of more attainable health, more practical farming, and more just societies, apparent trade-offs between them muddle discourses. But the reproductive justice framework, echoing elements of the capabilities approach (Sen, 1984), provides a stable cynosure: What is the impact on an individual's life choices? Is she better able to choose the life that she desires for herself? And is she better able to choose whom she cares for, and how?

Contemplating the thought experiment offered by Johnston et al., a reproductive justice framework would recognise that the (hypothetical) agricultural intervention they describe could have identical impacts on women's work, nutrition, and leisure time, yet diverse impacts on their empowerment, due to their unique life choices and pathways to empowerment. There may be trends among these women – common pathways to empowerment (Cornwall, 2016) – that could inform public policy and are well worth documenting. But for the data to be rigorous, women's individual experiences must be embedded in the evaluations of time use, agriculture, and nutrition.

While no studies, to date, have applied the reproductive justice framework to the context of women's empowerment in international development, examples do exist of innovative research on women's empowerment and children's nutrition. Ickes et al. (2017) demonstrated a promising approach to gaining a more nuanced and accurate understanding of the relationships between women's empowerment, household caregiving roles, and nutrition outcomes. Through conducting interviews and focus groups with Ugandan women and men, they investigated limiting factors on both parents' abilities to care for their children. They also deliberately sought Ugandan parents' perspectives on the meanings of women's social support; psychological capabilities; roles, priorities, and time; decision-making/agency; and empowerment. They found early pregnancy, close child spacing, and polygynous marriage (notably, all matters of reproductive justice) to be constraints on caregiving capabilities. The authors suggested that transforming gender norms, including encouraging fathers to take on non-traditional caretaking roles, could positively influence children's nutrition outcomes. In their conversations, both men and women were supportive of increasing the amount of childcare that men provide. Just the act of discussing these topics was described as

“empowering” by the women. Albeit studying the nutrition of women, rather than children, Lentz (2018) also provided an example of how nuanced ideas of gender dynamics lead to more rigorous theories of change for both women’s empowerment and nutrition outcomes. The evidence from this study supports incorporating discussions of gender norms (amongst both women and men) into nutrition projects (p. 279). Bezner-Kerr et al. (2016) put such discussions into practice in their study of a nutrition programme in Malawi that explicitly encouraged men in the community to become actively involved in childcare and improving nutrition. Through “recipe days” that challenged social norms around masculinity in Malawi, the programme was able to foster an environment in which men felt empowered to take on traditionally feminine roles, women’s care workloads lightened, and children’s nutrition became the concern of more people within each household and within the community as a whole. In a similar but separate line of inquiry, de Jong et al. (2017) considered the effect that control over reproductive outcomes might have on women’s employment. Using the birth of twins as a proxy for unplanned childbirth (i.e. even though the pregnancy may have been planned, the second child was almost definitely unplanned) in sub-Saharan Africa, they found that the unexpected child did reduce the likelihood that the mother would have off-farm employment. Thus, they concluded that family planning could be an important factor in expanding women’s non-agricultural livelihood options (de Jong et al., 2017). This example illustrates how a focus on issues of reproductive justice (in this case, family planning) can reveal connections to other issues of women’s empowerment. It also suggests that the reproductive justice framework could be useful not only for understanding the relationship between women’s empowerment and nutrition, but also for understanding the intersecting relationship with agriculture. The positive results of all these studies, which do not use a reproductive justice framework but do overlap with its principles, suggest that the application of a reproductive justice framework to the context of development interventions could yield valuable insights into the relationships between women’s empowerment and nutrition outcomes.

Women’s Empowerment in Agriculture *and* Children’s Nutrition

Given the interest in 1) the relationships between agriculture and nutrition, 2) the relationships between women’s empowerment and agricultural production, and 3) the relationships between women’s empowerment and children’s nutrition outcomes, it is unsurprising that there is also keen interest in the intersection of all three. There may even be positive reinforcement from the structure of international development funding and research, which rewards the bundling

of cross-cutting issues by bestowing larger grants and many buzzword-heavy citations. However, without a clear map of any of the two-pronged relationships (particularly those relating to women's empowerment), the triumvirate remains an enticing but inhospitable frontier. Kadiyala et al. (2014) attempt to outline possible pathways between women's empowerment in agriculture and children's nutrition outcomes, but notably do not apply an empowerment-based understanding of gender equality issues. They propose three (one-way) pathways:

- 1) Household agricultural assets and activities may influence women's decision-making, which may influence the food and care that children receive.
- 2) Women's agricultural work may influence women's care work.
- 3) The dangers and strain of agriculture may influence women's own nutrition, which may in turn influence children's nutrition.

Although the authors discuss indicators of women's empowerment in the body of the review, empowerment does not appear at all in their final pathways. Instead, they describe "women in agriculture" and "maternal employment" (p. 46). This is not to say that issues of empowerment are not relevant to these proposed pathways; on the contrary, they evoke issues that are central to women's empowerment. However, articulation of the role of empowerment in these pathways remains inchoate, leaving development actors underequipped to plan programmes that rigorously incorporate all three issues. Ruel et al. (2018) propose three similar pathways in their review of nutrition-sensitive agriculture, while acknowledging the challenge of inconsistent definitions and measurements of women's empowerment. This underdevelopment of empowerment outcomes extends to prognostications of the ways changing agricultural and food systems might impact on gender, poverty, and nutrition in coming decades, in which gender outcomes and trends tend to receive the least attention (in comparison to poverty and nutrition) (Lentz, 2020).

2.2.6 Literature Review Summary

This section presented an overview of the existing literature related to women's empowerment in international development, and its connections to agriculture and children's nutrition. Tracing the origins of women's empowerment in international development reveals that it has been subject to epistemological debates ever since its emergence. While the term empowerment and its close relatives are not always employed consistently across research, the definition of

empowerment coined by Kabeer in 1999 is now widely accepted as the basis for developing evaluations of women's empowerment. Namely, empowerment is "the process by which those who have been denied the ability to make strategic life choices acquire such an ability" (Kabeer, 1999b, p. 435).

Building off this definition of empowerment, the Women's Empowerment in Agriculture Index was developed as a simple, widely applicable quantitative indicator of women's empowerment in agriculture (Alkire et al., 2013) with subsequent variations for accommodating practical needs. Its growing popularity occasions increased scrutiny of its strengths, weaknesses, and overall rigor. In particular, examination of its weighting, cut-offs, theoretical limits, and cross-cultural malleability would benefit from further empirical evidence, both quantitative and qualitative. The Index's time use domain is a particularly understudied indicator of women's empowerment, and its format raises interesting methodological questions about how to categorise and evaluate different uses of time (e.g. income-generating work, care work, and leisure), and how to capture informative time use patterns (e.g. multitasking and deciding how to allocate newly free time).

Measurement of women's empowerment is an increasingly prominent component of not only agricultural development initiatives, but also public health interventions improving children's nutrition. Research on the relationships between women's empowerment and children's nutrition suffer from challenges similar to those faced by agricultural development research (e.g. ambiguous terminology around empowerment, proxy indicators). Furthermore, proposed theories of pathways between women's empowerment and children's nutrition are susceptible to instrumentalist logic that essentialises women. Results from research on the relationship between women's empowerment and children's nutrition (using instrumentalist theoretical pathways) are inconclusive, with sometimes seemingly contradictory findings. A reproductive justice framework could provide an alternative method of analysing the relationship between women's empowerment and children's nutrition. This framework assesses women's empowerment based on their ability to parent if, when, and how they wish. In the following chapter, I outline how each of these conceptual frameworks are applied in my research on women's empowerment, agriculture, and nutrition.

2.3 Conceptual Frameworks

In the preceding section, I explored the diverse conceptual frameworks currently shaping discourses in women's empowerment in agriculture and nutrition. This exercise is essential because there is not yet consensus on how to conduct research on women's empowerment. As Pratley (2016) put it, "this field of study still lacks a coherent conceptual framework for measurement that can guide researchers in how to operationalize empowerment by aggregating indicators into meaningful dimensions" (p. 127). In this thesis, I explore three areas of study:

- 1) women's empowerment and agriculture,
- 2) women's empowerment and nutrition,
- 3) women's empowerment, agriculture, and nutrition.

In the literature review, I outlined both the existing, predominant conceptual frameworks in each of these fields, as well as untested and/or less common conceptual frameworks. In my research I apply and compare two conceptual frameworks within each field (see Figure 2), one based on an instrumental valuation of women's empowerment, and one based on an intrinsic valuation of women's empowerment. In applying the lens of each framework to the data I collected in Busoga, I reflect upon how each leads to different (or similar) analyses and conclusions. Within each field, I examine the following (briefly summarised) conceptual frameworks:

Women's empowerment and agriculture:

- 1) the conceptual framework employed in most existing applications of the Abbreviated Women's Empowerment in Agriculture Index– built upon an instrumentalist understanding of women's empowerment and emphasising static standardised indicators and cross-cultural/interdisciplinary comparisons of women's empowerment (p. 17).
- 2) the conceptual framework supported by Kabeer and Chant (among other scholars), built upon a belief in the intrinsic value of women's empowerment, and emphasising nonlinear processes and the heterogeneity of individuals' life choices (p. 15).

Women's empowerment and nutrition:

1) the conceptual framework which positions women's empowerment as a tool for achieving improved nutrition outcomes in children, according to three main pathways:

- 1) women's role as a (primary) caregiver
- 2) women's physical health and labour
- 3) women's allocation of income and other resources (p. 35)

2) a reproductive justice framework, which positions children's nutrition as one spoke in the wheel of concerns related to a woman's reproductive decisions throughout her life, and which positions women's empowerment as the ability to make and act upon those choices (p. 39)

Women's empowerment, agriculture, and nutrition:

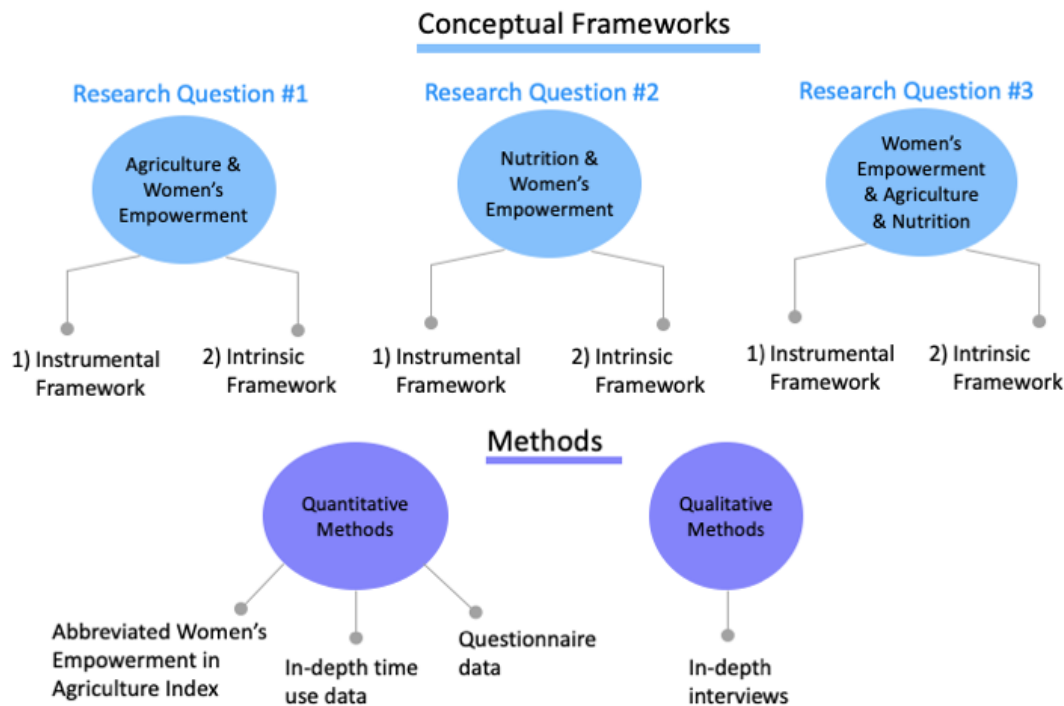
1) the conceptual framework described by Kadiyala et al. (2014), which positions women's empowerment as a tool for achieving increased agricultural productivity and improved nutrition outcomes, according to three main pathways:

- 1) Household agricultural assets and activities may influence women's decision-making, which may influence the food and care that children receive.
- 2) Women's agricultural work may influence women's care work.
- 3) The dangers and strain of agriculture may influence women's own nutrition, which may influence children's nutrition. (p. 43)

2) a conceptual framework which examines women's ability(/inability) to make agriculture-related and nutrition-related choices according to if/when/how she wishes to work in agriculture, and if/when/how she wishes to parent a child. This framework employs a hybrid of a reproductive justice framework and Kabeer's (1999) definition of women's empowerment, both of which centre the intrinsic importance of women's empowerment.

As part of comparing these conceptual frameworks, my research also assesses the strengths and weaknesses of different methods (quantitative and qualitative) of collecting data for the purpose of evaluating women's empowerment (see Figure 2).

Figure 2: Conceptual frameworks and methods applied in this research



2.4 Research Questions

My research applied these methods and conceptual frameworks in the context of Busoga, a sub-region of the Eastern Region of Uganda, where I sought to better understand the interactions between empowerment, agriculture, and nutrition in the lives of Basoga women. Specifically, I investigated three core research questions:

Question 1: How do different frameworks and methods of data collection and analysis influence interpretations of women's empowerment in agriculture in Busoga, Uganda?

In order to understand how different data collection methods shape assessments of women's empowerment in agriculture in Busoga, I implemented the Abbreviated Women's Empowerment in Agriculture Index survey as originally designed, while also exploring survey modifications and alternative methods. The Index comprises five domains: production (decision-making), income (control over spending), resources (access to assets and credit), time (hours spent working), and leadership (group membership). In this thesis, I analyse all five domains, and particularly expand the data collected (both quantitatively and qualitatively) on time allocation. There are several reasons for this. First, time poverty is understudied relative to other domains of women's empowerment in agriculture. Second, the time domain is unique

among the five in that it measures a continuous quantitative variable that ostensibly has an objectively true value. This makes it a prime candidate for collecting more in-depth quantitative data (without changing the basic structure of the Index) and for revealing any contrasts between quantitative and qualitative methods. Third, because time use is an important variable not only in understanding empowerment in agriculture, but also in understanding empowerment in nutrition, collecting time use data allows me to directly compare theories of empowerment in agriculture with theories of empowerment in nutrition (in response to my third research question). Fourth, understanding women's time use is a crucial component for understanding care work and the political economy of labour more broadly (beyond agriculture alone). Developing tools for assessing time use with greater accuracy and precision (with careful attention paid to who defines accuracy and precision) could make valuable contributions to broader conversations in international development, far beyond the narrow focus of this thesis.

Question 2: What relationship(s) exist between women's empowerment and children's nutrition in Busoga, Uganda?

A growing body of literature draws correlations between women's empowerment and similar terms (e.g. maternal autonomy, women's status) and children's nutrition (e.g. diet diversity, height-for-age). However, evidence supporting these correlations remains muddy, as do the theorised pathways underlying any relationship(s) between women's empowerment and children's nutrition. I analyse the data collected in Busoga on children's diet diversity (quantitative) and women's empowerment (quantitative and qualitative) according to two conceptual frameworks (see Figure 2). I discuss the similarities and differences between these analyses, their contributions to existing discourses on women's empowerment and nutrition, and implications for future research.

Question 3: How do theories of women's empowerment in agriculture align or conflict with theories of women's empowerment in nutrition?

While Question 1 focuses on relationships between women's empowerment and agriculture, and Question 2 focuses on relationships between women's empowerment and nutrition, Question 3 considers the intersection of these two fields, comparing them in order to identify places where they overlap and places where they conflict. This is a crucial step for understanding how international development programmes target agriculture, nutrition, and women's empowerment. Because of the incentives to achieve objectives in many sectors, there

is a natural tendency to highlight areas of conceptual consonance, while downplaying or neglecting areas of conceptual dissonance. I aim for a more comprehensive discussion of these complex, evolving theories, with the hope that it will lead to more precise and nuanced discussions of these topics in international development research and programming in the future.

2.5 Chapter Conclusion

In this chapter I presented a review of current literature related to women's empowerment, agricultural development, and children's nutrition, identified key conceptual frameworks, and outlined the three core research questions guiding my research. The first research question examines methods of measuring women's empowerment in agriculture, the second research question probes the relationships between women's empowerment and children's nutrition, and the third research question brings together women's empowerment, agriculture, and nutrition to better understand how international development programmes might pursue objectives in all three areas. Within each research question, I compare two contrasting conceptual frameworks, one based on an instrumentalist valuation of women's empowerment, and one based on an intrinsic valuation of women's empowerment. I apply these conceptual frameworks to the analysis of mixed-methods data; these methods are the focus of the following chapter.

CHAPTER 3: Methods & Context

3.1 Introduction

As explored in the literature review, existing research on women's empowerment suggests that mixed-methods approaches (combining both quantitative and qualitative methods) produce more rigorous insights into women's empowerment processes than purely quantitative or qualitative methods alone. I applied this reasoning in my own research, first gathering quantitative data on women's empowerment, agricultural resources and practices, and children's diet diversity (including the Abbreviated Women's Empowerment in Agriculture Index, in-depth time use data, and additional survey data). I followed up the quantitative data collection with qualitative data collection (in-depth interviews) that closely examined trends and contradictions appearing in the quantitative data, providing context and possible explanations for associations between women's empowerment, agriculture, and nutrition.

In this chapter, I first establish my own standpoint in this research, reflect upon the inherent biases of my particular identities and experiences, and consider how I should stay alert to the ways in which my positionality could shape my interpretations of the data (section 3.2, p. 52). Next, I situate my research in relation to the two wider research projects (connected by common funding and collaborative labour) mapping in detail the places where my research and other projects overlap and diverge (section 3.3, p. 55). This includes a delineation of distinct research questions, roles in collaborative data collection design and implementation, and independent analyses of shared datasets. In the following sections I provide a detailed description of the process implemented in the two phases of data collection (sections 3.4 and 3.5, p. 57 - 65), and an outline of the data analysis procedures for each core research question (section 3.6, p. 69). Finally, I give a brief overview of the region of Busoga (section 3.7, p. 71), drawing on both national survey data from the Uganda Bureau of Statistics as well as results from the survey conducted during the first phase of data collection. The purpose of this section is to provide geographical, historical, and demographic information about the study population, grounding the results and analysis presented in subsequent chapters in the specific context of Busoga.

3.2 Author's Standpoint

I conduct this research within the principles of feminist standpoint theory (Harding, 1992; Wylie, 2012); in this section I outline the particular version of feminist standpoint theory that I ascribe to, and its consequent role in my research. First, I take the necessary step of providing my self-disclosures (Pillow, 2003) (i.e. the dimensions of my identity and experiences that likely shape and limit my analytical process); then, I take the equally necessary – but more often overlooked – second step of articulating precisely how the theories employed and knowledge produced by this research are situated relative to my particular gaze (Haraway, 1988; Collins, 1990).

Perhaps the most obvious aspect of my identity requiring reflexivity is the fact that I am a white American conducting research within a British university, in the field of international development. To unpack these descriptors further, I was raised in a society that glorified settler colonialism and individualism. I have always benefited from white privilege in innumerable ways and continue to be susceptible to implicit racial bias. My research builds upon the field of international development, which includes a branch of strong critical theory, but nevertheless has roots in colonialism and racism that have not yet been fully eradicated. Therefore, it is essential for me to be meticulous in learning about how this history is present in Basoga, specifically, and to pay vigilant attention to how my research could be reifying these prejudices and power constructs.

These power dynamics have particular relevance to research on agricultural development. Generations of Basoga have endured intrusions of Western foreigners deliberately attempting to shape agricultural practices, beginning with colonial pressures on smallholder farmers to grow cotton for export, followed by capitalist promotion of sugarcane plantations (Mwanika, 2020). International agricultural development initiatives of any variety must view their policy and practice recommendations in light of this long history, which has been messy at best and exploitative at worst. Because my research focuses on identifying any ways that agriculture might serve women's empowerment, and exposing any ways that agriculture might depend on women's coerced labour, I endeavour to give epistemic privilege (Sweet, 2020; Wylie, 2012) to the experiences of a marginalised group (i.e. Basoga women) over capitalist and patriarchal systems of knowledge and power (i.e. the forms of international development influenced by these systems).

While I incorporate direct (translated) quotes from Basoga women throughout this thesis and attempt to centre their views in my analysis, I am not in any way supposing that I am ‘giving a voice’ to Basoga women; the voice ultimately reflected in the analysis and conclusions is entirely my own, spoken in response to viewing and listening to the experiences of Basoga women. This is categorically distinct from an insider view from a Musoga woman. It is therefore essential that I also be aware of my position as a white woman conducting research on women’s empowerment and gender in development. Research conducted by white Western women that reduces, simplifies, and patronises the experiences of women in the Global South has been rightfully critiqued (Mohanty, 1988). Nevertheless, my position as an outsider to Kisoga culture does not automatically disqualify me from producing valuable knowledge in this particular context, nor is it possible or desirable to attain any standpoint entirely free of normative bias. As Kabeer states, “the whole idea of development is, after all, based on some kind of normative standpoint” (Kabeer 1999b, p. 458). The key is reflecting upon how my individual standpoint, in Kabeer’s words, “expresses values which are relevant to the reality it seeks to evaluate” (p. 458). My standpoint includes my formal education in feminist theory and strongly held beliefs about global gender inequalities. Throughout my research I have strived to compartmentalise these beliefs so that they did not have undue influence over my data collection methods (i.e. designing neutrally phrased questions and ensuring that women interviewed felt no pressure to give any particular type of response). These feminist views have undoubtedly shaped my approach to data analysis, but I have tried to demarcate clear borders between the opinions of women interviewed and my own interpretations and arguments.

The use of a reproductive justice framework represents another way that I have sought to incorporate knowledge drawn from marginalised experiences. The concept of reproductive justice was formalised by Black American women in 1994 and has driven an activist movement led by women of colour. I did not select this analytical framework as a way of ticking a box; its relevance became clear to me as I listened to the experiences of Basoga women early in the data collection process. But the fact that reproductive justice provides a robust foundation for conducting research on women’s empowerment is not surprising. Perspectives from marginalised groups have the advantage of double consciousness, and the rigor of theoretical frameworks developed from these perspectives benefit accordingly. The reproductive justice framework both highlights and incorporates another relevant dimension of my positionality.

While this research exclusively selected mothers, I myself have not had children, and therefore have an outsider standpoint to the experiences of pregnancy, childbirth, and parenting. However, I do have some shared experience through the reproductive justice framework, as a woman who has had to confront choices about whether to have children, and which methods (if any) to use to prevent pregnancy. Again, this particular standpoint neither qualifies nor disqualifies my position as researcher, but does influence my interpretations of the data.⁵

Finally, the experiences of collecting both quantitative and qualitative data brought into sharp relief the ethical responsibilities and roles I carry as a researcher with this particular bundle of privileges and perspectives. While the quantitative stage of data collection comfortably met all the written requirements of formal ethical approval (see p.57), I observed that the intensive nature of the methods (i.e. multiple tools administered simultaneously, long consecutive working days, repetitive and unfamiliar practices) took a toll on both study participants and enumerators. It caused me to question the limitations of pre-determined ethical guidelines, especially for novel methods, and to consider the responsibilities of researchers to build and prioritise space for adapting methods to accommodate the reactions and needs of study participants throughout data collection. These doubts and concerns were validated in conversations with study participants during the qualitative stage, especially before/after the more structured parts of the interviews. Many volunteered dissatisfaction and/or confusion regarding some aspects of the quantitative data collection process, and I was grateful to at least have the opportunity and time to respond fully to all their questions, and to build a stronger rapport. Overall, these experiences have shaped my understanding of my ethical responsibilities as a researcher with this particular standpoint (e.g., matching an acknowledgement of my limited, subjective gaze with buffers of extra time and money to adjust methods as needed). These responsibilities remain even if they are not stipulated by institutional ethical guidelines, and even if they compromise or change the initial goals and plans of the research project.

⁵ For an in-depth discussion of the positionality of a white Western woman conducting doctoral research on international development in rural East Africa, see Vanner, 2015.

3.3 Position of Research in Relation to Wider Projects

Larger research projects are responsible, in part, for making my research possible. The data collection process in particular depended on funding⁶ for two projects: “Using information communication technologies (ICTs) to understand the relationships between labour-saving agricultural innovations, women’s time use, and maternal and child nutrition outcomes” (Project 1) and “Understanding how dynamic relationships among maternal agency, maternal workload and the food environment affect food choices” (Project 2). For both these projects, I was a member of a research team⁷ that worked collaboratively to collect multiple types of data and pursue interrelated yet distinct research questions. In this section, and in the subsequent section describing methods in detail, I aim to clearly delineate where my research overlapped with and diverged from these collaborative research projects, thereby establishing that this thesis is a sufficiently independent piece of scholarly work.

The implementation of both projects (including my research) relied upon collaboration with a local host organisation, Sasakawa Global 2000 Uganda⁸, as the local implementing partner. Sasakawa Global 2000 Uganda is an agricultural development programme that operates under the umbrella of the Sasakawa Africa Association, a non-governmental organisation founded in 1986 with support from the Nippon Foundation, a Japanese philanthropic organisation. Its development activities in Uganda (including Busoga) focus on supporting agricultural extension, introducing innovative agricultural technologies to farming communities, and strengthening agricultural value chains (Sasakawa Africa Association, 2015). Specifically, this has included field demonstrations, test plots, and training in/access to postharvest technologies (e.g. processing machines and hermetic storage); many of these activities also target women farmers (Sasakawa Africa Association, 2020). Sasakawa Global 2000 Uganda aided in selecting the communities sampled and provided access to community-based facilitators who

⁶ Funding for these projects was provided by Innovative Methods and Metrics for Agriculture and Nutrition Actions (IMMANA) and Drivers of Food Choice, the former of which received financial support from UK Aid, and the latter of which received financial support from UK Aid and the Bill & Melinda Gates Foundation.

⁷ The ‘research team’ that I refer to includes two of my three supervisors at the Natural Resources Institute, two additional colleagues at the Natural Resources Institute, three colleagues at the London School of Hygiene and Tropical Medicine in the UK, one colleague at the Africa Innovations Institute in Uganda, and myself.

⁸ Partnership with this organisation was chosen because it was one of very few organisations in the area working to alleviate women’s time poverty through providing labour-saving agricultural technology. Note, Sasakawa Global 2000 Uganda did not fund either Project 1 or Project 2.

acquired lists of potentially eligible participants from each village and notified individuals of their eligibility for recruitment.

Regarding the formation of research questions, I deliberately designed research questions that addressed research gaps not covered by any other members of the research teams of Project 1 and Project 2. Because the research team had already proposed and secured the projects prior to my formulation of research questions, I designed my research questions while mindful of the types of data it would be possible to collect during fieldwork for the two projects. In this sense, certain practical parameters of the two projects *did* provide a frame for my research (e.g. selection of Busoga as the location for data collection and, to a lesser extent, selection of dates for data collection). However, my specific research questions were not in any way prescribed by the projects. I selected them based on the gaps I found most glaring in existing literature and most relevant to the implementation of future international development projects. In some cases, the two projects collected data that were applicable to both my research questions *and* other team members' research questions. That is, the other team members and I could each analyse the same datasets in different ways, in order to answer different research questions. In other cases, I designed methods intended only to answer my specific research questions. (Correspondingly, the data collection process also included methods designed to answer other team members' research questions, but were not relevant to my research questions.)

Without straying into exhaustive descriptions of Project 1 and Project 2, I believe it is informative to briefly characterise the research questions my colleagues within these projects pursued, and how they differ from my own research questions. Broadly speaking, other members of Project 1 aimed to assess the validity of innovative methods of collecting dietary data and time use data, in comparison to traditional methods. In contrast, while I also examine differences among (quantitative and qualitative) methods of measuring time use, I do so from the perspective of measuring women's empowerment (i.e. assessing the interplay between methods and conceptual frameworks) (see Research Question 1) not from the perspective of tool validation (i.e. comparing different quantitative methods' output against each other). The proposal of Project 1 also articulated a broad objective to better understand the relationship between women's empowerment and labour/time use in the context of nutrition-sensitive programming, but did not design a detailed analysis plan for achieving this objective. As the team member focusing most minutely on women's empowerment (as opposed to nutrition,

economics, or technology validation), I designed more specific research questions to fill this research gap (see Research Questions 1 and 2) and the corresponding plans for collecting and analysing both quantitative and qualitative data. In the case of Project 2, all team members, including myself, were interested in better understanding women's food choices. The crucial difference is in the angle of women's food choice we each sought to understand. As a researcher focusing on women's empowerment (i.e. women's abilities to make strategic life choices), I aimed to better understand the extent to which women are able to choose the foods that they wish to feed themselves and their households, and how these choices (or lack of choices) might reflect gender norms, reproductive justice, and women's empowerment more broadly. In contrast, other members of the team were more interested in women's food choice from a nutritional angle, aiming to better understand how women choose among different foods in different nutritional categories. I designed research questions that address my angle of interest (see Research Questions 2 and 3), and the corresponding plans for analysing existing quantitative data from Project 1 and collecting and analysing qualitative data. For a detailed breakdown of roles assumed by team members for each method of data collection/analysis, please see Appendix L, p. 351.

3.4 Research Ethics

Prior to beginning each phase of data collection, the research team secured ethical approval from the internal review boards of the University of Greenwich, the London School of Hygiene and Tropical Medicine, and the Uganda National Council for Science and Technology. That is, ethical approval was secured from the above-mentioned institutions in 2017 for the first phase of data collection, and the process was repeated in 2019 for the second phase of data collection. Following data collection, storage of sensitive data followed University of Greenwich data protection protocols in compliance with the General Data Protection Regulation and UK Data Protection law. This included securing all data within password-protected files and devices and anonymising all personal details within this thesis (and all other publications).

3.5 Phase 1 Data Collection

Data collection occurred in two phases. The first phase, consisting of solely quantitative methods, took place between December 2017 and February 2018. The second phase, consisting of solely qualitative methods, took place in September 2019.

Phase 1 data collection⁹ included the following quantitative methods:

- 1) A broad questionnaire including the Index questions, as well as questions about demographics, household assets, agricultural production, and household labour and care (See Appendix A, p. 283)
- 2) Direct observation of each woman's activities and the foods consumed by her child over the course of 14 hours (See Appendix B & C, p.301)

(Please see Appendix L, p.351, for details on how the data produced by each method correspond with my three core research questions.)

3.5.1 Data Collection Tools

Questionnaire

The questionnaire (Appendix A, p. 283) included an open-ended roster for recording all individuals (both adult and child) that the respondent listed as members of the household. Household members were defined as any individual who resided with the respondent for at least 6 of the past 12 months and regularly ate food with others in the household. This roster provided a better understanding of the household context, including an approximation of the number of people the respondent might be caring for and/or receive assistance from. The respondent provided, to the best of her knowledge, each household member's age, relationship to her, and whether they were currently attending school. For herself and her partner (if applicable) she also provided current educational level and literacy skills. We also asked the respondent to specify the household head, her relationship status (e.g. single, monogamous marriage, polygynous marriage, divorced, etc.), and her religion(s), if any. To gain an understanding of the household's agricultural and economic activities, we asked the respondent to describe the household's major expenditures, the crops harvested, livestock raised, land access/ownership, and all sources of income. The questionnaire also included the questions necessary for calculating the Poverty Probability Index¹⁰. In addition to these descriptive

⁹ In this section, although I focus only on the methods relevant to *my* research (rather than *all* the methods used during fieldwork), data collection was a collective effort conducted as a research team. (See Appendix L, p.343 for more details on the differences between my research and the wider projects.) Therefore, I sometimes refer to the research team or 'we' (indicating that activities depended on many people) rather than 'I' (to avoid giving the impression that I collected data solo). In other sections of this document, I use the pronoun 'I' to indicate that the analysis is my independent work.

¹⁰ More information about the Poverty Probability Index can be found at povertyindex.org

questions, we included a handful of questions intended to gauge women's perspectives. For example, we asked women how they would hypothetically spend the extra money if their income increased (by an undefined amount). We also asked women to agree/disagree with statements about their ability to choose their daily activities, the sufficiency of their resources for feeding children, and the sufficiency of their time for care work, agricultural work, sleep, and leisure.

The remainder of the questionnaire was composed of the questions necessary for the Abbreviated Women's Empowerment in Agriculture Index. To adapt the Index to the context of Busoga, we made a few modifications to the original set of questions but maintained the five domains and overall structure of the survey. This was not an unexpected step in the study design; indeed, the original publication of the Index acknowledged that some modifications would be necessary for adapting the Index to different contexts (Alkire et al., 2013). Nevertheless, these small changes did affect how the final Index was ultimately calculated, and these modifications are important to keep in mind when analysing the results.

In the production domain, the original survey lists four categories of agricultural activities: food crop farming, cash crop farming, livestock raising, and fishpond culture. Because fishpond culture is very rare in this area of Busoga, we combined this category with other livestock. Therefore, our survey documented women's decision-making in three activities, rather than four. Because the original adequacy cut-off for the production domain is decision-making ability in two (of four) activities, I was left with the decision to either make this adequacy cut-off a higher hurdle (two of three activities) or lower hurdle (one of three activities). In the results section, I explore both calculations (see p.96). The production domain had one other modification. The original response codes for the question "To what extent do you feel you can make your own personal decisions regarding [ACTIVITY] if you wanted to?" are 1) "not at all", 2) "small extent", 3) "medium extent", and 4) "to a high extent". In conversation with other team members (including the Ugandan enumerators), we found that "to a medium extent" was a very uncommon phrase in English¹¹, awkward to define and even more difficult to translate clearly into Lusoga. Thus, we decided to collapse the responses "small extent" and "medium extent" into a single response, "to some extent". We also decided

¹¹ To give a rough illustration of this point, a Google search conducted in 2020 for the phrases "to a small extent", "to a high extent", and "to a medium extent" returned 1.6 million; 540,000; and 17,000 results, respectively.

that “completely” was more conceptually clear than “to a high extent”. Because the original adequacy cut-off is “medium extent”, the decision posed is similar to that of choosing whether to use one or two production activities as the cut-off. In the results, I explore both the calculations with “to some extent” as the cut-off and with “completely” as the cut-off. Again, there is some risk that collapsing these response codes reduced the nuance that respondents were able to report, and therefore reduced the precision of the overall empowerment score. However, I believe that this trade-off is worth the corresponding increase in clarity (i.e. higher confidence that both the interviewer and respondent had the same understanding of the response given), and therefore produced higher quality data than the original survey could have (in this context).

The truncations of “medium extent” and “fishpond culture” similarly affected the calculation of the income domain, though to a lesser degree than the production domain. This is because the original cut-off requires adequacy in only one activity out of seven (compared to two out of four in the production domain). Therefore, the probability that this modification significantly changed the scores calculated is low (but also explored in the results section, see p.98).

Alongside these modifications of the questions, we also added two categories of activities to the production/income decision-making module. These were “feeding children” and “other childcare”. Their purpose was not for calculating an alternative empowerment score, but rather for providing further contextual information about the decision-making process surrounding care work in the household, informing analysis of the relationship between women’s empowerment and children’s nutrition.

In the resources domain, we combined the loan source categories “group-based microfinance” and “informal savings groups” because there is overlap in groups of these descriptions in the study area. We found that placing such groups in a single category avoided spending time explaining distinctions between definitions to the respondent, and reduced interview fatigue. Similarly, in the leadership domain, we found during piloting that local groups were not common enough to justify asking ten separate questions about the presence of different types of groups. Therefore, we combined “water users groups” and “forest users groups” in one category, “microfinance groups”, “trade associations”, and “mutual help groups” into one category, and “charitable groups” and “religious groups” into one category. In both the

resources and leadership domains, because the cut-off was adequacy in any one category, the impact on the domain or overall score calculation was minimal. The time domain was calculated using methods apart from the questionnaire, as detailed in the following section. In total, the questionnaire included over 60 questions and generally took between 30 minutes and 2 hours to complete. As much as possible, the enumerator tried to find a quiet and comfortable place to sit with the respondent, out of earshot of others.

Time Use Observation¹²

On the day following sensitisation and administration of the questionnaire, each enumerator was assigned to one woman, and observed her activities from 07:00 until 21:00 (or until the woman went to sleep, whichever came first). The enumerator carried a stopwatch and recorded all the activities that occurred in 15-minute intervals, according to a pre-written list of activities (see Appendix B, p.310). These activities included all 18 of the activities originally listed in the time domain of the Abbreviated Women's Empowerment in Agriculture Index questionnaire, as well as an additional 26 categories of activities, for the purpose of gaining a more nuanced understanding of each woman's time use. There was no limit on the number of activities that could be recorded in a single interval (i.e. there could be an unlimited number of simultaneous activities). Enumerators did not rank activities in any way (e.g. primary and secondary activities). This method was adapted from the matrix used by the Index to record activities (see Appendix D, p.308). It included all the features of the Index, but also provided greater granularity by listing more activities and allowing for simultaneous activities.

Child Diet Diversity Observation

Alongside observation of each woman's time use, enumerators also conducted observation of the foods consumed by the child selected for the study, for the purpose of calculating their minimum diet diversity score. Where possible, each food served to the child was first weighed by the enumerator using a digital scale and recorded (see Appendix C, p.304). If the child consumed foods while not in the presence of the mother or before/after the period of

¹² As part of data collection, the team also collected time use data with the standard method recommended by the Index (i.e., an interview with the participant in which she recalls her activities over the previous 24 hours in as much detail as possible). This was collected on the day following observation, so that for each participating woman there were two sets of time use data (one from the observation method and one from the interview method) documenting the same day. Unfortunately, at the time of writing, the 24-hour recall interview data were not yet available. I expect that future analysis of those data, when available, will provide useful insights into the differences between external (subjective) perceptions of time use and personal (also subjective) experiences of the same time use.

observation, these foods were recorded via a recall interview with the mother (or whichever caregiver had been observing the child, if the mother was not present). If the child consumed a food composed of multiple food groups (e.g., a stew containing leafy vegetables, sweet potatoes, and fish), the recipe for that food was also recorded (see Appendix C, p.304).

3.5.2 Data Collection Team

Because this project collected technical nutrition data, the team recruited individuals with experience in collecting nutrition data (though not all recruits had this experience). Team members also sought out individuals with Lusoga language skills and Basoga cultural familiarity (although not all recruits had this linguistic or cultural knowledge). Above all, we prioritised recruiting individuals that displayed a high aptitude for learning quickly, working well in a team, persevering through long work days, and interacting sensitively with research participants. All eighteen enumerators were women; of the three supervisors (each leading a team of six enumerators) two were women and one was a man. All enumerators and supervisors had completed secondary school and most had some level of postsecondary education. Many, though not all, had a background in nutrition sciences; others had a background in agricultural sciences or sociology. Some had previous experience conducting surveys, but for many this was their first experience with fieldwork. All spoke Luganda and English fluently; three enumerators had grown up in Busoga and spoke Lusoga fluently.

We conducted an eight-day training in data collection methods, including an assessment of all trainees to evaluate their command of the methods. During this training, we emphasised the importance of learning and becoming comfortable with a Lusoga vocabulary. Luganda (which is much more widely spoken in Uganda) and Lusoga are closely related and mutually intelligible, but not identical. While speaking with participants exclusively in Luganda (and listening to their responses in Lusoga) was feasible, we strongly encouraged enumerators to learn key vocabularies and phrases in Lusoga, and deferred to the native Lusoga speakers on our team as the experts in this area. Luganda-speaking trainees had many opportunities to practise their Lusoga, as they (i.e. all Ugandans on the team) translated all of the data collection tools collaboratively from English to Luganda/Lusoga, in order to ensure that all team members used consistent phrasing when administering the questionnaires.

During training we also emphasised the importance of consistent coding of activities, and of probing when the type or extent of the activity was unclear. In the case of childcare, because definitions vary across cultures, we discussed the study's definition of childcare (which included supervision of children) in detail. Because we were aware that women might not be accustomed to describing childcare according to this definition, we instructed the enumerators to probe for the whereabouts of her children during reported activities.

Following the training and an assessment of each trainee's understanding of the data collection protocols, we selected three teams for data collection. Each team consisted of six enumerators and one supervisor (All enumerators and supervisors were Ugandan and completed the aforementioned training and skill assessment). In total, 26 individuals were in the field for the duration of data collection, with intermittent visits from the three principal investigators.

3.5.3 Sampling

We purposefully selected 22 communities in Busoga from those participating in the Sasakawa Global 2000 Uganda programme. Because of research questions¹³ included in Project 1 (on which my research questions were not dependent¹⁴), this selection was based on each community's likelihood¹⁵ of having access to a mechanised maize sheller (11 communities with access, 11 without¹⁶). We initially recruited 216 mother-child pairs from 18 communities (12 communities in Bugiri, 6 communities in Kamuli, 12 mother-child pairs in each community). This sample size was based on the need of Project 1 to detect significant differences in time saved at a sensitivity of 30 minutes (to assess the impact of a mechanised maize sheller) and validation of novel methods of collecting diet diversity data. This sample size calculation was based on a significance level of 0.05 and 80% power, assuming a standard

¹³ Project 1 originally included an objective to measure women's time saved by access to mechanised maize shellers, compared to women shelling maize by hand. Note that this objective was later dropped because of low maize harvests, delayed data collection (late in harvest season), and difficulty tracking sheller use in practice.

¹⁴ I.e. the selection based on communities with/without maize shellers did not limit selection from the population relevant to my research (i.e. Basoga women farmers) nor did it introduce selection bias.

¹⁵ Note that this was an estimated likelihood based on prior randomised allocation of the shellers by Sasakawa Global 2000, but it was not guaranteed that actual use of maize shellers would perfectly match this prediction. Additionally, individuals' participation in the Sasakawa maize sheller project was not a prerequisite for sample selection.

¹⁶ An informed pairing process was used to achieve balance between communities with/without shellers, according to their population size and distance to the nearest market/town centre.

deviation of 49 minutes, a design effect of 1:47, and up to 10% attrition. The population of each community ranged between approximately 60 and 400 households.

Collaborating with community-based facilitators from Sasakawa Global 2000 Uganda, we collected lists of the names of all the women in these communities who gave birth to children between 01 January 2016 and 01 May 2017 (i.e. aiming to identify women who, at the time of initiating data collection, had a child between the ages of 12 and 21 months). In each community, there were between 20 and 80 children in this age range. From each community list, we randomly selected 12 pairs. Ultimately, the final sample size was 207 (after accounting for women who withdrew from the study or whose data were otherwise unusable), which surpassed the minimum sample of 202 necessary for the wider project's quantitative analyses.

3.5.4 Data Collection Procedures

Data collection took place over six weeks in January and February 2018, beginning in Bugiri district and ending in Kamuli district. In Bugiri, we collected data from 12 communities; in Kamuli, we collected data from 6 communities.

Pre-Collection Coordination

Prior to data collection in each community, we notified the sub-county offices of our presence conducting research in the area, our expected timeframe, and provided a copy of our ethics approval forms. The data collection team coordinated with the local community-based facilitator to identify and mobilise the randomly selected women. The facilitator met with each woman individually and informed her of her eligibility to participate in the study if she wished. If she was interested in participating, the facilitator asked her to attend a sensitisation meeting, along with any of her family members (e.g. spouses or parents) who were interested in learning the details of the study procedures and/or meeting the research team. The facilitator also explained that sensitisation was required in order to be eligible to participate in the study, and asked that the women bring along their 12-21 month old child and any official documents related to the child (e.g. birth certificate, immunisation card).

Sensitisation & Informed Consent

The first day of data collection began with a sensitisation meeting. The designated research team (one supervisor and six enumerators) attended the meeting; I also usually attended. A

research team member explained (in Lusoga and Luganda) what the women could expect from all of the data collection methods (detailed below). A research team member also invited any attendees (including both the participating women and any additional attendees they had invited) to ask any questions they had, which she answered for the whole group. In groups where the attendees seemed timid to ask questions, this research team member would volunteer common questions and answer them. Following this presentation, one member of the data collection team (usually a native Lusoga speaker) would read the informed consent form aloud to the group. The consent form included a reiteration that any woman was welcome to withdraw from the study at any time, for any reason.

Eligibility & Participation

Two women were assigned to each of the six enumerators (12 participating women total in each of the 18 communities). The enumerator evaluated whether each woman and her child were eligible to participate, according to the study's exclusion criteria. If the child had a disability that obstructed their ability to eat, or was a twin/triplet, or was not in fact in the 12-21 month age range, or was not the biological child of the woman, the child (and woman) would be excluded. If the woman did not speak Lusoga, Luganda, or English, or had a disability that would preclude her ability to participate in the study activities (e.g. illness, blindness), she (and her child) would be excluded from the study. If a mother-child pair was excluded from the study, the data collection team would randomly select another pair from the sampling list (until 12 eligible women were identified). If consenting, the women participating would either sign their name on the informed consent form or, if unable to sign, would stamp their fingerprint. If the woman chose not to participate in the study, the data collection team would randomly select another pair from the sampling list. Following the sensitisation, the exclusion process, and informed consent, the enumerators administered a questionnaire with the women (see Appendix A, p.283). The following day, each enumerator observed the time use and diet diversity of one of the woman-child pairs assigned to them; two days later, they observed the time use and diet diversity of the other woman-child pair assigned to them. At the end of data collection, each woman received sugar, soap, salt, and oil as compensation for her time.

3.6 Phase 2 Data Collection

The second phase of data collection took place in September 2019 and focused on qualitative data collection, using interviews and focus groups. The purpose of the interviews was to gain

a more nuanced and detailed understanding of women's own understanding of empowerment, the degree to which they felt empowered (and how their empowerment had increased or decreased over their life course), and their feelings and perspectives about agriculture, care work (especially parenting), and time use. To this end, I drafted a set of in-depth, semi-structured interview questions, revised through piloting with women in rural communities near Jinja who were both mothers and farmers (see Appendix E, p.311, for the complete interview question guide). Many questions were modified from a qualitative study of Ugandan mothers' and fathers' views of parenting and nutrition care (Ickes et al., 2017). Some questions intentionally targeted topics raised by the Abbreviated Women's Empowerment in Agriculture Index. Other questions (and re-phrasing of questions) developed organically from the pilot interviews.

3.6.1 Qualitative Data Collection Team

The interview data collection team was made up of myself, the interviewer, a note-taker, and our driver. The interviewer and note-taker were both Ugandan women with postgraduate-level education and several years of experience conducting qualitative research in the field of international development. At the same time, they were outsiders to the communities in which we conducted interviews, in the sense that they had previously spent little or no time in this specific part of Bugiri. The interviewer spoke fluent Lusoga and was culturally a Musoga (i.e. member of the Basoga ethnic group). She conducted each interview, deciding when to bring up each question (from the semi-structured interview guide) in such a way that the conversation maintained a natural flow. She also monitored the recording device to ensure that the audio captured was as clear as possible. These conversations took place entirely in Lusoga. The note-taker listened to this conversation and wrote notes in English, in as much detail as possible. Although she did not speak fluent Lusoga, she did speak fluent Luganda (which, as mentioned previously, is generally mutually intelligible with Lusoga). When encountering an unfamiliar Lusoga word or phrase, she was able to confer with the interviewer to confirm its meaning. The purpose of these English notes was two-fold. First, they allowed me to follow the interview without interrupting it in any way (e.g. as would have happened if the interviewer needed to pause to translate responses for me). Second, they served as back-up data storage in case the audio recorder were to malfunction or become damaged in some way. Both the interviewer and note-taker were highly trained and experienced in gender studies and qualitative research. During the interviews themselves my role was mostly supportive. I was available to answer

any questions that arose, and to suggest areas for further probing based on the responses I read in the notes. (However, these interjections from me steeply declined as the team became more and more comfortable with the interview methods. I strove to be as unobtrusive as possible.) In practice I also sometimes served as a foil for the interviewer, to help coax more details from the interviewee. (E.g. the interviewer might say “I am also a Musoga, so I understand what you mean, but Gwen does not live here, so she will not understand unless you explain more...”). Following each interview, we discussed procedures as a team, shared suggestions for improvements, and implemented adjustments as necessary.

3.6.2 Sampling

Aiming for data saturation (Guest et al., 2006), I purposively selected 30 interview participants based on their scores from the Abbreviated Women’s Empowerment in Agriculture Index. I prioritised interviews with women who had highly deviant aggregate scores (i.e. very high or very low), as well as women who had the exact same score. Both selection criteria aimed to elicit data that could be used to illustrate how women’s own experiences and perspectives aligned with or diverged from the quantitative scores. For example, in the case of women with very high Index scores, one might expect her interview responses to depict the ways in which she has more ability to make strategic life choices than other interviewees. Either the presence or absence of such descriptions would be informative. In the case of women who have the exact same Index score, any differences among their narratives might illuminate which types of nuances the Index obscures. (Likewise, the absence of such differences would also be an informative assessment of the Index’s accuracy.) While this sampling process began with assessments of individual scores, because of geographic distances between communities, sampling strictly at the individual-level (rather than community-level) was not possible. That is, it was not possible to visit as many as 18 communities, meeting with a few women in each community. Furthermore, it was desirable to interview multiple women in the same community (ideally at least six) in order to compare the differences and similarities among women in the same social environment. Therefore, I created a ranking of scores based on the aforementioned criteria of interest, and subsequently selected five communities in Bugiri District where the respondents had the most Index scores of interest (i.e. presence of highly deviant scores and highly homogeneous scores).

3.6.3 Data Collection Procedures

Data collection took place over three weeks, completing one to two interviews per day. Prior to data collection in each community, we notified the sub-county offices of our presence conducting research in the area, our expected timeframe, and provided a copy of our ethics approval forms. The data collection team coordinated with the local community-based facilitator to identify and notify the randomly selected women. The facilitator met with each woman individually and informed her of her eligibility to participate in the study if she wished. If she was interested in participating, the facilitator asked for a time that would be convenient for her to be interviewed, and relayed this time to our data collection team. Upon arrival at her home, we asked her to confirm that the time was still convenient for her. In some cases, she was completing agricultural or household tasks, and so we would wait (away from her home) until she felt she could take a break. Each interview lasted approximately one to two hours, not including the frequent breaks interspersed throughout. We began each interview by explaining again that we did not want to impose a burden on her time or interrupt her planned work, and encouraged her to pause the interview whenever necessary to attend to cooking, childcare, or any other tasks. Aware that some women might be shy or reluctant to speak up and pause the interview, the interviewer regularly invited the interviewee to take a break, especially when the interviewer observed a possible responsibility arising (e.g. an upset child or smouldering cooking fire). When the interviewer had finished asking questions, she invited the interviewee to ask questions of us, if she wished. At the end of the interview, each woman received soap, cooking oil, and a printed photo of herself (with her family, if desired) as compensation for her time.

After data collection was completed, the interviewer translated and transcribed the audio recordings of 15 of the 30 interviews¹⁷ from Lusoga into English (verbatim), noting important nuances in words where an exact equivalent does not exist in English, and providing the original Lusoga in such cases. Before beginning data analysis, I reviewed all transcripts and notes to ensure that the final English version was complete and clear. Throughout data collection, translation, and analysis, I also strove to learn as many key words and phrases as

¹⁷ At the time of writing, resources were only sufficient to support translation and transcription of half the interview recordings. However, comparison of these 15 transcriptions with interview notes confirmed that the quality of the notes was high enough to be suitable for analysis. Nevertheless, for a future publication based on some of the findings of this thesis, the remaining 15 interviews will be transcribed, in order to maximise the level of detail contained in the data collected.

possible in the original Lusoga, to somewhat mitigate the risk of data misinterpretations based on language differences.

3.7 Data Analysis

All three of my core research questions require an integration of both quantitative and qualitative data to comprehensively respond to their respective inquiries. Below, I outline my approaches to analysing the data relevant to each research question.

3.7.1 Question 1: How do different methods of measuring empowerment influence interpretations of women's empowerment in agriculture in Busoga, Uganda?

The first step in responding to this research question was to calculate the Abbreviated Women's Empowerment in Agriculture Index scores according to standard Index protocol (chronologically, this analysis step took place between Phase 1 and Phase 2 of data collection). Assessing each domain's results individually, I documented what conclusions might be drawn about women's empowerment in Busoga based on these data alone. Next, I coded the transcripts and notes from the in-depth interviews in NVivo using a combination of deductive and inductive approaches (Braun & Clarke, 2006; Fereday & Muir-Cochrane, 2006). Regarding the deductive approach, I established a priori codes corresponding to each of the five Index domains, as well as broad codes for agriculture, nutrition, care work, and empowerment. Aside from these foundational codes, I developed all subsequent codes inductively, based on interviewees' responses in the text. Each code flagged a topic, expression, opinion, or other information that was relevant to my research questions. For example, this included codes for activities (e.g. collecting firewood, feeding children), relationships (e.g. marriage, parenting) emotions and feelings (e.g. fatigue, stress, positive/negative/neutral feelings), introspection (e.g. desired changes, personal choices), and topics raised (e.g. education, law enforcement). I also included a code for instances when the interviewee displayed some difficulty with answering the question (e.g. prolonged silence or a request to return to the question later). I generated a new code each time I read a response that was relevant to my research questions but did not easily fit into an existing code. In the first round of coding, I avoided nesting codes (i.e. creating codes that are subsets of other codes), or otherwise organising codes, to allow greater freedom to identify clusters and connections among codes in the subsequent stages of thematic analysis. This thematic analysis consisted of looking for common narratives within the coded excerpts and aggregating these codes into themes and sub-

themes (Braun & Clarke, 2006). (See Appendix G, p.325, for more details on this process.) I then compared these themes with the quantitative results for each domain of the Index, exploring how each set of results echoed, contradicted, or enriched the other.

To better understand how different methods of collecting and analysing quantitative data can shape interpretations of empowerment, I then focused specifically on the time domain and the additional quantitative time use data collected (beyond the standard Abbreviated Women's Empowerment in Agriculture Index survey). I explored how different categorisations of women's time use (other than the binary division between women who fall above or below 10.5 hours of Index-defined work) do or do not provide a more nuanced calculation of the time use domain. For example, how does the picture of women's time use change when distinguishing between different types of work, such as care work and agricultural work? I first scrutinised these time domain variations within the sample of 30 interviewed women, so that my quantitative data analysis would be guided by the themes appearing in the qualitative data. I then contextualised these comparisons within the conceptual frameworks outlined in Section 2.3 (p.46), examining how each variation of time use data might be interpreted through an instrumental-value versus intrinsic-value framework.

3.7.2 Question 2: What relationship(s) exist between women's empowerment and children's diet diversity in Busoga, Uganda?

Building upon the results of Question 1, I first tested for significant correlations between quantitative measurements of women's empowerment (i.e. the Index calculation) and quantitative measurements of children's nutrition (i.e. diet diversity measured through direct observation), controlling for women's poverty probability index score, educational level, and other key demographic characteristics. I also tested for correlations with the alternative time domain calculations resulting from Question 1. Next, I implemented another round of searching for, reviewing, and defining themes from the coded transcripts and notes. This time, the themes of interest were related to aspects of women's experience of care work and her ability to make strategic life choices (i.e. empowerment). For example, these included codes describing women's care work (e.g. decisions related to child feeding, supervision, and other childcare), codes related to intrahousehold dynamics around childcare (e.g. how her partner parents), codes highlighting trade-offs related to care (e.g. adjusting care to accommodate scarce time, income, or other resources), codes related to gaps between the care women provide vs. what they would

ideally provide (e.g. desired changes), as well as the codes related to women's empowerment described in the preceding section (3.7.1). I then analysed these results (both quantitative and qualitative) to determine whether they provide any evidence to support one or more of the three theorised instrumental pathways between women's empowerment and improved children's nutrition (see p.46). I then analysed the same data through the alternative conceptual framework of reproductive justice (i.e. an intrinsic rather than instrumental framing), and determined whether this analysis suggests alternative relationships between women's empowerment and children's nutrition outcomes.

3.7.3 Question 3: How do theories of women's empowerment in agriculture align or conflict with theories of women's empowerment in nutrition?

To respond to Question 3, I synthesised the results of Questions 1 and 2 to determine whether there is evidence to support theories of symbiotic relationships between women's empowerment, agricultural production, and nutrition outcomes. In this chapter I did not introduce any additional datasets, but rather weaved together the common threads between the conclusions of Question 1 and Question 2. I paid particular attention to the qualitative data describing women's perspectives on the role of agriculture in their own lives, the connections between their agricultural labour and their parenting, and the futures they envision for their children. I also analysed how these perspectives on agriculture relate to the foundational assumptions of the Abbreviated Women's Empowerment in Agriculture Index, and the consequences for interpretations of empowerment. Finally, I analysed themes of empowerment raised by women in interviews that did not neatly fit into frameworks of agricultural work or care work. With these definitions of empowerment in mind, I assessed whether it is realistic for a development programme in Busoga to simultaneously pursue outcomes in agricultural production, children's nutrition, and women's empowerment, and what the design of such a programme might look like.

3.8 Field Site Context

All the primary data collection for this research took place in the Busoga region of Eastern Uganda. In this section, I provide a brief review of existing literature and secondary data relating to Busoga to provide geographic and cultural context for my research.

The Eastern Region is a political demarcation, one of four major regions that divide Uganda (Central, Eastern, Northern, and Southern). Busoga, in contrast, is a culturally defined sub-region, a modern continuation of the Busoga kingdom, which dates to at least the 13th century (Isiko, 2019). The region has maintained a majority population of people who identify as ethnically Basoga (a Bantu ethnic group) and speak Lusoga. Busoga has distinct topographical borders, encompassed by the Kiira (Nile) River to the west, Lake Kyoga to the north, the Mpologoma River to the east, and Lake Nalubaale (Victoria) to the south (Isiko, 2019).

Ten districts make up Busoga; I conducted research in two, Bugiri and Kamuli Districts. Their populations are approximately 380,000 and 94,000, respectively (Uganda Bureau of Statistics (UBOS), 2016). Both districts are located relatively close to Jinja, the largest city in Busoga (population approximately 76,000) (UBOS, 2016), with Bugiri lying approximately 50 miles to the east of Jinja, and Kamuli approximately 50 miles to the north of Jinja (see Figure 3). Most households in Busoga (83%) reside in rural areas (UBOS, 2018). Culturally the Basoga are close to the Baganda, the largest ethnic group in the country (and from which the name ‘Uganda’ is derived) (Isiko, 2019). The languages spoken by the Basoga and Baganda (Lusoga and Luganda, respectively), though distinct, are largely mutually intelligible.

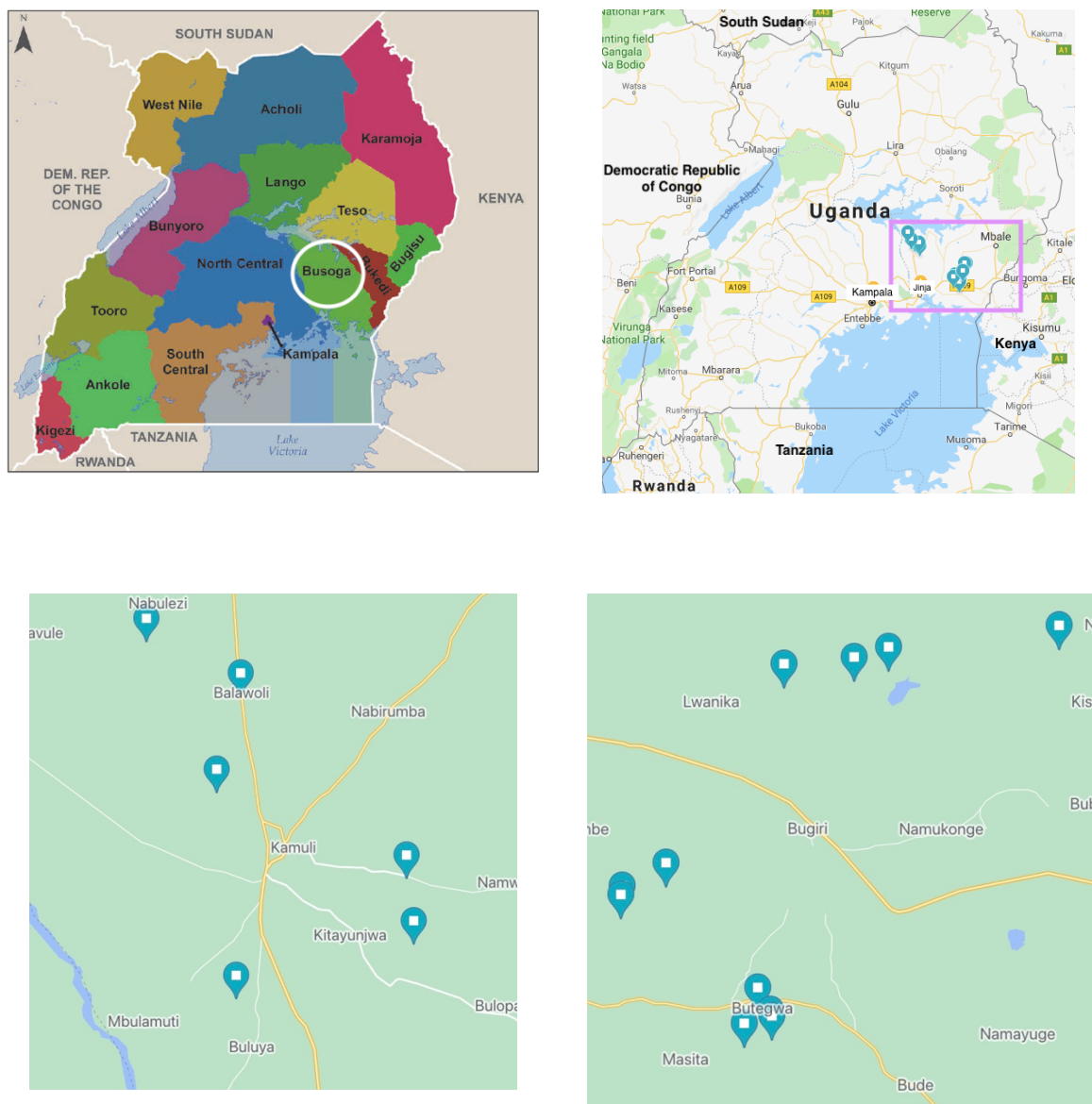
An estimated 37.5% of the population of Busoga lives in households whose income is below the poverty line (UBOS, 2018). The socioeconomic range of the households in Bugiri and Kamuli is somewhat visible in the different types of housing present. Traditionally houses in Busoga were round, with mud walls and thatched, cone-shaped roofs made of dried banana leaves (Isiko, 2019). Such structures are still common, but households that can afford to do so generally construct houses with brick or concrete walls and steel roofs (see Figure 4).

Households are patrilineal and patrilocal, and may be either nuclear or include extended family members (Isiko, 2019; Sorensen, 1996). In other words, women generally move to the home village of their husband upon marriage, and ownership of property usually passes from fathers to sons (in practice, despite women’s legal rights to inheritance, see following section). Households sometimes included the woman’s in-laws, but not always. Rare exceptions to these household structures were present, including single women living with their parent(s) and single women living with only their children. Except in the most extreme cases, divorce is

generally socially discouraged, as illustrated by the Kisoga proverb that says ‘iryá íbi liwulá éwaimwé’, which means ‘a bad marriage is better than staying at home’ (‘home’ referring to the woman’s parents/family) (Kaluuba et al., 2001, p. 17).

Figure 3: Maps of Busoga

The map in the upper left shows the location of Busoga within Uganda. The map in the upper right shows the approximate location of the villages where I conducted research. The villages clustered to the northwest are located in Kamuli District, and the villages clustered in the southeast are located in Bugiri District. The lower left and lower right maps show the approximate location of the villages in relation to Kamuli Town and Bugiri Town, respectively. (Note that some villages in Bugiri appear overlapping.)



Sources: UBOS, 2018 and Google Maps

Figure 4: Examples of housing in Busoga



Source: Author's photographs. Used with permission.

The higher levels of poverty in Busoga (relative to most other regions of the country, aside from Karamoja and Bukedi) (UBOS, 2018) have drawn attention from both public and private institutions investing in economic and social development. This has included a Busoga Special Program fund, passed by the Ugandan Parliament in 2019, intended to alleviate poverty in the region via investments in education, tourism, agriculture, and environmental protection (Sekanjako, 2019). While the impacts of this new government funding remain to be seen, over the past several years, at a national level, government funding of public services has generally increased for infrastructure projects while declining in social sectors like education and health (World Bank, 2020). However, the effects of this decrease in public spending on health services

are not necessarily simple to trace, as the Ugandan healthcare system (including services related to nutrition and women's reproductive health) is made up of a mix of public and private stakeholders, including the government, development partners, private non-profits, private for-profit companies, civil society, and informal/traditional medical practitioners, and does not yet constitute universal health coverage (O'Hanlon et al., 2017). In the decades ahead, provision of public services will likely be shaped by increasing urbanisation across Uganda. This trend has also placed pressure on improving formal administration of land rights, so that transfers of ownership are regulated and transparent (World Bank, 2020). This is an issue of particular concern to women, whose land rights are more likely to be insecure.

In the realm of foreign-funded international development, in recent years programmes in Busoga have included the provision of micronutrient supplements to young children (SPRING, 2018), strengthening child immunisation rates and other routine child health services (USAID, 2019), increasing the contraceptive knowledge of adolescent girls and young women (Bufumbo et al., 2016). In the agricultural sector, recent international development programmes have focused on expanding access to improved seeds and other agricultural inputs (One Acre Fund, 2021) and supporting agricultural value chains (Feed the Future, 2021). This latter programme also employed the Abbreviated Women's Empowerment in Agriculture Index as a key indicator measuring the success of its activities in Busoga and across other regions of Uganda (Feed the Future, 2021).

3.8.1 Women's Demographic Characteristics

For most of the following statistics (retrieved from the Demographic and Health Survey conducted by the Uganda Bureau of Statistics in 2016 and reported in 2018, except where otherwise noted), surveyed individuals are aged 15-49 and reside in Busoga, except where otherwise noted. Levels of women's education in Busoga are low, with only 51% of women completing primary school or a higher level of education. However, these rates are comparable to Basoga men's education (53% completing primary school), and to median rates of women's education in Uganda as a whole (Uganda Bureau of Statistics (UBOS), 2018). Nationally, the educational gap between married women and their husbands is larger in Uganda than in neighbouring countries (Ethiopia, Kenya, Rwanda, and Tanzania), with married women's education level two grades lower than their husband's, on average (Miedema et al., 2018).

Currently most Basoga women (75%) report earning less income than their husbands. Only 6% of Basoga women are sole owners of a house or land, compared to the 44% of men who solely own a house and 37% of men who solely own land (UBOS, 2018). This discrepancy in land ownership matches a national trend and is likely due to traditionally patrilineal inheritance customs (Sorensen, 1996). Despite Constitution-enshrined protections against gender discrimination in land rights and property ownership, in practice customary laws often prevent women from inheriting land (Doss et al., 2014). In Busoga, this reticence to increase women's land ownership could be partly caused by the strong connection between land and Basoga identity, with women's land ownership challenging not only patrilineal inheritance of wealth, but also the spiritual aspects of controlling the land where one's ancestors are buried (Isiko, 2019). Nevertheless, women in the Northern region of Uganda have challenged this patriarchal institution through grassroots organising to establish or retain control over land (Martiniello, 2019), illustrating the dynamic nature of such social norms.

Gender inequalities also appear in ownership of small goods, with most Basoga men (63%) owning a mobile phone, compared to 41% of women (UBOS, 2018). Regarding personal decision-making, 39% of married Basoga women report involvement in decisions about their own healthcare, making major household purchases, *and* visiting family. In contrast, 93% of married men report involvement in decisions about their own healthcare and major household purchases (UBOS 2018).¹⁸

Across Uganda, 90% of women and 79% of men are married by age 29 (UBOS, 2018). The median age at first marriage in Busoga is 19 for women, and 23 for men. Polygyny is a common but not predominant practice in Busoga (Sorensen, 1996), with 34% of married women reporting having a husband with one or more additional wives (UBOS, 2018). Among polygynous households, women often live on separate pieces of land, with independent economic activities, rather than in the same compound (de Haas, 2017). Social norms expect women to care not only for their children's health, but also for their husbands', including by cooking good meals and caring for men in their old age. Older men are sometimes encouraged to marry younger women in order to ensure that they will have someone to take care of them when they are elderly. This is one way in which stable marriages are seen as an important social

¹⁸ In this survey, men were not asked about their involvement in decisions about visiting their family (UBOS, 2018).

safety net, and women's traditional roles as wives are to be submissive, beautiful, and to manage all domestic duties (Isiko, 2019; Sorensen, 1996). Traditionally, women in Busoga (and elsewhere in Uganda) kneel to show respect (e.g. when greeting their husband or a visitor) (Sorensen, 1996). A Musoga man does not kneel; his masculinity is defined by his ability to get married, have children, and provide for his family financially (Isiko, 2019).

A large minority (43%) of Basoga women agreed that a husband is sometimes justified in beating his wife (going out without telling him and neglecting the children being the most commonly cited reasons). Interestingly, relatively fewer men (22%) agreed that a husband is sometimes justified in beating his wife (most commonly citing neglect of the children). Most women (at least 60%) reported that their husband/partner becomes jealous and angry when she talks to other men, and said their husband/partner insists on knowing her whereabouts at all times. Nearly half (46%) of Basoga women reported having experienced physical violence occurring after the age of 15. On average, women aged 40-49 have 7.5 children, with a median birth spacing of 30 months. This is higher than the mean ideal number of children reported by Basoga women, 5.1 children (UBOS, 2018). Historically, women in the Eastern region have had slightly larger households than those in the Central and Western regions (de Haas, 2017). Among teenaged women (age 15-19) in Busoga, 21% have begun childbearing (UBOS, 2018). Among women aged 15-49, 29% report using some form of modern birth control (at the time of survey), and 46% report having their family planning needs satisfied. According to the 2006 Demographic and Health Survey, women across Uganda (not just Busoga) have some of the highest average rates of *covert* modern contraception use (compared to openly discussed use) in sub-Saharan Africa; however, Choiriyyah et al. (2018) demonstrated that without qualitative interviews to probe the dynamics of family planning decision-making between couples, it is difficult to assess the accuracy of these statistics. Most married women (88%) reported being able to say no to their husbands if they do not want to have sexual intercourse (UBOS, 2018).

3.8.2 Care Work & Children's Nutrition

Rates of malnourishment in Busoga among children under five are high (40% malnourished according to height-for-age, 5% by weight-for-height, and 12% by weight-for-age), but comparable to malnourishment rates in Uganda as a whole. The same is true of diet diversity, with 31% of children aged 6-23 months meeting minimum diet diversity (UBOS, 2018).

However, rates of vitamin A deficiency in children (17%) are higher in Busoga than in neighbouring districts (Ssentongo et al., 2020).

In a survey of attitudes toward care work among women and men in Eastern Uganda (i.e. including but not exclusively Busoga), over 70% of both women and men agreed to the following statements:

- A woman's role is to take care of her home and family.
- Childcare is the mother's responsibility.
- Men do not know how to take care of a toddler without a woman.
- Many women who are housewives would prefer to work outside the house if there were opportunities.
- Girls and boys should spend the same amount of time on domestic work.

A majority of women and men *disagreed* with the statements:

- A man who shares housework with his wife will eventually be overpowered by her.
- Girls and boys under 18 years may be married.

(UBOS, 2019, p. 35)

These varied responses to descriptions of gender norms surrounding care work suggest that, while women are still expected to be primary caretakers of children, there are also significant numbers of men and women voicing openness to more egalitarian models of balancing household labour. A project promoting adoption of orange sweet potato as a crop in Uganda, including Busoga, concluded that nutrition behaviour change efforts should target men as well as women, given the prevalence of joint decision-making about which crops to plant, and shared goals for children's nutrition (Gilligan et al., 2020).

The relationship between women's employment and children's nutrition outcomes in Uganda (nationally) is as yet unclear. Mixed results have suggested that maternal employment in agricultural and other manual work is associated with higher odds of child stunting than maternal employment in professional/clerical work; however, being employed by a family member reduced odds of having underweight children (Nankinga et al., 2019).

3.8.3 Agriculture

Most Basoga women (52%) are employed in agriculture, as are 63% of Basoga men (UBOS, 2018). Women in Busoga have long participated in agriculture, responsible for roughly half of agricultural labour input since the colonial period (i.e. post-1962) (de Haas, 2017; Sorensen, 1996). However, the nature of women's involvement in agriculture has fluctuated through the decades, according to which crops are commercialised, resulting in changes in household gender roles and marital bargaining dynamics (Sorensen, 1996). For example, the commercialisation of crops that were previously only food crops (e.g. rice and maize) has blurred the lines between which crops are 'men's' or 'women's'. When cotton was the primary cash crop in Busoga (during the colonial period) it was widely considered to be men's domain, whereas women had control over crops grown for household consumption. As food crops (e.g. rice, maize, cassava) became increasingly (but not exclusively) grown for income, men assumed control over more types of crops (diminishing the domains of agriculture over which women had total control), but not along cleanly cut lines. Women's control over the production processes of different crops, and decisions about which crops to sell (and how much) varied among households and became somewhat dependent on how the gendered dynamics of negotiation and/or cooperation between women and men unfolded in any given household (Sorensen, 1996). Sorensen (1996) observed the altering of these gender roles in her research in Busoga over 20 years ago; my research seeks to contribute new data on how these gender dynamics in agriculture have transitioned or solidified in Busoga in the decades since.

Uganda was a non-settler British protectorate from the 1890s until its independence in 1962 (Mwanika, 2020; Reid, 2017). When conducting research that seeks to make recommendations about agricultural practices in Busoga, it is essential to remember this colonial history, in which imperialist European colonisers imposed commercial agriculture that would benefit international trade (primarily cotton and coffee), fuelled by the exploitation of existing small-scale farmers (Cliffe, 1977; de Haas, 2017; Mwanika, 2020; Sorensen, 1996).¹⁹ Cotton was an important cash crop in Busoga during the colonial period (Nayenga, 1981), but was supplanted by coffee, then sugarcane in the following decades (de Haas, 2017). Rice has also become a significant cash crop, increasing in popularity during the 1970s when the market collapse

¹⁹ See Section 3.2 for my assessment of the relationship between this colonial history and my standpoint as a researcher from the Global North.

caused by the Amin regime made farmers reluctant to grow cotton and coffee for non-existent profits, even in the face of imprisonment and violence from the government (Isiko, 1996; Sorensen, 1996).

Sugarcane plays a particularly heavyweight commercial role in the agricultural economy of Busoga, contributing half of all the sugar produced in Uganda, with production continuing to expand (Mwanika, 2020; Mwavu, 2018). Traveling through Busoga, the vast fields devoted to sugarcane monoculture are impossible to miss. While my data collection did not include deliberate inquiries about involvement in sugarcane farming (except through general questions about household crop production), anecdotally some study participants expressed concern that there was less land available for farmers because of the sprawling sugarcane plantations nearby. Analyses of the impacts of sugarcane plantations in Busoga have raised concerns about the industry's negative impacts on the food security of low-income households (Mwanika, 2020; Mwavu, 2018). This expansion has also directly affected women's domestic work, as sugarcane plantations have reduced forested land, making firewood scarce in some areas and consequently increasing the amount of time required for women to find sufficient fuel and decreasing their ability to make slow-cooking foods (Mwavu, 2018).

In Busoga, staple food crops have long included maize, sweet potatoes, cassava, millet, beans, matooke (starchy bananas), groundnuts and rice (Mwanika, 2020). In the past, sesame and aerial yams, and legumes like Bambara nuts, cowpeas, and soya beans have been commonly grown, but in some areas of Busoga these crops are declining (Mwavu, 2018). Matooke has also become less commonly grown, replaced in some cases by cassava (Sorensen, 1996). All crops are generally rain-fed, leaving farmers vulnerable to increased variability in rainfall due to climate change. The higher average temperatures associated with climate change could also create a higher prevalence of pests and diseases in the region (Mwavu, 2018). Alongside food crops, wild vegetables and fruits are significant components of rural diets. Traditionally valued as providing essential nutrients and strengthening the immune system, the leaves of wild amaranth, peas, eyiyoby (*Cleome gynandra*), jute, and the fruits of katunkuma (*Solanum anguivi*) typically appear in boiled sauces, served alongside staple starches (Isiko, 2019).

Households that primarily cultivate grain crops for sale alongside food crops for household consumption (such as those participating in this study) have historically found the high labour

costs of these crops constrain opportunities for diversifying income (e.g. through pursuing off-farm employment). The relatively high labour input required also made communal farming arrangements more common (de Haas, 2017). This contrasts with farmers in southwest regions of Uganda growing less labour-intensive cash crops (e.g. matooke and coffee) (de Haas, 2017). Oxen have been used for ploughing in the Eastern region since the colonial period (de Haas, 2017); however, oxen ownership is a sign of relative wealth, and many poorer households in Busoga (including most of those participating in this study) conduct fieldwork with only manual tools. Relatively wealthier households may also hire labourers (generally individuals from relatively poorer households in the community) to work in their fields (Sorensen, 1996).

3.8.4 Study Household Structure & Demographics

Having described the contours of the region of Busoga, I now turn to a more targeted view of the specific households included in my data collection, outlining their basic demographic features based on responses to the general questionnaire administered (see Appendix A, p.283). For detailed descriptions of the methods used to collect these data, see Section 3.5 (p.57).

The ages of the 207 women surveyed ranged from 16 to 44, with a median age of 25. 86% of women had a partner, with a median age difference of five years (i.e. a husband five years older than his wife). The median household size was six individuals, with two adults and four minors (i.e. individuals younger than 18). As measured by the Poverty Probability Index²⁰, the median probability of each household living below the poverty line (\$1.25 USD/day, 2005 PPP) was 20%. Each woman had between one and ten children, with a median of three children. However, it is important to note that the woman did not necessarily give birth to all these children. When asking the woman about household members, we simply asked for household members' relationship to the woman (e.g. child, partner, parent, other household member). Some of the children listed may have been adopted by the household, either formally, informally, or temporarily. Across Busoga, over 20% of children do not live with their biological parents (Uganda Bureau of Statistics, 2018). Among the young (i.e. 12-23 month old) children of the women surveyed, 25.8% were stunted, 9.0% underweight, and 2.6% wasted (i.e. according to 2006 WHO growth standards, <-2 standard deviations from the median length-for-age, weight-for-age, and weight-for-length z-scores, respectively) (Bulungu et al., 2020).

²⁰ For survey questions composing this index, see Appendix A, p.292.

Most of the women (78%) were married, more commonly in monogamous relationships (51% of the total surveyed), although 27% of the women surveyed were in polygynous marriages (see Figure 5). Most women identified as Christian (59%), and a large minority (39%) identified as Muslim.

The most common education level, among both the women surveyed and their partners, was incomplete primary school. Only 3% of the women and 9% of their partners had completed secondary school (see Figure 6). While 36% of women had the same level of education as their partners, 33% of women had a partner with a higher education level, and only 12% of women had a higher education level than their partner (see Figure 7). Literacy levels were similarly lower among women than their partners; 67% of the women’s partners could read and write, compared to only 48% of the women themselves (see Figure 8).

Figure 5: Distribution of types of relationship status amongst the women surveyed

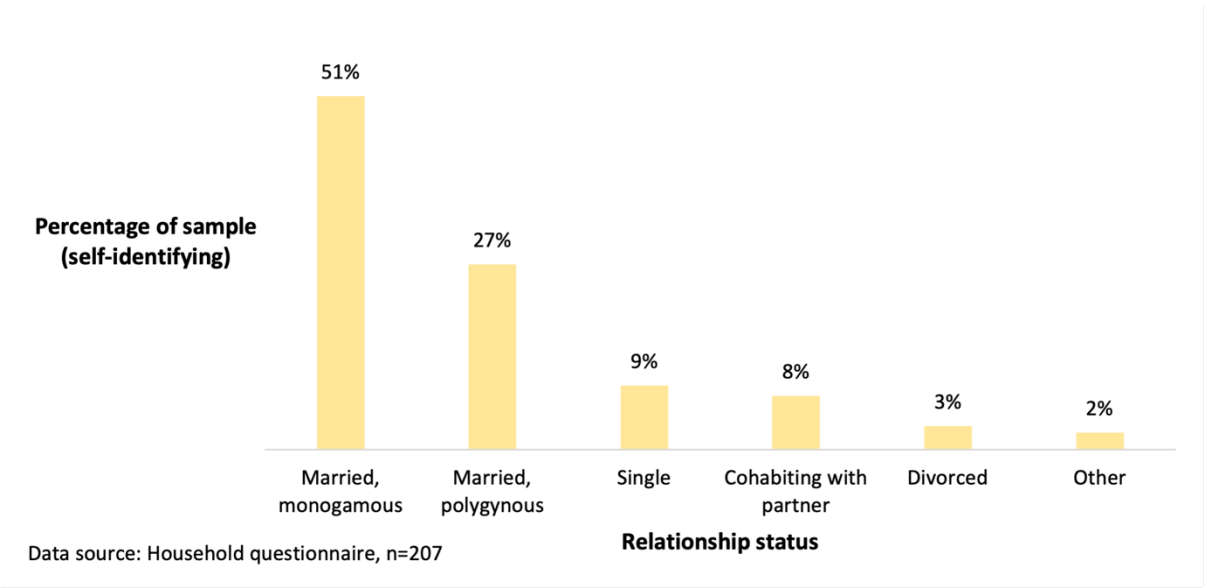


Figure 6: Levels of education reported by women for themselves and for their partners

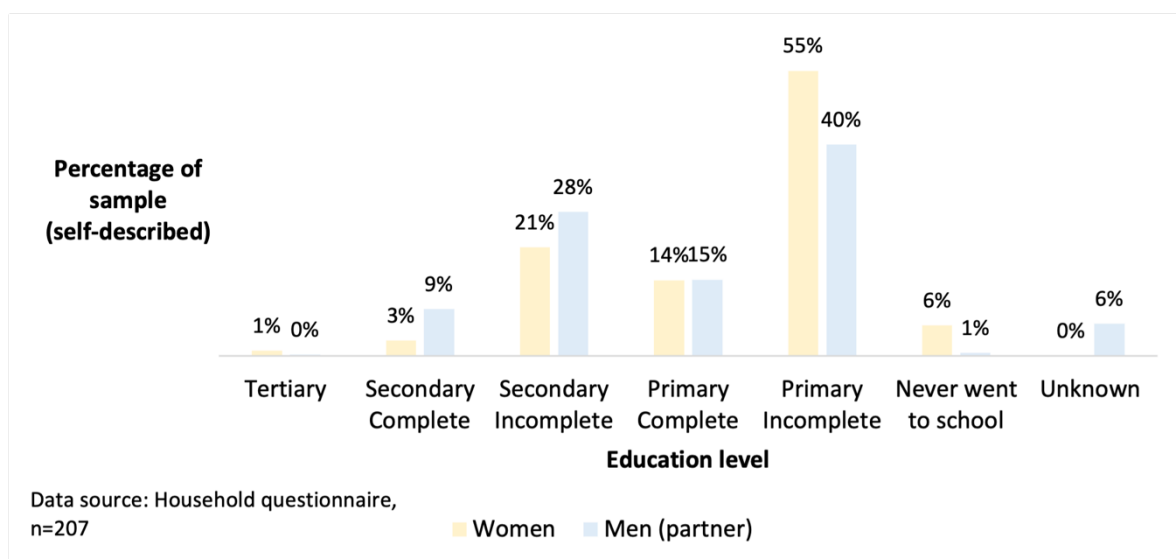


Figure 7: Women's education level in relation to their partner's education level

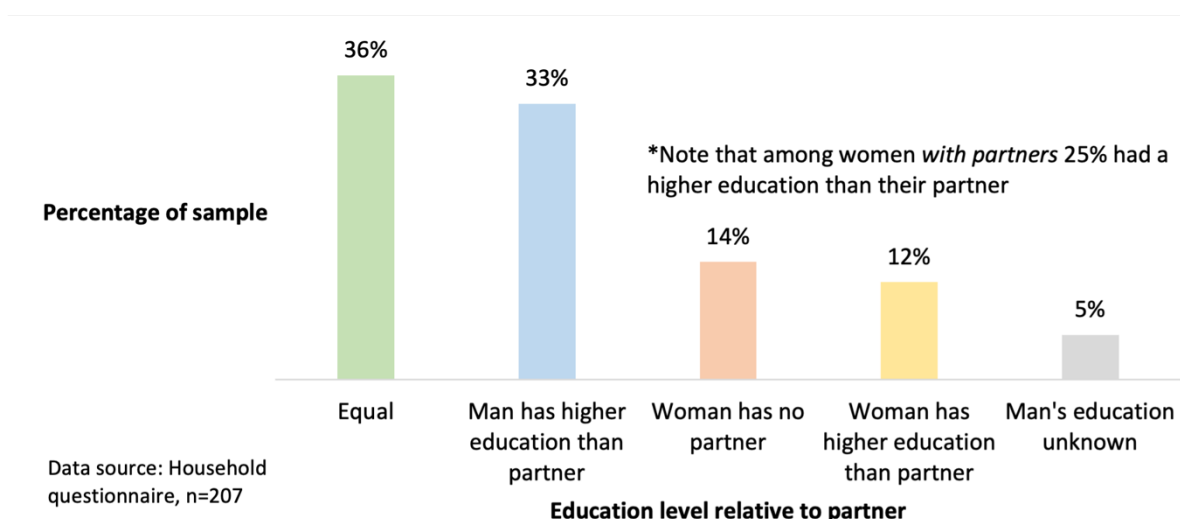
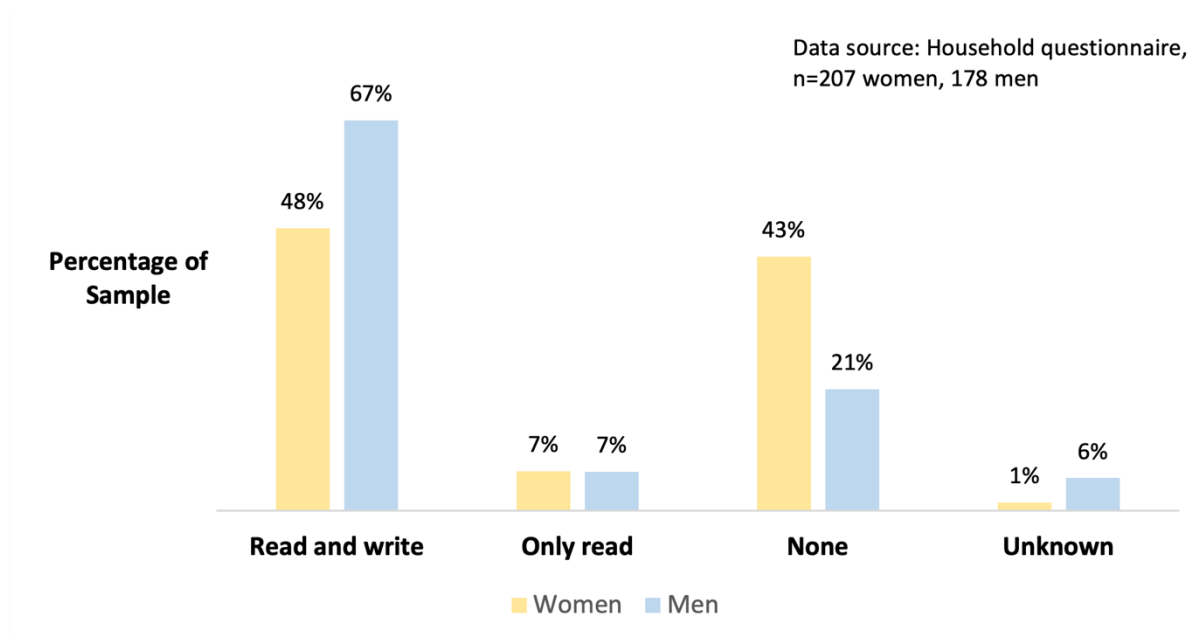


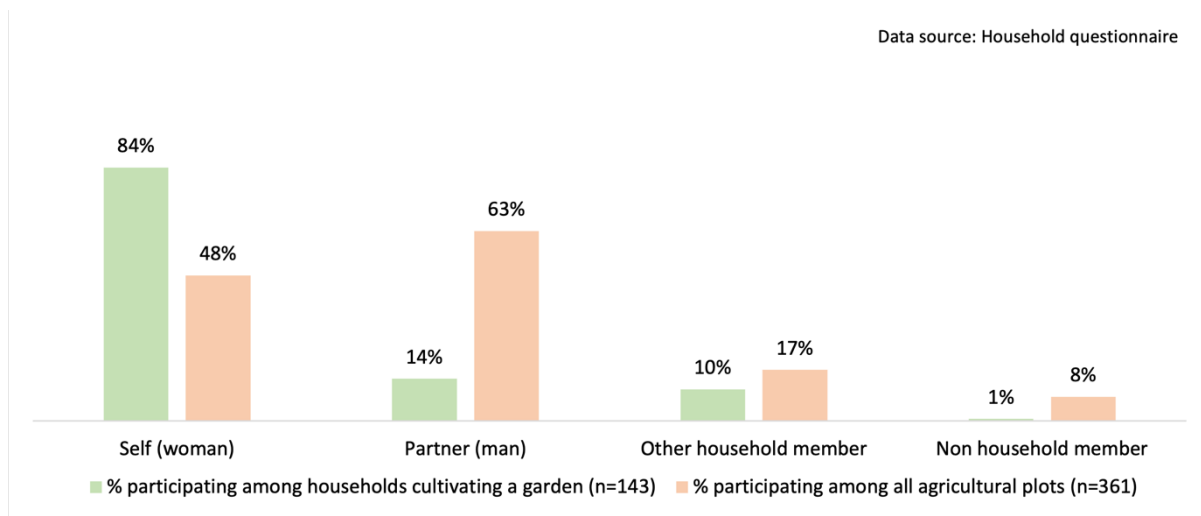
Figure 8: Literacy rates reported by women for themselves and for their partners.



Agriculture

Most households (78%) had one or two plots of land (the remaining 22% had more than two plots), with a median total farmland size of one acre. In addition to these agricultural plots, 69% of households kept a small garden near the house for growing food, particularly vegetables and fruits. Among households with a kitchen garden, a large majority of the women surveyed (84%) cultivated the garden, compared to 14% of their partners (see Figure 9). In contrast, most women's partners (63%) worked in the household's agricultural plots, as did 48% of women. Note that the gender discrepancy for labour in kitchen gardens is much wider than for labour in agricultural plots. A majority of households raised poultry for meat (63%) and goats for meat (51%). In general, livestock were mostly sold for income. The only exception was poultry raised for eggs. A large minority of households (43%) raised poultry for eggs, and among those households, 53% consumed more eggs than they sold. In addition to growing crops and raising livestock, most households (54%) collected wild mushrooms and 38% collected white ants (both almost exclusively for home consumption).

Figure 9: Gender distribution of labour contributed to agricultural plots and home gardens



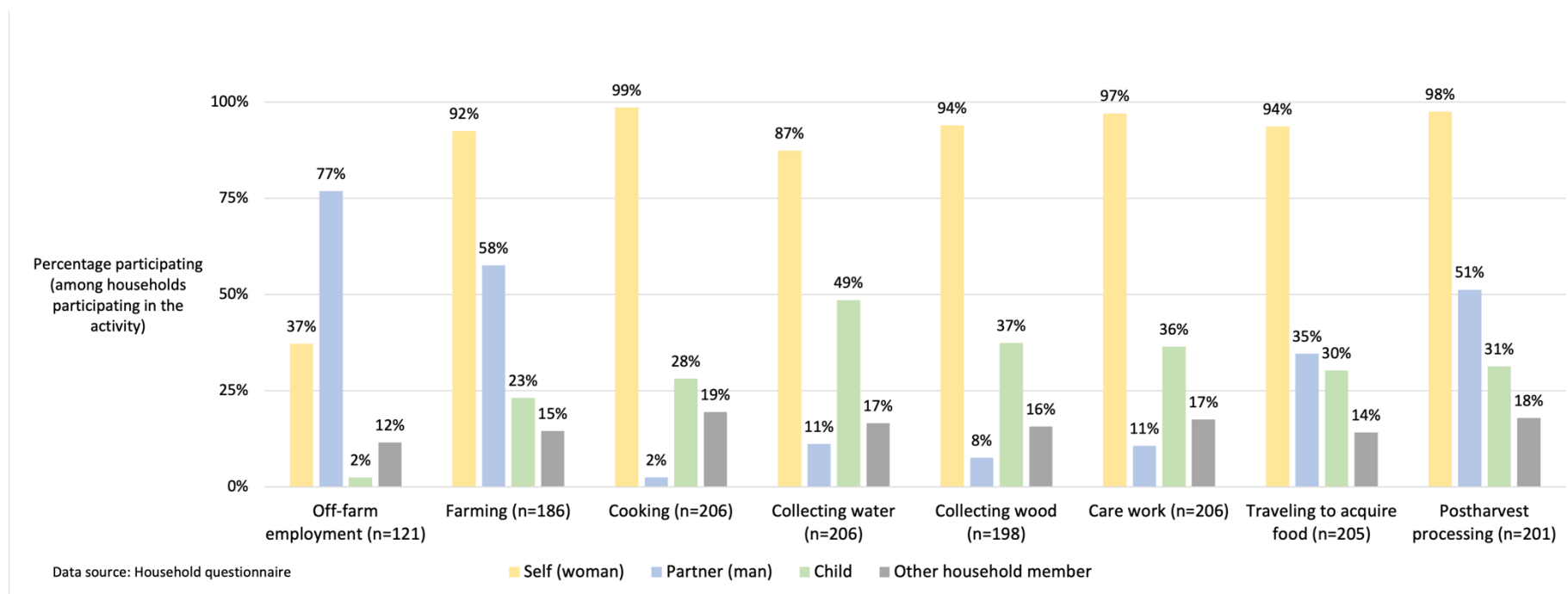
Household Labour Distribution

In addition to collecting data on women's activities over a 24-hour period, we also asked women to describe, more generally, which household members participate in certain activities, including: farming, off-farm employment, cooking, collecting water, collecting firewood, care work, acquiring food, and post-harvest processing. For each activity, the woman was asked whether she, her partner, any of her children, or any other household members had participated in the activity within the past twelve months (see p. 283).

Nearly all women reported that they participated in the domestic tasks (i.e. everything except off-farm employment, including farming) (see Figure 10). The only exception was relatively lower participation in collecting water (87%, compared to 92-99% across other domestic tasks), which paired with a relatively high participation rate of children collecting water (49%).

Figure 10: Distributions of participation in household activities

(as reported by the women surveyed)



3.8.5 Section Summary

This section established the geographical, cultural, and demographic context of the region of Busoga, as well as the specific demographic characteristics of the sample of women surveyed in this research. Because rural Basoga women contribute such high amounts of labour to both agricultural labour and care work, Busoga is an exemplary setting for better understanding the relationships between women's empowerment, agriculture, and children's nutrition. Furthermore, surveys showing mixed views of gender norms surrounding care work (see p. 78) suggest that qualitative investigations pursued in this research could provide useful insights about the nuances of gender dynamics in rural Basoga households, especially between wives and husbands. Such research fills a 20+ year gap since Sorensen's (1996) research on gender dynamics in agriculture in Busoga.

The demographic survey results demonstrate that the sample selected for this study conforms to broad demographic trends in Busoga. Basoga women are expected to marry men and give birth to multiple children while taking responsibility for domestic work and growing food for household consumption. Many also participate in growing food to be sold for income. There are clear gender inequalities (favouring men) in education levels and in ownership of land and houses.

3.9 Chapter Conclusion

In this chapter I described the methods used to collect and analyse data addressing my three core research questions. The contextual framing of the development of these methods included my personal standpoint as a researcher (p.52), the relationships between my doctoral research and the wider research projects that enabled it (p.55), and an overview of Busoga's geography, history, and demographics (p.71). Data collection occurred in two phases. During the first phase (p.57), the research team collected quantitative data from 207 Basoga women with a child under two years old using a questionnaire and direct observation of women's time use and children's food intake. The questionnaire included questions about demographic characteristics, agricultural practices, and care work, as well as the (slightly modified, see p.59) Abbreviated Women's Empowerment in Agriculture Index. Direct observation consisted of an enumerator shadowing a woman and her child for a full day, documenting the woman's activities according to an expanded version of the Index time domain, and documenting the child's food intake according to the diet diversity index (see p.178 for a brief overview). The second phase of data collection, conducted approximately 18 months after the first, employed qualitative methods (namely, in-depth interviews) to further investigate trends appearing in the quantitative data. These interviews were conducted with a subset of 30 women from the first phase of data collection. The procedures for data analysis map onto the structure of the three core research questions (see p.69 for details). To address the first and second research questions, I apply both quantitative data analysis (i.e. descriptive and inferential statistics) and qualitative data analysis (i.e. thematic analysis) under contrasting conceptual frameworks (see p.48). To address the third research question, I synthesise the conclusions of the first two questions and explore their practical implications within Busoga.

CHAPTER 4: Question 1. How do different methods of measuring empowerment influence interpretations of women's empowerment in agriculture in Busoga, Uganda?

4.1 Introduction

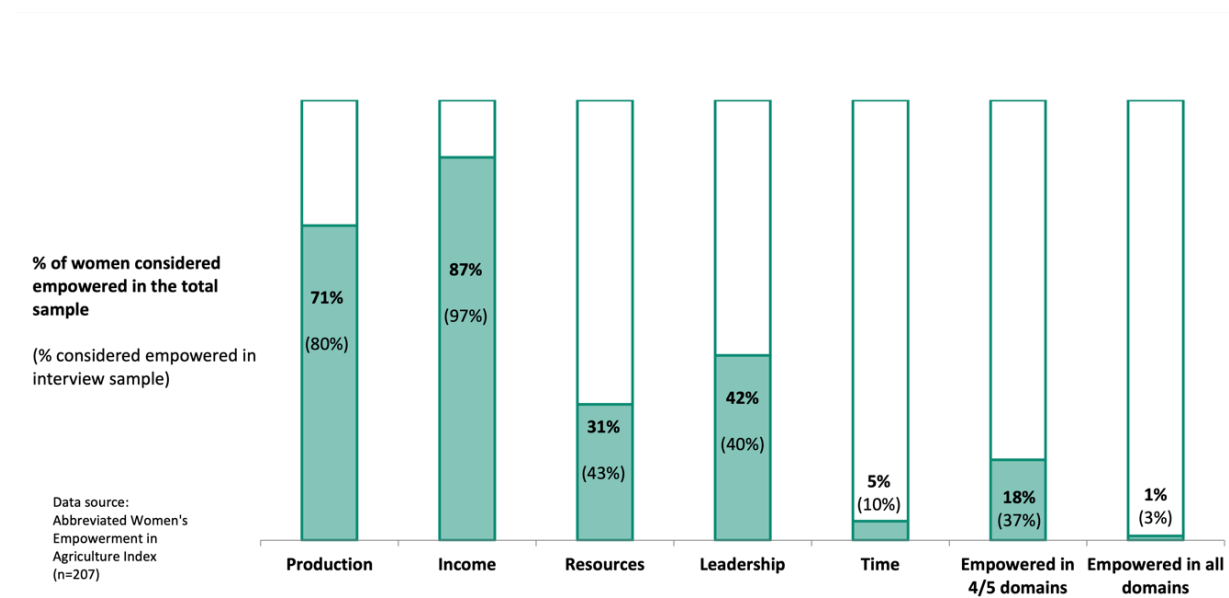
This chapter contains analysis of data corresponding to Research Question 1. In light of the history of (and ongoing) debates surrounding how best to measure women's empowerment, I assess the suitability of the Abbreviated Women's Empowerment in Agriculture Index in the particular context of Busoga, Uganda. Beginning with an overview of the data resulting from a standard calculation of the composite Index scores and the individual domains (Section 4.2, p.89), I demonstrate the types of conclusions that may be drawn about women's empowerment in Busoga based on these data alone. Within each domain, this includes a close examination of its components (i.e. each survey question, all possible responses, and calculation methods) and an exploration of the types of information omitted or centred. In my examination of the time domain I take the additional step of testing for statistically significant dominance of broad types of activities (e.g. agricultural work, care work) across Basoga women's time use, using the more granular (compared to the standard Index) time use data collected. Throughout this section, the data analysis aims to better understand how the methods of measuring women's empowerment proposed by the Index present a particular view of Basoga women's lives. In the following section (4.3), I conduct deductive qualitative analysis, searching the interview responses for themes related to the five domains of the Index. I then compare these themes to the quantitative Index results, drawing conclusions about the strengths and limitations of the Index as a tool for measuring women's empowerment in Busoga. I further expand on these findings in the following section (4.4) through inductive analysis of the interview data, exploring themes related to agriculture and empowerment not captured by the five Index domains. Finally, I conclude this chapter with a discussion (4.5) synthesising the results of the quantitative and qualitative data, comparing the different views of women's empowerment provided by an instrumentalist or intrinsic conceptual framework.

4.2 Index Quantitative Analysis

In this section I first examine the results of the Abbreviated Women's Empowerment in Agriculture Index strictly according to the standard calculations and recommendations (Alkire

et al., 2013; Malapit et al., 2015; Malapit et al., 2017). While I do also include relevant quantitative results from the general questionnaire alongside the Index results and indicate places where contextual or qualitative data would be informative, I do not introduce analysis of the qualitative data from Busoga until the following section.

Figure 11: Descriptive statistics for Abbreviated Women's Empowerment in Agriculture Index domain scores



4.2.1 Production domain

In the production domain, at least 71% of women surveyed surpassed the cut-off for being considered empowered. Recall that because there were only three types of agricultural activities listed (see p. 19), there were two options for setting the cut-off. In order to judge whether the higher or lower cut-off might be more appropriate for the context of Busoga (and to see how each cut-off altered overall scores), I inspected the responses given to each activity's survey questions in detail.

The first activity of the three was food crop farming (i.e. crops grown mostly for home consumption). The general questionnaire also included questions about the types of crops grown by each household, and whether each crop was considered a food crop or a cash crop (or equally both). Across households, respondents cultivated a diverse range of crops (see Figure 12) but the most commonly cultivated crops were sweet potatoes, maize, and cassava. With the exceptions of maize, soya, and rice, the majority of these crops were consumed at

home (see Figure 13). Thus, food crop farming is an important agricultural activity among these households.

The Abbreviated Women’s Empowerment in Agriculture Index questionnaire asks whether each respondent participates in food crop farming, who normally makes decisions about food crop farming, how much input she has into those decisions, and to what extent she could make personal decisions about food crop farming, if she wanted to. Figure 14 shows the distribution of all possible combinations of responses to the survey questions on this topic (for survey questions, see Appendix D, p.305). Nearly all respondents surveyed (all but two) said that they participated in food crop farming. Twenty percent of women said that they alone make decisions about food crop farming (see Figure 14), while nearly half (47%) reported normally making joint decisions with another household member (usually a husband or partner). About a quarter of the women (24%) said that they didn’t normally make decisions about food crop farming, but did have at least some input, or could if they wanted to.

Figure 12: Types of crops cultivated by surveyed households

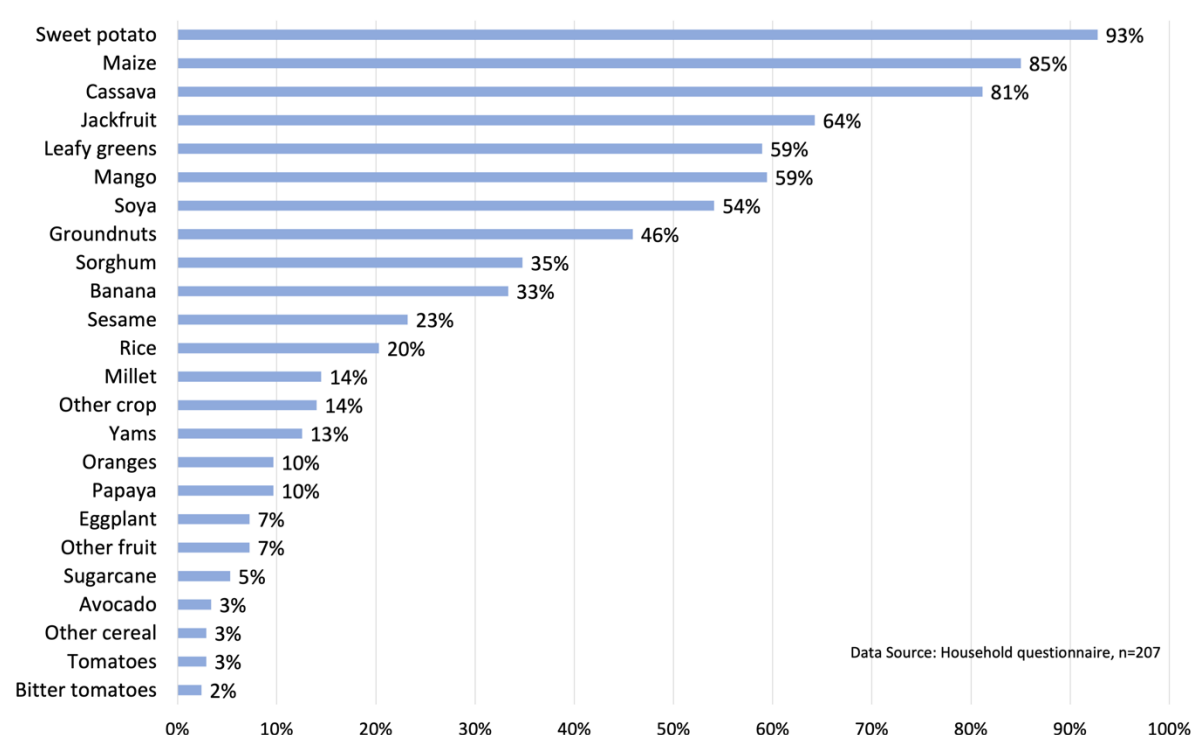


Figure 13: Distribution of crops consumed at home vs. crops sold
(among households that grew the crop). Data source: Household questionnaire, n=207.

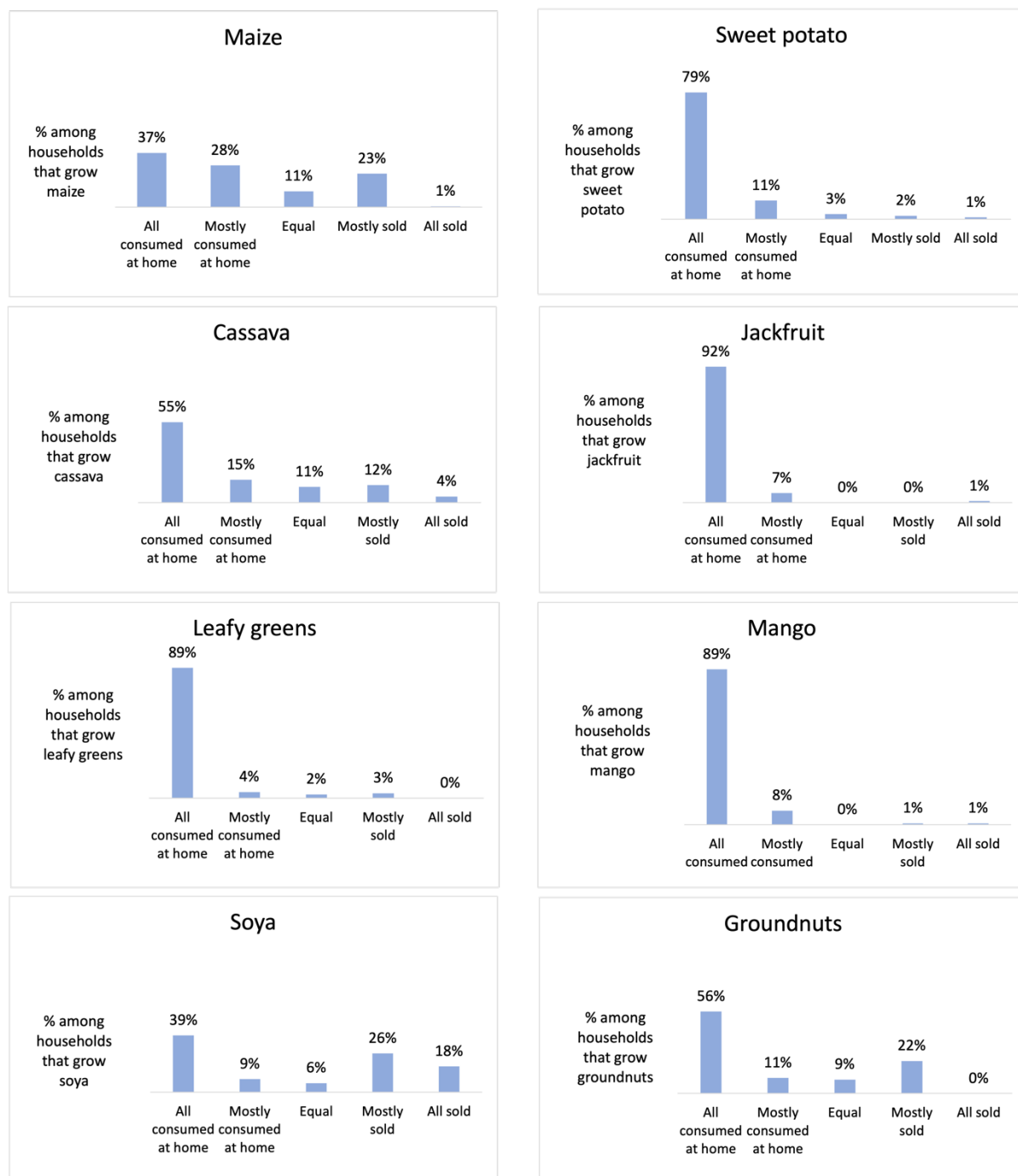
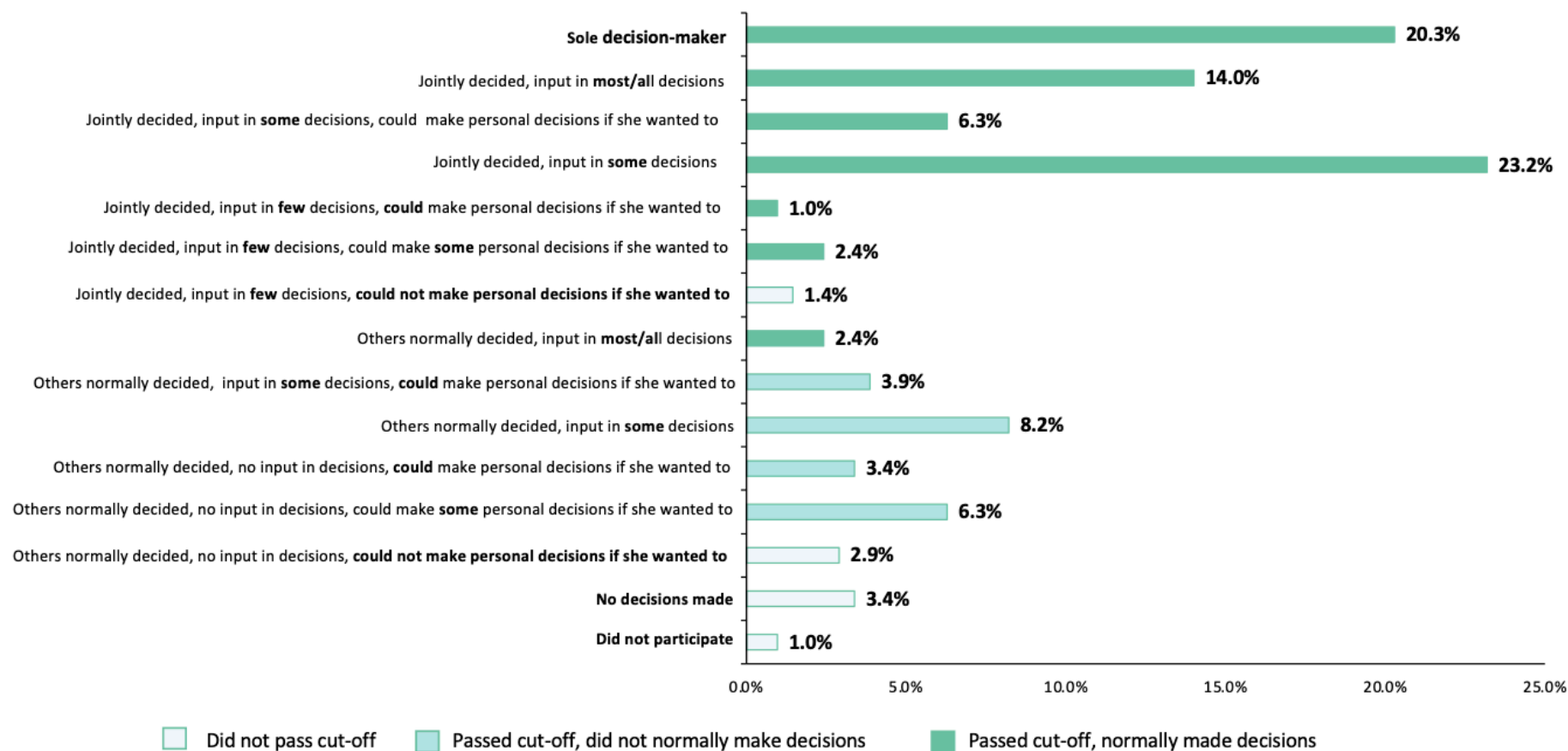


Figure 14: Distribution of responses to Index questions regarding food crop farming.

Data source: Abbreviated Women's Empowerment in Agriculture Index, n=207.



All these types of decision-making meet the Abbreviated Women's Empowerment in Agriculture Index standards for adequate empowerment in a production activity (i.e. had at least some input into decisions, or could make personal decisions to some extent if she wanted to), and count toward their overall production domain score (i.e. for 91% of the women, food crop farming counts as one of the activities needed to pass the domain cut-off). The remaining women (9%) either had little to no input into decisions, couldn't make personal decisions if she wanted to, didn't participate in food crop farming, or reported that there were no food crop farming decisions made by anyone in the household.

The second activity in the production domain was cash crop farming (i.e. crops grown primarily to sell for income). Among the households surveyed, the most common cash crops were maize, soya, and rice. The Index survey questions about food crop farming are identical to cash crop farming (and livestock production). Whereas 99% of women surveyed participated in food crop farming, only 65% reported participating in cash crop farming (see Figure 15). Among the women who did participate, the vast majority (59% of the total sample) passed the Index cut-off (i.e. had input into some decisions or could make her own personal decisions if she wanted to). The most common type of decision-making (21% of the total sample) was joint decision-making (usually with a husband or partner) with input into some decisions, and feeling that she could make some personal decisions if she wanted to. Among the three activities, cash crop farming had the smallest proportion of women who described themselves as the sole decision-maker (only 7% of the total sample, compared to 20% for food crop farming and 12% for livestock production). Overall, the starkest difference between food crop farming and cash crop farming was that many fewer women reported participating in cash crop farming at all.

The third activity surveyed in the production domain was livestock production. The distribution of types of decision-making for this activity was very similar to cash crop production, though it had an even higher proportion of women who did not participate at all (38%) (see Figure 16). Again, among those women participating in the activity, the majority passed the cut-off for decision-making (56% of the total sample) and the most common type of decision-making was joint, with the respondent having input into some decisions, and feeling that she could make personal decisions about livestock production if she wanted to (15% of the total sample).

Figure 15: Distribution of responses to Index questions regarding cash crop farming.

Data source: Abbreviated Women's Empowerment in Agriculture Index, n=207.

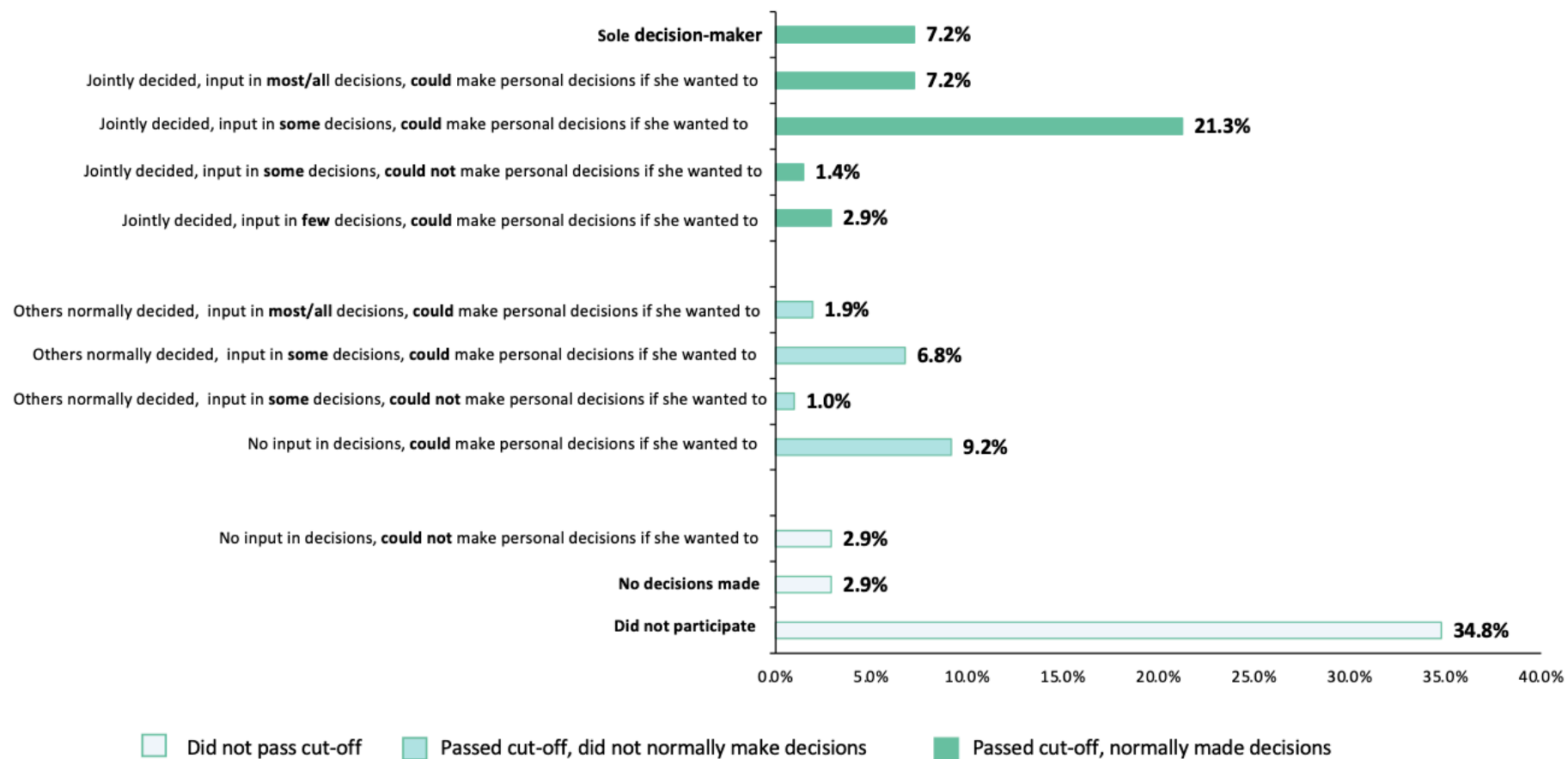
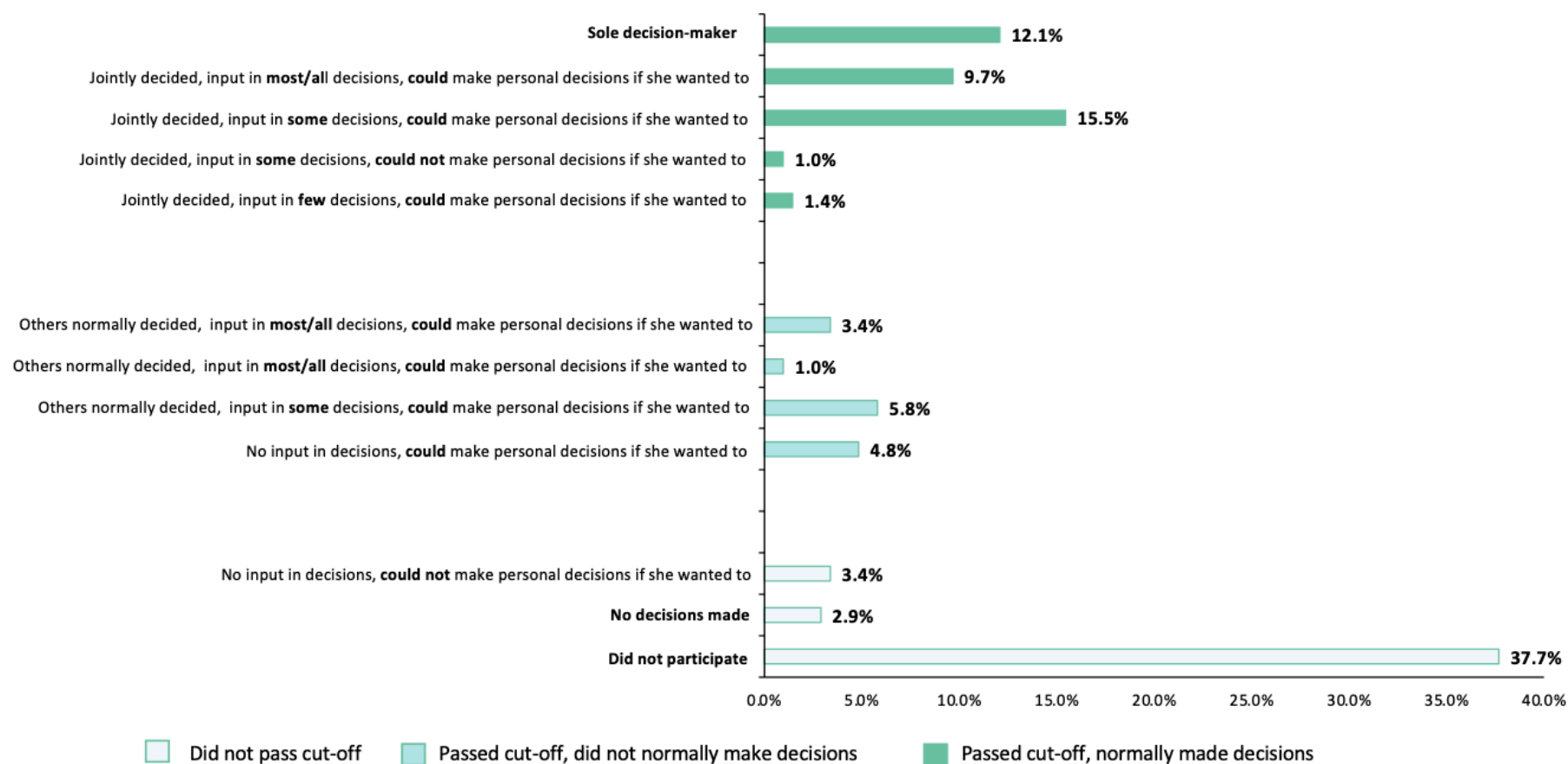


Figure 16: Distribution of responses to Index questions regarding livestock production.

Data source: Abbreviated Women's Empowerment in Agriculture Index, n=207.



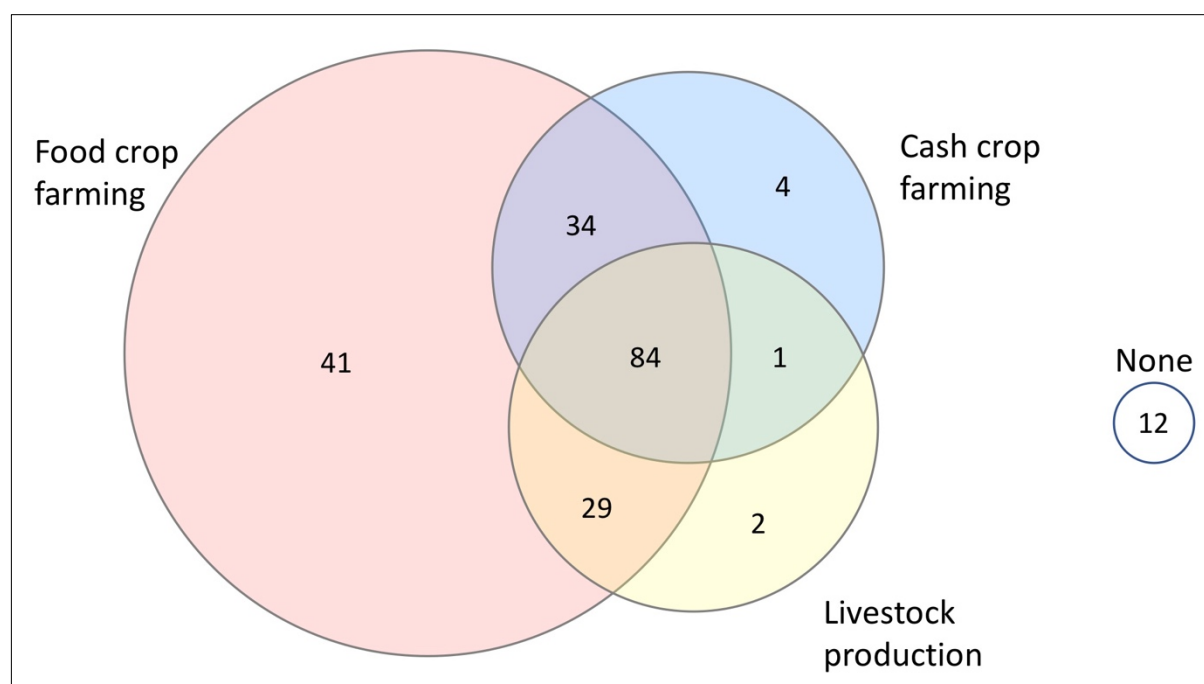
Returning to the question of whether to use a cut-off of adequacy in one activity or two activities (out of three) to be considered empowered in the production domain overall, there is a clear difference between the two options. If choosing the lower cut-off (one activity), the very high proportion of women participating in food crop farming means that the number of women passing the domain cut-off is also very high (94%). If choosing the higher cut-off (two activities), the proportion of women passing the cut-off drops (as one would expect), but this cut-off also implies a different evaluation of production decision-making, because of the different rates of participation in food crop production versus cash crop and livestock production. With a cut-off of only one activity, all activities are implicitly equal, and decision-making in any one is as valuable as any other. But with a cut-off of two activities, the domain instead effectively takes food crop farming as a given, and assigns points toward empowerment based on whether an individual had a say in cash crop or livestock production. As a result, the proportion of women passing the empowerment cut-off decreases from 94% to 71% (see Figure 17). Put another way, there were 47 individuals (23% of the sample) who were only empowered in one activity. Of those 47 women, 40 of them were considered disempowered because they *did not participate* in cash crop farming or livestock production (see the high levels of non-participation Figure 15 and Figure 16). (That is, the other 7 women participated in at least one of those activities, but did not have enough input in decisions to pass the cut-off).

Deciding whether this stricter cut-off provides a more informative measurement of empowerment requires a judgment of the types and degrees of power afforded by decision-making in food crop farming, cash crop farming, and livestock production in the particular context of Busoga. For example, if the income associated with cash crop farming means that cash crop-related decisions hold more importance in the household, then perhaps participation in food crop *and* cash crop farming decisions does indicate a greater degree of empowerment than food crop farming alone. However, there is a glaring unknown datapoint in this equation: for the women who do not participate in cash crop farming or livestock production, what are they doing instead? For example, if a woman has chosen to sell all her goats and use the income to start a small retail shop (while continuing to farm food crops), an Abbreviated Women's Empowerment in Agriculture Index survey administered after this exit from livestock production would count this woman as disempowered. Is this a fair and accurate verdict? Would the woman herself agree with this evaluation? Without further information about why women are or are not participating in food crop farming, cash crop farming, or livestock

production, and about whether they would *choose* to participate if they could, it is difficult to conclude which cut-off (if any) provides the most accurate indicator for measuring women's empowerment in agricultural production decision-making in Busoga.

Figure 17: Number of women passing the empowerment cut-off in each activity of the production domain.

Data source: Abbreviated Women's Empowerment in Agriculture Index, n=207.



4.2.2 Income domain

The income domain, much like the production domain, focuses on women's input into decision-making. The Abbreviated Women's Empowerment in Agriculture Index survey asks each woman about her level of input in deciding how to spend household income derived from the three agricultural activities included in the production domain, as well as income from wage/salary labour and any non-farm economic activities. The income domain also includes a question that asks for the amount of input the respondent has into decisions about major household expenditures (e.g. land, a motorcycle). In the survey administered in Busoga, all wage/salary labour and non-farm economic activities were combined into a single indicator. While this aggregation reduced the nuance of the data collected, it did not alter the empowerment score calculation. This is because the cut-off for the income domain is at least some input into decisions in any one of the five aforementioned indicators.

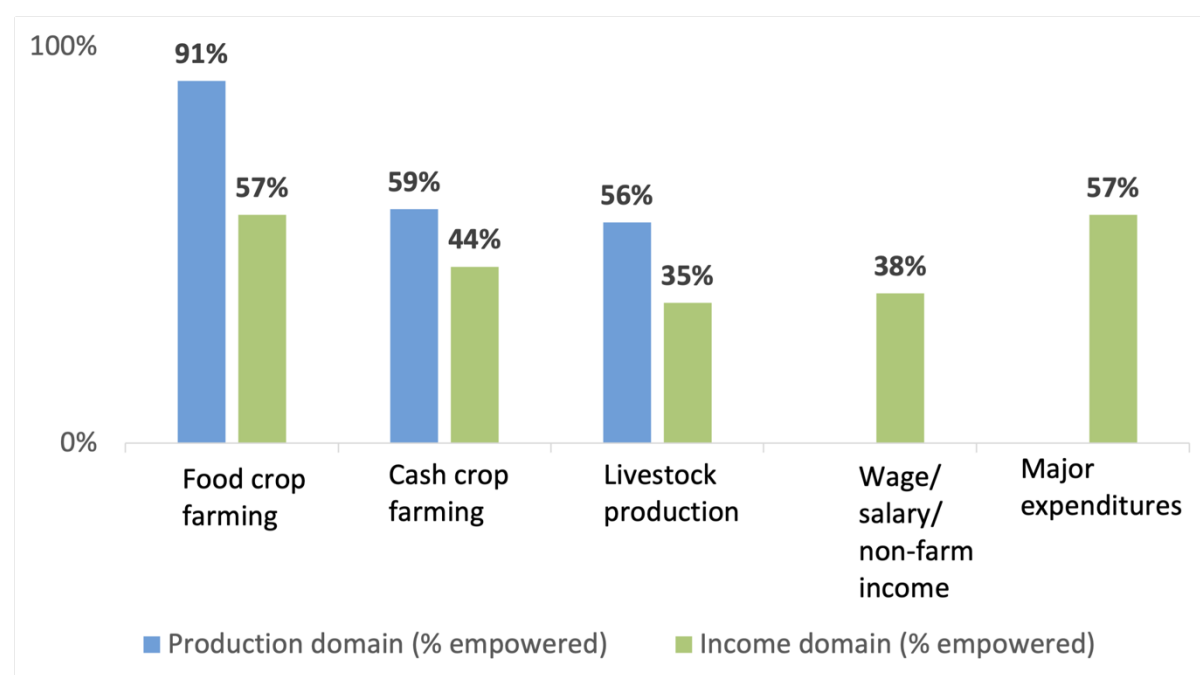
The proportion of women passing this cut-off was 87%, the highest among all domains (unless using the one-activity cut-off in the production domain). A closer inspection of the responses to each of the survey questions reveals a little more about which types of income women had more control over. Unsurprisingly, the proportions of women reporting input into decisions about how to spend income from food crop farming, cash crop farming, and livestock production mirrored the patterns of women participating in those respective activities. That is, food crop farming contained the highest proportion of women making decisions about income (57%), followed by cash crop farming (44%) and livestock production (35%). However, in each of these activities the corresponding proportion of women making decisions about income was lower than those making decisions about production (91%, 59%, and 56% respectively) (see Figure 18). This discrepancy appears in part because some women (who were empowered in production decisions) reported they had no input in how income from that activity should be spent. But in many more cases, women reported that there was no income spending decision made, presumably because there was no income generated from the activity. But this is not a distinction that is included in the cut-off for the income domain. That is, a woman who did not make decisions about income receives the same score (zero) as a woman who did not make decisions about income because no income existed. For the latter, the survey does not collect any more precise detail than “no decision made”, so it is also difficult to discern what this lack of income represents in terms of individual agency. For example, in the case of food crop farming, perhaps 100% of the crops were consumed at home. In the case of cash crop farming, perhaps she tried to sell the crop but was unable to find a market. In the case of livestock, perhaps no animals were sold that year because she prefers to keep livestock as a form of savings for future emergencies. Each of these situations represents production decisions that influence the responses given in the income domain, (e.g. what and when to sell is a production decision, not an income decision.) Without more contextual information, it is difficult to conclude whether, in each agricultural activity, women on average are less empowered in income decisions than production decisions.

The relatively high proportion of women counted as empowered in the income domain may be partially due to the low cut-off (women need only participate in spending decisions in one out of five categories to be counted as empowered). For example, with a cut-off of two income categories (closer to the production domain cut-off), the proportion passing the cut-off decreases from 87% to 68%. As with the production domain, determining whether an

adjustment to the standard Abbreviated Women’s Empowerment in Agriculture Index cut-off is appropriate depends upon the context. For example, in some contexts it might be more informative to focus on decisions about how income is spent (i.e. the major expenditures indicator) than income sources. Or, control over income from non-farm activities might indicate greater access to different livelihood options.

Figure 18: Comparison of proportions of women passing empowerment cut-offs in the production and income domains.

Data source: Abbreviated Women’s Empowerment in Agriculture Index, n=207.

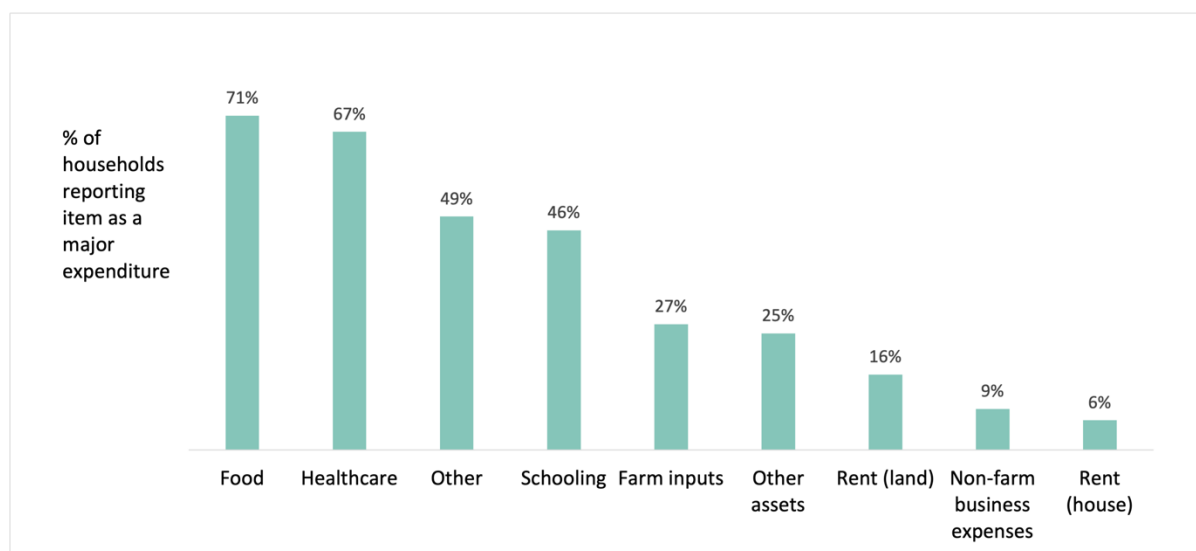


In the context of Busoga, responses to the general questionnaire provide some insight into how women view their spending decisions. When asked which items the household spent the most money on in the past year, the most common responses were food and healthcare (see Figure 19). These differ somewhat from the Abbreviated Women’s Empowerment in Agriculture Index survey definition of “major expenditures”, which refers to items that require a large single investment (e.g. land), as opposed many small purchases over time (e.g. food, which is categorised as a minor expenditure). While control over spending decisions related to food might not be considered a strong measure of empowerment because it conforms to traditional gender roles, in a context where food expenditures constitute a large proportion of the household budget (especially if there were no decisions made about major expenditures), this could potentially be an informative indicator. Another such indicator might be spending on

education (not categorised by the Abbreviated Women’s Empowerment in Agriculture Index survey as either a major or minor expenditure).

Figure 19: Items women most commonly listed as major household expenditures.

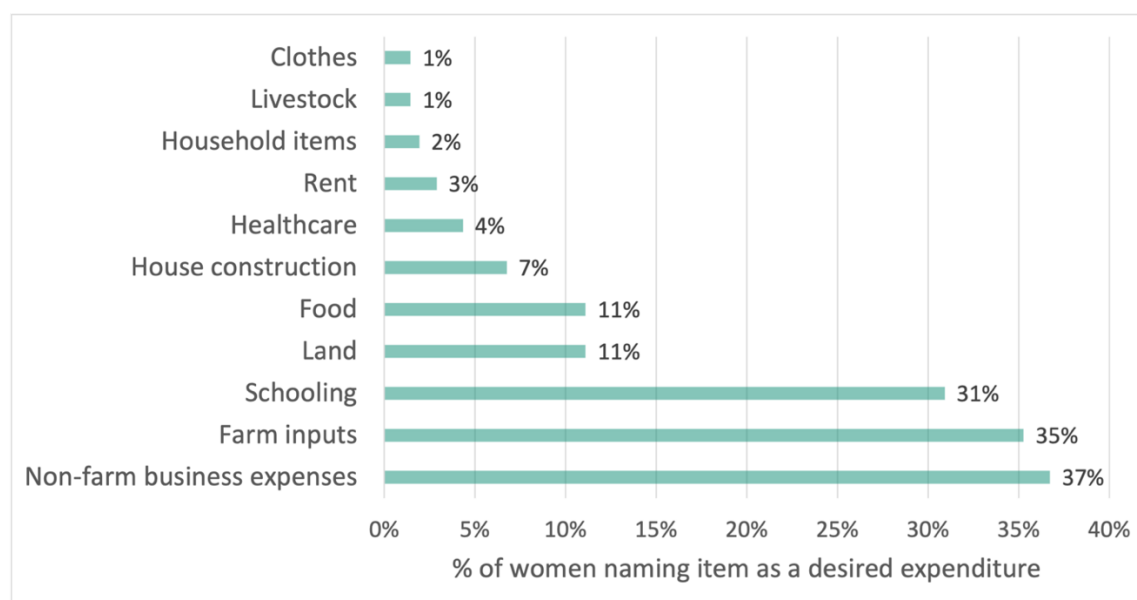
Data source: Household questionnaire, n=207.



(Note that the sum of percentages exceeds 100% because respondents were able to list up to six items.)

Figure 20: Items on which women reported wishing to spend extra income.

Data source: Household questionnaire, n=207.



Schooling appears as the third most common response to both the question “What did your household spend the most money on in the past year?” and the question “If your income increased somewhat, how would you want to spend the extra money?” (See Figure 19 and Figure 20.) Other common responses to the latter question included non-farm business

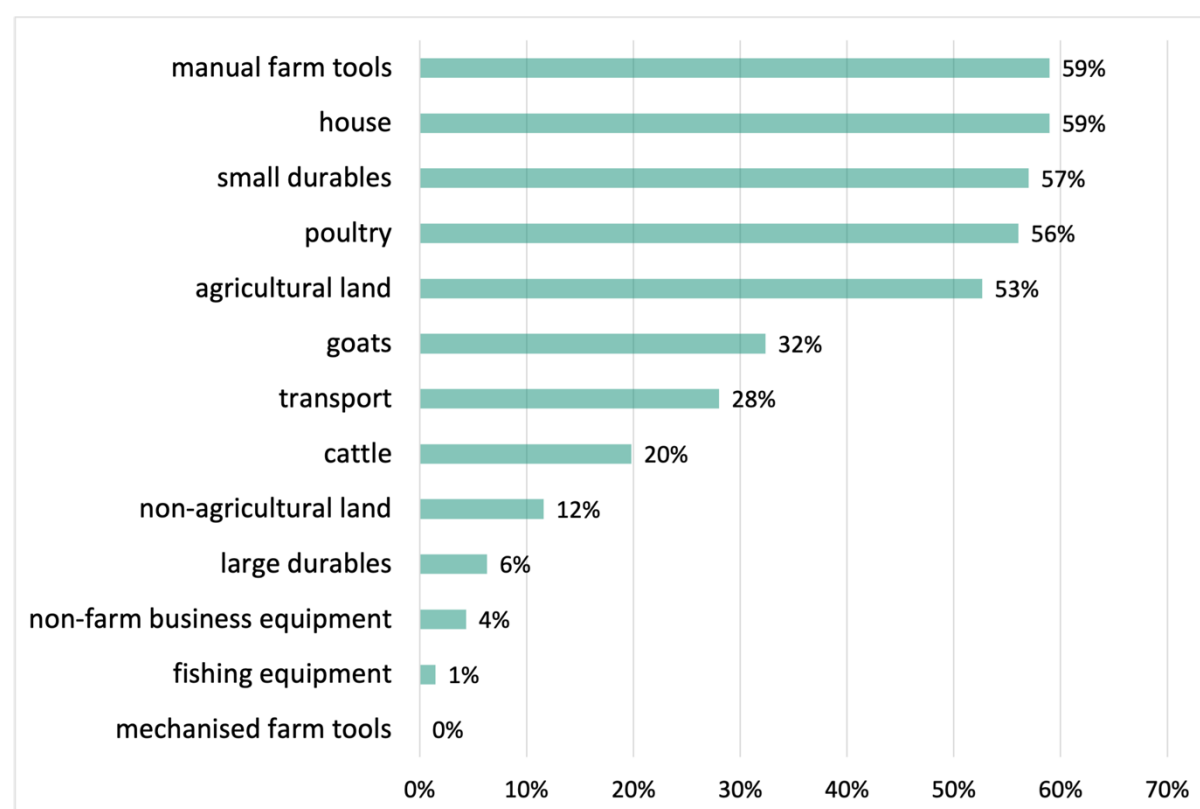
expenses and farm inputs, suggesting that questions about a woman's ability to spend income on investments in further income generation could also be informative.

4.2.3 Resources domain

The resources domain is composed of two indicators: asset ownership (accounting for 2/3 of the domain score weight) and access to credit (accounting for 1/3 of the domain score weight). In order to be considered empowered in asset ownership, a respondent must have ownership of at least one major asset (defined as land, livestock other than chickens, mechanised farm tools, non-farm business equipment, a house, large durables, a mobile phone, or transport) or at least two minor assets (defined as chickens, manual farm tools, or small durables). The survey asks whether ownership of each item is sole or joint, but does not incorporate this distinction into the cut-off (i.e. both sole and joint ownership count equally toward the empowerment score). Among the women surveyed in Busoga a large majority (87%) surpassed the cut-off in asset ownership, with the most commonly owned items being manual farm tools, a house, poultry, and agricultural land (see Figure 21).

Figure 21: Proportions of women reporting ownership of assets.

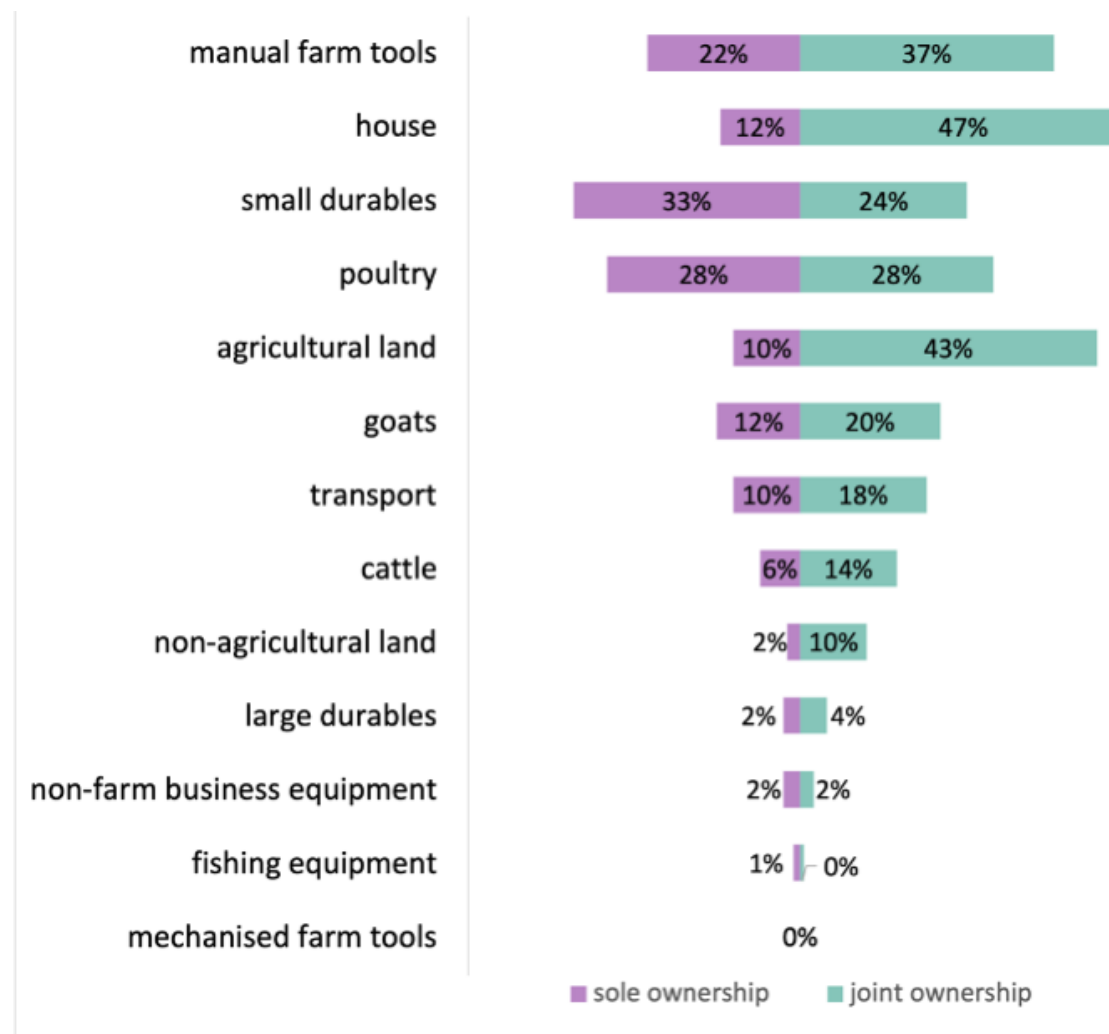
Data source: Abbreviated Women's Empowerment in Agriculture Index, n=207.



For nearly all types of assets, joint ownership was more common than sole ownership, with the only exceptions being small durables and poultry (See Figure 22).

Figure 22: Sole vs. joint ownership of assets (% of total sample).

Data source: Abbreviated Women's Empowerment in Agriculture Index, n=207.



While this may suggest that women are more likely to have stronger control over small durables and poultry than other assets (as would align with the Abbreviated Women's Empowerment in Agriculture Index's categorisation of them as minor assets), it is difficult to conclude this without further contextual information. In part, this is because joint ownership can vary widely, and any type of ownership is often best understood as a bundle of rights. For example, a woman jointly owning land with her husband may or may not have input in decisions to sell/rent the land, and may or may not be able to retain control of the land if her husband were to die. She

also might not have a clear and confident understanding of her legal rights regarding land ownership, and this knowledge (or lack thereof) may in turn influence her ability to make decisions about how to use the land (Deininger et al., 2008).

The second component of the resources domain is access to and use of credit. In order to be counted as empowered in this portion of the domain, someone in the household must have taken out a loan in the past twelve months, and the respondent must have had some input into decisions about how to use that loan. Any type of loan source (including in-kind loans and loans from friends or family) counted equally toward passing this cut-off. Among the women surveyed, 79% said that at least one person in their household had access to at least one source of credit. A majority of the women (65%) lived in a household that had taken out at least one loan in the previous 12 months, but only 36% participated either in the decision to take out the loan, and/or in decisions about how to use the loan. The most common type of loan was from friends/family, with 61% of respondents reporting access to such a loan, and 47% having taken such a loan in the previous year. In contrast to questions about decision-making in the production and income domains, the Abbreviated Women's Empowerment in Agriculture Index survey does not ask whether women choose not to participate in loan-related decisions (i.e. "Do you feel you could participate if you wanted to?"). The Index survey also does not ask about the extent to which a woman feels her credit needs are satisfied/unmet, or why she does not have access to a particular credit source (e.g. because it is not present in the community, because the loan amounts offered do not meet her needs, because she does not fit the profile of a typical applicant, or other reasons).

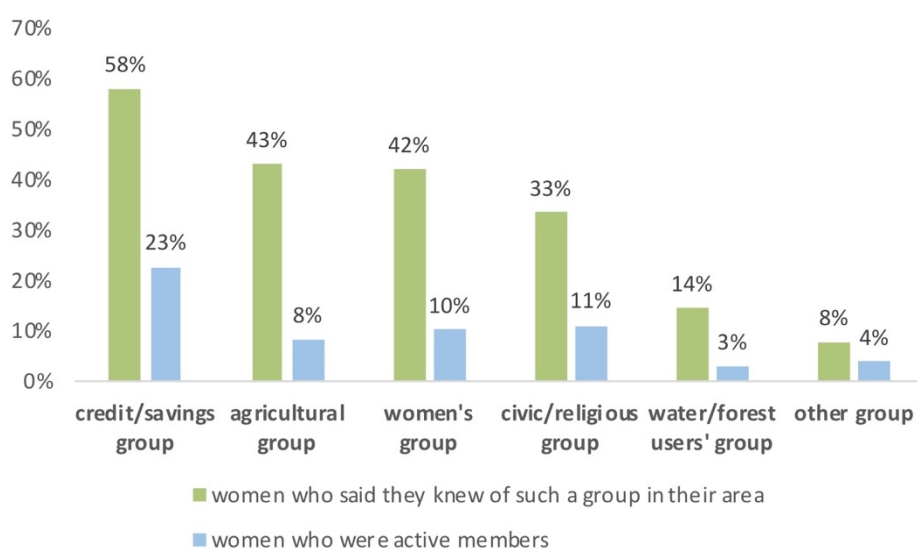
In order to be counted as empowered in the resources domain, a respondent must pass the cut-offs for both the asset ownership indicator and the credit indicator. However, the scores of each do count toward the aggregate empowerment score. That is, while the production, income, leadership, and time domains each contribute 0.2 toward the final score, the credit indicator contributes 0.07 and the asset ownership indicator contributes 0.13. Overall, 87% of women passed the cut-off in asset ownership, 37% passed the cut-off in credit, and 31% passed the cut-off in both.

4.2.4 Leadership domain

The leadership domain reflects a single, simple indicator: whether the respondent is an active member of any type of local group. If she is not a member of any group, she is counted as disempowered in this domain. While the survey does ask if various types of groups exist locally, it does not ask whether women choose not to be a member of local groups (i.e. “Do you feel you could join if you wanted to?”). The survey questions explicitly ask about agricultural, water/forest users’, credit/microfinance, mutual help/insurance, trade/business, civic/charitable, and religious groups, but membership in any other type of group is equally acceptable. Among the women surveyed, only 42% were active members of any type of local group; the most common type of groups reported was credit/savings groups (see Figure 23). However, 82% had heard of at least one type of group existing in their area. Therefore, a large proportion were not joining local groups, either because they actively chose not to, or because they felt they could not for some reason. The Index survey does not ask why women are or are not members of groups.

Figure 23: Prevalence and membership of local groups.

Data source: Abbreviated Women’s Empowerment in Agriculture Index, n=207.



The authors of the original Women’s Empowerment in Agriculture Index (Alkire et al., 2013) acknowledged that group membership alone is insufficient for determining whether an individual finds group participation to be empowering, especially in terms of increasing confidence and gaining opportunities to take on leadership roles. The group membership indicator is intended to be a proxy measure, giving an estimate of the possible chances an individual has to exercise leadership. But even within this narrow scope, the responses to this

question in Busoga suggest that the relationship between group membership and empowerment is unclear without additional information about women's motivations for joining or not joining groups. For example, if an individual feels welcome to join a local agricultural group, but actively chooses not to join because she wishes to spend her time in other ways, then is it accurate to categorise her as disempowered?

4.2.5 Time domain

The time domain sums the total number of hours an individual spent working over a 24-hour period; if the total hours are equal to or below the cut-off of 10.5 hours of work, then the individual is counted as empowered. This domain had the largest proportion of women counted as disempowered, with 95% of women spending more than 10.5 hours working on the day observed. The time domain differs markedly from the other four domains in that it measures a continuous (rather than categorical) variable, albeit one that rounds to the nearest 15-minute unit. The median number of hours worked was 13.25, with a standard deviation of 1.6 hours. Figure 24 shows the median hours spent in the most commonly engaged-in work activities (i.e. the median hours for all other activities was zero, because fewer than half of individuals engaged in those activities on the day surveyed). This gives an indication of the activities that were the most consistent demands (across the survey sample) on women's time. These activities were overwhelmingly care and domestic tasks: childcare, cooking, cleaning, and fetching water.

Figure 24: Median hours spent on work activities with the highest participation rates

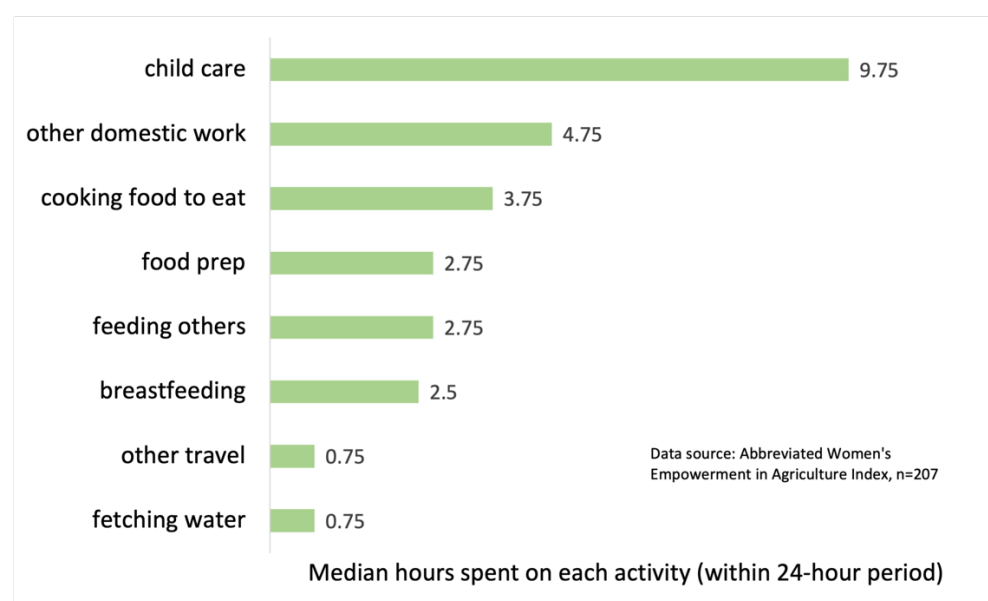


Figure 26 presents a more detailed illustration of the number of women who reported engaging in an activity (during the 24-hour period surveyed) in comparison to the median number of hours spent in that activity (among only the women who engaged in it)²¹. Again, care work and domestic tasks heavily outweighed other types of activities. One limitation of this type of time use survey is seasonality. This survey was administered in January and February, a time of relatively low agricultural labour demands following the December harvests. Administering the same survey at a busier time of year could result in a higher proportion of time spent on agricultural work. Nevertheless, in terms of empowerment as calculated by the Abbreviated Women's Empowerment in Agriculture Index, the effect of seasonality on empowerment scores would likely be negligible. This is because the time domain equally counts both agricultural and care/domestic work as labour; these results indicate that for the vast majority of women, care work and domestic tasks far outstrip the 10.5-hour cut-off. The median time spent on childcare alone occupied nearly ten hours. Another important characteristic of this particular survey is that, given the study's interest in the relationship between women's empowerment and children's nutrition, all of the women surveyed have young children. Surveying women of a wider range of ages/life stages might produce different proportions of time spent on childcare. Still, these time use results suggest that any intervention targeting women of this demographic, whether seeking to address agricultural or nutritional objectives or both, would need to account for the constraints posed by the extensive amount of time women spend caring for young children.

This apparent predominance of care-related work, as measured by quantity of hours, can be more precisely assessed using statistical tools to determine whether the degree to which care work hours contribute to overall working hours is significantly greater than any other type of work. However, to rigorously break down the time domain in this manner, it is necessary to first establish the theory-based relevance of each of the indicators that compose the time domain. Namely, in the standard Index survey there are nine distinct categories of work (work as employed, own business work, farming/livestock/fishing, shopping/services, weaving/sewing/textile care, cooking, domestic work, care for children/adults/elderly, and travel). In the original introduction of the Abbreviated Women's Empowerment in Agriculture Index (Malapit et al., 2015) and its (unabbreviated) predecessor (Alkire et al., 2013), there is

²¹ For a table of the median and mean values of all activities measured in the time use survey, see Appendix J, p.346.

no indication that retaining these exact nine categories (e.g. ensuring that ‘cooking’ is measured separately from ‘domestic work’) is important for analytical purposes (rather than, e.g. ease of data collection).

Therefore, to better understand trends contained within the time domain, it is reasonable to restructure the time-use indicators according to other conceptual framing, in absence of any theory provided by the original Index. Otherwise, types of labour with more detailed indicators may appear artificially less significant than types of labour represented by fewer, broader indicators. For example, domestic work includes specific indicators for cooking, sewing, and care work. Comparing each of these separate tasks to a broad indicator (e.g. farming) may bias the results. To address this issue, I divided the time use indicators into four basic categories. First, I drew a distinction between economic and non-economic labour. Within economic labour, I distinguished (as much as possible²²) between agricultural and non-agricultural labour, given the aim of the Index to inform agricultural development. Within non-economic labour, I distinguished between care work and other domestic work. These categories of activities are presented in Table 2. The time use data collected from Busoga ascribed to the same conceptual definition of work as the standard Abbreviated Women’s Empowerment in Agriculture Index (i.e. included all types of economic, domestic work, and care work). However, the data differed in its inclusion of many more indicators and unlimited simultaneous activities.

To assess whether there is a statistically significant difference between the proportions of women’s time spent doing care work or domestic work versus time spent doing agricultural work or non-agricultural economic work (in terms of each category’s contribution to overall time spent working), I applied a series of tests. First, as an initial exploration of the relationships between these variables, I plotted a pairwise matrix of each of the four work activities against the total work hours (see Figure 25).

²² Many activities are not easily categorised as strictly agricultural or non-agricultural. For example, a woman may start a small business selling agricultural inputs. For my purposes, agricultural activities are those most directly related to production. In addition, food crop farming could arguably be classified as a type of domestic work, as it does not always generate income. However, because these data were collected during a season of low agricultural activity, I have chosen to err on the side of over-estimating agricultural work and underestimating domestic work, rather than vice versa. Similarly, many activities blur the distinction between care work and domestic work, such as washing a child’s clothing alongside one’s own clothing. However, this overlap poses less of a challenge from an analytical standpoint, because ‘other care work’ and ‘other domestic work’ were categories included in the time use survey, providing an option to document ambiguous activities as both care work and domestic work.

Table 2: Consolidation of time-use activities across four categories of labour.

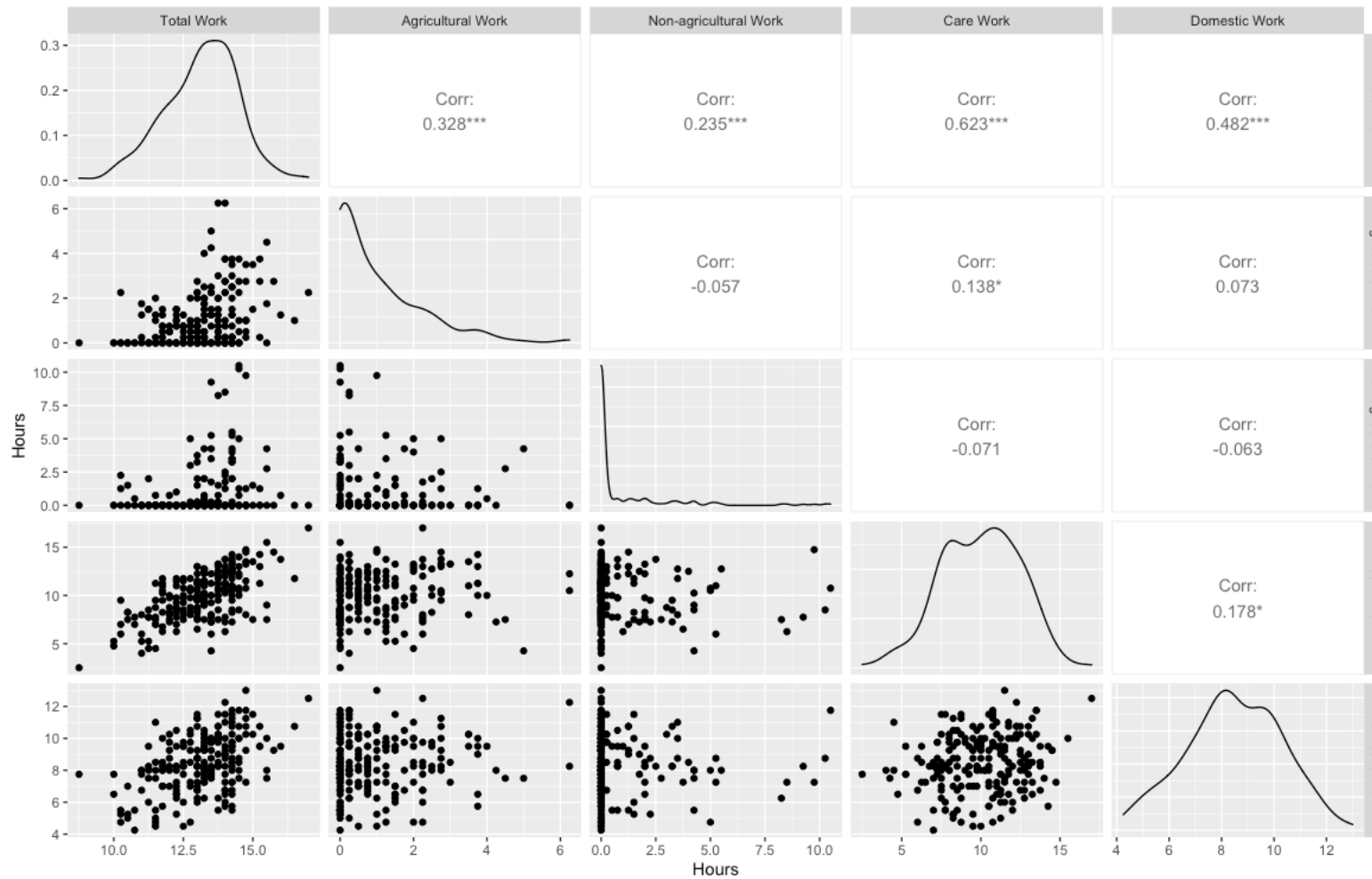
(Activities in bold are part of the original Abbreviated Women's Empowerment in Agriculture Index time use survey. Italics indicate additional detail not included in that original survey.)

Agricultural Work	Non-agricultural Economic Work	Care Work	Domestic Work
<i>Cash crop farming</i>	Cooking food to sell	<i>Young child care</i>	Accessing services
<i>Food crop farming</i>	Work as employed	<i>Breastfeeding</i>	<i>Chopping firewood</i>
<i>Livestock farming</i>	Own business work	<i>Feeding young child</i>	Textile care
<i>Supervising farm employees</i>		<i>Playing with young child</i>	Food shopping
<i>Postharvest processing</i>		<i>Feeding others</i>	<i>Food prep</i>
		Other care work	Cooking food to eat
			Traveling to buy food
			Traveling to farm to collect food to eat
			<i>Collecting food to eat from the farm</i>
			<i>Fetching fuel</i>
			<i>Fetching water</i>
			Other shopping
			Other travel
			Other domestic work

This included the Pearson correlation coefficient for each pair, as well as scatterplots to illustrate each time use category's distribution. The top row of correlations is of primary interest because it shows the degree to which each of the four work categories is correlated with total work time. All four work categories are significantly correlated with total work time; this is as expected, because total work time is directly derived from the four work categories. Rather, the point of interest is the relative strength of each correlation. Care work has the strongest correlation (0.623), suggesting that total work hours documented by the time use domain most closely reflect the number of hours spent performing care work.

Figure 25: Pairwise plots of total work hours vs. agricultural work, non-agricultural economic work, care work, and domestic work.

Charts in the lower left show pairwise scatterplots. Boxes in the upper right show pairwise correlations. Histograms on the diagonal show frequency distribution of hours-worked across the sample (in each respective category). Data source: Abbreviated Women's Empowerment in Agriculture Index time domain (modified), $n=207$.



To further investigate this hypothesis using more targeted statistical methods (i.e. to establish that there are statistically significant differences between the four work categories, and that care work has the greatest influence on total work hours) I applied a Friedman test. This test provides a non-parametric ANOVA for related samples (i.e. the work hours are related via the individual women observed) with continuous data (i.e. work hours). The Friedman test returned a p-value $< 2.2\text{E}-16$, supporting a rejection of the null hypothesis that there are no significant differences between the four work categories. To test for significant differences between each of the paired work categories, I applied Wilcoxon tests with a Holm correction to adjust p-values for multiple statistical tests. Table 3 shows the results of the paired tests, in which all differences between work categories are significant, with care work having the strongest p-values.

Table 3: Results of Wilcoxon paired tests for significant differences between work categories

Work Category 1	Work Category 2	P-value
Non-agricultural income-generating	Agricultural	0.00146
Domestic	Care	1.18E-11
Domestic	Agricultural	1.45E-35
Care	Agricultural	1.49E-35
Domestic	Non-agricultural income-generating	2.26E-35
Care	Non-agricultural income-generating	2.79E-35

Therefore, I conclude that in this sample of women's time use in Busoga, at a 99% confidence level there are significant differences between time spent in the categories of agricultural work, non-agricultural income-generating work, care work, and domestic work, with care work being the strongest predictor of the total working hours. In other words, the quantitative evidence suggests that when measuring women's time use in Busoga, the methods chosen for measuring care work will significantly impact the calculation of the Index time domain, and potentially influence the analysis of women's empowerment in terms of time poverty and in terms of the aggregate Abbreviated Women's Empowerment in Agriculture Index score. Thus, I argue that a rigorous quantitative analysis of Basoga women's empowerment in time use should be supported by a clear conceptual framing of the relationships between women's care work and

other types of work, and the relationship between care work and women's empowerment overall.

I provide a detailed demonstration of how to investigate these relationships through my qualitative analysis in Section 4.3.5 (p.146). However, a glimpse of these results is also visible in the quantitative data from the general questionnaire. Missing from the Index time use survey is any indication of how women perceive their own time use – e.g. which activities they perceive to be most time-consuming, which activities they wish would take less time, and which activities they wish they had more time for. The general questionnaire included a rough assessment of women's own perceptions of their available time and resources. When presented with a statement describing themselves (e.g. "You do not have anyone telling you what work to do.") women responded whether they agreed, somewhat agreed/disagreed, or disagreed that the statement applied to them (See Figure 27 and Appendix A, p.283). In contrast to the results of the Index, most women reported having sufficient time for work, sleep, childcare, and doing activities they enjoy. Possible barriers to women's empowerment appear in the responses to questions about choosing what work to do, and about having the resources to feed children the food they (the women) would prefer. Compared to 86%–92% agreement to statements about having sufficient time and being able to choose activities, only 68% and 54% of women agreed that they did not have anyone telling them what work to do, and that they had the resources to give their baby the food they would like to, respectively (see Figure 27).

Figure 26: Number of women engaging in an activity vs. the median number of hours spent on activity.

Data source: Abbreviated Women's Empowerment in Agriculture Index time domain (modified), $n = 207$.

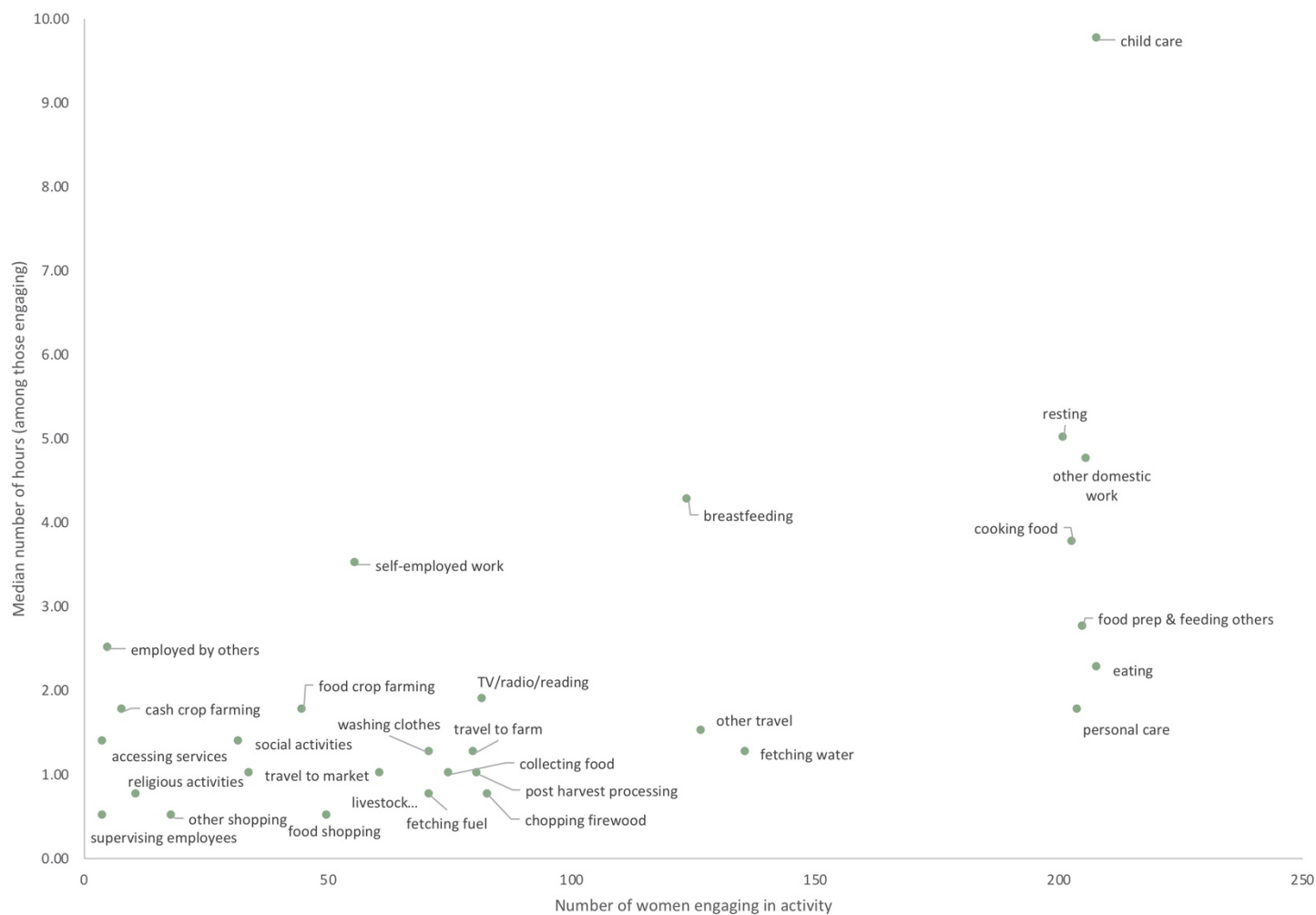
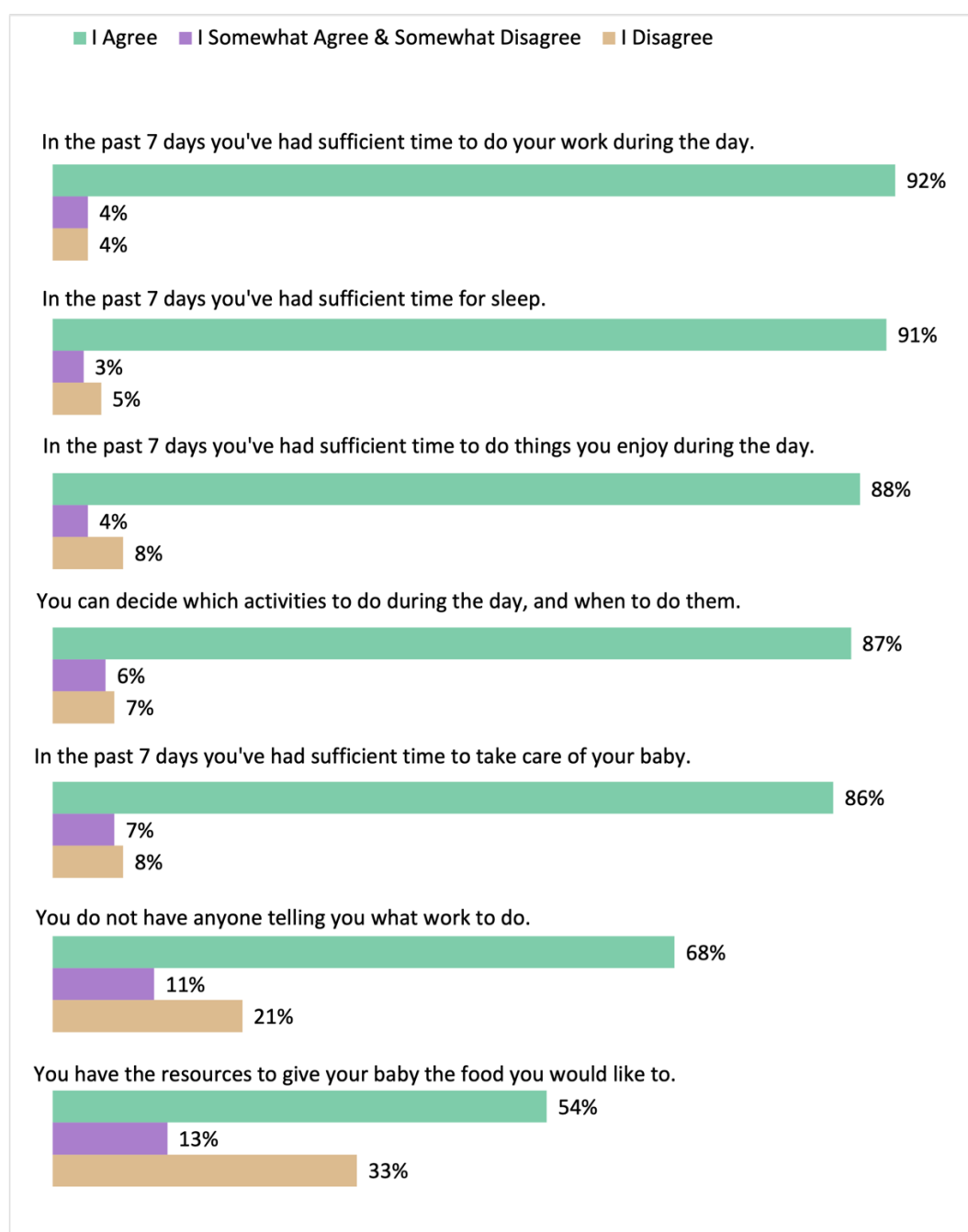


Figure 27: Women's responses to questions about perceptions of time, labour, and care



4.2.6 Summary of Index Results

The Abbreviated Women's Empowerment in Agriculture Index aims to provide a simple, intuitive tool for quickly understanding the main constraints on empowerment for women farmers. The results of this implementation of the Index survey, interpreted alone, suggest that the most widely experienced barrier to empowerment for women farmers in Busoga (who have young children) is time poverty. Specifically, tasks related to caring for children and

maintaining the household consume long stretches of the day. Therefore, any agricultural or nutritional intervention, with a design informed by these results, would need to either reduce women's care/domestic workload, accommodate this workload, or at the very least not increase this workload, in order to foster empowerment. Such a programme might also see the low rates of loan use as an opportunity to expand access to credit beyond the predominant small loans borrowed from friends and family. This could coincide with an interpretation of women's low group membership as motivation to support existing groups and/or help found new groups that respond to unmet needs, increase memberships, and encourage collective action in the community. Conversely, the relatively high scores in production decision-making, income decision-making, and asset ownership could mean that an agricultural programme might choose to focus less on providing women with farm inputs or resources that could give her greater input into intra-household decisions about how to farm and how to spend income.

In the following section, I analyse the results of the qualitative data, synthesising women's responses to questions about these same five agricultural topics (production, income, resources, leadership, and time) and comparing these themes with the results of the quantitative data. In doing so, I present not only a detailed picture of the relationship between agriculture and women's empowerment in the specific context of Busoga, but also draw broader conclusions about the ways that choice of measurement methods shapes interpretations of women's empowerment in agriculture.

4.3 Deductive Analysis

In this section, I analyse the responses²³ to interview questions that explored topics related to the Abbreviated Women's Empowerment in Agriculture Index domains and compare these qualitative results to the quantitative Index results. Because these domains were pre-determined, this portion of the qualitative coding was deductive in its thematic framework (i.e. here I analyse only the codes that relate directly to each of the five domains as broad themes). However, I identified sub-themes within each domain based on inductive coding (i.e. I did not limit codes to only those topics described explicitly by indicators within each domain). While responses related to one of the five domains could appear anywhere in each interview, Table 4 gives a rough approximation of the interview questions generally most related to each Index

²³ As a reminder, these responses were from 30 interviews with a subset of the 207 women surveyed in the quantitative data collection.

domain. Table 5 provides an overview of interviewees' demographics (For more detailed descriptions of these demographics and how they compare to the general population of Busoga, see p.81)

Table 4: Interview questions related to Index domains

Domain	Questions
Production	<p>Who decides which types of crops the household should grow? How do they make that decision? Who decides what share of the crops the household should eat vs. sell?</p> <p>Is there any way in which you would like your agricultural practices to be different/better?</p>
Income	<p>Are you able to set aside money for your own use (meaning that you can decide by yourself how to spend it)? Is it money that you earn?</p>
Resources	<p>Do you think it is common for people in your community to take out loans? Do you feel that you personally have sufficient access to credit?</p>
Leadership	<p>Are you a member of any groups? Do you think it is common for people in your community to join groups? Do you think that there are too many/too few/a good number of groups in your community?</p>
Time	<p>Of all the activities you do, which do you dread the most or like the least? Is there anything you avoid doing?</p> <p>Which tasks do you feel are the most time-consuming? Do you wish that any of them consumed less of your time?</p> <p>Which activities do you get enjoyment from? Is there anything you do for your own happiness, not for anyone else?</p> <p>If there were a change in your day, and you had a new extra hour of free time, what would you do?</p>

Table 5: Demographic characteristics of the qualitative sub-sample compared to the demographics of the quantitative sample

Demographic Data	Qualitative Data Sample (n=30)	Quantitative Data Sample (n=207)
Median Age	27	25
Age Range	20-38	16-44
Marital Status		
Married, Monogamous	67%	51%
Married, Polygynous	13%	27%
Cohabiting with Partner	13%	8%
Single	3%	9%
Widowed	3%	0.5%
Divorced	0%	3%
Other	0%	2%
Median Partner Age (where applicable)	31	32
Partner Age Range (where applicable)	21-48	18-65
Median Household Size (total adults and children)	6.5	6
Range of Household Size (total adults and children)	3-13	3-18
Median Number of Children	2	3
Range of Number of Children	1-9	1-10
Percentage of Respondents Identifying as Head of Household	3%	5%
Religion		
Islam	57%	39%
Christianity	43%	59%
Education Level		

Tertiary	3%	1%
Secondary complete	7%	3%
Secondary incomplete	17%	21%
Primary complete	13%	14%
Primary incomplete	57%	55%
None	3%	6%

A brief note on qualitative data analysis

In the following sections of qualitative data analysis, I do at times provide the number of women who gave responses that contributed to the identification of a particular sub-theme. I disclose these numbers in the interest of data transparency; however, it is vital to remember that the purpose of qualitative data analysis is not to identify a majority opinion or experience. A sub-theme arising from 10 responses does not necessarily have any more or less validity than a sub-theme appearing in 2 or 3 responses. Furthermore, essential patterns may emerge within as few as six interviews (Guest et al., 2006). The purpose of qualitative data analysis is to gather information about the experiences, processes, and causal pathways that are indiscernible in quantitative methods alone, and especially to understand how these themes interact and overlap. This analytical process is not tied to any numerical threshold.

4.3.1 Production

The Abbreviated Women's Empowerment in Agriculture Index production domain results provided a measurement of the amount of input that women have into decisions about food crop farming, cash crop farming, and raising livestock (see p.90). However, the Index survey does not specify what types of decisions "agricultural decision-making" includes. Theoretically, a survey respondent considers their decisions about, for example, cash crop farming broadly, and gives an assessment of her input into decisions in general. Which types of decisions (e.g. the type of crops to grow, how to allocate portions of available land, which strategies to use for pest/weed control or soil fertility, when to harvest, how much to sell, which methods to use for post-harvest processing, etc.) the respondent has in mind while answering the question are left

unknown. The survey questions in this domain also focus exclusively on productive decision-making as a matter of *autonomy*; i.e. the respondent's amount of input into decisions is measured in relation to other household members' amount of input into decisions. The survey does not include productive decision-making as a matter of *agency*; i.e. the respondent's *actual* decisions in relation to her *aspirational* decisions.

During the qualitative interviews, there was more freedom (i.e. relative to the prescribed Index survey questions) to explore women's perspectives on agricultural decision-making. Rather than exclusively focusing on a quantitative assessment of input (none/few/most/all decisions) as the Abbreviated Women's Empowerment in Agriculture Index does, we asked women to describe the circumstances under which they might or might not make a decision about agricultural production. For example, we asked, "Do you grow crops with others in the household or do you grow crops alone?" and "Who decides how much of a crop to sell, and how much to keep for home consumption?" These questions prompted women to describe in more detail the circumstances in which she or others might make agricultural decisions.

Most women described the decision-making process in relation to their husband or partner (with one exception in the case of a woman living with her mother). In some cases, women described being the primary farmer, and expressing an opinion about what to do with harvests, but needing or wanting to at least consult her husband about what to do:

"I can tell him, 'We have two sacks of cassava. Let me sell and pay school fees.' I tell him I have harvested this quantity. Then he says thank you for farming and I ask what we should do. And we plan what we should do."

- Respondent #80, Domain score: Disempowered (input in all food crop farming decisions, didn't participate in cash crop farming or livestock production)

When explaining how and why husbands/partners had influence or ultimate authority in making decisions, some women referred to men's ownership of property, role as household head, or responsibility as a husband/father to provide for his family. This role often remained relevant even when a woman had done the farming on her own:

Interviewer: When you have harvested, who decides what quantity of food to be eaten and that to be sold?

Respondent: The husband... he is the one who is supposed to decide because he is the one that keeps us... Even when it runs out, he is the one who is going to buy it.

Interviewer: Now the rice and maize, is he the one that grows them, or is it both of you?

Respondent: I grow the maize alone.

Interviewer: But he is the one that decides?

Respondent: Yes. But rice we grow together.

- Respondent #104, Domain score: Disempowered (could have input into some food crop farming decisions if she wanted to; didn't participate in cash crop farming or livestock production)

There are two notable comments in the quote above. First, she said that she participated in growing rice (generally considered a cash crop in this context), but during the Abbreviated Women's Empowerment in Agriculture Index survey stated that she did not participate in cash crop farming. This discrepancy also appeared in two other respondents' data. This may merely indicate that a change in production decisions occurred in the 18 months between the Index survey and the interviews. Or this could be a result of the broad framing of production domain questions (which aggregates *all* decisions related to food cropping, cash cropping, etc.), rather than more specific questions about particular activities (e.g. Do you work on that crop in the field? Do you decide how much to sell?). As a result, some women's responses to this portion of the survey may measure less their participation in a particular activity (e.g. Do you work in cash crop fields?) and more their associations with that activity (e.g. Do you consider cash crops to be your sphere or your husband's sphere?). Second, the respondent drew a connection between production decisions and income, stating that if farmed food were to run out, it would be up to her husband to purchase food. This suggests that greater control over income could potentially grant women more authority to make agricultural production decisions. Some women also brought up a connection between asset ownership and production decisions, particularly land ownership:

"If I buy a plot of land, it remains mine. And in the case of separation, it still remains my land. If I plant my garden, the harvests are mine. Most men do not give their wives a good share of the harvests. Women get nothing, and the men sell everything."

- Respondent #93, Domain score: Disempowered (input in some food crop decisions, didn't participate in cash crop farming or livestock production)

“I can decide [what to eat/sell] if I have a private garden, which he doesn’t know about... When I am drying crops from my private garden in the compound, he doesn’t ask about it. My husband doesn’t farm. He rents land and tells me to farm it. He comes in to harvest and sell it.”

– Respondent #74, Domain score: Empowered (sole decision-maker for food cropping, input in most livestock decisions)

A husband might have ultimate authority over decision-making, but that authority could also be subject to circumstance. For example, some women described having more power to make decisions if her husband was not physically present. But the fluctuating and incidental nature of such decision-making could be difficult to capture in the categories of few/some/all decisions used by the Index:

Interviewer: Who decides the quantity of harvest to be eaten or sold?

Respondent: The father of the children... He is the one that heads me/has authority over me.

Interviewer: Do you have a way to get your own money as a woman?

Respondent: From the garden... I sell when he is not around.

Interviewer: Does he ask you why the maize is less? ...Does he ask you where the money is?

Respondent: He asks me... I give him [the money] and he gives me some himself.

– Respondent #13, Domain score: Empowered (no input in food/cash cropping, but could if she wanted to)

Even among women who described themselves as having power to make their own decisions about farming, this autonomy was often framed in relation to their husband, sometimes noting his absence:

Interviewer: What can you decide for yourself now?

Respondent: Trading, farming. That’s what I can decide for myself right now. I say that today let me go and do this, let me work in this field, let me go here.... I decide for myself because I don’t have one that decides for me.

Interviewer: Because the husband is not there?

Respondent: Yes. I could not decide for myself when I moved under my husband’s arms, because it’s him that decides.

– Respondent #18, Domain score: Empowered (some input in food cropping, sole decision-maker for cash cropping)

Interviewer: Who decides which types of crops the household should eat?

Respondent: It's me. He got a new wife in April [five months prior] and has never come to my home since. He stays in the home of his other wife.

– Respondent #106, Domain score: Empowered (some input in food and cash cropping, could have input in livestock if she wanted)

Deriving authority from the husband's absence is different from finding authority based in one's own skills or roles, as some women described. And even among these women, there was acknowledgement her decision-making ability depended somewhat on whether her husband would "cause a lot of conflict":

Interviewer: Who decides which types of crops the household should eat?

Respondent: It's me because I am the one who has knowledge of what we have in abundance and in scarcity. I'm the one who plants the crops. Whoever doesn't want to eat should leave.

Interviewer: Who decides what share of the crops the household should eat/sell?

Respondent: If my husband doesn't cause a lot of conflict, then I'm the one who decides. He has his rules. He may come when I have harvested and say "let's sell this". Mostly I'm the one who decides. I think ahead. I can picture how good it will be for my children to come home from school and find porridge. Then I decide to leave some maize at home and sell less.

– Respondent #62, Domain score: Empowered (sole decision-maker for food cropping, some input in cash cropping and livestock production)

The respondent above also illustrates the common trend of women expressing more control over food cropping, and a general tendency to advocate for keeping more crops for home consumption, while their husbands tend to advocate for selling more crops for income:

"He told me if I go to his garden he will beat me. 'The rice is for the man', he says. 'When women touch it, you will eat it. It will go directly to the machine for drying and selling.'"

– Respondent #106, Domain score: Empowered (some input in food and cash cropping, could have input in livestock if she wanted)

For some women who farmed without their husband's collaboration in the field, they reported being able to make decisions completely independently of their husband:

Respondent: I decide for myself, as I am the one who has done it.

Interviewer: Does your husband farm?

Respondent: He doesn't farm.

Interviewer: So, you're the one who decides this quantity will be sold and this will be eaten?

Respondent: Yes.

Interviewer: Are there women who farm, and their husband doesn't farm, but he is the one who decides what to sell for her?

Respondent: Yes, but they are the minority.

– Respondent #81, Domain score: Empowered (some input into food cropping and livestock decisions)

Interestingly, the individual above not only reported complete autonomy in farming decision-making, but she also felt confident that her situation was common, and that husbands did not often make decisions about crops they had not been involved in farming themselves. The results of these interviews suggest that such a situation is perhaps more common than she perceived²⁴; regardless, it is a telling expression of her ease in making agricultural decisions without worrying about her husband overruling her. This high degree of autonomy is also at odds with her Abbreviated Women's Empowerment in Agriculture Index production domain score, which indicated that she had some input into decisions, but was not the sole-decisionmaker in any agricultural activities.

Table 6 shows a summary of the sub-themes appearing in interview excerpts related to agricultural production decision-making. At the crux of this comparison between the quantitative data and qualitative data is the question of how to measure women's experiences in this domain in a way that is accurate (and, in the case of quantitative surveys, efficient). The framing of the Index survey question poses a broad, non-specific question about all decisions in, e.g. cash cropping, and whether the respondent has input in no/few/some/most/all of those decisions. But not all decisions within that activity may equally represent intrahousehold bargaining power. For example, some women interviewed described having control over day-

²⁴ A quantitative survey would be most appropriate for determining an answer to this question. (The standard Index survey does not include any indicators addressing this question.)

to-day decisions (e.g. how much to weed, to apply fertiliser, etc.) but less control over land use or what to do with harvests. A woman could conceivably make a higher quantity of decisions about a crop (i.e. *most* decisions), but not the one or two *most consequential* decisions.

Table 6: Summary of production domain sub-themes

Sub-theme	Description
Relative autonomy	Regardless of an individual woman's level of input in agricultural decision-making, she almost always described her decision-making in the context of her relationship with her husband (with exceptions for situations in which a woman had no husband or was separated from her husband)
Masculine role as provider/household head	Several women (8) stated that their husband/partner had greater authority to make agricultural decisions because he was the household head and/or he bore the ultimate responsibility for providing the household with food
Growing crops jointly/alone	While some women (10) cited the fact that they had grown crops themselves as the basis for their power to make decisions, some (7) husbands/partners had authority to make decisions about crops they did not grow (These two dynamics are also not mutually exclusive.)
Discrepancies between Index scores and interview responses	There were some instances in which the depiction of decision-making in the Index score contradicted the level of decision-making described during the interview.
Control over income	Control over income showed potential to shape power in production decision-making, (because the ability/responsibility to purchase food can bolster authority to decide how much of a crop to consume/sell).
Control over land	Some women mentioned access to (and especially ownership) of her own plot of land as a means to increase her ability to make independent production decisions.
Valuing one's own skills and knowledge	Some women cited their hard work and ability to make good decisions for the household as the reason they had more power to make agricultural decisions; however, this did not necessarily preclude her husband's ultimate authority

Gendered roles in food cropping vs. cash cropping	Several women (8) described having more control over crops grown to feed the household, and men having more control over cash crops (e.g. maize and rice). Some women also described a general preference to keep more food at home, while men preferred to sell more.
Fluctuating decision-making dynamics	Overall, women described their decision-making processes as subject to change and circumstance in ways that do not always neatly fit into broad categorisations of few/most/all decisions.

There is also the question of whether the relative precarity of women's decision-making power is relevant to measuring empowerment. For example, some women described having the ability to make independent decisions about their crop ...until their husband decided to come back home. Or until their husband expressed a strong desire to have more income for making a purchase. Should this level of decision-making be scored equally alongside a woman who knows her husband trusts her decision-making (or is indifferent to farming decisions)? This is separate from the issue of administering the Abbreviated Women's Empowerment in Agriculture Index at a single point in time to measure a process (empowerment). Rather, the point here is that, whether or not a woman's decision-making power actually changes over time, her security in the source of that power is relevant for assessing empowerment.

Finally, the interview responses suggest that the Index survey's division of production activities between food cropping, cash cropping, and livestock production is not necessarily clear-cut or independent of decision-making processes. In some ways, the women interviewed did express a distinction between food cropping and cash cropping, and perceived social norms that ascribed them as feminine and masculine domains, respectively. However, some crops are more ambiguous, in this context particularly maize. A woman may be independently growing a field of maize with the intention of keeping most of it for household consumption, but after harvesting her husband rejects this plan in favour of selling most of it. Did this woman make decisions about a food crop or a cash crop? Again, the evidence from Busoga suggests that in some contexts it might be more informative to ask about categories of decision-making (e.g. planting, weeding, harvesting, selling) alongside or instead of the categories of food crop/cash

crop/livestock.²⁵ This finding corroborates recent research on intrahousehold agricultural decision-making in Uganda (Hillesland et al., 2020), which found that decision-making dynamics can vary widely between different land holdings and different types of agricultural tasks.

4.3.2 Income

The Abbreviated Women's Empowerment in Agriculture Index survey questions corresponding to the income domain document the amount of input that women have into various sources of income, as well as major household expenditures. During the in-depth interviews, we explored control over income from an alternative angle, asking "Are you able to set aside income for your own use?". This approach built upon a similar question asked by Basu and Koolwal (2005) in their study of women's empowerment and reproductive health, as a way to distinguish women's empowerment from women's responsibilities. That is, while joint decision-making about spending certainly may be egalitarian, access to at least *some* income (regardless of its source) over which she has complete control serves as an informative indicator of her ability to use income as a resource for making strategic life choices. Although most women interviewed did have some access to income they could spend independently, this was not universally true, even if she passed the domain cut-off for empowerment in income:

"[My husband] gives me very little money, like 1,000 shillings. I cannot set some of it aside. When I want something, my husband buys it and brings it to me. I do not have any money, and no one can send me money."

– Respondent #97, Domain score: Empowered (input in cash cropping income and major expenditures)

"Men exploit women. They do not want us to have private money. When they know, they want us to spend all of it so that it's gone. They feel that's when we respect them. When we have no money."

– Respondent #99 (able to set aside her own income, but speaking about women in the community more broadly), Domain score: Empowered (input in food cropping, cash cropping, and livestock income, and major expenditures)

²⁵ The qualitative interviews focused on questions about food and cash crop farming, rather than livestock. This was because the former activities were more common than the latter. Still, a few women brought up experiences with poultry in response to other general questions.

As with the production domain, many women described their ability to make spending decisions in relation to their husband. Only one woman described her husband as explicitly supporting her income-generating activities. More commonly, some women viewed their husbands as dishonest or untrustworthy (with respect to income), and preferred to keep their income and spending decisions as separate from him as possible:

Interviewer: Can you put some money aside for your personal use?

Respondent: Yes, from farming. And raising chickens.

Interviewer: Is there anyone you consult about its expenditure?

Respondent: No, I don't consult anyone.

Interviewer: How about your husband?

Respondent: That one – sometimes you consult him and he deceives you.

Interviewer: If he tells you to bring the money to him, what do you do?

Respondent: You have to give it to him because he has asked you. He may lie to you, saying 'Bring the money and we'll go do this.' What he says we are going to do – he does not do it, and eats/spends the money.

– Respondent #86, Domain score: Disempowered

“When I would have money I became a man at home, buying everything. Whatever money [my husband] had, he would drink.”

– Respondent #94, Domain score: Empowered (input in food cropping, cash cropping, livestock, and nonfarm income, and major expenditures)

“I decide for myself because in the past [my husband] has not been straight with me. Many years have passed, the children are growing, and he is not minding me, just thinking about enjoying himself.”

– Respondent #18, Domain score: Empowered (input in cash cropping and nonfarm income, and major expenditures)

These independent spending habits were not always in response to dishonesty or distrust, but still displayed a conscious decision to act alone:

Interviewer: When you have collected your money, do you have any person you tell before you spend it?

Respondent: No, I decide for myself.

Interviewer: Not even your husband?

Respondent: *No. When I have money, I will not have disclosed to him that I have it.*

Interviewer: *If you tell him, what does he do?*

Respondent: *He doesn't do anything, but I still would not have wanted to tell him.*

– Respondent #81, Domain score: Empowered (input in income from food cropping and livestock)

“That money [from selling maize she grew alone] will be mine. That one I decide myself. And the man does not know that it's my money aside.”

– Respondent #89, Domain score: Empowered (input in income from livestock and could have input in major expenditures if she wanted)

Being able to purchase items for herself, and not depend solely on her husband, also prompted feelings of confidence, satisfaction, and security:

Interviewer: *Is there anything you do just for your own happiness, not for anyone else?* **Respondent:** *When I get money and buy something on my own. Like there was a time when I bought my own shoes. I was so excited. My husband cannot tell me that he has brought me something.*

– Respondent #106, Domain score: Empowered (input in all decisions about income from food cropping, cash cropping, livestock, and nonfarm income)

However, even if a woman was able to earn her own income, e.g. from selling bananas, this income may be limited, halted, or intercepted by her husband:

Respondent: *In this area if men see that you have some work that you are doing, that you are generating some money, he starts saying that you have other men who are giving you money. He then decides for you that you don't work.*

Interviewer: *How come you are able to work?*

Respondent: *I work because he allowed me to. (Laughs) But there was a job I was first doing and he rejected it... I used to sell bananas in town, but he prohibited that.*

Interviewer: *But were you making some good money?*

Respondent: *Yes, I was making good money... I could get a profit of 20,000 shillings.*

Interviewer: *How much do you earn from your current business? [selling silver cyprinid fish and tomatoes]*

Respondent: I get a profit of 1,000 or 2,000 shillings. The profits are low, so you don't gain much.

– Respondent # 21, Domain score: Empowered (input in food crop farming and nonfarm income)

Respondent: I want to have a personal business here in his home where he doesn't get any money. He asks me for money from my business, yet his money is for helping many other people.

Interviewer: Can't you refuse to give him the money?

Respondent: He insists and must get it... I now want to have my private money where he cannot ask me for my money and I do not give it to him.

– Respondent #95, Domain score: Empowered (input in nonfarm income)

Minor expenditures do not count toward the domain empowerment score because they are not thought to represent as much power as major expenditures. However, the Abbreviated Women's Empowerment in Agriculture Index survey does ask about minor expenditures, and this indicator could be included in an adaptation of the Index score calculation, if it were deemed relevant to a particular context. In the context of Busoga, the income domain scores were already relatively high (87% of the total sample and 97% of the women interviewed), so incorporating this indicator would have led to relatively minor changes in the aggregate results. Nevertheless, small everyday purchases can reveal who in the household controls more income overall:

Interviewer: Who decides the type of food to be bought?

Respondent: The man because it's he who has the money.

– Respondent #63, Domain score: Empowered (input in income from food cropping and livestock, could have input in major expenditures if she wanted)

And some women interviewed described not being able to make minor purchases for herself. This could be due to low income, or because of her husband's jealousy, or both:

"I can't buy lotions because he will ask who bought them for me. I can't buy my own underwear or my own clothes."

– Respondent #86, Domain score: Disempowered

Interviewer: What is something you wish you could decide, but currently cannot? Respondent: I would want to decide that today, let me go to the market and buy myself a cloth and shoes to put on, but I can't right now because I can't afford it. But I know that in the future, life will be soft for me, I will be become better with some money, go to the market and buy that dress, go to the salon and improve my hair.

– Respondent #105, Domain score: Empowered (input in income from food cropping and major expenditures)

“I can say I want soda, but I don't know what to do. And when you ask your husband, he can just promise you. But when that empowered woman wants a soda, she goes and buys it.”

– Respondent #79, Domain score: Empowered (input in income from food cropping, livestock, nonfarm income, and major expenditures)

The distinction here is between “Do you have input into the minor spending decisions the household already makes?” and “Do you feel able to make the minor spending decisions you want to?”. The latter is not what the Abbreviated Women's Empowerment in Agriculture Index survey asks, but the interview responses suggest it could be useful for understanding the degree to which women feel financially constrained in their choices. And while minor purchases do not constitute the “strategic life choices” that Kabeer argues define empowerment, such “second-order, less consequential choices” (Kabeer, 1999b, p. 437), may be useful for understanding the context of an individual's empowerment or disempowerment. This serves not merely as an indicator of poverty which, although relevant, is quite distinct from empowerment (e.g. women can be deeply disempowered in wealthy communities or households). Rather, the fact that the above quote responded to such a broad question (What is a choice you would like to make?) suggests that, for this individual, the inability to make a certain type of minor purchases is closely linked to her sense of agency. A similar argument for the importance of “mundane agency” is made by Simon et al. (2020) in the context of women's time use. They argue that activities with little or no market-centric value (e.g. domestic labour) are unjustly depreciated in assessments of women's empowerment, with little regard for how women themselves value said activities. Analogously, the ability to make mundane purchases (e.g. a soda or dress) may have little impact on a woman's economic power, but may have a dramatic impact on her feelings of agency.

This ability to make purchases autonomously also arose in response to questions about how women could be treated better within the community. Several women brought up women's financial independence as directly connected to women's treatment within her household and community:

Interviewer: If there were going to be some changes in your community, so that women are treated better, what would you recommend?

Respondent: Give women money so that we can be able to buy everything we want. For example, I asked for medicine for my sick child and they beat me. But if I had my personal money, I would not have asked, and just gone directly to the clinic.

– Respondent #106, Domain score: Empowered (input in all decisions about income from food cropping, cash cropping, livestock, and nonfarm income)

Interviewer: If there were going to be some changes in your community, so that women are treated better, what would you recommend?

Respondent: Working... it helps women to feel good... When there is nothing she asks from the husband. She provides it for herself.

Interviewer: Asking for everything from the man has a way of bringing about women being treated badly?

Respondent: Yes. He will not be having money, and you're just irritating him... A woman must get some capital, and then she is treated well... She starts working for herself and she provides everything to herself.

– Respondent #78, Domain score: Empowered (input in food cropping income, could have input in nonfarm income if she wanted)

Among the women who reported having a source of income that they could control independently, many cited having the ability to sell (at her own discretion) at least some of the crops that she grew herself:

“Women should have personal gardens so they harvest their own personal produce and can make independent choices... Husbands have a plan for the money from joint plots... They should also have a personal plot so that when they sell produce they can buy land... If they lack anything they can buy what they need instead of asking their husbands. The husbands say they don't have any money.”

– Respondent #77, Domain score: Empowered (input in food cropping, cash cropping, and nonfarm income, and major expenditures)

This corroborates the findings related to the production domain (section 4.3.1, p.118), that the ability to choose how much of a crop to sell (and when) is a consequential agricultural decision, and influences women’s ability to make choices in her life more broadly.

Overall, the majority of women did say that they had some source of income (even if very small) that she could completely control. But the details of these responses – where this income came from, what she could spend it on, whether it was open or covert – varied widely. This diversity was not reflected in the Abbreviated Women’s Empowerment in Agriculture Index score, where nearly all women passed the empowerment cut-off. The one woman who did not pass the cut-off (i.e. did not report having input into the spending of any income) did, when interviewed, describe her husband as having complete control over all household spending, so the qualitative and quantitative data did align in this regard. However, the interviews also revealed several common themes related to income that the Index survey did not detect (see Table 7). First, there was a clear preference among the majority of women to make at least some spending decisions completely independently of their husband/partner. Their reasons for (and manner of) doing so ranged from women who informed their husband/partner of their spending afterward, to those who kept their possession of personal income a secret, for fear of interference. For the latter group, this distrust could stem from past deceptions, unreliability, or previous attempts to curtail income-generating activities. When some men exercised such control over women’s income, they expressed jealousy (over women’s hypothetical infidelity) by way of explaining their decision. Not all women conveyed such detail about the dynamics of their marriage/partnership, saying that they simply preferred not to consult anyone about their spending.

Table 7: Summary of income domain sub-themes

Sub-theme	Description
Informal labour, selling crops, and trading goods as sources of independent income	Women described many different sources of income (either those they had earned themselves, or those they hoped to earn in the future), but the most common types mentioned were selling crops (22) working on others’ farms (13), non-farm economic activities (14), selling livestock (5), and asking for money from their husband/partner (5).

Independent spending	Most women (16) explicitly said that they prefer to keep their spending decisions separate from their husband/partner, if possible.
Ability/inability to make minor purchases	Some women (5) described minor purchases for herself as being important to her (either because she enjoyed purchasing them, or was unable to purchase them and wished she could).
Women with income receive better treatment	Some women (6) said that women would be treated better (within their households or even community) if they had their own independent sources of income.
Husband/partner shows dishonesty, jealousy, or controlling behaviour	Some women (5) described a husband/partner who controls the type/amount of income she earns, expressing jealousy toward her possible interactions with other men, or a partner who lies about how he will spend her income.

No respondents portrayed women's earning/spending of independent income as negative, or suggested that women should make more joint decisions about income. On the contrary, many women expressed plans or desires for more sources of personal income (especially non-farming economic activities, such as trading goods or tailoring), and positive views of women more broadly having greater control over income. A few women explicitly said that if women had more control over income, they would be treated better within their households and communities (because of their increased capabilities and associated status). When imagining such a future, women would picture themselves having the ability to make not only major purchases, such as land or education fees, but also minor purchases for herself, such as clothing or beauty products. This suggests that including minor expenditures (especially those made for the woman herself) could be indicative of empowerment, alongside major expenditures.

Taken together, these responses – while varying in their details – share a common theme of women striving to acquire more income by whatever means available to them, tightly protecting the income they do earn, and only sometimes succeeding on both counts. The income domain in the Abbreviated Women's Empowerment in Agriculture Index only distinguishes between women who have at least "some input" into decisions (sole or joint) about at least one type of income, and those women who have zero input into such decisions. The qualitative data suggest that, in the context of Busoga, *sole* control of at least some income

is important for understanding women's ability to make choices. Other indicators that could provide a fuller picture of women's empowerment in income might include 1) assessing whether women feel they have sufficient income, 2) what types of barriers exist to acquiring more income, and 3) whether women feel able to spend income on themselves, even if only on minor expenditures.

4.3.3 Resources

The resources domain differs from the other four Index domains in that it contains two distinct sub-domains: asset ownership and access to credit. The interview guide included explicit questions about only the latter sub-domain (Do you feel you have enough access to credit? Do you think it is common for people in your community to take out loans?); however, comments on various types of asset ownership did arise during the interviews, as already briefly discussed in the production domain (regarding land ownership). In this section I further document the types of asset ownership that women volunteered as being valuable to them.

Beginning with the credit sub-domain, the interview responses generally confirmed that women did not often take out loans, as the quantitative data suggested. Many women reported being reluctant or unable to borrow money because they felt there was a stigma attached to loans (e.g. that it signals financial or marital troubles) or because they were afraid of being unable to pay the loan back in the future:

“Someone [that you ask for a loan from] laughs at you, thinking ‘Why is this person disturbing us, does she think we are her husband?!’ So you go to a person that understands your situation. You go to someone that knows your heart.”

– Respondent #18, Credit sub-domain score: Empowered

“There are [sources of credit] but I feel afraid. You might borrow and you fail... you may find that you have used all of [the money] badly... As a result, they arrest you.”

– Respondent #78, Credit sub-domain score: Empowered

The respondents above also reported being in households that had taken out at least one loan in the previous 12 months (and thus passed the empowerment cut-off), but their interview responses suggested that the decision to take out a loan may not have been an empowering

exercise, but rather something that they felt compelled to do despite their fears of reproach or punishment. Similarly, there was a repeated narrative of women (either speakers describing themselves or speaking of women in the community more broadly) generally borrowing only to cope with an unexpected challenge (e.g. needing money to attend a funeral in her hometown, or to pay medical costs), rather than as an investment tool:

“I usually borrow from my friend over there. When I have a problem, I go to her and say maybe lend me 2,000 or 5,000 shillings, and I use it for what I want. Maybe I have a problem at home (where I was born) and I want to go for a burial, but I have no money.”

– Respondent #66, Credit sub-domain: Disempowered

“ [There is the option of] going to a [fellow] farmer. They have their money. You say, ‘Please lend me this amount of money’ when you have a problem. Now, those who usually borrow this way have problems, but those who want to start a business don’t usually go to [individual] people... Us women, we usually [borrow] because we have a problem. You say, let me go to so and so, who will lend me 10,000 or 5,000 shillings, and I’ll solve my problem.”

– Respondent #89, Credit sub-domain: Disempowered

As the quotes above also illustrate, borrowing to cope with an unexpected problem also tended to be associated with 1) borrowing from friends or family (rather than a group, bank, or other organisation) and 2) being a woman (i.e. men more commonly borrowed from organisations as an investment in a business).

“If you fail at other options, you go and borrow from friends and neighbours – it’s mostly women who borrow like this.”

– Respondent #101, Credit sub-domain: Disempowered

“Men are mostly the ones getting loans from the bank because they are looking for fees to educate children, buy plots, etc... Women fear big loans.”

– Respondent #99, Credit sub-domain: Empowered

While most women borrowed from individuals to solve short-term problems, there were exceptions. Some women said that membership in a savings group could be a resource for borrowing money (though they did not necessarily do this themselves), and a few women said that they had no source of credit whatsoever, or could not depend on getting a loan:

Interviewer: When you want to borrow money, do you think you have enough options?

Respondent: There are none...There is no one that can lend me money.

Interviewer: When you have a problem that requires money, what do you do?

Respondent: I have some chickens, so I get a hen and sell it, and then the money helps solve my problem.

– Respondent #65, Credit sub-domain: Disempowered

“If I have a problem, I can tell my neighbour, and maybe she will give it to me. And if she is bad and doesn’t give it to me, then I don’t have any other place to borrow.”

– Respondent #97, Credit sub-domain: Disempowered

While categorised by the Abbreviated Women’s Empowerment in Agriculture Index as disempowered, these women were indistinguishable (in the quantitative data) from women who could borrow small sums from a neighbour but had not felt the need to in the previous 12 months. Furthermore, these women received the same score as those who had detailed ideas for how they might use a large loan as an entrepreneurial investment, but found that their husband/partner impeded their ability to access such a loan:

Interviewer: Are there any choices you are unable to make right now, but would like to in the future?

Respondent: ...I would also decide to ignore my husband and pursue what I want. I want to start tailoring, but I have to go to the bank to get a loan. But I cannot get a loan while I am married because he can ask me for part of the loan money. I would first need to chase him out of the house. But now, since I am still with him, I would want him to buy the machine for me... If we separate, then I can go get a loan and buy a machine to hurt my husband.

– Respondent #79, Credit sub-domain: Disempowered

Respondent: Many people have joined the bank, but I have never gone there.

Interviewer: Why not?

Respondent: Because of my boss [husband]... He said that he does not want bank [loans] because they will give you money, and sometimes you’ll fail to pay it back. But in my opinion, I can manage it. When I am making handicrafts, and save the profits, then could a month really go by without earning the money to pay it back?

– Respondent #72, Credit sub-domain: Disempowered

However, most women did not volunteer the influence (if any) of their partner on their ability to access credit, most likely because they themselves did not feel that larger loans were attainable. While many women were aware of more formal options for loans, such as from local banks, credit unions, and other organisations, they generally perceived these as only viable options for men, who were perceived as more likely to have more collateral and greater need to take out a larger loan:

“It’s not possible to go to the bank now, but if I owned some physical asset I would go.”

– Respondent #80, Credit sub-domain: Disempowered

Respondent: It’s men that usually borrow money... Because men have a lot of things to do. Maybe he wants to go and trade. So, for a man it’s easy to borrow money, do what [work] he wants, and then return it.

Interviewer: Who usually borrows from the bank?

Respondent: Men. ...For a woman in this village to go to a bank – it’s not easy! You fear that money. If I go to the bank, what will I sell? I don’t have land. What will I use as collateral? Because at the bank you need collateral.

– Respondent #89, Credit sub-domain: Disempowered

As demonstrated by the woman who used chickens in lieu of savings or loans, and the women stating they cannot borrow a large loan without owning land or other valuable assets, the sub-domains of credit and assets are not entirely discrete. In particular, ownership of a house, land, or livestock can serve not only as empowering resources in themselves (e.g. increasing bargaining power in the household, and/or bolstering women’s confidence) but also as opportunities to access credit. This lack of assets (or other assurance that they would not default on the loan) was a more commonly cited barrier to credit than a dearth of lenders or external prohibitions. Ownership of land, a house, or large livestock (i.e. not poultry) were overwhelmingly joint (rather than sole), according to the quantitative survey results. (Poultry was evenly split between sole ownership and joint ownership, see Figure 22.) The Abbreviated Women’s Empowerment in Agriculture Index evaluates sole and joint ownership as equally empowering, regardless of the type of asset. However, the interview responses suggest that joint ownership, especially of high-value assets such as land, does not always grant the same

decision-making ability (e.g. deciding to use the asset as collateral) as sole ownership. One woman, who described lack of land ownership as a barrier to bank loans, responded in the quantitative survey that she jointly owned land; this joint ownership passed the Index cut-off for empowerment in asset ownership. In addition to this implicit discrepancy, some women articulated their preference for sole ownership over joint ownership explicitly:

“If I am the one who buys iron sheets, the house is mine. My husband can sleep in it, but it’s mine. Even when he wants to chase me from the house, I can only go when I want. Otherwise, we bring down the roof and I take my iron sheets. ...Here in Busoga, women who have good houses build them for themselves.”

– Respondent #62, Assets sub-domain: Empowered

While it is possible for joint ownership of assets to be as empowering as (or even more empowering than) sole ownership, in light of the interview responses, the Index characterisation of sole and joint ownership as equal appears to be an oversimplification. Harkening back to Kabeer’s (1999b) conceptualisation of empowerment, resources are only empowering to the extent that they enable women’s agency and achievements. The degree to which a particular type of asset and a particular type of ownership is empowering will vary from woman to woman. Looking at this issue from another angle, instead of asking whether owning a particular asset is empowering, a researcher can ask which assets a woman does not own but wishes that she did. Trends in the types of assets (and ownership) named can highlight areas where women feel disempowered. In these interviews, we did not directly ask this question; however, women did voluntarily offer some of the assets they wanted to own. Aside from the aforementioned land, houses, and livestock, women mentioned wanting large items—such as mechanised shellers and motorcycles— but also smaller agricultural inputs, such as tarpaulins, agrochemicals, and higher-quality seeds.

Overall, the qualitative data suggest that the resources domain aggregates aspects of women’s experiences that have contrasting implications for their empowerment. In the credit sub-domain, a woman who takes out any type of loan, for any reason, is considered empowered. However, the interview responses illustrate that most of these loans were likely small sums borrowed from individual acquaintances to solve a short-term problem. While access to this coping mechanism is more empowering than having no options for borrowing, it is not equivalent to making plans to take out a larger loan for entrepreneurial purposes and having confidence in

one's own ability to repay a larger loan. The described gender imbalance between these two types of loans (with men more likely to access larger, formal loans, and women more likely to access smaller, informal loans) further suggests that in the context of Busoga, it is important to distinguish between different types of loans (i.e. the purpose, amount, and lending source). In addition, the Abbreviated Women's Empowerment in Agriculture Index does not recognise whether women had access to credit but chose not to use it. For example, two women could have the same amount of access to small, informal loans (e.g. borrowing from a neighbour to pay for medical fees); if one woman had a crisis necessitating a loan, and the other woman had a comfortable year, then the former woman would be scored as empowered while the latter would be scored as disempowered.

Table 8: Summary of resources domain sub-themes

Sub-theme	Description
Women borrowing from friends/family/small retailers	Many women (16) said that they (and women more broadly) were more likely to borrow small amounts of money from individuals they knew (family, friends, shop retailers) than take a loan from a formal organisation (bank, savings and credit union)
Men borrowing from a formal lender	Several women (8) perceived men as being more likely than women to borrow from a formal lending organisation
Stigma of borrowing & fear of being unable to repay	Fear of being able to repay a loan and/or stigma of asking someone for a loan were expressed by several women (11)
Borrowing to cope rather than to invest	When women did borrow money, it was more often a means to cope with an unexpected problem than a strategy for investment in entrepreneurship (15)
No access to credit	A few women (4) stated that they had no access to credit whatsoever
Marriage/partner impedes access to credit	A few women (3) drew a connection between their relationship with their partner and their insufficient access to credit
Land, house, and livestock overlap between assets and credit	Owning land, a house, or livestock was mentioned by some women (7) as both an important asset for increasing one's sense of self-efficacy and autonomy in the household, as well as collateral that could be used for accessing credit

Desire for more ownership of farm inputs	Several women (8) expressed a desire for more access to/ownership of farm inputs, ranging from mechanised shellers and transport to tarps and seeds
Sole vs. joint ownership	A few women (3) explicitly expressed a preference for sole ownership of assets over joint ownership. One woman with joint ownership of land stated she could not get a loan because she did not own land.

In the asset ownership sub-domain, a woman surpasses the empowerment cut-off if she owns any one large asset or two small assets; there is no distinction between sole or joint ownership. However, the interview responses suggest that, in at least some households, a woman's sole ownership of large assets (e.g. a house or land) afforded her empowering benefits, such as increased intrahousehold bargaining leverage or greater financial security. Because the interviews did not include direct questions about sole vs. joint ownership preferences, these results are only indicative; future research investigating women's views on this would be helpful for interpreting Index results and potentially recommending modifications to the survey. In addition, the interview responses show that, alongside surveying women about whether they own a particular asset, it can be equally illuminating to ask women which assets they *do not* own. This can reveal instances where a woman has joint ownership but would prefer sole ownership, as well as assets that are desirable to women, but may not have occurred to the researcher to inquire about. For example, a few women mentioned wanting tarps to ease post-harvest processing, an asset that would fall under the category of manual farm tools (minor assets) in the Index survey. Such a woman might own other farm tools (e.g. a hoe), but there is arguably an important distinction in the level of empowerment between a woman who has all the small agricultural tools needed to complete her agricultural work, and a woman who feels that a minor asset like a tarp is currently out of her reach. Such differences go undetected by the current formulation of the Index.

4.3.4 Leadership

The leadership domain employs a cut-off somewhat similar to the credit sub-domain in its simplicity. Just as the credit sub-domain counts as empowered a woman who takes out a loan of any size, from any source, for any reason, the leadership domain counts as empowered a woman who is an active member of any type of group. During the interviews, we asked women

for more details about which groups they joined, why they did or did not join local groups, and how they felt about the roles of groups in their community more broadly.

By far the most common type of groups mentioned were savings groups, or other types of groups intended to provide financial support to its members (e.g. microfinance or rotational gifting groups). Burial groups (i.e. groups that provide financial support, social comfort, and assistance in organising a funeral when one of its members' loved ones dies) and collective farming groups (i.e. members farm plots of land together and divide the profits) were also frequently mentioned. Nearly all women were aware of groups in their community, even if they themselves were not members. These responses aligned with the quantitative results, which indicated that most women were not members of any group in their area. During the interviews, women gave several reasons for their personal decision not to participate in any local groups:

“The group I would have been in for saving – I don’t have money. Where would I be getting money to save?!”

– Respondent #89, Domain score: Disempowered

“I am not a member of a collective farming group because my husband refused to let me.”

– Respondent #86, Domain score: Disempowered

“I got discouraged with groups because I saved 70,000 shillings and they gave me back 20,000 shillings because people had defaulted on their loans and did not repay the money they borrowed. I got a feeling all groups may be the same as the savings group where I lost my money.”

– Respondent #97, Domain score: Empowered

“I am not a member because I may be very far away, or spending a lot of time in the garden, and I can’t go to the group.”

– Respondent #77, Domain score: Disempowered

Because savings groups were so common (for some women, nearly synonymous with group membership), it is unsurprising that several women cited not having money to save as a logical reason for not joining a group. Similarly, there was a prevalent perception of savings groups being a risky bet, with no guarantee that other group members would not default on loans or be otherwise unreliable. In some cases, the respondents themselves had lost money in a savings

group, while others had heard of such incidents and were consequently hesitant to join. A few women said that their husband/partner was uncomfortable with her joining a group (implicitly or explicitly suspicious that she might have an affair) and had prevented her from doing so. In one case (Respondent #77, quoted above), a woman said that she did not have time for active group membership (specifically referring to farming as time-consuming); furthermore, if she needed a loan, she could ask her friend who was a group member to borrow on her behalf.

Nevertheless, even women who had little inclination to join a group expressed a generally positive attitude toward the role of such groups in the community, and their potential for yielding benefits to their members. These benefits were most commonly described as helping an individual or household “to develop”:

“It’s good [to have many groups in the area] because people develop... For example, if you have saved for a full year, you may find that you have 300,000 shillings and you can use it to do something useful... I can buy cloth for myself or buy something for my children to make them happy.”

– Respondent #105, Domain score: Empowered

“It’s good [for there to be many groups in the area] because it brings development and people are happy. People will learn how to work and save. People’s financial situation is not bad. People learn how to get money.”

– Respondent #80, Domain score: Disempowered

Again, the perceived purpose and benefits of group membership seemed to be primarily economic. However, some women also suggested that women’s groups could be a tool for improving the ways that women were treated in the community more broadly:

Interviewer: If women were to be treated better in this community, what suggestions would you have?

Respondent: You might start a group with some of our colleagues. I want to have a meeting where we sit at home and there is a lesson about home affairs – the way you handle a man, the way you care for your children, the way you live and protect your life and your rights in your home.

– Respondent #72, Domain score: Disempowered

Interviewer: If there is to be a change in the way women are treated in your community, what would you suggest be done?

Respondent: There need to be groups. Groups like for collecting money in savings. We save some money as women... With this money, you will no longer need to pull strings with the man when you want something. He tells you that he doesn't have money, so you remain worried in the home. That continues to cause you issues at home, because you want that thing, but your partner is not able to give it to you.

Interviewer: What else would you suggest?

Respondent: Give us adult trainings, that help us women to know what to do at home.

– Respondent #65, Domain score: Disempowered

In these responses, the women are not reporting observed benefits of existing groups so much as aspirations or opportunities for the roles of groups in the future. However, the exact vision of how such groups would benefit women was not homogeneous. Some women, such as those quoted above, had a clear idea of how women could gather together and discuss commonly faced household problems, and support each other in finding solutions they might not have been able to devise on their own. However, other women were less confident in describing their rationale for how groups would help women, perhaps expecting that the economic benefits of group membership would have ripple effects in other areas of women's lives.

Table 9: Summary of leadership domain sub-themes

Sub-theme	Description
Savings/financial groups were most common	Groups related to savings and loans were described in nearly all the interviews (25).
Burial groups, rotational gifting groups, and collective farming groups	Other groups focused on providing community support, including burial groups (8), rotational gifting groups (10), and collective farming groups (6).
Distrust of savings groups (other people defaulting)	Several women (9) said that they did not want to join groups because they had previous experience with untrustworthy group members, or because they had heard stories about people in groups losing money
Money is necessary for joining groups	Some women (6) said that they had not joined any groups because they did not have enough money to save.
Partners don't allow it	Two women said that their husbands did not allow them to join groups, expressing jealousy over possible relationships with other men.

Groups “help you develop”	Many women (10) described the benefits of group membership as helping an individual or household to develop (i.e. make economic gains).
Positive impressions of groups, even if not inclined to join	Some women (5) who were not inclined to join any groups at the time of the interview said that they still saw potential benefits of groups, and thought that it was good to have groups in the community.
Women would be treated better if they had access to more groups	In response to the question of how women could be treated better in the community, several women (7) suggested that more women’s groups could be useful.
Increased confidence	A few women (4) described benefits of groups as increasing confidence in public speaking, and feeling respect and unity in the community.

Overall, most women interviewed were not active members of groups, and their reasons for this status ranged widely. Each of these reasons also differ in their implications for assessing empowerment. For example, if a woman who wishes to join a savings group, but disapproval from her husband prevents her from joining, this clearly constitutes a case of disempowerment in group membership. But is the same true for a woman who was previously a member of a group, but had a negative experience with the group, and actively chose to leave the group? Arguably, she is also disempowered in group membership because she does not have the opportunity to join a *functional* group (e.g. one with trustworthy members and protected deposits). But if a woman had the option of joining multiple functional groups in her community, and chose not to for reasons of personal preference (e.g. she finds group meetings boring), would it be accurate to count her as disempowered? According to the Abbreviated Women’s Empowerment in Agriculture Index calculation, yes, a woman must be a member of at least one group to be empowered in group membership. The case of the respondent who borrowed money from a savings group through her friend (a member) presents an intriguing counterexample. Arguably, she is *more* empowered than her member friend because she enjoys a benefit (receiving a loan) while outsourcing the cost (investing her money and time in the group).

However, the rationale for including an indicator on group membership in the Index is not access to loans or other economic benefits (attributes falling in the resources domain) but rather the opportunity to participate in community organisation and, specifically, increase confidence

in public speaking. However, most women interviewed did not describe these as benefits of joining groups (or at least, not the primary benefits of existing groups). There were a few exceptions, with women describing increased confidence and respect in the community:

“Having many groups is important because it has helped us to develop. For us women who could not speak in front of 100 people, now we can. And people listen to us in the same way that they listen to a man. We used to be shy. If they say anything in a group that you don’t agree with, you courageously stand up and disagree with them.”

– Respondent #79, Domain score: Disempowered

“When you are in a group you can borrow money when you have a problem. It makes you known to people. You earn respect from society.”

– Respondent #94, Domain score: Disempowered

But these types of responses were rare. Most women characterised group membership as primarily beneficial for economic reasons. Additionally interesting to note, both individuals quoted above were not members of any groups at the time the quantitative survey was conducted. This suggests that an individual may have benefited from group membership in the way the Index theorises (i.e. increased confidence and respect) without this being detected by the Index survey. In summary, the interview responses from Busoga raise at least three questions about the effectiveness of the leadership domain. First, for an assessment of women’s empowerment in agriculture is it rigorous to use an indicator of membership in *any* group in a context where most groups women join are savings/financial groups (given the overlap with the resources domain)? Second, is group membership sufficient for measuring confidence gained, when most women do not identify increased confidence as a primary benefit of groups? Third, and most fundamentally, the Index posits that the confidence gained from public speaking and interactions in a group will enable women to make more choices related to farming (e.g. because of new information or contacts acquired from the group). The interview responses do not show a clear pathway between group membership and empowerment (as theorised by the Abbreviated Women’s Empowerment in Agriculture Index) in the context of Busoga.

4.3.5 Time

In the quantitative Index results, the time domain showed the starkest display of disempowerment, with nearly all women working longer than the 10.5-hour cut-off. During the qualitative interviews, we investigated how women perceived and experienced their time use, asking which activities she felt were most time-consuming, why/how they took up so much time, and what she did (or wanted to do) in her spare time. When asked about which activities were most time-consuming, most agreed that farming occupied inordinate amounts of time:

“I go to the farm at 6am and return at 11am. I come home tired and start on the house chores... I return to the garden around 2pm or 3pm.”

– Respondent #99, Domain score: Disempowered

Interviewer: Is there any task you avoid doing?

Respondent: If I had capital, it would help me to stop farming. Farming is very hard. For example, it's time for taking tea, but you are still in the garden. It's time for cooking lunch, but you are still in the garden... In my house we are few people, so my work should take a shorter time. Because I want to get time to rest.

– Respondent #79, Domain score: Disempowered

Apart from farming, no other single activity was named by a majority of women. However, most women named some type of domestic work as time-consuming, most commonly laundry and cooking:

“Washing clothes is time-consuming. If you have a lot of clothes to wash, it may take three hours... If you have a person who helps you, then you can wash fast and finish it because you have other work to do... Cooking is also time-consuming. You may need to buy sauce, make a fire, wash the pans, etc. It means that the food isn't ready on time.”

– Respondent #77, Domain score: Disempowered

“Washing clothes is time-consuming. I do laundry for six children, my husband, and myself. It can take about four hours. I do this every other day... Cooking also takes a long time. If I have to go get food from the garden, like cassava or sweet potatoes, it takes a long time.”

– Respondent #93, Domain score: Empowered

Notably, although childcare was by far the most time-consuming labour according to the Index, only one woman specifically cited childcare as time-consuming. One possible explanation for

this may be that women do not think of childcare in the same terms as other labour; it may be more of a continuous responsibility than a discrete task. Verifying and understanding this perception will be essential for any interventions that incorporate women's care work (as recognised by Lentz et al., 2018) in Busoga. Of course, the domestic tasks mentioned by women (including cooking, cleaning, laundry) may be direct childcare, but not necessarily; they are certainly not the entirety of childcare. To state it another way, while some women said that they wished a particular chore (e.g. laundry) were more time-efficient so that they could do other work (or rest), no woman wished that someone else would sometimes look after the children so that they could do other work (or rest). Regardless, throughout all these responses, the persistent problem of balancing multiple labour demands was readily apparent, and explicitly identified by a few women:

“Whenever you have many roles, there is always something you fail to do correctly. You cannot do it correctly the way it should have been.”

– Respondent #72, Domain score: Disempowered

“I juggle many things and get tired.”

– Respondent #106, Domain score: Disempowered

In addition to this frequent multi-tasking, women's time poverty was also apparent in the responses to questions about how women spent their free time. Most women said that they would use any free time as a chance to rest/sleep, and did not name any other leisure activities. Some women said that they would just use the time to plan whatever work they expected to do next. And some women said that they did not have any free time whatsoever, so the question was irrelevant:

Interviewer: What do you do in your spare time?

Respondent: I do not have leisure time. I just decide to forego what I am supposed to be doing to take a rest. I just sleep.

– Respondent #99, Domain score: Disempowered

Interviewer: What do you do in your free time?

Respondent: I don't have it. I'm busy all the time.

Interviewer: Busy doing what?

Respondent: Doing household chores. It takes me a lot of time and I don't have time to rest.

– Respondent #73, Domain score: Disempowered

Physical fatigue was a common thread throughout all the interviews, mentioned by a large majority of women, and almost always in reference to farming:

“Sometimes you are tired, but you are forced to go and farm. Sometimes you are sick, but you still force yourself to get a hoe and go farm. So, you see that it is very hard.”

– Respondent #107, Domain score: Disempowered

Interviewer: Is there any work you would avoid doing if you get the chance? Respondent: Farming, because it weakens me so much. Fieldwork can reduce your lifespan. Even if you are eating and drinking well, but doing too much fieldwork, then you will not be healthy... Sometimes when I return home from the garden, I am so exhausted that I do not cook.

– Respondent #72

The very few women who described some type of leisure activity (other than sleeping/resting) mentioned teaching children (or other childcare they enjoyed), making mats for home use, and socialising.

In summary, the qualitative results concerning time use do align with the quantitative results to the extent that they demonstrate women’s heavy labour burdens and time poverty. However, the handful of women who surpassed the empowerment threshold (i.e. worked fewer than 10.5 hours within a 24-hour period) did not have appreciably different answers to the interview questions than women scored as disempowered. This does not mean that the use of the 10.5-hour cut-off is necessarily a poor fit; any division of a continuous variable into categorical levels (i.e. empowered vs. disempowered) will give some population-level comparative information. This would be equally true of a 5-hour cut-off or a 16-hour cut-off. The question is whether other types of time-use indicators could derive more meaningful information about this particular population.

The nuances provided by the qualitative data give a window to what those alternative methods might be. For example, while the Abbreviated Women’s Empowerment in Agriculture Index treats all types of labour as equal (e.g. one hour of farming is no more or less disempowering

than one hour of childcare), there were clear patterns in the qualitative data suggesting that women found some tasks to be more burdensome than others. Farming provoked by far the most complaints, for being both time-consuming and physically exhausting. In contrast, childcare was rarely described as time-consuming, and some forms (e.g. playing with children, helping with schoolwork) were enjoyable. Given that childcare accounted for such a large portion of women's labour hours, it may be more informative to measure empowerment according to the number of hours that Basoga women spend farming (or even more specifically, doing intensively physical agricultural labour).

Another approach could be to measure the number of hours that women spend doing any activity that they consider to be leisure.²⁶ This would have the added benefit of incorporating women's value judgements (i.e. what she subjectively enjoys) rather than fixating on a particular activity (like farming or cooking), which individual women will experience differently (and thus will have different implications for empowerment). Singling out particularly informative time-use categories (e.g. farming, leisure) could also be easier data to collect (compared to a full catalogue of all the day's activities), especially in the context of a long questionnaire.

Table 10: Summary of time domain sub-themes

Sub-theme	Description
Farming is the most time-consuming and fatiguing	Most women (23) named farming as one of their most time-consuming tasks and described it as physically exhausting (20).
Domestic work/house chores are also time consuming	Women frequently (18) described domestic tasks as time-consuming, with the most-frequently mentioned tasks being laundry (12) and cooking (7).
Childcare not considered time-consuming	Only one woman volunteered childcare as a time-consuming activity.

²⁶ Or even more broadly, another approach would be to measure the number of hours spent doing any activity women consider to be enjoyable. This avoids the false binary between labour and leisure that exists in many contexts, where there are overlapping purposes within a single activity (Simon et al., 2020).

Using free time for sleep/rest or planning/working	When asked what they do in their free time or for leisure, many women (19) said they rest/sleep (sometimes the only activity named). Several (9) said that they would use that time to do more work, or to plan what work to do next.
No leisure time	Some women (7) said they never had free time.
Few leisure activities	Very few women said that they had free time <i>and</i> used that time to do something (potentially) not considered work or sleep/rest. Among those who did, some (4) mentioned teaching children or doing other childcare, making mats for home use (2), and socialising (1).

4.3.6 Summary of Deductive Thematic Analysis

Analysis of the interview responses according to the structure of the Abbreviated Women's Empowerment in Agriculture Index domains produced results that support some aspects of the quantitative results, while adding nuance and context. The key areas of consonance between the quantitative and qualitative results in each domain were as follows:

- 1) In the production domain, the qualitative data supported the finding that the vast majority of women did make some decisions about agricultural production some of the time.
- 2) In the income domain, the qualitative data supported the finding that most women have at least some control over income expenditures, including their own income.
- 3) In the resources domain, the qualitative data supported the finding that most women did make decisions about loans and did not often have sole ownership of large assets.
- 4) In the leadership domain, the qualitative data supported the finding that most women were not members of any local groups.
- 5) In the time use domain, the qualitative data strongly supported the finding that women experience acute time poverty across multiple labour demands.

The qualitative results also prompted further questions about the precise limits of what the Index does and does not measure in terms of empowerment. The qualitative data revealed the following key gaps in each of the quantitative Index domains:

- 1) In the production domain, there is no distinction given to tasks that may be more consequential for making strategic life choices (e.g. how much to sell of a particular crop). There is also no measure of the relative precarity of women's decision-making power, especially as influenced by her husband/partner.

- 2) In the income domain, it may be important to differentiate between sole- and joint-decision-making, as many women described keeping income separate from their husband/partner, out of preference and/or necessity. It may also be informative to measure women's ability to make small purchases for herself, as an indicator of mundane agency (Simon et al., 2020).
- 3) In the resources domain, the qualitative findings illuminated women's fears and suspicions surrounding loans, and suggested that it may be important to distinguish between sole and joint ownership of large assets. Documenting which assets (including minor assets) women are unable to own/control may be more informative than the current Index questions.
- 4) In the leadership domain, the qualitative findings showed that women closely associate groups with savings and loans (rather than other types of groups) and a small minority of women described benefits of groups that match the Index rationale for empowerment (i.e. increased confidence in public speaking and collective organising). The results also showed that some women actively choose not to join groups.
- 5) In the time use domain, the qualitative findings showed that not all types of labour are equally burdensome; farming, laundry, and cooking generated the most complaints. However, childcare did not have the same negative perception, despite being the most time-consuming activity according to the Abbreviated Women's Empowerment in Agriculture Index. Measuring women's leisure time (and perceptions of whether they have sufficient leisure time) could be another informative method of measuring time poverty.

4.4 Inductive Analysis

In the previous section, I conducted deductive qualitative analysis of the interview responses, strictly following the five domains of the Index. In contrast, in this section I turn to the qualitative data relevant to women's empowerment and agriculture, but not captured within the Index domains.

Table 11: Interview questions that prompted the responses included in inductive analysis

	Questions
	Is there any way in which you would like your agricultural practices to be different/better?

Do you feel that you do agricultural work because it is better than other types of work? Or do you feel that agriculture is the only option available to you?

When (in your lifetime) did you start doing agricultural work? Why did you start?

Is there any work that you wish you could do, but cannot, because of some obstacle?

If a Musoga woman were free to make any choices about her life, what would her life look like? What types of choices would she be able to make about her life?

Can you think of a particular woman in your community who is very free to make choices about her life? Without naming her, please describe her.

Are there any decisions/actions you are unable to make/take right now, but would like to be able to act on in the future?

If there were going to be a change in your community, so that women might be treated better, what would be your recommendations?

Tell me something about your childhood that you would like to continue (or not) in raising your own children.

4.4.1 Respondent Definitions of Empowerment

First and fundamentally, it is necessary to identify how the respondents' ideas of empowerment are similar or dissimilar to the indicators of empowerment proposed by the Abbreviated Women's Empowerment in Agriculture Index. This exploration has a built-in limitation; the interview questions did not seek alternatives to the widely accepted definition of empowerment coined by Kabeer (1999b) (i.e. the increased ability to make strategic life choices). Rather, the interviews explored variations within that definition, i.e. which types of choices are most relevant to Basoga women, and what resources and degrees of agency are required to achieve them. In the interviews, this inquiry comprised the questions '*Are there any decisions/actions you are unable to make right now, but would like to in the future?*' and '*If a Musoga woman were able to make any choices about her life, what would her life look like? What types of choices would she be able to make?*'. The former question attends to the most personal and perhaps least abstract aspects of empowerment – the barriers to choice that are present in her own life, and perhaps have been recently on her mind. The latter question aims to capture any broader ideas of empowerment, outside the confines of her immediate circumstances. Finally,

the question ‘*Can you think of a particular woman in your community who is very free to make choices about her life? Without naming her, please describe her*’ incorporates aspects of both preceding questions, asking the woman to think of a concrete example (i.e. an actual woman in her community, whom she may or may not wish to emulate) without being limited to her own personal circumstances. While empowerment is an inherently complex and fluid concept, triangulating the responses to each of these questions can give an informative estimation of what empowerment means in the particular context of Busoga at this particular point in time.

While the nuances of Basoga women’s visions of empowerment varied across individuals, two broad themes stood out. All the respondents described individual empowerment as somehow dependent on 1) financial resources and 2) her relationship with her husband/partner. Regarding the former, women were acutely aware that insufficient income could obstruct all kinds of life decisions, from everyday necessities (e.g. purchasing sufficient food), to small dignities (e.g. choosing the slightly more expensive soap for oneself), to resilience (e.g. ability to absorb unexpected expenses), to improvement in livelihoods (e.g. saving enough capital to start a small business). Regarding the latter, women repeatedly pointed to their husbands as obstacles to their decision-making (e.g. choices about having children, parenting, traveling, or whether their marriage will remain monogamous). These two themes also overlapped frequently, such as when women described their partners controlling her income or prohibiting her from starting a small business. Beyond (and within) these two dominant themes, some of the women raised other dimensions of empowerment, such as the ability to care for one’s own personal appearance and mental health. In the following section, I present these responses in greater detail, and then assess the implications of these patterns for future rigorous evaluations of women’s empowerment in Busoga.

Appearance

Nearly all women described an empowered woman as someone who is financially secure enough to spend money on her own appearance (e.g. salon visits, new clothes, and desirable hygiene/beauty products) and her children’s appearance:

Interviewer: What is a decision you would like to make, but cannot right now?

Respondent: I would go to get my own money and go to the market and buy myself things to wear, and also buy [clothes] for my children so that

my children look good and modern. Right now we are just buying food, so I can't get money to go to the market and buy clothes.

– Respondent #62

Respondent: The empowered woman has a good life. She wears trendy dresses... She looks good and she has smooth skin, not like ours. You will never see her dirty.

Interviewer: Are you like that woman?

Respondent: I have no way of getting money.

Interviewer: You mean making personal decisions requires money?

Respondent: Yes, you have to have money to be able to get what you want.

– Respondent #101

Most women focused on the connection between income and physical appearance; that is, it seemed obvious to them that anyone with more income would choose to spend more on clothing and toiletries, and that anyone with an inferior appearance must correspondingly not have the capability to maintain her looks as she would wish. One woman explicitly stated that someone could infer whether a woman is more empowered based on her appearance:

Interviewer: How is that woman who is able to make her own decisions different from that woman who is unable to make her own decisions?

Respondent: Even if we are having an event [in the community], even if I don't tell you, you can know that this woman is better off... Because of her appearance. It is not bad, not like mine right now.

Interviewer: In which way is it not bad? The way she dresses or something else?

Respondent: The way she dresses, and things at home. She has some money available at home. She has a shop, goats, cows, and chickens.

– Respondent #72

Other women made this point less directly, saying that one woman's well-groomed appearance would elicit envy and admiration from women who have less power to make their own decisions. A few women also described their ability to spend money on their own appearance as beneficial for their mental health, in part because they would feel more confident in the way their appearance was perceived by other women and their own children:

Interviewer: Is there anything that you do just to bring joy to yourself, not because someone expects you to do it, or to make another person happy?

Respondent: It has to be getting money, buying a dress to wear, doing my hair, buying shoes, and things like that.

Interviewer: How does that make you feel?

Respondent: [prolonged silence] I feel peaceful... I feel joy because I am also looking as good as my fellow women.

– Respondent #66

“A woman who can make her own choices has a life that looks good. If she says ‘I want to buy this dress’, she buys it and looks good to fellow women... She is peaceful. She has a calm heart. She is focused. She doesn’t worry.”

– Respondent #95

Taken together, these responses show that the vast majority of women interviewed highly valued their own appearance, including the way that other women perceived their appearance, and felt that insufficient income was the primary barrier to improving personal appearance. Controlling behaviour imposed by a husband/partner may also be a contributing factor for some women, either directly or indirectly (see page 128). The ability to control one’s own physical appearance is often closely tied to individual self-expression as well as cultural identity (Negrin, 2008). Therefore, the direct connection that so many Basoga women drew between appearance and empowerment is a logical one (presuming that they largely share a cultural consensus of what constitutes a subjectively ‘good’ appearance). Nevertheless, this is not a dimension that appears in any measurements of empowerment in international development literature. In the case of Busoga, it appears to be mostly subsidiary to financial independence and security, but is arguably distinct from other minor purchases, because it exclusively benefits the woman herself (as opposed to, e.g. food or other household items²⁷).

Childbirth & Parenting

Most women interviewed said, either explicitly or implicitly, that control over childbirth was an important component of being empowered. Some women volunteered this perspective outright, saying that this power was important to them, or that they wished they had more control over their pregnancies:

²⁷ These other minor purchases still present a meaningful indicator of empowerment, as discussed in section 6.3.2, because the women themselves place value on being able to make such purchases.

Interviewer: Are there any decisions you are unable to make right now, but would like to make in the future?

Respondent: I will decide what to do, but I won't do it completely alone. We shall work together, my husband and me... I will decide to stop giving birth to children. It is the only thing I will decide on alone. There are enough children.

– Respondent #80

Interviewer: Are there any decisions you are unable to make right now, but would like to make in the future?

Respondent: Yes, in the future I would like to stop giving birth... Right now I cannot because my husband still wants more children.

Interviewer: What types of decisions can an empowered Musoga woman make?

Respondent: She can decide to stop giving birth. She can say, 'This man fornicates a lot, so let me give myself a break from him. Let him be there, and I will be here. I no longer need him in my blood.'

– Respondent #89

Other women described having children as an important turning point in her life, after which her ability to make her own decisions changed significantly. Notably, some women found that after having children they acquired a stronger ability to make their own life choices:

Interviewer: Do you feel you were more empowered before or after the birth of your first child?

Respondent: After the first birth [I felt more empowered], because if he set instructions and rules for me after the child was born, then I would decide to break some and do what I want. After the birth, I have become fully part of that bigger family. Even if I leave [the marriage] I have left my blood there.

– Respondent #99

Respondent: Right now I can decide what to farm, and how many children to have.

Interviewer: Why do you make your own decisions?

Respondent: Men have many problems, other wives, and many children.

Interviewer: Do you feel you were more empowered before or after the birth of your first child?

Respondent: When I had my first baby I couldn't yet make my own decisions.

Interviewer: Why?

Respondent: Because my husband had not yet started leaving home to be with other women.

– Respondent #95

Women described this increase in decision-making power following childbirth as the result of a combination of factors. First, as articulated by the first quote above, having a child cemented the kinship ties to her husband and in-laws, thereby giving her greater stature within the household and increased authority to make her own decisions. Second, some women highlighted the fact that taking care of a child is a serious responsibility, and assuming the role of mother required making more consequential decisions more often. Relatedly, one woman pointed out that she was able to delegate some of her work to her (older) children, giving her more flexibility in how she chooses to spend her time. Third, many women said that as their marriage progressed, their husband's reliability decreased (as there were more children to feed and sometimes other wives), forcing them to make more independent decisions and cope with problems without spousal support. In this way, a husband's diminishing attention to the marriage was a mixed blessing for some women; he was less present to provide material resources, but also less present to enforce restrictions on his wife's agency.

In parsing these responses to childbirth, it is important not to be distracted by questions of whether having the act of having a child, on its own, increases or decreases a Musoga woman's empowerment. This framing risks setting up erroneous normative judgments about individuals' reproductive decisions. The impact of childbirth on empowerment will vary widely depending on an individual's circumstances (e.g. her marital relationship, her income, her support network, etc.). Rather, the crux of the issue is that childbirth has the potential to significantly shape a Musoga woman's life (whether positively or negatively), and therefore the ability to make decisions about childbirth is an essential component of Basoga women's empowerment. The interview responses confirm that Basoga women themselves recognise and value reproductive agency as a dimension of their own empowerment.

Reproductive choices include not only decisions about giving birth, but also about how to parent children. For most women, it was important and desirable to have the ability to easily

care for their children. This included the ability to pay for their children's education, and also to comfortably provide high-quality food, clothing, healthcare, bedding, and shelter.

Interviewer: If a woman has freedom to decide for herself, what types of decisions do you think she can make?

*Respondent: **Like paying school fees for her children. That she can decide for herself.***

– Respondent #73

Interviewer: Can you think of a woman in this village who can make her own decisions?

*Respondent: **Yes, she was abandoned by her husband, who got married to another woman in Kenya, so he doesn't think about her home at all. But ever since he abandoned her, she has worked at a school, and she gets money to feed and educate the children. She has three children attending school right now, but she still educates them and feeds them well.***

Interviewer: Do you admire her or not?

*Respondent: **I admire her because she is independent and works, and has left behind husband issues... If you start thinking about a man, you might become insane. Because the husbands want to hinder your progress.***

– Respondent #21

Here again, income and marital relationships are the key determinants of women's ability to parent as they wish. Many women described making difficult compromises on basic necessities (or inversely, described an empowered woman as someone who can cater to all her children's whims with ease). Scarce income clearly strains and restricts parenting decisions. The quote above illustrates that some women also found their husband's controlling behaviours and/or parental negligence to be an additional obstacle to their parenting goals. (I analyse the relationship between women's empowerment and reproductive choices in Busoga in greater detail in Chapter 5).

Mobility

Most women mentioned the ability to dictate one's own travel as an important component of empowerment. This included specific examples of mobility (e.g. travel to visit one's own family, to attend funerals, and to participate in group meetings), but also a blanket ability to travel for any reason:

“When I had just married, things were ok, and [my husband] would not stop me from going anywhere. But after some time in marriage, he changed. I started using force to get what I wanted. He refused to grant whatever I suggested because I was no longer a new bride.”

– Respondent #93

Interviewer: Can you think of a woman in this community who is able to make her own decisions?

Respondent: She goes wherever she wants. No one decides for her. She does whatever she wants, because there is no one deciding for her.

– Respondent #18

While there are sometimes costs associated with travel, this aspect of empowerment stands out as being almost entirely a product of patriarchal control (as opposed to scarce income).

Mental & Physical Health

The majority of women interviewed mentioned their own mental health as an indicator of empowerment; that is, a woman able to make her own choices would feel more peaceful and joyful, whereas a woman less able to make her own choices would feel more stress and anxiety:

*Interviewer: If a woman is able to make decisions for herself, what is her life like? Respondent: **Her life would be good; she would have nothing to think about... [When you can't earn money] you have so many thoughts. But if you have work and you're getting some money, the home does not burden you.***

Interviewer: What is the life of an empowered woman like?

Respondent: Her life is good. She does not worry about what she eats.

– Respondent #78

“Making my own decisions gives me peace. I am not burdened by any situation... Whatever I want, I can get it for myself. I can go wherever I want.”

– Respondent #105

Concerns about income and marital dynamics may equally contribute to women's anxieties and overall mental health. Insufficient and/or unstable income directly causes stress, as does a

dysfunctional relationship.²⁸ They may also overlap; for example, in the cases of women whose husbands placed restrictions on her ability to earn or spend her own income (see p. 128 and the following section). Of course, many other variables contribute to any individual's mental health. But within the limited scope of empowerment-related variables, women's agency over income and marital dynamics were the clearest potential conduits between empowerment and mental health status for Basoga women.

Slightly fewer women brought up physical health as an indicator of empowerment, specifically the ability to eat well, rest enough, and seek medical care when needed:

“An empowered woman eats whatever she wants. She always rotates her foods. She doesn't eat these local greens of ours or cook food without oil. Because she rotates her diet, she grows fat. She looks good. Her skin glows as a result of eating well... The empowered woman doesn't fall sick. She doesn't strain her body doing work. She can get medical treatment very fast.”

– Respondent #74

“An empowered woman is not frequently attacked by diseases. She is just happy.”

– Respondent #107

Similar to women's mental health, women's ability to earn and spend sufficient income directly impacts on her physical health (e.g. buying the foods she wants, avoiding strenuous manual labour, paying for medical care). As previously discussed, a husband or partner may indirectly influence her physical health through his power over her income. A controlling partner may also directly damage her physical health if he is violently abusive. The interviews did not include questions about women's experiences of domestic abuse; however, four women voluntarily raised the topic. One gave a detailed account of her husband's violence against her. The other three referred to physical violence more generally. One described women who earned their own income as less likely to provoke a violent outburst (reasoning that such a woman would not be spending her husband's money). Another said that a more empowered women would be able to leave an unhappy marriage before it became violent. The third pointed to the prevalence of violence against women in the community (not limited to spousal abuse) and

²⁸ See other sections for more detailed exploration of women's experiences with poverty (p.121) and marriage (p.213) and their relationship to empowerment.

said that a necessary part of empowering women would be improving law enforcement and safeguarding women's physical security (see p.165 for more responses on community enforcement of women's rights).

Employment

Nearly all women interviewed said that they wished they could change their income-generating activities, and gave strikingly uniform descriptions of the types of work they would prefer to be doing. They aspired to start a small business that would be less physically taxing than agricultural labour, such as tailoring, hairstyling, renting out a motorcycle, or a running a retail shop. In many cases such professions would also make it easier for women to balance income-generating work with care work, by working at or near home. However, all such respondents felt unable to make this change, either because they lacked the financial capital to start a new business, or because their husband prevented them from earning more income, or both:

Interviewer: Are there any decisions you cannot make right now, but would like to make in the future?

Respondent: I want to stop farming a lot and use hired labour. I want to get my own business. I want to get a cow. Right now I don't have money. I am still paying school fees for my children. In the future, I want to start a grocery shop.

– Respondent #99

Respondent: [An empowered woman] has the freedom to decide for herself what she wants.

Interviewer: Why is she able to acquire for herself all the things she wants?

Respondent: [Silence] ...Because she is able to go work for herself. She may have her own business where she goes and works and gets her own money, which she can use to buy whatever she wants... She has to be working before making such decisions.

Interviewer: The women who make their own decisions, are they older or younger? Respondent: Young or old, as long as she is not married, she can decide what she wants... Sometimes you have a lot of responsibilities and the husband has abandoned them to you, so you decide for yourself, for example, to go and work... I wanted to start tailoring work to support myself because sometimes my husband doesn't provide for me. But he forbade me, so I see that he is just pushing me backwards.

Interviewer: Why did you accept when he forbade you?

Respondent: Because I live at his place.

– Respondent #21

These responses on non-agricultural employment do not reveal any new trends not already described in previous sections; rather, they provide a distillation of how the central themes interrelate. Women require additional income to achieve their personal and parenting goals. As their marriage progresses, in many cases, their husband becomes less reliable, and additional children stretch resources thinner. They become frustrated with the high labour demands and low benefits of agricultural work, and so attaining non-agricultural employment becomes a panacea to multiple problems. But the solution is obstructed by women's low capital (i.e. a classic poverty trap) and/or husbands seeking to maintain control over their wives. For example, in the quote above, the woman points out that her existing dependency (living in a house owned by her husband) perpetuates her disempowerment by limiting her leverage.

Minority Responses (Sex, Education, Community Governance)

The majority of women held the opinions described above on employment, mental & physical health, mobility, childbirth & parenting, and physical appearances. In response to interview questions about empowerment, a minority of women also raised the topics of sex, education, and community governance as important dimensions of empowerment.

Sex

Some women brought up the ability to make choices about sex as something that can shape women's lives, but their perceptions differed significantly. For example, one woman described sex work and wearing more revealing clothing as empowering:

“An empowered woman wears mini dresses and jeans. But when you cannot make choices, you wear long dresses. One empowered woman is a sex worker. She wears mini dresses... Even when she has a husband he cannot stop her from having other love affairs... [In Busoga] I can't even wear short skirts and I can't sell my body.”

– Respondent #94

However, another woman described the sex she had as a teenager as leading her to a crossroads; her eventual decision to get married was empowering in itself, but the pregnancy leading to that decision was unplanned and “trouble”:

Interviewer: Can you tell me about a time in your life when you felt you became more empowered?

Respondent: I became more empowered when I decided to marry, when I turned 18 years old. I landed myself in trouble. I had sex and became pregnant and decided to marry.

– Respondent #80

Other women discussed the choice to have sex within a marriage:

Interviewer: Is there anything you do just for your own happiness, not for anyone else? Respondent: Making a sexual advance gives me happiness because I make a personal choice without anyone forcing me.

– Respondent #77

Interviewer: If a Musoga woman is free to make any choices about her life, what types of choices can she make?

Respondent: An empowered woman is not forced to do what she doesn't want to do. For example, she is not forced to have sex if she doesn't want to... She chooses when to have sex or not.

Interviewer: Are you a woman who can make her own choices?

Respondent: No, like with sex I can't decide.

– Respondent #99

While differently phrased, both women express that it is empowering for women to have the ability to say yes or no to sex with their husband. Elsewhere I discuss the importance of making decisions about family planning as a component of empowerment (page 155 and page 207); however, sex worker rights and sexual expression, pleasure, and consent, are separate (albeit often related) issues. Because the interviews did not explicitly ask for women's views on these topics, and because many women may have been timid to raise the topics voluntarily, it is not possible to conclusively trace any patterns in Basoga women's views on the topics' connection to empowerment. However, the fact that some women did broach this topic, and related it to their own experience (rather than only relaying social norms/attitudes), suggests that this could be an important area to explore deliberately in future research on women's empowerment in Busoga.

Education

In other sections I discuss the high value that the women interviewed placed on their children's education (p.157 and p.190). They less commonly raised their own education as an important component of empowerment, but it did appear in a minority of interviews:

Respondent: An empowered woman will have constructed her own house because she has money.

Interviewer: Where would she get that money from?

Respondent: She may work as a teacher or as a health worker because she has an education.

– Respondent #81

“If you have an education you have money. We farmers work in the field. The empowered woman is educated. But if a woman isn't educated she may long for money in vain.”

– Respondent #74

In these interviews an education was valued because it afforded women better job opportunities with higher incomes, and therefore a higher level of financial independence and affluency. Other women did not directly describe education as a characteristic of empowered women, but pointed to their own shortened education as one of the causes of their limited employment options and income worries. While all such responses focused on the material advantages of a higher education, one woman said that it was also beneficial to have employment that was mentally stimulating, regardless of education level:

“I would love to start up a shop selling food, because it helps your brain and keeps it working well. Because when you keep calculating and working, you keep thinking, like educated people.”

– Respondent #86

Overall, while women were more likely to bring up education in reference to their children than themselves, education was viewed as potentially having a powerful influence over women's lives. However, the empowering benefits reaped from education almost entirely fell under the broader themes of increasing income, building financial independence, and securing less labour-intensive employment.

Community Governance

When asked how women could be treated better in their community, most women responded with suggestions that fit into the previously discussed themes (e.g. that women's incomes should increase, they should be able to start their own non-agricultural businesses, their husbands should behave better). However, a few women also discussed the mechanisms for such changes, proposing that they could be wrought through improvements in law enforcement and community governance:

Interviewer: If there were going to be changes in your community, so that women would be treated better, what would be your recommendations?

Respondent: Laws should be changed. Women should be able to work, for example, starting small businesses to earn money to look after their children.

– Respondent #95

“Married people should be talked to about how to behave. There should be laws in place that help women and protect their rights... My in-law had little land and was interested in my land... I never had any rights or freedoms to advocate for my children to study or to get justice.”

– Respondent #93

Calls for improved governance ranged from formal legal protections (e.g. respondent #93 above, who had difficulty retaining ownership of her land after her husband died) to better social support systems for working mothers (e.g. respondent #95 above, who observes that women struggle to single-handedly start a small business). Some women also identified the obstacle that abusive husbands present to women's business plans (and general well-being), and the power of law enforcement to deter such behaviour:

“Some men do not want their wives to run businesses... They should give us our freedom. Fighting and quarrelling in the home should decrease. There should be a law to threaten men so that they are humble and stop mistreating women. Even if they don't imprison them, but just scare them.”

– Respondent #99

“We need to elect other chairpersons in the area... My husband beat me and I left my home when the baby was young. After some time passed I came back and since then no one has mentioned that case. It's not only

my case – all people who report cases find that the chairperson doesn't handle them well.”

– Respondent #97

In addition to strengthening legal protections and law enforcement, some women also suggested proactive approaches, such as sensitisation sessions and trainings led by local officials, which would give both women and men space and tools for communicating with each other better. Overall, all these responses relate back to the two central themes of increasing women's income through small businesses and transcending the challenges of abusive/unreliable husbands. While limited to a minority of women interviewed, these responses suggest that future research deliberately investigating women's views of community governance could yield concrete strategies for increasing women's individual *and* collective empowerment.

Negative Associations with Empowerment

Before moving on to compare the ideas of empowerment presented by Basoga women with the Index, it is important to acknowledge that a few women deviated from the majority positive outlook on increasing women's ability to make choices. For example, one woman stated that inequality between men and women is natural, or at least constant:

Interviewer: If there were going to be changes in your community, so that women are treated better, what would you recommend?

Respondent: I cannot suggest anything. Let us be treated the way we are treated.

Interviewer: Why?

Respondent: Because it was created like that. Even if you climb ladders as a woman, you are not supposed to be above men.

– Respondent #79

Despite espousing this opinion, this particular woman also supported women earning independent income and joining groups to build personal confidence. Her comments may reflect the apparent immutability of patriarchal structures, which may be challenged but never fully escaped. Similarly, two women expressed a negative view of empowered women not because they believed in women's inferiority per se, but because they found the prospect of trying to live outside socially approved institutions (e.g. marriage) to be bleak:

Respondent: Only a widow can make her own decisions.

Interviewer: What is the life of a widow like?

Respondent: Her life is not joyful, in terms of income and caring for children. She has difficulty because she doesn't have a way of earning money. There is no husband to look for money for her.

– Respondent #89

“Empowered women in this community had husbands who deserted them and left them with children... The life of this woman is not appealing to me. She is always stressed looking after the family. If you have a husband, he helps you, and sends you money.”

– Respondent #80

In a sense, these responses align with the majority opinions on empowerment, in that they are reactions to negative experiences with men and/or marriage. The difference is that these women have found a manageable way of handling any challenges that arise within their marriage, and so advise other women to be more acquiescent and cooperative in their own marriages. Additionally, if empowerment is primarily associated with an increase in responsibilities (rather than an increase in freedoms), then aversion to empowerment is very reasonable. Thus, these negative views of empowerment do not necessarily dispute the broader trend, but rather demonstrate how compliance and wariness toward change can also be rational reactions to patriarchal control. Note that even these dissenting views still returned (albeit from a different angle) to the two central themes of a woman's ability to earn income, and her relationship with her partner/husband. These minority responses also serve as a reminder that women are not a monolith, and views of empowerment are rarely completely unanimous.

Table 12: Summary of inductively-derived themes related to women's views of empowerment

Theme	Description
Appearance	Nearly all women (27) made reference to appearances (e.g. clothing, hair, beauty products) when describing empowered women (either themselves or someone in the community).
Childbirth and Parenting	Most women (26) described control over pregnancy and childbirth as an important component of empowerment, and

	nearly as many (22) mentioned the ability to parent their children in the way they wish.
Mobility	Most women (17) said that empowered women have the freedom to travel wherever they please whenever they please, especially without receiving permission from their husband/partner.
Mental and Physical Health	Most women (17) mentioned good mental health (e.g. low stress/anxiety) as a characteristic of empowerment, and a large minority (12) mentioned aspects of physical health (e.g. eating well, receiving medical treatment).
Employment	Most women (26) said that empowered women are able to earn their own income doing work that they enjoy (e.g. tailoring, retail shop).
Sex	Several women (7) mentioned the ability to say yes or no to sex as a type of empowerment.
Education	Some women (6) said that women who had received a good education were more likely to be empowered.
Community Governance	Several women (8) said that women's empowerment should be supported by community initiatives and enforcement of laws protecting women's rights.
Negative Views	A few women (3) believed that increasing women's freedoms would not improve women's lives, or expressed other negative views of empowerment.

4.4.2 Respondent Views of Agriculture

In addition to investigating Basoga women's views of empowerment, another purpose of the in-depth interviews was to understand their views of agriculture. I have partially addressed this topic in the previous section, to the extent that women viewed agriculture as time-consuming and physically exhausting. Those comments arose in response to open-ended questions (e.g. Which activities do you find most time-consuming?); however, the interviews also included questions about agriculture specifically (see Table 11). The purpose of these questions was to go beyond the assessment of the Abbreviated Women's Empowerment in Agriculture Index questions (which ask whether women have the resources to practise agriculture) and ask how women themselves *feel* about agriculture, and how agriculture relates to other aspects of their lives. In other words, because empowerment is composed of

the ability to make life choices, I investigated how much choice Basoga women have in participating in agriculture in the first place, and what role they envision agriculture having in their future choices.

Most women said that they farmed because it was the only employment option available to them, and that they would choose an alternative livelihood if the opportunity were available to them:

“I farm because it’s the readily available work that I can do... Farming gives me a hard time... I try to avoid farming and get another job, but [the opportunity] is not there.”

– Respondent #105

“If I had capital, it would help me to stop farming. Farming is very hard... Right now I cannot avoid it because I do not have an alternative source of income.”

– Respondent #79

The qualitative results thus far have shown that most women have a negative view of agriculture because it is time-consuming (p. 146), and the excessive time spent farming leads to chronic fatigue (p. 148). In addition to finding the duration of farming exhausting, some women found the work itself physically taxing, or even painful:

“I would want to retire from ploughing and weeding by hand. It’s tedious. I don’t like it, but we have no other choice. We farm manually and do not benefit a lot. We get back pain.”

– Respondent #95

Interviewer: Is there any way you would want farming to be improved?

Respondent: I would want to hire labourers to help me... When you get a helper, you are not in pain all the time. [Otherwise] sometimes you have a headache, sometimes back pain, or chest pain because it is difficult for you.

– Respondent #72

These responses tie closely to those describing empowered women (p. 161) as being able to do less physically arduous and/or non-agricultural work. That is, women were not opposed to making a living from agriculture so long as it did not involve heavy manual labour (e.g.

hiring farm labourers or trading crops). However, they lacked the land and investment capital to make this transition possible. Similarly, most women had concrete suggestions for how their agricultural labour could be made more tolerable, most commonly wishing for fertilisers, pesticides, and access to mechanised tools and oxen for ploughing (as noted in the Index resources domain discussion, p. 138). Otherwise, women preferred non-agricultural employment that did not require much education, like running a retail shop, hairdressing, or tailoring. These types of jobs also allowed them to more easily multitask income-earning with care work (see also p. 147, on women's struggles to multitask):

“I prefer to plant maize around the house. It is hard to farm in swamps because I also have to do housework.”

– Respondent #101

“I want to raise chickens, but right now because I am renting, I can't... I need to work from home so that I am able to care for my children at the same time as looking after my chickens.”

– Respondent #80

However, characterising women's views of agriculture as strictly negative or reluctantly tolerant would be overly simplistic. Women expressed feelings of satisfaction and pride in certain parts of agricultural work, such as harvesting and selling their crops:

“Even when I'm farming I'm happy because I'll eat with my children after the harvest. I told you I hate farming, but everything has pros and cons. If I do not farm, I know there is no food security. This makes me happy. Otherwise I will be troubled and stressed knowing that the children won't have anything to eat.”

– Respondent #93

Respondent: Even farming I do with joy because I am expecting to profit.

Interviewer: How do you feel when you're farming?

Respondent: Ok I feel bad. (laughs)

Interviewer: But if you feel bad, why do you enjoy farming?

Respondent: (laughs) I will be expecting to profit.

– Respondent #105

These responses do not negate women's desire to improve their farming practices or to quit farming entirely. Rather, they reinforce that women's aspirations and choices are not focused so much on a specific type of work, as much as the ability to provide a comfortable life to themselves and their family. Similarly, some women said that they valued agricultural knowledge as a survival skill, and wanted to teach it to their children:

Interviewer: Why is it so important to you that your children learn how to farm? Respondent: So that when they have grown up, they will not suffer without food. They will know that 'Even if I do not get this job, I can go and farm, and I will have food.'

– Respondent #81

"I want my children to learn how to farm when they come home from school... In Uganda there are no jobs. If they do not get formal employment, they can farm."

– Respondent #86

Here again, women's positive associations with agriculture reflect its reliability as a tool for survival, providing a safety net if their children do not complete their education or cannot find alternative employment. These nuances in women's views of agriculture, both positive and negative, are crucial for understanding what relationship agriculture has to expanding women's empowerment in Busoga. In the following section, I discuss the implications of these insights for accurately measuring and effectively supporting women's empowerment.

Table 13: Summary of inductively-derived themes related to women's views of agriculture

Theme	Description
No alternatives to agriculture	Most women (21) said that they practised agriculture because they felt it was the only employment option available to them.
Fatigue and/or pain	Most women (21) reported feeling exhausted by farming, and/or complained of an ailment caused by the physical demands of farming.
Satisfaction in accomplishments	Some women (14) expressed positive feelings related to their achievements in agriculture (e.g. harvests) and the benefits

	they brought to their family, which were not mutually exclusive with negative feelings about agriculture.
Valuable life skill	Several women (10) described agriculture as something they wanted to teach their children, because it was a useful survival skill that could serve as a back-up to more desirable employment.

4.5 Discussion: Instrumental and Intrinsic Empowerment in Agriculture

The Abbreviated Women's Empowerment Agriculture Index was designed to measure the degree to which gender inequalities obstruct women's ability to practise agriculture. The structure of the Index reflects this framing, with indicators to detect obstacles in the form of exclusion from decision-making, non-ownership of assets, lack of access to credit and income, weak community organising, and time poverty. Each of these domains serves a dual-sided function, theoretically increasing women's ability to make choices while also increasing agricultural productivity. However, the qualitative data from Busoga suggest that this instrumentalist framing of empowerment is too narrow and obscures the full picture of empowerment desired by Basoga women.

The Index was designed to measure dimensions of an individual's empowerment in relation to others' empowerment. This comparison occurs within the data collection process (e.g. comparing an individual woman's input into decisions to the input of other household members) as well as within data analysis (e.g. comparing the differences between the average aggregate Index scores of men and women within a particular community, or the scores of populations of region A and region B). While these comparisons are relevant to discussions of women's empowerment, they place focus on autonomy, in contrast to agency (see p. 13). In other words, of the three components of empowerment theorised by Kabeer (1999b) – resources, agency, and achievements – Basoga women's resources (e.g. asset ownership) and achievements (e.g. major decision-making) are apparent in the Index results. But measuring these dimensions only illustrates the degree to which one set of women can participate in agriculture in comparison to another population. This approach fails to incorporate *agency* – the ability of an individual to act according to what they themselves value (independent of any other individual's values or behaviours, including the researcher's).

In the quantitative analysis, I demonstrated how this focus on assets and achievements limits the view of women's empowerment within each domain, and identified the questions of agency left unanswered, just outside the frame of view. By strictly analysing the results of the Abbreviated Women's Empowerment in Agriculture Index alone, and dissecting the components of each individual survey question, I aimed to pinpoint precisely what the Index does and does not measure. In the production domain, a thorough interpretation of the Index results requires an understanding of *how* production decisions are made and *why* women do or do not participate in food crop/cash crop/livestock production. Much like the production domain, the income domain reveals little of decision-making processes and does not document which types of spending decisions women value most. Such value judgements are also absent from the questions pertaining to the risks/benefits of loans, ownership of different types of assets, and participation in local groups. Without complementary methods (such as the qualitative data analysed in subsequent sections), these omissions of the perspectives of the women surveyed create a blank space in the analytical process, susceptible to the imprint of the researchers' own value judgments and subconscious bias. This structural issue in the survey is especially clear in the breakdown of the time domain, where the unweighted categories of labour produces results that strongly reflect the most time-consuming work (for this population, care work), regardless of whether this accurately portrays the trade-offs and pinch points women actually experience when making decisions about time use. The common practice of aggregating the results of all five domains further discourages the recognition and accommodation of these limitations.

Aside from the missing context and measurement of agency within each domain, the Index lacks a framing of how agricultural choices relate to women's other strategic life choices. In the case of agriculture in Busoga, incorporating agency into measurements of empowerment means understanding not only which obstacles prevent increases in women's agricultural productivity, but also whether women actively choose to participate in agriculture, and whether they are able to freely change their methods of farming when they so wish. The evidence from the qualitative data shows that many Basoga women feel constricted in their agricultural choices. Some women would choose to earn income from a non-agricultural livelihood if they could, and others feel unable to make specific changes to their agricultural practices (e.g. hiring labourers, renting an ox plough, or purchasing particular inputs). This dissatisfaction with agriculture further emphasises the relevance of the gap identified in the production domain of

the quantitative Index results (p. 97), in which the unknown reasons for women's non-participation in certain agricultural activities made the appropriate domain cut-off difficult to assess. The Index does not detect women's agency in agriculture (i.e. her ability to participate in agriculture according to her own values and aspirations); therefore, the claim that it accurately measures women's empowerment is misapplied.

What, then, does the Index measure? I argue that a more accurate designation for this collection of domains would be the Women's *Resilience* in Agriculture Index. The interview responses clearly show that even for a woman who would prefer to abandon agriculture entirely, the ability to grow her own food has an enormous impact on her quality of life (and, as explored in Chapter 5, her ability to parent as she wishes). However, the ability to cope with a difficult situation (such as limited livelihood options and the threat of food insecurity) does not constitute empowerment; it better describes a type of resilience. Resilience (much like empowerment) is a somewhat fluid concept that has varied definitions and applications across research disciplines²⁹, but within the context of international development 'resilience' generally refers to the ability to avoid, mitigate, escape, or adapt to hardships (especially sudden poverty-related shocks) (Barrett & Constanas, 2014; Béné et al., 2014). In very simplified terms, resilience concerns the ability to cope with negative, undesired changes, whereas empowerment concerns the ability to enact positive, desired changes³⁰. The Women's Empowerment in Agriculture Index 1) primarily documents women's access to resources that aid stable agricultural production and 2) does not incorporate women's individual values and aspirations. Therefore, it seems more accurate to interpret the output of the Index as a measurement of women's ability to continue practising agriculture (an ability described by Basoga women themselves as a buffer against economic shocks) rather than a measurement of women's broader ability to make strategic life choices.

The qualitative data also show that when women's agency is fully incorporated into research on women's empowerment (in this context, asking women about their views of agriculture, and whether they feel able to make any changes desired), major themes can emerge that the Index

²⁹ See Panter-Brick, 2014 for a thorough review of resilience discourses from an anthropological perspective.

³⁰ It is not difficult to imagine scenarios in which these concepts could overlap – couldn't one make a positive change in reaction to a negative event? However, Kabeer's definition of 'strategic life choices' is once again grounding. If resilience measures the ability to dodge bullets or heal from wounds, then empowerment must measure something more than mere survival.

misses. For example, during the interviews many women pointed to scarce time and low income as limiting their agricultural practices, confirming the quantitative results generated by the Abbreviated Women's Empowerment in Agriculture Index. However, the interviews also revealed that another significant contributor to women's limited choices – and tied to both time and income – was the behaviour of some women's husbands (e.g. overruling decisions about selling crops, contributing less than expected to the household financially, forbidding women from certain income-generating activities). Such behaviours could be indirectly present in the Index, as in the survey questions about women's input in decision-making compared to other household members. However, these survey questions are ambiguously phrased, producing ambiguous results (see p.118). Furthermore, during the interviews women repeatedly raised problems related to their husbands' behaviours in response to open-ended questions, strengthening its prominence as a central obstacle to empowerment (according to women themselves). In other contexts, women may be reticent to talk about their marriage dynamics within a confidential interview setting, but this was clearly not the case in Busoga. Thus, it is especially imperative that Basoga women's own transparency be matched with transparent methods of measuring empowerment.

The sampling strategy employed in the qualitative case study favoured unusual Index scores (e.g. a high aggregate score, or disempowerment in an uncommon domain) and resulted in a sample with slightly higher scores than the larger quantitative sample (see Figure 11). However, on an individual level, the Index scores did not necessarily reflect patterns in the interview responses. For example, Respondent #95, who was scored by the Index as empowered in all five domains, did not stand out as noticeably more empowered than other respondents. She expressed dissatisfaction with her control over income, her husband's non-consensual polygyny, and her job opportunities (wishing to stop manual farming). Overall, women with outlying Index scores did not give interviews that strongly deviated from the recurrent trends previously discussed. This is not to say that there were not variations in the interview responses, but rather that those differences did not reliably track with differences in individual Index scores, in this sample. Thus, this qualitative case study appears to support the argument that while the Index may be capable of detecting some broad asset-related aspects of empowerment (e.g., financial poverty and time poverty), the Index data alone are insufficient for drawing firm conclusions about the state of women's empowerment, especially at a sub-sample level. Some of the discrepancies between individuals' quantitative and qualitative data may be reflective of

the differences between measurements of autonomy (as in the Abbreviated Women's Empowerment in Agriculture Index) and evaluations of agency (as in the semi-structured interviews).

Shifting focus from questions of autonomy to questions of agency in women's empowerment mirrors the broader, ongoing discourses around instrumental vs. intrinsic valuations of women's empowerment. When the basis of measuring women's empowerment is solely a means to improving agricultural productivity, then it is only necessary to measure women's ability to farm in relation to other individuals' ability to farm (i.e. men in the same population, or women in other populations). In contrast, when women's empowerment is intrinsically valuable, and an objective in its own right, then the central question is whether women are able to participate in agriculture according to their own aspirations. Research founded upon the latter research question will more efficiently identify routes to expanding women's strategic life choices.

4.6 Chapter Conclusion

This chapter has explored the question 'How do different methods of measuring empowerment influence interpretations of women's empowerment in agriculture in Busoga, Uganda?', comparing both the explicit and implicit features of different approaches to evaluating empowerment, and demonstrating how a single baseline assumption or word choice can ripple through the process of data collection and analysis, and ultimately lead to significant differences in the conclusions drawn about women's empowerment. In the specific case of the Abbreviated Women's Empowerment in Agriculture Index, analysis of its results is stunted by the omission of any questions that ask women about their view of the role of agriculture in their own lives. Furthermore, the five domains chosen to represent women's empowerment in agriculture, and even the phrasing of individual survey questions carry value judgements that do not necessarily align with women's own views of the subject (e.g. the value of taking out a loan). Such misalignment may occur where the Index scoring system takes a neutral position on a topic (e.g. equal scoring of sole vs. joint decision-making, and of time spent on all types of work) when in practice (e.g. in Busoga) these distinctions are important for understanding and measuring empowerment. Incorporating qualitative methods alongside quantitative methods can facilitate the identification of

discrepancies between a quantitative tool and women's lived experiences, as the evidence presented in this chapter has reaffirmed.

These lessons are important not only for more rigorous application of the Index in Busoga, but also for understanding how to better measure women's empowerment more broadly. If assessing women's empowerment within a particular sector (such as agriculture) then close attention must be paid to the initial assumptions that surround that sector (e.g. how/when/why individuals enter/exit the sector, the function of that type of labour in society) as well as the decision to focus on *this* aspect of women's empowerment (e.g. who benefits from expanding knowledge on a topic, or from measuring it in a particular way). These questions echo debates raised in the preceding literature review regarding the complexities inherent in measuring a latent, fluid concept like empowerment. So while this chapter is grounded in concrete, detailed examples from the Index and Busoga, and while these specific critiques do have relevance to practical applications in current research, the more fundamental conclusions about how methods shape understanding of women's empowerment point toward these broader principles of investigative inquiry.

CHAPTER 5: Question 2. What relationship(s) exist between women's empowerment and children's diet diversity in Busoga, Uganda?

5.1 Introduction

In this chapter, I interpret quantitative data on women's empowerment (especially relating to time use and labour burdens) and children's diet diversity (Section 5.2) alongside qualitative data on women's views of empowerment, nutrition, and parenting (Section 5.3). In both these sections, I first interpret the results through the lens of existing theories about the causal pathways between women's empowerment and children's nutrition, followed by alternative analysis that aims to minimise instrumentalist interpretations of women's empowerment in favour of analyses that intrinsically value women's empowerment. Namely, in Section 5.2 I analyse the quantitative data on women's empowerment (i.e. the Index scores) and child diet diversity according to conventional methods; in Section 5.3 I turn to the qualitative data to examine whether a reproductive justice framework allows for a more comprehensive understanding of the recurrent themes surrounding empowerment and care work within the interviews, and how such an analysis diverges from existing theorised pathways between women's empowerment and children's nutrition.

5.2 Quantitative Analysis

One method of identifying relationships between women's empowerment and children's nutrition outcomes is to search for correlations between quantitative measurements of each. The Abbreviated Women's Empowerment in Agriculture Index (analysed in-depth in Chapter 4) serves as an aggregate measure of women's empowerment indicators, providing a single score between 0 and 1. A widely used indicator of children's nutritional status is Minimum Dietary Diversity, which is, as the name suggests, a measurement of adequate variety of foods consumed. According to the World Health Organization (WHO) guidelines, children age 6 – 23 months should consume at least five out of eight food groups each day. These eight food groups are: 1) breastmilk, 2) grains, white roots and tubers, and plantains, 3) legumes and nuts, 4) dairy, 5) meat, poultry, and fish, 6) eggs, 7) vitamin-A rich fruits and vegetables, and 8) other fruits and vegetables (WHO, 2008, p. 7; WHO, 2017, p. 39). Thus, the Minimum Diet Diversity score is calculated by counting the number of food groups consumed by the child over a 24-hour period, resulting in an integer between 0 (lowest possible score) and 8 (highest

possible score) (WHO, 2017, p.76-77). (For methods used to collect child diet diversity data in Busoga, see p.61.) This indicator is a proxy measurement for nutritional status; it estimates micronutrient intake and does not assess quantity of food or macronutrients (i.e. carbohydrates, fats, and proteins).

If any significant correlations exist between these two quantitative scores, it may provide a clue to better understanding how women's empowerment interacts with children's nutrition outcomes, and potentially either support or challenge one (or more) of the three theorised pathways described in the literature review (p. 35). Before performing any statistical tests, it is advisable to first conduct a visual assessment of the data, searching for crude patterns between the key variables. This exploratory step provides a rough idea of which types of statistical tests (if any) might be most appropriate for the addressing the hypothesis and helps to limit the overuse/misuse of statistical tests (i.e. data dredging). In Figure 28, the child diet diversity scores are divided into the lower half (i.e. a diet diversity score between 0 and 4) (Q1) and upper half (i.e. a diet diversity score between 5 and 8) (Q2) and plotted in a boxplot against the aggregate empowerment scores, showing that the distributions are nearly identical.

Thus, it appears unlikely that any simple tests of correlation between these two variables alone would yield any significant results. Applying Fisher's exact test confirms this expectation, showing that the null hypothesis of independence between the two variables cannot be rejected (see Table 14; see Appendix H, p. 331 for statistical software (R) code).

Despite these null results, it is still possible that a mediating variable could reveal a relationship between women's empowerment and children's nutrition outcomes (e.g. empowerment could hypothetically have a significant impact on the nutrition of children of single women, but not married women). To explore this possibility, it is again helpful to begin with visualisations of the dataset. In Figure 29, the scatterplot shows children's diet diversity scores charted against women's empowerment scores, with colour indicating women's age. No hint of a pattern emerges; thus, testing statistical models that include women's age as an explanatory variable is inadvisable, especially without theoretical basis for arguing that Basoga women's age would have a meaningful influence on the relationship between women's empowerment and children's diet diversity. Searches for any visual trends similarly yielded only noise when

applied to the variables of household size, number of children, mother's education, partner's education, and total number of care work hours (see Appendix I, p.343 for these scatterplots).

*Figure 28: Distribution of child diet diversity scores across women's empowerment scores
(Data sources: Diet Diversity Index and Abbreviated Women's Empowerment in Agriculture Index, n=201)*

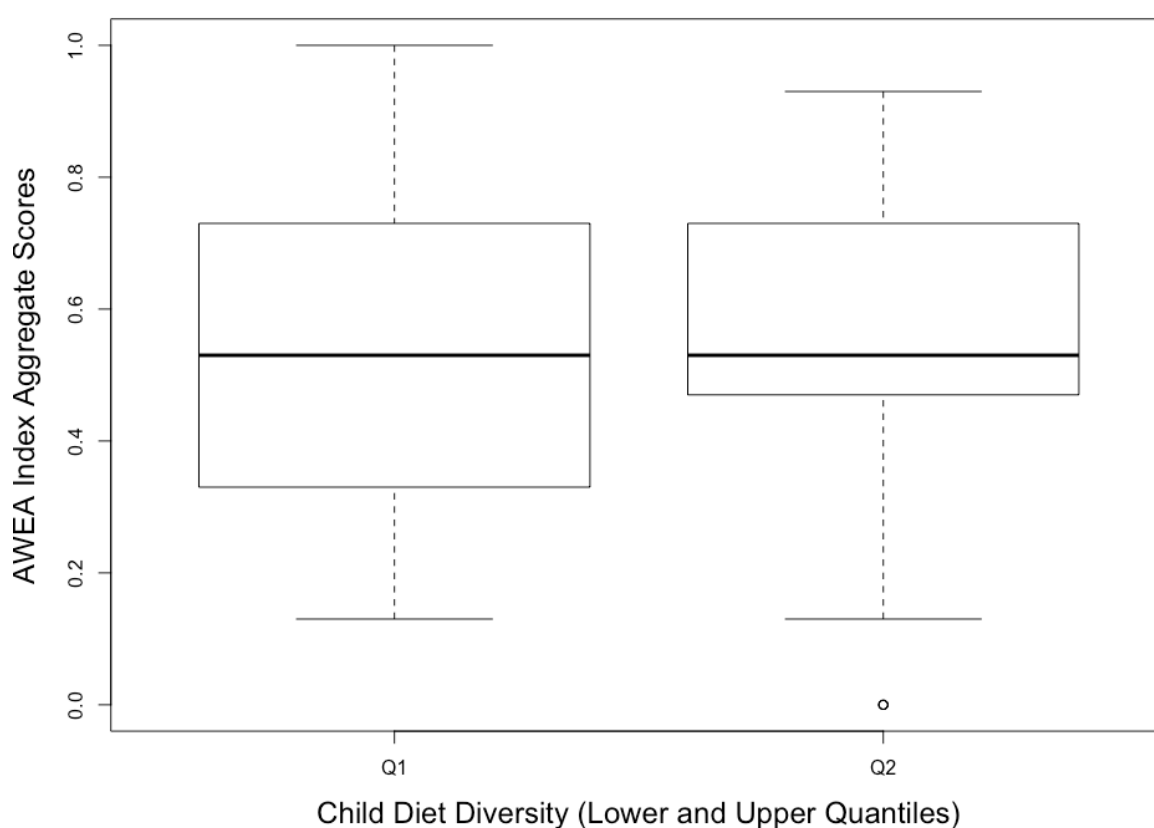
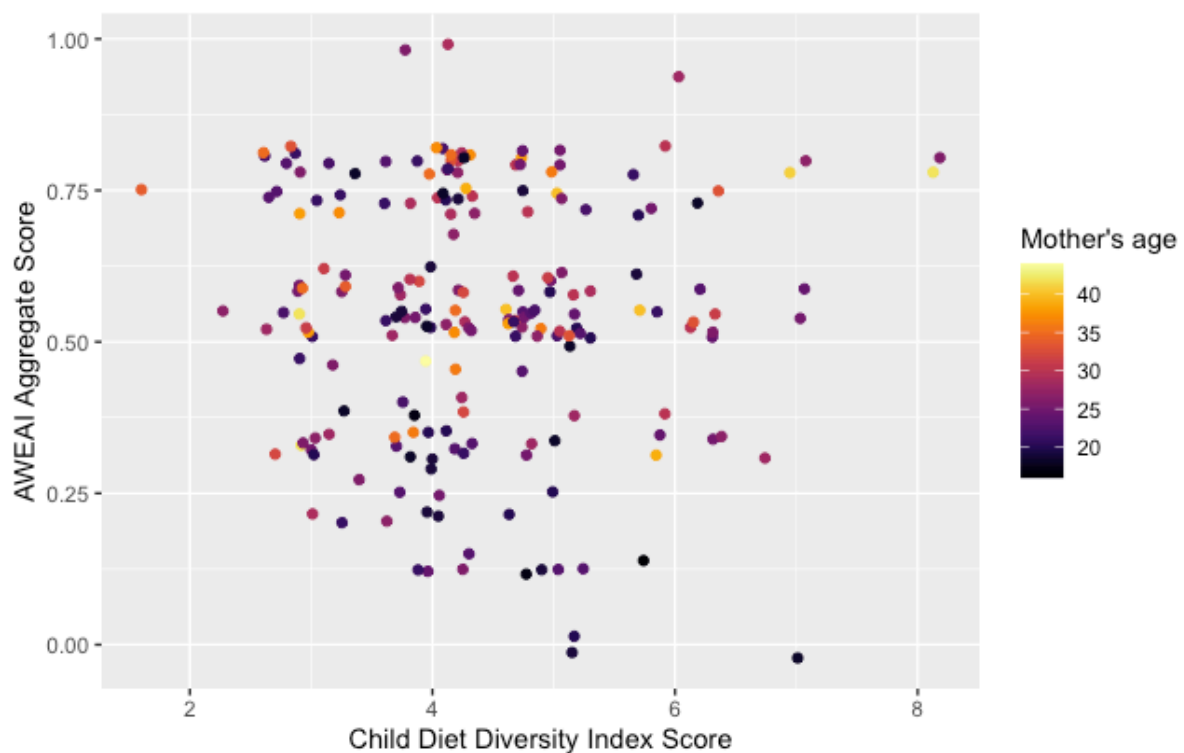


Table 14: Contingency table of children's diet diversity vs. women's empowerment in agriculture, with Fisher test results

Diet Diversity	Women's Empowerment		
	Q1 (lower tertile)	Q2 (middle tertile)	Q3 (upper tertile)
Q1 (lower quantile)	61	14	42
Q2 (upper quantile)	50	11	23
Fisher test	p-value = 0.4494		

These null results are not altogether surprising, considering the lack of clarity concerning the relationship between women's empowerment and children's nutrition outcomes in existing literature, including studies that wield a larger sample size and comprehensive datasets than those employed in this research (see p.31 for overview of this literature). This does not mean that no quantifiable relationship exists between women's empowerment and children's nutrition; rather, it suggests that standard quantitative methods of detecting such a relationship are as yet insufficient *alone*. To some extent, deficiencies in the tools chosen (e.g. the limitations of the Abbreviated Women's Empowerment in Agriculture Index described in Chapter 4) may be responsible for the noise apparent in this dataset. But it is also possible that the theoretical pathways between women's empowerment and children's nutrition are underdeveloped, causing quantitative analyses to point their spotlights in the wrong direction. To assess whether other methods can better illuminate the mechanics of the theories connecting women's empowerment to children's nutrition outcomes, I turn to the qualitative results in the following section.

Figure 29: Scatterplot of children's diet diversity scores and women's empowerment scores with women's age indicated by colour



5.3 Qualitative Analysis

In the preceding section I analysed quantitative data to search for correlations between children's diet diversity and different measurements of women's empowerment. In this section, I analyse the qualitative data on women's views on empowerment, childcare, and food to investigate which causal pathways might best explain the relationships between women's empowerment and children's nutrition.

Unlike the qualitative analysis conducted in Chapter 4, which used the Abbreviated Women's Empowerment in Agriculture Index as an a priori framework for deductive analysis, here I use only inductive analysis to draw out themes related to women's empowerment, care work, and children's nutrition. I first present the recurring themes emerging from interviews (i.e. clustering similar responses) without attempting to interpret the implications for women's empowerment and children's nutrition outcomes (Section 5.3.1).

Table 15: Interview questions related to women's empowerment, care work, and children's nutrition

Interview Questions
If a Musoga woman were free to make <i>any</i> choices about her life, what would that mean? Are there any decisions/actions that you are unable to make/take right now, but would like to be able to act on in the future?
Do you feel that you were more empowered before you were married, or after, or about the same? Before/after the birth of your first child?
If there were going to be changes in your community, so that women are treated better, what would be your recommendations?
Yesterday were you able to give your children all the foods you wished to? Is that usually the case?
Yesterday, did any of your other responsibilities affect how you fed your children? How so? Does this happen often?
Are there any ways that your daily responsibilities affect how long you decide to breastfeed your child?
How does your husband help to care for the children in terms of nutrition?
Is there anything that you wish your husband could help with in regards to caring for the children? If your husband offered to help care for the children more, how would you feel? What tasks would you suggest for him?

Have you and your husband ever had a disagreement about which foods to give to the children?

Do you have any power to stop your husband from taking another wife? How does a woman feel when her husband takes another wife?

How is the decision made in your family about when you will have another child? Are you happy with this type of arrangement?

Do you receive help in caring for your children if you are away from home? Right after you give birth? Is there anyone else who helps to care for the children?

Tell me about something from your childhood that you want to continue in the way that you raise your children, and something that you want to be different for your children.

What are the most important things to consider when choosing which foods to cook?

If you could change something about what you eat, what would it be (if anything)? About what your family eats? What factors are preventing this change?

In the past, has there ever been a time when the foods you/your family eat changed a lot?

While responses related these topics could appear anywhere in each interview, Table 15 gives a summary of the interview questions designed to explore these topics. I then assess how these themes support or challenge existing theories of pathways between women's empowerment and children's nutrition (5.3.2), as well as an alternative reproductive justice framework (Section 5.3.3).

5.3.1 Inductive Analysis

Women's views of nutritious foods

To understand the relationship between the empowerment of Basoga women and the nutritional health of their children, it is logical and grounding to begin with women's own views of how to eat healthily. In general, the women interviewed did not often volunteer nutrition as an important consideration in deciding which foods their children should eat, and when asked directly said that they didn't usually think about it:

Interviewer: Are there times when you look at this food having nutrients, and this one not, so we eat this one that strengthens the body?

Respondent: I usually don't know, I just feed them. (laughs)

– Respondent #63

“For me, there is no food I see that doesn’t have nutrients. I see that every food has nutrients.”

– Respondent #82

These responses seemed to largely have three interrelated causes. First, women’s options for different types of foods were highly constrained, and they seemed more concerned with finding the foods that could feed the household most reliably (i.e. provided greatest security by being cheap or easy to cultivate):

“I have a big family. If I buy cassava, we can eat for 10 days because they don’t like it. But if I buy posho, it’s gone in a shorter amount of time because they like it a lot. I consider food that they don’t like so that it lasts a longer time at home.”

– Respondent #74

“I do not have money to buy millet and I have no cassava flour. I cannot easily buy rice because it’s expensive. Sometimes I cook sweet potatoes for the children and they refuse to eat it. But if I get money and buy posho, they eat it. The problem is money.”

– Respondent #101

Second, the foods considered healthiest tended to also be the most expensive foods, out of reach to most women interviewed, and more affordable foods were viewed as having more or less the same nutritional value.

Interviewer: Are there times when you choose a food because it has nutrients for the body? Do you consider this?

Respondent: I do consider it, but I don’t have the money to buy it.

– Respondent #78

Interviewer: Are there times when you decide to eat a food because it strengthens the body?

Respondent: No. That requires money, which is not available.

– Respondent #65

Third, many women sought to rotate foods as much as possible (i.e. avoiding eating the same meal twice in the same day or several days in a row).

Respondent: I wanted them to eat sweet potatoes, but I did not have them at that time. I wanted [the children] to eat different kinds of food, but they ate one kind of food.

Interviewer: Why did you want them to eat something different at night, that they had not eaten for lunch?

Respondent: I see that it will help them. When children eat a different kind of food, that they have not eaten, they feel well. They do not feel tired of that food. When children eat different kinds of food, they grow well, but when they eat the same food, they do not feel peace.

–Respondent #105

“We will be tired of eating the food that we will have eaten previously. So that’s when I decide to eat another food, for a change... We will have eaten sweet potatoes for a long time before deciding to eat millet. When we lack another type of food, then we continue eating this; that is why you see that we tie ourselves to one type of food. Because we lack another type of food to change to.”

– Respondent #107

Thus, among the foods consistently available to the household, any nutritional benefits of a particular food would be incorporated into the diet without deliberately favouring it over other foods. Although it did not heavily influence their decision-making process, some women interviewed did spotlight certain foods as nutritious and healthy. Millet, mushrooms, yellow sweet potatoes, wholemeal posho, and eggs were all offered by the women as examples of foods nutritious for children. The nutritional value of each of these foods came up in conversation only once (across four interviews). Notably, many women described meat, fish, milk, rice, and matooke as highly desirable (especially rice, which nearly all women mentioned) but rarely described these foods as desirable because they were (or were not) nutritious.

Barriers to food choice

If women’s views of nutrition are side-lined or hampered by other concerns, then it is imperative to understand exactly how these constraints are limiting women’s ability to give their children the foods they would wish to. As mentioned in the previous section, women *did* have very clear ideas about the foods they would like to feed their children if they had the means. Nearly all women interviewed said that they were often unable to give their children the foods they wanted to, and felt constrained to less-desirable options. The most prominent and repeated barrier was simply insufficient income:

“For breakfast I wanted to give [my son] porridge, but I gave him tea. He loves porridge but I didn’t have it. I wanted to give him posho, but I gave him sweet potatoes from the garden and bought groundnuts. He likes posho, but we have no money. Generally, I am not able to give my child what I want to give him.”

– Respondent #21

Interviewer: If you could change something about what your family eats, what would it be (if anything)?

Respondent: I would cook posho and rice for them and stop eating cassava bread. They’re the foods we love the most.

Interviewer: What are the factors preventing this change?

Respondent: These changes are impossible because of lack of money.

– Respondent #79

When finances are this tight, the consequences are not only confined to food choices, such as substituting expensive foods for cheaper ones, and reducing diet diversity³¹. Caregivers must also decide how to allocate funds between food and other basic necessities. For example, some women described the difficulty of balancing food purchases with supporting their children’s education:

Interviewer: What are the most important things to consider when choosing which foods to cook?

Respondent: Money. Right now, we are in a period of paying school fees. If you do not plan well how to spend the money, the children will not go to school.

– Respondent #80

“I have no sugar for tea and the food is only posho and greens. It needs to change. But we cannot change to fish and meat because of limited money. The available money is budgeted for school fees. We can’t compromise to buy half a kilo of meat.”

– Respondent #99

³¹ Note that the general value placed on diet diversity, as described by the women interviewed, is not necessarily synonymous with the strict definition of diet diversity employed by the Diet Diversity Index. For example, in the above scenario of households substituting cheaper foods for more expensive foods, it is possible for women to experience a decline in diet diversity while the technical, quantitative measurement of diet diversity remains unchanged. Throughout the qualitative data analysis, I focus on the former, broader understanding of diet diversity, as described by the women interviewed.

One woman was unable to acquire the foods that she wanted to feed her children because she did not have control over the household's income, including food expenditures:

Interviewer: Who decides on the kind of food to be eaten in a day?

*Respondent: **The children's father. It is what he will have wanted to eat. He decides for me.***

Interviewer: And who decides the kind of food you will buy?

*Respondent: **The children's father. He is the one who has authority over me.***

– Respondent #13

However, her situation may have been somewhat anomalous, as more often women reported making the day-to-day decisions about what to eat. But most women did point to their husband/partner's overall financial support (or lack thereof) as influencing decisions about what to eat:

*Respondent: **My husband sends me money and tells me to buy rice for his children.***

Interviewer: Is there anything else that you wish your husband could help with in caring for the children?

*Respondent: **He needs to increase the effort of looking for money.***

Interviewer: Have you and your husband ever had a disagreement about which foods to give to the children?

*Respondent: **There are always these things in marriage. They are never absent. Sometimes he wants to buy meat and rice, and then I ask him what shall we eat the next day, when he has no money? Sometimes we have no salt. A child is sick and needs medicine. There is no sugar. I imagine this money cannot buy rice and meat.***

– Respondent #80

"[My husband] buys bread and soda for the children. If I cook cabbage only, he brings meat or fish and says cook this for my children. Sometimes he calls me and tells me to go to the neighbour where they sell milk. I go and get it for the children."

– Respondent #86

As the second quote above illustrates, many women would make cooking decisions based on what she knew she could acquire herself, even if only a simple meal of simple staple foods, and leave it to her partner to purchase more desirable foods for the household if he was

able/inclined to. A few women described this as a cultural norm, saying that women had different, gendered roles in the types of foods they were responsible for providing:

Interviewer: How is the decision reached about which food to eat today?

*Respondent: **Because I am the mother in the home, I am the one to decide the type of food we should eat.***

Interviewer: Why is it up to the mother to decide?

*Respondent: **Because she is the head of the family, after the father.***

Interviewer: Why doesn't the father decide?

*Respondent: **The father is to bring the sauce.***³²

Interviewer: You can't bring the sauce?

*Respondent: **I don't have money.***

– Respondent #65

*[describing how she felt earlier in her marriage] **"I would make choices on some things, while others not. I could make choices about bathing, washing, eating, and farming. But I could not make choices about buying sauce, even with money... These are provided by a man. He could ask me, 'Where did you get the money?' Even when he told me to keep his money, I would not touch it to buy anything... After the birth of my second child, I decided to make personal choices. For example, when he makes me keep his money, I buy sauce and inform him after. I was scared before. I feared him. But now I am used to marriage."***

– Respondent #79

However, as the second quote above illustrates, even if such norms exist in a household, they are not necessarily static. In the case of the woman above, she gained more autonomy in choosing which foods to purchase as she grew more confident in her marriage. Women's roles in providing food for the household could also shift in response to a partner's lack of income:

Interviewer: Who decides the kind of food to be eaten here at home?

*Respondent: **The man. He wants you to vary what you eat, but he has no way to do it.***

Interviewer: So who decides whether to eat millet or amaranth, this or that?

³² "Sauce" generally refers to any food that is eaten alongside a staple grain or starch. Common sauce ingredients include leafy greens, tomatoes, eggplants, groundnuts, beans, and silver cyprinid fish (and in wealthier households, chicken or larger fish).

Respondent: The woman. Because I will have seen what we don't have [at home], and what he also doesn't have.

Interviewer: Now let me rewind the question. In your view, most of the time who decides the kind of food to be eaten at home?

Respondent: It's me who plans. I have to tell him that today we want this, and he says, 'I don't have money'.

– Respondent #78

The quote above demonstrates that the woman expected her husband to fill the role of choosing what the household would eat, but because he did not purchase foods, she instead assumed that role, strategising how the household would cope with scarce resources. Or in a more extreme example, the woman who grew frustrated with her husband and moved from Busoga to Busia (Kenya) found that she was able to provide her children with better food by joining her parents' household:

Interviewer: Tell me about any of the ways that your husband helps to care for the children's nutrition.

Respondent: Nothing. I care for them myself. He minds himself. He goes to a hotel and eats and just looks to you to cook for your children. But in Busia we eat a lot and even leave leftovers on the plate.

– Respondent #94

Aside from providing foods to the household, many women (when asked) said that they would like their partners to contribute to other childcare-related expenses, such as paying school fees and buying clothing and bedding:

Interviewer: Aside from food, are there any other ways you would want your husband to improve in looking after the children?

Respondent: I would want him to change the children to a boarding school. A child in boarding school studies well and has a good performance. I would want him to give them shoes, school bags, clothing, and better health care... I have always asked him, but he said he has no money.

– Respondent #69

Interviewer: In which ways would you like your husband to improve in taking care of the children?

Respondent: Buying meat, buying clothes, educating the children. He should take the children away from the government school and put them

in a private school... the children sleep on papyrus mats; I want them to sleep on a mattress.

– Respondent #63

Education was an especially common concern; although the interviews had no direct questions about children's education, most women mentioned it as a high priority. If women feel that men are falling short of meeting the household's needs, they might turn to increasing their own income; however, most of the women interviewed did not feel economically self-sufficient and/or secure. As explored in section 4.3.2 (p. 126) and section 4.4 (p. 151), while most women had access to at least some money that they could spend on their own, most expressed a desire to earn more income on their own, especially through small non-agricultural economic activities. This sentiment also applied to household budget concerns, with women seeking alternative means of providing for their children, besides requesting that their partners purchase household items:

Interviewer: Is there any work you do that makes you happy?

Respondent: Trading snacks, because that's where I get money to survive on... for buying sauce, paraffin, children's books, and school fees.

Interviewer: These days do you make decisions for yourself?

Respondent: Yes, I decide for myself because in the past my husband has not been straight with me. Many years have passed, the children are growing, and he is not minding about me; he is just thinking about enjoying himself... It's been three months since he was last here.

– Respondent #18

Respondent: [Women should] start a business so that we are treated well. It helps to not be strained, to be able to pay for school fees, books, etc.

Interviewer: Do you think that would deprive men of their responsibility?

Respondent: Men these days have left all the responsibility to us. I think they fear the responsibility of family, or because they marry many wives.

– Respondent #74

As mentioned by the second woman above, if a woman's husband married another wife, many women said that this would negatively affect the food (and other resources) available for her children (i.e. her husband would have more children to care for, but not necessarily more income):

Interviewer: Have you and your husband ever had a disagreement about which foods to give to the children?

Respondent: Yes. After he refused to give me food to give the children. He shifted from my home and stayed in my co-wife's home. I did not want to feed his other children [5 children from his previous wife]. Before this co-wife, he would buy food.

– Respondent #101

Interviewer: How does a woman feel when her husband marries another woman?

Respondent: She feels so bad. Because the income in a home reduces. If he was leaving you 5,000 shillings before, now he leaves 2,000 shillings. He has to share among two homes. Especially if he has little income. If you are sick, like with malaria, your husband will not care for you because now he has a young wife. If you have been eating meat, you will stop.

– Respondent #86

The above examples are not meant to give the undue impression that, when it comes to feeding the household, Basoga women and men have an adversarial relationship consisting of only bargaining and negotiation. Some women did describe a more relaxed dynamic, in which the person deciding what to eat fluctuated without tension:

Interviewer: Who decides which type of food to be eaten in your house?

Respondent: It depends, sometimes it's the man, sometimes I decide... Most of the time it's me who decides what we shall eat... He gives me money to go and buy what I want... There is freedom and agreement... Sometimes it's me who tells him what to buy, sometimes it's his own idea.

– Respondent #82

But such a situation is dependent upon the interactions among household income, marital relationships, and gender roles previously described.

Trade-offs between agricultural labour and care work

If a woman's partner does not buy a necessary food, and she cannot earn the income to buy it herself, the other available option is to grow it herself. (As examined in section 4.3.1, page 118, women generally had a greater responsibility for growing the foods the household would consume.) However, given finite resources (and even assuming sufficient land and other

agricultural inputs), investing more time and energy in growing foods for the household can result in trade-offs for care work tasks, such as cooking food for children and breastfeeding infants, as well as domestic work like laundry and cleaning:

Interviewer: Do your various responsibilities ever affect the way you feed your children?

Respondent: Yes, sometimes it delays their meals... Sometimes I come back from the garden at noon, and the kitchen will be dirty so I sweep it. I fetch water, I come back and clean utensils, and I sometimes start harvesting sweet potatoes. By the time lunch is ready it is 3pm or 4pm.

Interviewer: Does this happen often?

Respondent: Yes, it usually happens, and it affects my children.

Interviewer: Do your responsibilities affect how you breastfeed your children?

Respondent: Yes, when I am working. The baby will be crying, wanting to breastfeed when I am out working. So I will have to first leave them there while I work, and then I sit and breastfeed them.

– Respondent #78

Interviewer: Do your various responsibilities ever affect the way you feed your children?

Respondent: Yes, sometimes I have a lot of work. It affects the children by delaying their meals. They get very hungry because you have taken a long time to get food ready. So they remain hungry. For example, maybe you have delayed in the paddies, harvesting rice. I return home around 1pm, I cook, and the children eat lunch around 4pm.

Interviewer: Do your responsibilities affect how you breastfeed your children?

Respondent: Yes, you have to do work, and a child wants to breastfeed but you have to complete work first, but the child wants to be fed at that moment. You have to complete work before you can breastfeed the child.

– Respondent #104

Interviewer: What does eating well mean to you?

Respondent: Eating well is eating on time. [The child] eats breakfast, eats lunch, eats supper. Not giving them the burden of going from morning to 4pm without eating.

– Respondent #105

The observations that work obligations sometimes interfered with breastfeeding corroborate recent research from Zambia that found women experiencing time stress were less likely to exclusively breastfeed infants (Matare et al., 2020). Apparent in the quotes above, the trade-offs between agricultural labour and care work were most often expressed in women's desire for their children to eat meals on time, and their chagrin that their many tasks prevented this from being possible. Thus, while women might in theory allocate more labour to growing food crops as a way to improve her children's diets, these efforts may be at least somewhat counteracted by her time poverty, making it impossible for her to complete both all the agricultural labour and all the care work that she wishes to.

One response to these heavy work burdens might be to reduce women's responsibilities. The analysis (section 4.3.1, p. 118) of agricultural labour within the household showed that women felt they could not depend on their partners to contribute agricultural labour, especially in cultivating food crops. Similarly, although they were not explicitly asked about gendered roles in caregiving, the women interviewed generally felt that caring for the children was their duty as mothers, and did not express a desire to redistribute care work responsibilities:

Respondent: I like looking after [my child] because no one else will look after her.

Interviewer: Why do you say that no one else will look after her?

Respondent: It's because I am her mother. I look after her.

– Respondent #21

Interviewer: Of all your work activities, which do you most dislike doing?

Respondent: None. I like all of them and I am the one supposed to do them. I am the woman at work. I am the one meant to take care of everything... Taking care of the home – all those things concern me.

Interviewer: Why is that you, a woman, has to do them all?

Respondent: You don't have a maid.

Interviewer: How about a man?

Respondent: A man does not stay at home during the day.

Interviewer: Among all the work you do, is there anything you avoid doing?

Respondent: There is none. Because if I don't do it, it won't be done.

– Respondent #82

The expectation that women would be the primary caregivers for their children does not mean that they never received assistance from any other family members or friends. When asked if anyone else ever helped take care of the children, responses included the woman's mother, father-in-law, neighbours/friends, grandparents, sister, sister-in-law, and co-wife. The people most commonly mentioned were the woman's mother-in-law and her older children. However, there was no clear pattern among these secondary caregivers. For example, while several women mentioned help from mothers-in-law, this was not the majority, and there did not seem to be a clear societal expectation that anyone other than the mother would do a large portion of the care work. Husbands or partners were not commonly mentioned, and if they did provide some assistance with domestic work, this was most likely to be after the woman had recently given birth. More tellingly, when asked how they would like their partners to improve (if at all) in the ways they helped to care for the children, no women suggested that he could contribute more caregiving labour. Rather, the interview responses were replete with suggestions that men should make greater financial contributions to the household, such as paying for healthcare and school fees, and purchasing school supplies, more and better food, more clothing, and better bedding for the children (as demonstrated by the quotes on p. 189). When women felt that their husbands or partners were remiss in not purchasing sufficient food for the child, some women were comfortable voicing their dissatisfaction, but did not press the issue when he said he could not do more:

Respondent: You tell him to maybe go and buy posho, and he says 'No, you eat cassava flour'... You eat it because you don't have money to go and buy for the children what you want.

Interviewer: Was there quarrelling?

Respondent: No.

– Respondent #63

Respondent: You may want to feed [the children] posho, but he says that they should eat millet flour, yet they don't eat it. They don't like it.

Interviewer: So what do you do?

Respondent: I just leave it alone... He sometimes doesn't have money to buy what you're telling him.

– Respondent #73

And many women said that they had never had a disagreement with their partner about what to feed their children. Given that most women 1) were unable to give their children the foods they wanted to, 2) had limited recourse to acquire foods without asking their partner to purchase them, and 3) listed specific suggestions (in the interviews) for how their partner could better care for their children, this suggests that many (though not all) women were conflict-avoidant, and/or felt that persuading their husbands to provide different foods was ineffectual (e.g. because of financial constraints or because of the dynamics of their relationship at that time).

Process of Choosing Among Available Foods

The preceding sections have illustrated how the contexts of women's socioeconomic conditions, agricultural and domestic labour, relationships with partners, and gender roles shape the ways in which they tend to their children's nutritional needs. In order to better understand how these broad, intertwining issues unfold in women's daily lives, it's helpful to look at their decision-making process on a smaller scale (e.g. choosing which food to eat for a particular meal).

As already touched on, women based their cooking decisions primarily on which foods were already available, i.e. which foods had been grown in her garden, had been bought by her husband, or that she could buy herself. Low household income often limited these choices, and the desire to avoid monotonous meal patterns further narrowed options. Among these remaining possibilities, women would generally try to cook the food that most suited her intuitive taste (or her children's):

Interviewer: What helps you to decide on the kind of food you will cook in a day?

Respondent: I would not have wanted my children to envy the neighbour cooking that food, when I have it.

Interviewer: What else?

Respondent: [My] heart will have wanted to eat it.

– Respondent #81

Interviewer: How do you decide which type of food you will cook?

Respondent: It's what the heart wants.

– Respondent #18

Her preference might also be influenced by which foods she viewed as complementary to each other:

“If I want posho, I also want silver fish. If I want cassava bread, I also want fish.”

– Respondent #79

Interviewer: Do you consider the type of sauce available and the food that tastes best with it?

Respondent: Yes, for example posho is so delicious with sukuma [leafy greens]. And rice is best with cabbage, like that.

– Respondent #21

And, in a reprise of the recurring theme of women’s labour-driven time poverty, women sometimes felt compelled to choose between available foods based on the amount of time they would take to cook:

“When I am very busy I consider the speed [of cooking]. So that [the children] eat and I can continue doing my work.”

– Respondent #77

Respondent: I may want beans, but they take a long time. Speed of cooking the food matters.

Interviewer: Which of these things [complementarity, desire, time] is the most important?

Respondent: Time or speed of cooking the food.

– Respondent #105

Changes in Diet over Time

When analysing the current state of individuals’ diets, and how they might improve in the future, it is informative to ascertain how their diets have already changed in the past. Most women said that their diets had changed in some way over the past several years, and the causes and directions of these changes varied widely. The most commonly reported reasons for changing diets were pests attacking crops and increased household sizes:

“In the past we ate cassava, beans, yams, and rice. Now there is no cassava, because they became infested with pests.”

– Respondent #106

“In the past we ate sweet potatoes, cassava, and cassava bread. Now we eat posho and fewer sweet potatoes. The change is because sweet potatoes do not yield well, because of pests. That’s what people say. We have to spray.”

– Respondent #77

“My husband used to buy rice. It’s the only thing we no longer get. Now we eat it on Christmas. Because of the change in the number of children and wives. One asks for a match box, another asks for soap, etc. If he has 10,000 shillings, it will be gone and he can’t buy rice.”

– Respondent #62

“At the start, after getting married, we would eat everything the heart desires. But now, we have children. So what you want, you cannot buy because you don’t have money. You will be allocating it for something else in the budget. So what you used to eat, you cannot manage to eat now. Because of the children you have.”

– Respondent #89

Other causes of decreases in the quantity or diversity of foods included diseased crops, drought, and land scarcity.

Table 16: Summary of themes related to women's care work and children's nutrition

Theme	Description
Inability to provide desired food to children	Most women (24) said that they could not provide their children with the foods they wanted to give them because of limited income.
Nutrition of food overshadowed by affordability	The nutrition of certain foods was mentioned by some women (11) as important in some way, but unattainable because of a variety of more pressing concerns, mostly related to insufficient income. Most women either didn’t mention nutrition as a decision-making factor, or explicitly said it was not relevant to their situation.
Valued diverse diets	Several women (10) said they tried to rotate meals as much as possible. This was often framed in terms of having multiple options for different staples and different sauces. One woman said explicitly that diverse diets are more nutritious.

Valued children's education	Most women (22) said that educating their children was a high priority, and strove to pay the fees necessary to keep their children in school.
Insufficient financial support from husband/partner	Nearly all women (27) said their husband/partner helped with caring for the children by providing financial support, but many (16) said they wished he would provide more.
Polygyny negatively affected household diets	A few women (4) said that their husband's decision to marry more than one wife had negatively affected the children's diets by stretching household resources thin.
Gender roles regarding staple foods and sauce foods	Two women explicitly said that providing sauce ingredients should be the duty of the man (while women provided staple foods). However, this norm did not appear much in practice, nullified by limited income. Only 3 women said their husband regularly chose what the household would eat.
Trade-offs between agricultural work and care work	Most women (22) described facing difficult trade-offs between agricultural and caregiving tasks, and looking for ways to manage both responsibilities simultaneously.
Childcare as a responsibility	Some women (6) explicitly described childcare as a responsibility/duty, and no women suggested that their husband (or someone else) should contribute more labour to caring for her children.
Avoided disagreements about food	Most women (22) said that they had never had a disagreement with their husband/partner about which foods to purchase, despite women's inability to acquire the foods they wanted.
Other contributors to food choice	In addition to affordability and availability, some women (5) said they were able to choose foods based on their intuitive tastes or tried to meet children's preferences (8). Others (7) said complementarity of foods was important, or that the time available for cooking informed decisions (8).
Changes in diet over time	Some women reported changes in the household diet over the years caused by pests (5), having more children (4), polygyny (3), diseased crops (3), or scarce land (3).

5.3.2 Discussion: Instrumentalist Theoretical Pathways

In the previous section I summarised the interview responses related to children's nutrition while minimising discussion about the implications of these results for women's empowerment

and development interventions. In this section, I analyse these results through the lens of existing theories about instrumental pathways between women's empowerment and children's nutrition.

To briefly summarise from Chapter 2 (p. 31), predominant theories about the relationships between women's empowerment and children's nutrition fall under three pathways:

1. Women's role as a mother and primary caregiver
2. Women's physiological contributions to a child's health during and after pregnancy
3. Women's allocation of household resources (especially income)

I examine each of these pathways in turn, assessing whether the results from Busoga fit these models. In other words, I investigate whether there is qualitative evidence to support the theories in which increasing women's empowerment leads to improvements in children's nutrition along these causal pathways.

Pathway 1

The fact that mothers are often the primary caregiver for their children is arguably the most widespread rationale for linking women's empowerment to children's nutrition. If mothers have the most direct control over what a child does or does not eat, as well as other aspects of overall health, then it may appear sensible to target the bulk of nutrition behavioural change communications at mothers of young children. Note that women's role as caregivers is distinct from the ability to direct household resources toward nourishing children (Pathway 3). The role of the caregiver, irrespective of other roles the individual might have, is important because of the caregiving acts in and of themselves, especially the tasks of cooking and feeding.

In some sense, the results from Busoga do not necessarily contradict this conceptual framework. All the women interviewed described themselves as the primary caregiver, and some explicitly said that all domestic labour (including childcare) was her responsibility or duty (see page 193). Furthermore, when asked how their partners could improve in caring for the children, the women interviewed only suggested ways in which their partners could provide greater financial support (e.g. buying better food, paying education expenses, etc.); no women suggested that their partner should contribute more labour toward caring for the children. These findings corroborate a recent study on caregiving for children with neurodevelopmental disabilities in Busoga (Namazzi et al., 2020), which found that women were primarily responsible for childcare, felt they received insufficient financial support from their husbands, and sometimes

had difficulty juggling their many responsibilities. The caregiving pathway does not challenge the assumption that women will continue to be the primary caregiver (or indeed whether they *should* continue to be the primary caregiver). Having agency over care work (i.e. whether to engage in care work, and how) is highly relevant to women's empowerment, but is not a component of pathway 1, and thus examined in section 5.2.3.

But even overlooking the question of whether women should be synonymous with caregivers, another difficulty with the caregiving pathway is that the theorised (sometimes postulated) relevance of women's caregiving to women's empowerment is that what when women become empowered in some other (or perhaps any other) area of their lives, they will automatically also become "better" caregivers. Leaving aside for the moment the question of whose vision of ideal caregiving is being fulfilled (also addressed in section 5.2.3), it is difficult to identify the link between empowerment and caregiving without incorporating empowerment in resources (e.g. income, time), which would make it dependent on Pathway 3. To use the results from Busoga as an example, suppose the partners of the women interviewed were to decide to start buying a greater diversity of foods for the household, and women continued their practice of rotating foods frequently, resulting in more nutritious diets for the children. These nutrition outcomes would have been accessed via women's cooking and other caregiving, but in the process would they have experienced any increase in empowerment? That is, has women's ability to make strategic life choices changed in any way? It is theoretically possible; in a situation where disagreements between spouses about how to feed the children is the greatest barrier to increasing diet diversity, providing women with greater input into household food choices could be empowering. But this was not the situation in Busoga; most disagreements about caregiving were inextricably linked to low income, which both triggered disputes (over how scarce income should be spent) and stifled them (where women did not raise objections to husbands' claims they could not buy better food, knowing that the budget was indeed tight). Or, to give an alternative example: suppose a Musoga woman without a partner gained a significant increase in income (empowering her in financial resources), allowing her to buy a diverse range of healthy foods for her children, and also hire a worker to attend to all domestic duties (empowering the mother in time as a resource). The result is improved diets for the children. Whose empowerment is relevant to children's nutrition, the mother's (through allocation of resources) or the hired household help (through caregiving acts), or both?

If caregiving acts (cooking, feeding, sanitation, healthcare) in Busoga are simply the functional expression of other household resources (income, time, labour), then would it be more conceptually coherent to demote Pathway 1 to a subsidiary of Pathway 3, or even to discard it altogether? Or do these caregiving acts have relevance to both nutrition and empowerment in and of themselves? Existing conceptual frameworks do not provide a clear answer to this question, but I attempt to find one in section 5.3.3.

In summary, analysing the relationship between women's empowerment and children's nutrition in Busoga strictly through the lens of women's (and in this case, mothers') roles as caregivers *on its own* does not lead to a very satisfactory understanding of causal pathways. It is possible that caregiving has a relevant connection to women's empowerment, distinct from household resource allocation, but current literature does not elucidate what this might be; instead, this nebulous pathway implicitly assumes that 1) women are caregivers and 2) empowered women ipso facto are better caregivers.

Pathway 2

The second causal pathway between women's empowerment and children's nutrition is based on the premise that women's health and actions, especially during pregnancy and breastfeeding, have a direct impact on the health of fetuses and children. Because this research in Busoga selected for women with young children, rather than pregnant women, the aspects of this pathway most relevant to the data collected are women's breastfeeding practices, as well as their overall energy expenditure (under the reasoning that excessive physical activity may weaken the woman's own physical health, in turn having a detrimental effect on the breastfeeding child, and perhaps also older children³³). The connection to women's empowerment is the idea that improving women's health is inherently empowering for women; i.e. women have a greater ability to make strategic life choices than when they were less healthy. (However, it is important to remember that women's health, while of course important, is at best a proxy indicator of empowerment; much like education or status, it may be advantageous but not necessarily sufficient for exercising agency).

³³ Here there is potentially a conceptual overlap with pathway 1: if a woman is, e.g. so exhausted or ill that she cannot cook a meal for her children, this perhaps shows that caregiving work is not always connected to resource allocation. However, pathway 2 more frequently refers to direct links to health through pregnancy and breastfeeding (e.g. the widespread emphasis on the first 1000 days), so that is how I apply the theoretical lens here.

In the interview responses from Busoga, many women reported that their agricultural and domestic work sometimes interfered with their breastfeeding practices; specifically, many women had so many pressing tasks to complete during the day that they regularly delayed breastfeeding a crying infant. And others paused their work to breastfeed but felt stressed by the fear of falling behind in their work. While this is partially an issue of time scarcity (pathway 3, allocation of time as a resource), it is also particular to pathway 2 because breastfeeding is generally not a task that can be interchanged among different household members (as with other caregiving or agricultural tasks); the mother is usually solely responsible for breastfeeding.

As analysed in section 4.4.2 (p. 168) many women also reported feeling exhaustion and pain caused by intensive agricultural work. To the extent that this excessive energy expenditure negatively impacted women's health, there could also be repercussions for the health of the infants the women were breastfeeding. The same principle applies to women's own food intake, as two women raised concern about their own low-quality diets affecting breastfeeding:

“When I am breastfeeding and not eating well, I don’t drink milk or eat foods that produce breastmilk. It disturbs me and I wean the child early. The time for breastfeeding is very minimal because I am busy. The child can get diseases [as a result].”

– Respondent #95

“You want to eat well, and produce more milk, but it is impossible.”

– Respondent #73

Women's broader comments about wishing to make changes to their own diets (eating a greater variety of foods, and more desirable foods), also suggest that women's physical health may be an avenue for improving children's nutrition.

Analysing these interview responses strictly through the lens of pathway 2, it would be reasonable to suspect that women's heavy work burdens may be adversely affecting children's nutrition, and to pursue interventions that enable women to devote more time and energy to cooking more nutritious meals for themselves, and to breastfeeding infants more regularly. Such interventions could take a variety of forms – e.g. identifying less physically demanding

work opportunities for women, distributing care work tasks more evenly among household members, or granting conditional cash transfers for purchasing food. But which types of interventions would also be empowering? Because pathway 2 only incorporates those forms of empowerment that also result in improving women's health, the range of empowering interventions is somewhat narrowed. And because 'women's health' does not refer to the overall health of all women, but rather to select aspects of the health of women who are pregnant or breastfeeding (Fox et al., 2019), the definition of empowerment narrows further.

In Busoga, where women vocally expressed their physical stress and fatigue, their struggles with conflicts between work and breastfeeding, and their desire to eat better foods themselves, addressing these issues could result in improvements in children's nutrition, and even empowerment in areas outside women's health (e.g. gaining higher income through less physically demanding, non-agricultural work). But because women's health is only tenuously connected to women's empowerment, and because 'women's health' is narrowly defined within the context of nutrition, then it would also be possible to design an intervention, based on the data analysed, that improved nutrition but was negligibly empowering. For example, if an intervention transfers income to men (e.g. through employment or cash transfers), then they may buy more diverse foods for the household, thereby improving women's and children's health and relieving some of the pressure on women to grow enough food for the household, and perhaps allowing her to substitute more care work for less agricultural work. Technically, this fulfils pathway 2. But as evidenced by the responses of women in Busoga who had control over only small amounts of money, and those who felt they were in competition with co-wives for their husband's income, this intervention strategy could easily be undermined by the inattention to non-health aspects of women's empowerment. Thus, I argue that pathway 2, while not directly contradicted by the data from Busoga³⁴, grants an incomplete understanding of the causal pathways between women's empowerment and children's nutrition, and lays a rickety foundation for building empowering interventions.

³⁴ To some extent, analysis under pathway 2 is limited by the type of data collected. While self-assessments of behaviours, fatigue, and stress are informative, any in-depth research on this pathway would include medical assessments outside the scope of this study.

Pathway 3

The third causal pathway, which focuses on women's control over resource allocation (especially income, and, receiving less attention in current literature, time), perhaps has the clearest conceptual connection to women's empowerment. This is because women's access to and control over resources is an integral component of women's empowerment (Kabeer, 1999b), and is also a prominent feature of empowerment indices like the Abbreviated Women's Empowerment in Agriculture Index. According to this theoretical framework, when women gain resources, they will choose to allocate those resources in ways that benefit children's nutrition.

In Busoga, both income and time were clearly limiting factors in women's ability to provide their children with the foods they wanted to give them. Women especially cited insufficient income, explicitly and repeatedly, as the main reason they had few options for feeding their children. This suggests that empowering women by increasing their income and ensuring they have control over its expenditure would change children's diets. That is, their children would eat more of the desirable foods named in the interviews (e.g. rice, matooke, fish, and meat). And because many women also said that they valued diverse diets, this would also plausibly lead to increases in overall diet diversity (rather than simply replacing one food with a new, more expensive one). However, such changes might not take place linearly or uniformly across households. Women also lacked the income for many other basic necessities for their children, such as clothing, beds, healthcare, and education. Depending on particular needs of each household and child, and the priorities of each particular woman, the same degree of economic empowerment across a set of women could lead to varying results in children's nutrition. In other words, unless the improvements in economic empowerment are so great that women feel comfortably able to cover *all* childcare expenses, then women will still be managing scarce resources, and may or may not choose to prioritise diet diversity over other needs.

Regarding time, the interview responses suggest a similar pattern, in which women could most certainly be empowered by increasing their resources (time), but the allocation of those resources may vary widely. And because time is an inherently scarce resource, decreasing time poverty is a more complex endeavour than decreasing financial poverty. The excessive workloads faced by women in Busoga make this very clear. If one aspect of women's agricultural or domestic tasks becomes less time-consuming (e.g. by making the task more

efficient, delegating it to someone else, or eliminating it entirely), then she might allocate that saved time to cooking a more nutritious, but more time-intensive food. Or, she might allocate that saved time toward other agricultural/domestic tasks, or even just rest. Furthermore, when women are multi-tasking and/or blending labour tasks with leisure (e.g. working while socialising), reductions in workload do not necessarily translate linearly to time “saved” (Simon et al., 2020).

Because of this malleable nature of women’s time poverty, chipping off fragments of women’s time burdens is unlikely to have a significant impact on women’s empowerment. Results from Chapter 4 showed that women most commonly found agricultural work and domestic tasks to be the most time-consuming. A small alleviation of one type of time-consuming labour (e.g. replacing manual ploughing with oxen) may simply result in more attention spent on another (e.g. cooking beans instead of porridge). In the interviews, the woman who had experienced the greatest reduction in her time burdens (as well as a marked expansion in the foods she was able to give her children) made a radical change in her life by moving from Bugiri to Busia, Kenya (without her husband) to live with her parents and work in a hotel. This does not mean that all Basoga women must make exactly this type of change in order to seize empowerment, but when compared to the many women who felt mired in their time poverty, it does suggest that compounding work burdens can create tightly tangled binds, and may take creative and ambitious interventions to overcome. And while women’s empowerment in time remains grounded, the pathway 3 allocation of time toward improving children’s nutrition is, by definition, likewise motionless.

But presuming that women have indeed increased their free time (or income) there remains the question of whether they allocate these resources toward improving their child’s diet, rather than any other of a multitude of household and personal necessities. Of course, one way to increase the likelihood that women will allocate their resources toward diet diversity is to attach conditions to these resources (e.g. granting income that can only be spent on nutritious foods). However, this type of stipulation actually decreases women’s empowerment, because it reduces their choices. It is also important to be vigilant about the fact that children’s diet diversity may increase while women’s empowerment in time decreases. For example, if an intervention increases children’s protein consumption by making dried beans and firewood more affordable

and accessible, making women feel compelled to cook these more time-consuming foods, then children's diet diversity may increase while women's empowerment decreases.

The evidence from Busoga somewhat supports pathway 3, to the extent that women explicitly stated their desire to allocate more time and money toward improving the foods that their children eat. But it does not resolve the tension arising from the instrumentalist framing of pathway 3, which only functions if women enact their newfound agency in a narrowly defined way.

5.3.3 Discussion: Reproductive Justice Framework

In the previous section the reader may have noticed that a certain level of logical gymnastics was necessary to 1) keep the theories of the three pathways clear and distinct and 2) establish the connections that each pathway had to women's empowerment. In this section, I argue that a reproductive justice framework contributes a clearer framework for understanding how women's empowerment interacts with children's nutrition outcomes. Reproductive justice, as detailed in section 2.2.5, p.39, considers a woman's ability to choose if, when, and how to parent her child(ren). Applying this conceptual lens grants a much broader view of women's roles as mothers, temporally (i.e. both before and after the first 1000 days), topically (e.g. not just feeding-related activities, but also other caregiving/parenting activities), and structurally (e.g. not just her direct decision-making, but also the environmental factors over which she has no direct control).

Crucially, the reproductive justice framework differs from those previously explored in that it does not propose any instrumentalist framings of women's empowerment. Rather, a reproductive justice framework begins with the idea that women's empowerment increases when women have a greater ability to choose if, when, and how they wish to parent. This structure embeds the understanding that individual women will have vastly different answers to these (if/when/how) questions, and so sweeping generalisations cannot be made about how women's empowerment (as a whole) relates to children's nutrition (as a whole). However, it still provides a powerful tool for understanding the relationships between women's empowerment and children's nutrition because many women *will* choose to become a parent, and nearly all parents want their children to be healthy. But even among those women who do enthusiastically become parents, there will be a wide range of answers to the *how* question.

Focusing on whether women are able to parent if/when/how they wish also allows for more rigorous and nuanced research because it does not presume which aspects of women's empowerment are the relevant barriers to a particular caregiving outcome (e.g. children's nutrition and overall health), as the existing theoretical pathways do. Thus, the core scaffolding of this framework is applicable across diverse contexts, and is more likely to expose barriers to empowerment that the researchers may not have initially conceived.

Finally, the reproductive justice framework provides a more ethically sound approach to designing international development interventions that target both women's empowerment and children's nutrition, because if women want their children to be healthier, and women are active participants in deciding *how* to improve children's health, then there is much less risk of inadvertently (or negligently) improving children's nutrition outcomes at the expense of women's empowerment. This is because the choices a woman *wants* (or doesn't want) to make have been established at the outset.

For all these reasons, I propose that the reproductive justice framework is a more robust conceptual framework for conducting research on the relationships between women's empowerment and children's nutrition. Below, I turn to the evidence from Busoga, and investigate whether the aperture adjustments of a reproductive justice framework in fact bring a clearer picture of the data into focus.

Family Planning

A reproductive justice framework posits that for women to be empowered in their roles as parents, they must be able to choose whether to have a child in the first place.³⁵ The women interviewed in Busoga were roughly evenly split in their level of satisfaction with current family planning methods (or lack thereof). Among those who were happy with their current situation, many were using contraceptives; several others were not using contraceptives, but

³⁵ Giving birth is, of course, not the only way to become a parent. In fact, in Busoga it is very common for adults to adopt (or informally become the caregiver for) a child (see section 3.8). While outside the scope of this dataset, in future research it would be interesting to investigate the circumstances under which an individual decides to care for a child they are not the biological parent of, and the degree of agency that individuals have in those situations. This is yet another example of how a reproductive justice framework invites research questions that narrowly conceived theoretical pathways would likely overlook.

expressed gratification that they were able to discuss when to have a child openly with their partner:

Respondent: You talk about it... This child has grown; let us do this and this. We have another child.

Interviewer: Are you happy with this arrangement?

Respondent: Yes, because [the baby] comes when you expect it. When you have prepared for it.

– Respondent #104

“I told him that I want to have another child, and he allowed it. I asked my husband because I felt the baby we had was old. I am happy because we agree together.”

– Respondent #97

The women who were using contraceptives gave several reasons for doing so. Many expressed a desire to be well-prepared before conceiving, and a concern about child spacing, wanting to ensure that their older child(ren) had reached a certain age before becoming pregnant again. Several women said that spacing 3-5 years was good because then the youngest child could attend school, somewhat alleviating her childcare obligations:

Respondent: We discussed that we don’t want to have another child while this one is young and we have not prepared. He said to go to family planning. I went.

Interviewer: Are you happy with that arrangement?

Respondent: Yes, because it works for me. I have another baby when my child has grown, and when I want to have another one.

– Respondent #81

“I don’t want to have unspaced children because children bother you a lot, like getting sick, wanting support, studying, and so forth. So it’s necessary that this one has been born and reached 3 years old and then he is going to school, and then you can give birth to another one.”

– Respondent #72

Some women also drew an explicit connection between birth spacing and the health of all their children:

“I am happy. You have seen these children. When one child would be one year old, I would be one month pregnant. I would be in the hospital all the time. The house was full of syrups [medicine]. It was after the third child that we agreed I would go and use family planning.”

– Respondent #79

“Back then, I was delivering children without spacing, so children were making me suffer a lot. Every month I would be at the health facility in Bugiri [town]. Being there in the health facility, I suffered. Feeding [the children], buying medicine to treat the baby when you don’t have money. So I said, let us pause.”

– Respondent #65

Women who had unmet family planning needs described similar concerns about birth spacing and the health of their children:

Interviewer: Is there any other way your breastfeeding is affected?

Respondent: Yes, when you conceive yet the baby is still young.

Interviewer: What is the cause of that?

Respondent: It may be caused by not going for family planning.

– Respondent #73

“I didn’t want to [get pregnant]. My baby was 14 months old. I wanted her to grow older before having another child. If you have help you can have another baby, but if there’s no help, you don’t want to have another baby. The baby is not healthy. I want to first feed him well before I have another child.”

– Respondent #101

As respondents #101 and #65 mentioned above (referring to money and caregiving help), when deciding whether/when to have another child, women considered not only the ages of her older children, but also household resources and her pre-existing labour burdens. These included money for purchasing food, medicine, school supplies, etc. and the time and energy necessary for agricultural and domestic work:

“I want to space children, but before I know it I am pregnant again. The income in our family reduces because the family grows larger. It affects how we eat. People eat without becoming satisfied. If one kilo of meat has been enough in the past, now the man cannot increase it to two kilos.”

– Respondent #86

Respondent: The situation we are in, I want to first take care of the children that we have, because our situation isn't good.

Interviewer: What kind of situation?

Respondent: If a child falls sick, I don't have money to take the child to the health facility. Others want books and pencils, so I don't have money... or sometimes, if I conceive, I don't have energy to go and do casual work in people's gardens to earn money. So, if I first stay with this child, that will help me if I space and this child grows.

– Respondent #107

Despite the fact that Basoga women themselves drew direct connections between child spacing and child nutrition, including the utility of family planning in mitigating labour burdens, this pathway is largely absent from nutrition literature. For example, Lee et al. (2013, p. 1340) mention “frequent reproductive cycles” and “high intensity of agricultural labour” as causes of malnutrition but do not consider the social norms and policies underlying these trends, and focus instead on improvements in overall socioeconomic status, behaviour change (“dietary counselling”) and nutrient supplements.

Aside from the impact on the health of the children and other household members, the ability to plan whether/when to give birth is clearly a facet of empowerment (i.e. the ability to make strategic life choices), and as such strongly influences women's feelings of agency and own mental health:

“I am very happy. I want to space by 3 years, but he wants 2 years. We agree and he accepts 3. I want to rest. When we [women] are pregnant we cry tears. Even when we give birth, he may not bring anything to the baby.”

– Respondent #95

“I now feel peace and enjoyment. But had it been back then, I would have that child and I would be pregnant as well. Now... if I am going a short distance to grieve with neighbours, I leave the child at home and go alone... I leave the child with the siblings; they can take care of the child.”

– Respondent #65

Among the women who were using contraceptives at the time of the interview, most had discussed using family planning with their partner and come to an agreement. However, two women reported using contraceptives covertly. Injectables were the most commonly reported form of contraceptives used, although intrauterine devices, pills, and traditional herbal medicine were also mentioned. This matches contraceptive use trends in Busoga more broadly (UBOS, 2018); indeed, injectables are increasing in popularity across Uganda and elsewhere in sub-Saharan Africa in part because of they can be administered discreetly, and even self-injected (Burke et al., 2020; Cover et al., 2017). The relatively low rate of covert use reported in the interviews may be partly due to the age group sampled; a recent study in Busoga found that, among adolescents using self-injected contraceptives, the majority were covert users (Burke et al., 2020). Although few women reported covert use of contraceptives, several described their partner/husband as controlling their reproductive choices.

“If I do not want a child, he will quarrel, saying that he wants children every year. He wants 6 children. I am not happy. I have suffered with these children. All the responsibility for the children is on me.”

– Respondent #106

Interviewer: Are there any decisions you would like to make, but right now you cannot?

*Respondent: **If possible, I would stop giving birth. I would have decided that for myself, but I cannot.***

Interviewer: Why can't you?

*Respondent: **The man doesn't want it.***

Interviewer: Why would you like to stop giving birth?

*Respondent: **The pain gives me a hard time.***

– Respondent #82

Roughly half of respondents expressed dissatisfaction with their family planning (or lack thereof). Where women did not describe their partner as overruling their choices, women complained about the inability to plan ahead (in effect, describing the other side of the coin of women who said they used contraceptives in order to avoid unexpected pregnancies):

Interviewer: How do you decide when you're going to have another child?

*Respondent: **It is just sudden. I can have a three-month-old baby and I conceive... I am not happy because it happens fast.***

– Respondent #73

Interviewer: How do you decide when you're going to have another child?

Respondent: It just happens. It comes, yet you do not want it.

– Respondent #13

If these women wanted greater control over their pregnancies, and their partners were not thwarting them, then what prevented them from using contraceptives? In some cases, women *had* tried using family planning, but had negative experiences with side effects or receiving medical treatment:

Interviewer: How do you decide when you have another child?

Respondent: It just happens... I am not happy because the baby comes at the time I do not want her. I would want the last child to be 5 years old before I have another. I am now tired of having children. I tried using injections, but I want to have tube ligation. But I have bad veins and they refused to do the tube ligation.

– Respondent #99

Interviewer: How do you decide when to have another child?

Respondent: It is sudden, it just happens. You yourself get shocked that 'Oh, I am pregnant!' At that moment you will not have prepared for it and you don't want it to happen. I will be expecting it to happen at any time.

Interviewer: Why, if you have not wanted it yet, don't you use any way that can deter it until you want it?

Respondent: I don't want to use this method that prevents it... They say it involves diseases, that you get diseases from it. So it scares you.

Interviewer: Have you ever used it?

Respondent: Yes, once. I used injections. The problem is that I fall sick... In the stomach you feel intestinal pain. So now I've stopped using it.

– Respondent #89

Thus, the combination of experiencing side effects, hearing rumours that contraceptives cause disease, and receiving discouragement from medical professionals can cause women to feel that family planning is not a viable option for them individually, even if they desire the benefits resulting from family planning. A recent study on patient-centred care in Busoga (Waweru et al., 2020) found that people seeking medical care were often hesitant to divulge information about their emotional or psychological state or situation at home and focused more on

discussing medicine than diet or stress. This suggests that some Basoga women might also be hesitant to assert that a certain type of birth control had not worked well for them, and to initiate a discussion about alternative options that have fewer side effects. In fact, two women described themselves as having “failed” at using contraception, rather than contraception failing them:

Respondent: I tried family planning and I failed.

Interviewer: Why did you fail to use family planning?

Respondent: So I decided to have children. It affects me badly. With the first child, I over-bled, the second one was also like that, with this [baby] I decided to stop.

Interviewer: Now are you happy with the current arrangement, that you just get pregnant suddenly?

Respondent: I am not happy, but still I have nothing [else] to do... Because I see that those who have had tube ligation are affected badly. They bleed every day.

– Respondent #82

Respondent: I tried family planning. I do not want to continue having children. I used the injections and the pills, but I have failed at them all.

Interviewer: Are you happy with your current arrangement?

Respondent: No, I am not happy. I am not using any family planning, so at any time I may become pregnant.

– Respondent #62

Given these responses, there appears to be an opportunity in Busoga to bundle reproductive healthcare³⁶ with nutrition messaging, as a comprehensive package of resources for helping women parent in the way that they wish. For such a programme to be successful, it would be essential to provide these resources in such a way that women feel encouraged and empowered to voice their own needs and aspirations, and receive healthcare and information that are tailored to them.

³⁶ It is important to state explicitly that, in arguing for recognition of the ways family planning directly connects women’s empowerment and children’s nutrition, I am not in any way implying a normative judgment on the *number* of children women have. Such immoral, noxious narratives/actions do persist to this day (e.g. see Patel (2017) on forced sterilisations and Hancock (2004) on welfare queen narratives). On the contrary, a reproductive justice framework fundamentally protects women’s rights to decide for themselves what number of children is best for them, whether that number be one, twenty-one, or none.

Women's Empowerment & The First 1000 Days

The mandate of the first 1000 days has prompted nutrition research intently focused on modifying women's behaviours during pregnancy and post-partum (e.g. Bhutta et al., 2013; Black et al., 2013; Kavle & Landry, 2017), despite a lack of evidence that focusing primarily on pregnant women's behaviour is an effective strategy for improving children's nutrition outcomes (McKerracher et al., 2020; Sharp et al., 2018). This tendency to centre changes in mothers' behaviours and lifestyles is not limited to nutrition research; it has appeared frequently across the field of Developmental Origins of Health and Disease (DOHaD) (Penkler et al., 2018). However, individuals' behaviours are not simply reflections of personal preferences or beliefs; they are bound by structural inequalities – political, social, economic, environmental – that limit the choices available to them (McKerracher et al., 2020; Penkler et al., 2018). The data from Busoga explored in this chapter affirm this; although women may wish to feed their children more diverse foods, breastfeed longer, or rest more during pregnancy, numerous gendered inequalities restrict their practicable choices to an austere few. As Penkler et al. succinctly state, “DOHaD perspectives are inextricably entangled with questions of social and environmental justice” (2018, p. 5). Correspondingly, I argue that any research on women's choices about how to have a child (e.g. what to eat while pregnant), and how to parent that child (e.g. how to feed them), are inextricably entangled with questions of reproductive justice.

A reproductive justice framework begins with the premise of expanding women's abilities to make choices about *all* aspects of pregnancy and parenting young children (not just nutrient intake). This certainly includes her ability to make decisions about her own health during this period, but also incorporates the social and environmental forces that shape health (including nutrition) and that surround her ability to make strategic life choices (i.e. empowerment). From this angle, the links between women's empowerment, women's health, and children's empowerment emerge much more clearly. By expanding the narrow spotlight of the first 1000 days, a reproductive justice framework allows for a more comprehensive understanding of women's health. For example, strengthening women's sexual health and autonomy is essential for preventing sexually transmitted infections like HIV, which in turn can have serious consequences for children's health. These negative impacts can be direct (e.g. transmitting the virus in utero or via breast milk) or indirect (e.g. resulting from strain caused by the illness or death of a household member) (Harris, 2014).

Women's health must also include mental health; struggles with mental health challenges can severely constrain women's abilities to have a positive pregnancy experience or to parent in the way they wish (Sarkar et al., 2020). As the data from Busoga attest, women repeatedly expressed feelings of anxiety, stress, and fatigue related to their struggles to work and parent in ways that could feel fulfilling and empowering. Given that women's emotional burdens may already be very high in this context, nutrition programmes must exercise meticulous caution in making any behavioural change recommendations. In fact, the psycho-social stress resulting from placing an excessive burden on mothers to modify their own behaviours can cause a counterproductive negative effect on children's physical health (McKerracher et al., 2018; van den Bergh et al., 2017). Understanding women's mental health status is especially relevant to nutrition because women's mental health is often tightly interwoven with women's eating habits and body image (Chrisler 2014; LaMarre et al., 2020). Within literature on nutrition-sensitive development, there is increasing discussion of the prevalence of obesity worldwide (Development Initiatives, 2020; FAO, 2019; Haddad et al., 2016; Popkin et al., 2012) without any acknowledgement of the global prevalence of eating disorders (Erskine et al., 2016), evidence that food insecurity is associated with higher levels of eating disorders in adults, including pregnant women (Becker et al., 2017; Hazzard et al., 2020; Laraia et al., 2017), the ways in which weight stigma is detrimental to both mental and physical health (Wellman et al., 2018), scepticism that weight alone is an informative indicator of health (Bacon & Aphramor, 2011), or the high prevalence of eating disorders among young women in particular (Erskine et al., 2016). While rates of eating disorders are still difficult to pinpoint, in part because eating disorders are likely under-diagnosed (Wade et al., 2011; Kazdin et al., 2017), there is unlikely to be an increase in research if this public nutritional health issue is not acknowledged in these global nutrition reviews. Researching nutrition through a reproductive justice framework necessitates thorough investigation of the social inequalities that shape women's health, both physical and mental. In shifting perspective to these inequalities in food systems and social environments, research on nutrition and empowerment can draw upon existing political-economic research on food environments and systems, which determine the types and quantities of foods made available in any given context (e.g. Turner et al., 2018).

While a reproductive justice framework calls for greater attention to the systemic, structural drivers of nutrition outcomes, it is also fundamentally a scaffolding for increasing women's abilities to make choices about their own experiences of pregnancy and parenting. This means

that it can be profoundly empowering to provide women with knowledge and resources to increase their agency over their behaviours and environment while pregnant/parenting. In Busoga, this was readily apparent in women's expressions of concern about their children's health and active searches for strategies to improve their children's health. However, given the aforementioned history of placing stigma or blame on women for their limited options, such knowledge transfers must be carefully crafted to focus on resilience and empowerment (for examples, see McKerracher et al., 2018; McKerracher et al., 2020).

Part of reducing the burden placed on mothers is to recognise that they are not the sole participants in childcare. In fact, because research to date has mostly focused on maternal influences on children's nutrition status, not only are the effects of paternal caregiving behaviours overlooked, but paternal *biological* contributions to foetal and child health remain understudied (Sharp et al., 2018). Unlike the three instrumentalist pathways examined in the preceding section, a reproductive justice framework opens consideration of the roles of the fathers and other caregivers (as I delineate in the following sections on caregiving and polygyny). This assembles a conceptual space for receiving incoming research on the relationships between children's health and the health and behaviours of non-maternal actors (including but not limited to fathers) (e.g. Braun et al., 2017; Almeling, 2020); and how broader structural factors influence *those* actors.

Finally, it is possible to enact these research principles without specifically citing a reproductive justice framework; indeed, researchers already are (e.g. McKerracher et al., 2020; see also Sarkar et al., 2020 for suggestions for more holistic woman-centred maternal healthcare in Busoga). However, I would argue that wherever women's *empowerment* is a central subject of research (as it so often is in international development), reproductive justice provides a strong analytical framework for understanding links to children's nutrition during the first 1000 days while maintaining a non-instrumentalist definition of empowerment.

Caregiving Expectations

In section 5.3.2 (p. 199) I examined the assumption that women's empowerment is relevant to children's nutrition because mothers are, in many cultures, the primary caregivers for their children. I concluded that, based on the articulations of pathway 1 in existing literature, it relies upon essentialist ideas of women's roles as mothers, and/or connections to women's resource

allocation (pathway 3). However, here I return to this question of whether/how childcare is relevant to women's empowerment, but this time through the lens of a reproductive justice framework.

From a reproductive justice perspective, women become more empowered when they increase their ability to choose if, when, and how they wish to care for children. Therefore, there is a clear connection between women's empowerment and childcare; increasing ability to care for children will be profoundly empowering for *some* women *some* of the time. Consider again the hypothetical example posed in section 5.3.2, where a mother uses her income to hire someone else to do a significant amount of childcare.³⁷ Another woman might choose to use her income to hire an agricultural labourer, so that she can spend more time cooking and caring for her children. Yet another woman might marry a man who is enthusiastic about contributing to childcare. Each mother has a different caregiving role but all would experience the same amount of empowerment, presuming they all had equal ability to choose how they preferred to care for their children. (For example, a woman who needed to hire someone to care for her children during the day because working in a factory was her only viable source of income would be less empowered than a woman who chose to work outside the home to pursue the particular career she found most rewarding.) As with all dimensions of empowerment, expansion (or contraction) of choice is the defining variable.

What then is the implication for children's nutrition? Because most parents want their children to be healthy, including nutritionally, it is reasonable to expect that increases in women's empowerment will sometimes be correlated with improvements in children's nutrition. However, the choices that women make will not necessarily always optimise children's nutrition, particularly in cases where women's choices are constrained from multiple directions (as in Busoga), and women face difficult, even agonising, trade-offs.³⁸ Therefore, in order to reveal all possible routes to improving children's nutrition *and* to empower women with the

³⁷ This scenario becomes more theoretically complicated – but also more culturally likely in Busoga and elsewhere – if the mother, instead of hiring someone, delegates household duties to her eldest daughter. In depth analysis is outside the scope of this thesis, but this quandary provides further justification that it is important to detach 'woman' from being synonymous with 'mother' and to examine the empowerment of *all* women and girls within a household.

³⁸ Note that even a highly empowered woman may make choices that do not optimise her children's nutrition. Regardless of how frequently this is observed empirically, it is essential to remember that the type of care (if any) a woman provides to her children is completely independent from her empowerment (see p. 37).

full spectrum of parenting choices that could be available to them, one necessary step is to conceptually uncouple the role of the mother from the role of the direct caregiver.

This is no small task; despite global research on the gender norms of care work, the presumption that women will always be responsible for childcare persists in nutrition literature. Caregiver is often equated with mother, sometimes explicitly; for example, an influential review of child development outcomes in low-income countries gave recommendations for further research on “caregiver responsiveness” and “caregiver affect”, respectively defined as “gains in maternal sensitive responsiveness” and “maternal positive emotional involvement” (Walker et al., 2007, p. 154) without any suggestion of research on other caregivers. These narratives can easily slide into blaming the mother for any adverse outcomes in child development, a prejudice with a long history in medical literature (Caplan & Hall-McCorquodale, 1985; Sharp et al., 2018).

The justification for having a baseline assumption that women will feed and care for children usually lies in observations that this is the cultural norm present in a particular research context. This could be applied to Busoga, where the interview responses on caregiving roles (p. 187) clearly depicted mothers as having primary (even sole) responsibility for care work. However, women’s dominance of care work is hardly unique to Busoga, or even sub-Saharan Africa or the global South. So, it makes little sense to treat this as a unique, untouchable aspect of ‘culture’ that must be preserved. At the same time, great caution is appropriate when women themselves are not agitating for changes in caregiving roles. In Busoga, women did repeatedly express views that their partners had been derelict in their duty (as fathers) to provide for their children financially. But no women volunteered that men should contribute more time and labour to performing care work, as this was not socially expected. Therefore, any efforts to encourage changes in the gender norms of care work would need to be cautious and scrupulous in ensuring that such efforts are democratically led by Basoga individuals (Cislaghi & Heise, 2018). One strength of a reproductive justice framework is that it makes no assumptions or normative judgments about the types and proportions of care work that women do (e.g. whether it is good or bad for a woman to increase/decrease care work in relation to agricultural work or leisure, or in relation to other household members). Instead, it evaluates empowerment based only on the degree to which women are able to occupy their own visions of parenthood and womanhood.

Nevertheless, in facilitating women's empowerment in care work through this definition, it may be necessary to challenge gender norms that generally benefit men (e.g. men's lighter labour burden and greater mobility), which will require a nuanced understanding of the cultural norms surrounding masculinity. An important area of future research in Busoga would be to investigate men's opinions and aspirations related to being a man, being a father, and caring for children. Such research in rural agricultural communities in Tanzania (Badstue et al., 2020) found that some men felt undermined by women seeking to earn or control their own income, and were unwilling to participate in traditionally feminine care work; however, they also concluded that the endless, subtle re-negotiations inherent in reproducing gender norms can create opportunities for supporting equality.

Polygyny

One important aspect of parenting in the way one wishes is the ability to grant or withdraw consent to the type of romantic relationship (e.g. dating, cohabitation, monogamous marriage, non-monogamous marriage, divorce) that one wishes to be in, and by extension the type of household one's children will be a part of. This is incontrovertibly an issue of reproductive justice; in contrast, this dimension of parenting does not appear in the three instrumental pathways between women's empowerment and children's nutrition. However, it was clearly important to the women interviewed in Busoga, who firmly expressed their personal feelings about polygyny, as well as the consequences for their parenting decisions and children's nutrition. Whether they themselves were currently in a monogamous or non-monogamous relationship, they unanimously described polygyny in negative terms, as a hardship imposed by one's husband, or even an insult:

Interviewer: How does a woman feel when her husband marries another wife?

Respondent: When he shows you signs of marrying another wife, he may tell you, "I have a guest at your mother-in-law's"... deep inside my heart I felt sick and annoyed. Women start talking about you.

– Respondent #101, Married, Monogamous

Interviewer: How does a woman feel when her husband marries another wife?

Respondent: She feels very bad and feels so small and doesn't understand herself... You wonder why he has taken a second or third wife. Even

when you ask him, he gives you no answer. You also can't find an answer.

– Respondent #95, Married, Polygynous

Even women who identified as Muslim and stated that, according to their own religious beliefs, men could marry up to four wives, wished for a monogamous marriage. When asked whether they had any power to stop her husband from marrying another woman, most women said that it was completely out of her hands:

Interviewer: Do you have any power to stop your husband from marrying another wife?

Respondent: No. I don't have the energy to beat him, and no authority to stop him. I just watch. He is an adult and decides what he wants.

– Respondent #74, Married, Polygynous

Interviewer: Do you have any power to stop your husband from marrying another wife?

Respondent: (laughs) I can't because I do not have authority over him. If he brings another wife, I harden and we become two. I am not the head of the family. I cannot tell him not to bring another wife into my house. Our house is one-room, but if he wants, he can bring in another wife.

– Respondent #97, Married, Monogamous

A minority of women said that they had some power to influence her husband's marriage decisions. Nearly all of them described the same line of reasoning they would use, pointing to the household's already scarce resources, and arguing that her husband did not have the financial resources to support an additional wife and children:

Respondent: I tell him that we have many children; let us first work for them. When the children grow up and then get married and we are not caring for any children, then you can get another woman. Because a woman also requires money.

Interviewer: Besides having many children, which other reason would you use to refuse him?

Respondent: Another reason why I could stop him? ...There is none.

– Respondent #72, Married, Monogamous

"I tell him, 'Why are you bringing a bride when we are already eating poorly? A bride will not eat sweet potatoes and greens like we eat.'"

– Respondent #92, Married, Monogamous

Only one woman said that she could stop her husband by conveying that she simply did not want to be in a non-monogamous relationship. A few women described having limited influence. Two said that she could not prevent her husband from marrying, but could at least ensure that she maintained a separate home. Others said they did not have enough influence alone, but could potentially recruit friends or family members to persuade her husband to change his mind:

“If he wants to bring the wife into my compound, I can stop him. I contributed money to buy this plot; I contributed money for this building. I have previously had a co-wife in my house and saw how she treated me. I am not interested in getting infectious diseases. But if he wants to have a wife out there, I have no control. But if he wants to have another wife here, he needs to cut off my head.”

– Respondent #62, Married, Polygynous

“When a man has decided, he has decided. If you try to stop him, you are only wasting your time. He can even decide to bring her in this same house, even if you refuse. Unless you go to the law and they help you. Women can help you. They can tell him, ‘Please, your wife is the one who has struggled with that house. Don’t bring your other woman. If you want her, take her somewhere, but not that house.’”

– Respondent #66, Married, Monogamous

These gendered, conflicting views on marriage have been present in Busoga for at least a generation. Over twenty years ago, Sorensen (1996) documented some Basoga women’s negative feelings toward polygyny, and men’s total control over whether a marriage is monogamous. She also commented (p. 626) that the state of the institution of marriage in Busoga would be an important area of research in the future. These interview results confirm that resolving women’s lack of agency in their own relationship status continues to be a key component of empowering women in Busoga.

The connection between women’s empowerment in her marriage/relationship and children’s nutrition is clearly articulated in a reproductive justice framework (i.e. that all decisions about if/when/how to parent children are interconnected and inseparable), and was also plainly visible

to the women interviewed. Although there were no direct questions about how polygyny might affect household dietary habits, several women volunteered this consequence:

Respondent: The necessities at home that he has been providing to one family isn't the same when he gets two families... For example, if in my home I have been serving him two pieces of meat he accepts this. But now the new wife serves him five pieces of meat, and he may start to demand five pieces... My husband may have been buying me things when he sells our harvest. Now when he gets a second wife he may stop buying things for me, which makes me feel bad.

Interviewer: Doesn't the young wife farm?

Respondent: No, my husband wants to prove to the young wife that he loves her more, by taking money from my harvests.

– Respondent #99, Married, Monogamous

“I had felt I had authority and had warned him not to marry another woman, but he brought her. We fought and he told me to leave the house if I did not want it. I gave up. What the man gave you before – it all changes. [Before] I would eat posho, fish, and rice. But ever since she came, that's all changed.”

– Respondent #106, Cohabiting with partner³⁹

The expectations (and experiences) of a larger household spreading food and other basic necessities even thinner is also implicitly present in women's aforementioned persuasive tactics (wherein women protest that they will not have enough resources to care for the children they already have). Thus, these results collectively illustrate that to comprehensively address both women's empowerment and children's nutrition in Busoga, it is essential to use a framework that incorporates the role of polygyny.

Parenting Aspirations

To support and expand women's abilities to parent in the ways that they wish, it is essential to understand their self-defined aspirations for their children, and the barriers to realising those aspirations. These have already emerged somewhat in the data analysed thus far; i.e. most women expressed the desire to feed their children better food (p. 185), and lamented the conflicts between limited time and budgets for food and education (p. 190). But a reproductive justice framework makes women's parenting aspirations central, rather than marginal, and so

³⁹ This response (like all demographic data) was given at the time of the quantitative survey, 18 months prior to the qualitative interviews. This interview implies that since that time, she has entered a non-monogamous marriage.

it is worthwhile to delve into women's descriptions of the types of upbringing they would like to provide to their children. As a prompt for identifying and elaborating on their parenting goals and values, women were asked which parts of their own childhood they would like to duplicate for their children, and which ways they would like their children to experience a different (better) life than they had. As suggested by women's concerns about paying for school fees and supplies, education was highly valued, mentioned by nearly all women as a pivotal determinant of their children's futures:

“I want my daughter to go to school because I was never educated well. I don’t want my child to do so much work that she doesn’t study well.”

– Respondent #77

“I want my children to study so that they are well off. When a child studies and succeeds they get a job and work... It helps them to get money and provide for themselves whatever they want.”

– Respondent #105

The importance of education was also directly tied to the importance of eating well. All women wanted their children to eat well as a necessity of good health, but some also pointed out that underfed children would not do well in school, which could in turn have a lifelong impact on their livelihood options:

“I do not want my children to eat leftover foods. I used to eat cold potatoes on my way to school. Cold food retards children’s brains.”

– Respondent #86

“I was raised in a bad condition. For example, I don’t want my child to go to school without drinking tea. Whether black tea or with milk. When he goes to school hungry, all his thoughts will be on eating.”

– Respondent 79

However, given their struggles to pay for all their children's education, many women recognised the uncertainty around how many years of schooling their children would ultimately complete, and that even if well-educated, they may not necessarily find a stable job. Therefore, many women saw it as their responsibility to teach their children how to farm, so that they would always have a fallback method of survival, if education did not lead them to a more prosperous future:

Interviewer: What else do you remember from your childhood that you want to continue in bringing up your children?

Respondent: They taught us to farm. So that you can provide yourself with what you want... when you have [farming skills], even if you did not get educated, you will not fail.

– Respondent #82

“I grew up working. I did not go far with studies. We would wake up early in the morning to go and farm... When you return from school you eat and go back to the garden to farm. So we grew up working and cooking at home... I want my children to grow up like that. One day they might fail to continue with their studies, but they will survive on the work skills that they have learnt.”

– Respondent #72

At the same time, many women were cautious about making sure that they did not overload their children with heavy labour:

“I grew up suffering... I do not want my children to go through that. I would never go to school without farming, and if I did I would not be given food... When I returned from school I would fetch water, wash dishes, collect firewood, cook, farm, collect water, fill all the jerrycans, and eat a late supper. I don’t want my children to go through the same thing.”

– Respondent #97

“I don’t want my children to do work that doesn’t suit their age. Even house chores, like carrying a 20 litre jerrycan when the child is too young.”

– Respondent #99

Some women characterised forcing a child to do too much work as a form of abuse, and also said that it was very important to them that their children not be abused through physical beating or verbal castigation either. Relatedly, most women also talked about the moral values and beliefs that they wished to inculcate in their children, such as manners and religious traditions. And as mentioned in previous sections, some women also emphasised that important parts of keeping children healthy and comfortable were providing good clothing, hygiene, and bedding. Some women also specifically brought up the strong influence that fathers can have on children’s health and quality of life, including education:

“I don’t want [my children] to be like I was. Our father did not pay school fees for us. He would leave us and go to the wife he loved more and would educate only her children. We did not study well.”

– Respondent #18

Respondent: I don’t want my children to grow up in the type of conditions that I did, which were very bad. I grew up without eating fish or dressing in good clothes. We would share one kilogram of cassava flour between eight children. One day you would eat, another day you would go to sleep hungry...

Interviewer: Why did you grow up in those conditions?

Respondent: Father did not have money. Whatever money he had he would spend on alcohol. I grew up in bad conditions and it forced me to get married early. I want my child to go to school and learn something, to get a job and not be like me. To be better than me.

– Respondent #65

The latter quote draws a connection between children’s poverty and early marriage among young girls, as a desperate measure to improve one’s own living conditions in the short term. Several other women also said that they hope their children will not marry early, which once again was closely related to staying in school:

“I want my children to marry at 18 or 19, not early. I want them to get an education.”

– Respondent #80

“If I had been able to get an education, I wouldn’t have gotten married early. I got married at 16 years old... I don’t want my children to start having sex when they are young. I may think they are in school, but they are with boys. I was forced because I wasn’t in school.”

– Respondent #101

Overall, the women depicted clear visions of how they would like to parent their children, and some of the barriers to living out those goals. Many had themselves grown up in poverty, and wanted to provide their children with better food, less strenuous chores, an emotionally supportive home environment, better access to education, agricultural skills, and a strong cultural heritage. They also articulated how these objectives were interconnected; for example, being hungry could diminish children’s attention in school. Failure to complete school and/or dissatisfaction with life at home (e.g. poverty, abuse) could incentivise a young teen to get

married as a means of escape. Women balance all these concerns to find a strategy for raising her children as best she can. Several women also recognised that these parenting responsibilities were not necessarily hers to bear alone; having a supportive father to her children could dramatically boost her children's chances of having a healthy and fulfilling life. Conversely, having an abusive, unsupportive, or absent partner becomes yet another obstacle for many women to overcome. By focusing on empowering women in their parenting, as defined by the caregiving goals and barriers that women themselves identify, the areas in which women's empowerment and children's nutrition are aligned emerge much more clearly.

5.4 Chapter Conclusion

Research to date on the relationships between women's empowerment and children's nutrition has relied on three theoretical pathways that employ a piecemeal analytical approach founded on dubious assumptions about women's care work and resource allocation, and maternal primacy in the Developmental Origins of Health and Disease hypothesis (i.e. the first 1000 days). In this chapter, I have presented evidence from Busoga that leads me to argue for using an alternative conceptual framework, the reproductive justice framework. Instead of linking children's nutrition to fractionated ideas of womanhood (caregiving, altruistic spending, pregnancy) and instrumentalist pathways (encouraging only the types of empowered behaviour that benefit children's health), the reproductive justice framework centres women's choices about if, when, and how to parent children – all strategic life choices, i.e. the definition of empowerment (Kabeer, 1999b). In doing so, this framework applies a true life-course perspective, in which safeguarding children's nutrition encompasses protecting women's choices about whether and when to have a child, supporting women during pregnancy (not only in terms of physical health, but also mentally and socially), and honouring women's agency in raising her children according to her own vision by reducing the barriers to her parenting goals.

Such barriers to women's choices are often systemic; so too are many drivers of malnutrition. In Busoga, economic and gender inequality powerfully shape the choices available to women, both at major forks in her life (e.g. when to marry, when to have a child, whether to send her children to school) and in daily decisions (e.g. what her children will eat for dinner). In other contexts, these systemic issues might include (but are not limited to) environmental justice (e.g. ability to give children clean drinking water), conflict and violence (e.g. ability to protect children from gangs or an abusive family member), or racial/ethnic discrimination (e.g. ability

to prevent or mitigate experiences of prejudice). A reproductive justice framework provides a concrete approach for understanding how these social and environmental factors interact throughout the course of an individual woman's life, and for evaluating the degrees of freedom that women have to parent as they wish.

Thus, a reproductive justice framework not only provides a more coherent scaffolding for identifying relationships between women's empowerment and children's nutrition, but also complements arguments in nutrition literature for a shift in focus from individual behaviour (e.g. choosing a particular food over another) to systemic drivers, and more nuanced definitions of malnutrition. For example, Scrinis (2020) argues that it may be beneficial to define malnutrition as a socio-biological condition, rather than a simple expression of the quantity/quality/diversity of food consumed that classifies individuals under over-simplified categories (undernutrition, micronutrient deficiencies, and obesity). Rather, it is necessary to move beyond reductive technological solutions (Ferguson, 1990) (e.g. nutrient supplements, biofortification) to address the power imbalances and social inequalities that underlie nutrition-related illnesses (Adjaye-Gbewonyo & Vaughn, 2019; Scrinis, 2020; UNICEF, 1990). This conceptual shift appears prominently in the 2020 Global Nutrition Report (Development Initiatives, 2020) under the headline that "poor diets and resulting malnutrition are not simply a matter of personal choices" (p.15) with a focus on requisite changes in food and health systems. Nevertheless, scrutiny of individual choices persists in nutrition research. To give an example relevant to women's empowerment and reproductive justice, a recent review of studies documenting women's food preferences during pregnancy across multiple low- and middle-income countries found that economic constraints (i.e. income inequality) are common barriers to women eating the foods they believe are best for the health of the foetus (Kavle & Landry, 2017). However, the authors recommended increasing information transfer through antenatal visits, but did not address issues of poverty, women's inability to buy her own food or eat the same food as men, or resources to reduce pain and danger during childbirth. They also stated that pregnancy is a good opportunity for women to make "lifestyle changes" that they "might otherwise resist" (p. 11). This implies that at least some of malnutrition is caused by women's voluntary, 'incorrect' choices. This emphasis on "lifestyle" risks moralising health and disease, and blinding researchers to the root causes of malnutrition and other non-communicable diseases (Adjaye-Gbewonyo & Vaughn, 2019). Furthermore, the reproductive justice framework and evidence from Busoga presented in this chapter demonstrate that domineering

individual choices is antithetical to women's empowerment. In the pursuit of empowerment, choice is only a freedom to be expanded, not a behaviour to be policed.

CHAPTER 6: Question 3. How do theories of women's empowerment in agriculture align or conflict with theories of women's empowerment in nutrition?

6.1 Introduction

In the preceding chapters I have explored the relationships between women's empowerment and agriculture, and between women's empowerment and children's nutrition. Here, I build upon the empirical results observed in these two-pronged analyses to understand how a development intervention might effectively integrate all three objectives: women's empowerment, agricultural productivity, and children's nutrition. Within development literature, there is a tendency to neatly collimate *all* the interactions between these three objectives, while overlooking the points where they clash. Implementing activities related to these three objectives simultaneously is not necessarily sufficient for producing compounded benefits (i.e. that are more than the sum of their parts). For example, a recent randomised control trial of agricultural extension, child nutrition behaviour change communication, and gender sensitisation trainings in Bangladesh found that, while significant increases in women's empowerment (as measured by the Abbreviated Women's Empowerment in Agriculture Index and project-level Women's Empowerment in Agriculture Index) were observed, there were no significant differences in empowerment between the various combinations of agriculture/nutrition/gender trainings. (E.g. empowerment increased equivalently among participants who received gender sensitisation and those who received none.) Furthermore, the increases in index empowerment scores appeared driven by access to credit, which was not a component of the overall intervention (Quisumbing et al., 2020). These mixed results illustrate the importance of clearly establishing theoretical pathways (i.e. theories of change) prior to implementation of interventions (e.g. precisely *which* aspects of empowerment the intervention targets, and *how* these interact with agriculture and nutrition in a particular context).

In this chapter, I identify places where these three objectives have symbiotic theoretical pathways and display the pathways that may be running in incongruent directions. Effectively, all existing theoretical pathways (see p. 43) connecting these three objectives focus on modifying women's agricultural work in a way that is empowering for women and also results in nutritional benefits for their children. The results from the preceding chapters suggest that

these theoretical pathways should be expanded in two significant ways (at least in the context of Busoga). First, the evidence from Chapter 4 clearly showed that agricultural livelihoods are a coping mechanism for many women, rather than a purposeful choice. Therefore, agricultural interventions may need to be combined with options for alternative livelihoods, or agricultural activities may need to be modified in such a way that women can accumulate enough resources to transition out of agriculture, if they so wish. Second, the evidence from Chapter 5 illustrated how expanding women's abilities to care for children in the way that they wish can be a profoundly empowering experience. This means that the common conceptualisation of women's empowerment as an instrumental means of improving children's nutrition is needlessly unidirectional. In other words, in a carefully designed intervention, increasing women's empowerment may improve children's nutrition, and improving children's nutrition may also increase women's empowerment.

But 'may' is an operative word in these insights. To gain a more tangible understanding of *when* and *how* to apply the lessons learned from previous chapters to future interventions in Busoga, I turn to three shared threads that tie agriculture, nutrition, and empowerment together: time, labour roles, and life-course narratives.

6.2 Discussion

6.2.1 Time Use, Labour Roles, & Life-Course Narratives

Time Use and Women's Empowerment

The relationship between women's time poverty, agriculture, and nutrition is particularly under-researched (Kadiyala et al., 2014; Johnston et al., 2018); in this thesis, I have attempted to narrow this gap with evidence from Busoga. The heavy agricultural and care work burdens evident in Chapter 4 and women's struggle to balance competing labour demands described in Chapter 5 demonstrate that time constraints and trade-offs are key components of understanding women's empowerment in Busoga. However, increases or decreases in the number of hours a woman spends working may not always be correlated with outcomes in agricultural production and children's nutrition. For example, an intervention that aims to diversify crop production (e.g. by providing farmers with inputs and market access) and children's diets (through increasing income and behaviour change communication) may

succeed only in re-arranging women's work tasks, without decreasing her total work burden. This may occur even if the intervention incorporates labour-saving devices (e.g. maize shellers or fuel-saving cookstoves) and approaches (e.g. encouraging men to participate in childcare) (Simon et al., 2020). In Busoga, women often felt obligated to cut corners in order to complete all their work (e.g. choosing a quicker-cooking food, delaying a meal, shortening breastfeeding, postponing cleaning), and often spent any small amounts of free time strategising how to handle anticipated work. Thus, it would be unsurprising if any time savings bestowed by a technological innovation were quickly filled with other forms of work (e.g. cooking that slower food, catching up with the weeding). Indeed, this occurred in just such an intervention in Zambia where, despite programme efforts to reduce women's work burden, the agricultural labour required for diversifying crops reduced women's time spent in both childcare and leisure, impeding the objectives of improving women's empowerment and household diet diversity (Kumar et al., 2018).

While total hour-count is the metric used by the Abbreviated Women's Empowerment in Agriculture Index, it is not the only aspect of time use relevant to women's empowerment. As discussed in Chapter 4, the evidence from Busoga suggests that women's agency in deciding how to spend their time, and their feelings about agricultural work and care work (as examined in Chapter 5) afford a more nuanced view of empowerment. The most prominent example of this in Busoga is women's widespread desire to start a non-agricultural small business. The process of establishing such a small business could be highly time-consuming, but if it simultaneously grants women feelings of self-actualisation and hope for ultimately reducing time poverty (as well as economic poverty) in the future, then it could be a much more empowering experience than simply speeding up existing work. Furthermore, as argued in Chapter 5, understanding women's feelings about childcare (e.g. through a reproductive justice framework) allows for identification of childcare tasks that women enjoy (e.g. the Basoga women who reported feeling great joy in cooking for children, or who wished to spend more time teaching their children) in contrast to those that they do not enjoy (e.g. the Basoga women who found cooking or laundry tiresome). This more nuanced approach to evaluating time use potentially also allows nutrition-sensitive agriculture interventions to be more flexible and creative in their approaches, tailoring programmes' empowerment objectives to meet women's specific desires, rather than bundling all work activities together under an aggregate number of hours.

In other words, quantitative measurements of women's time use can complement, but should not drown out, qualitative measurements of women's subjective experience of that time use. Development interventions must be careful not to be overly reliant on the appeal of 'objective' changes in indicators composed of numbers of hours, especially when this practice risks giving the erroneous impression that asking for women's opinions is unnecessary for measuring their empowerment. Similarly, in the context of programs combining women's empowerment, agriculture, and children's nutrition, the importance of women's labour to all three objectives has drawn increased attention to women's levels of physical exertion. For example, a recent study (Picchioni et al., 2020) used accelerometers to measure women's (and men's) energy expenditures and physical activity in agricultural and care work, intending to add depth to the standard time use surveys that estimate work burdens. The results the study produced paralleled, in many ways, the results of this thesis (e.g. documentation of women's heavy labour burdens and the importance of understanding trade-offs between agricultural and care work). This technology⁴⁰ could be insightful in some contexts, such as when researchers suspect that women are reluctant to complain about any health damage caused by excessive work. But in the case of Busoga, women were very vocal in describing their pain and fatigue, and gave specific suggestions for how to reduce their labour burdens. In such a context, does granular observation of women's time use or energy expenditure provide any new or valuable information? I argue that any trend toward placing women's activities under ever more magnified microscopes should trigger caution. Surveillance is never a neutral act (Haraway, 1988), and tracking devices should be deployed sparingly and strategically, when they fill a research gap inaccessible through other data collection methods.

In summary, while women's time use is likely to be a central component of any development intervention addressing empowerment, agriculture, and nutrition, this does not mean that a broad documentation of all women's activities will be the most informative and efficient approach. Rather, it is imperative to have a clear theory of change that incorporates women's own views of how they currently spend their time, how they would prefer to spend their time, and the ways they would like to make those changes to their time use.

⁴⁰ Similar exploratory research has been conducted on the use of heart rate monitors as a tool for measuring energy expenditure while fetching water and grinding grain (Russel et al., 2020).

Labour Roles and Women's Empowerment

Parallel to the importance of articulating a theory of change that incorporates women's views of time use, it is equally important to establish an understanding of women's views of their roles in agricultural labour and care work. Agricultural productivity and women's empowerment can only increase symbiotically if women are able to choose an agricultural livelihood (against other livelihood options) *or* if increasing agricultural productivity serves as a stepping-stone to expanding livelihood options (e.g. by increasing savings). In the case of Busoga, women's participation in agriculture was tightly constrained; most women felt that agriculture was the only livelihood option available to them. Therefore, in order to expand women's empowerment in Busoga, any development intervention would need to foster opportunities for alternative livelihoods alongside improvements in agricultural practices. Because some women described their husband's behaviours as barriers to alternative livelihoods, it would also be necessary for a development intervention in Busoga to address gender norms surrounding women's labour and earning independent income. For women who choose to remain in agriculture, the pattern of (some) husbands dominating women's decisions about which crops to sell would also need to be addressed. In addition, a development intervention would need to support women's suggestions for making agricultural labour less arduous (e.g. securing land ownership, acquiring oxen and mechanised equipment, improving quality of seeds and other inputs).

For any of the above-described development interventions, the key first step is understanding the spectrum of women's views of agricultural labour existing in a particular context. The same principle applies to designing interventions that incorporate women's care work. In Busoga, women did not express a strong desire to delegate care work responsibilities to other household members; instead, they wished for income-generating work that was easier to balance with care work than agricultural labour. This was an important driver of women's desires to transition away from farming and toward jobs viewed as more flexible and less physically exhausting (e.g. tailoring, hairstyling, retail). Therefore, any development intervention would need to consider whether the livelihoods supported and incentivised 1) aligned with women's overall time use aspirations *and* 2) aligned with women's desired balance between income-generating work and care work. Again, because women (in any context) are not a monolith and have heterogeneous paths to empowerment, expanding women's empowerment (i.e. choices) would likely necessitate providing women with an array of livelihood options.

Life-Course Narratives and Women's Empowerment

The third principle for uniting objectives in empowerment, agriculture, and nutrition is the importance of viewing changes in women's lives over the long-term, rather than as a single snapshot in time. This is not a new idea in the field of women's empowerment research (see p.15), which has long emphasised that empowerment is a process, not a fixed state. However, this tenet of empowerment research is often missing from assessments of women's empowerment in agriculture and nutrition, and its omission becomes even more problematic when identifying common ground between agriculture, nutrition, and empowerment objectives.

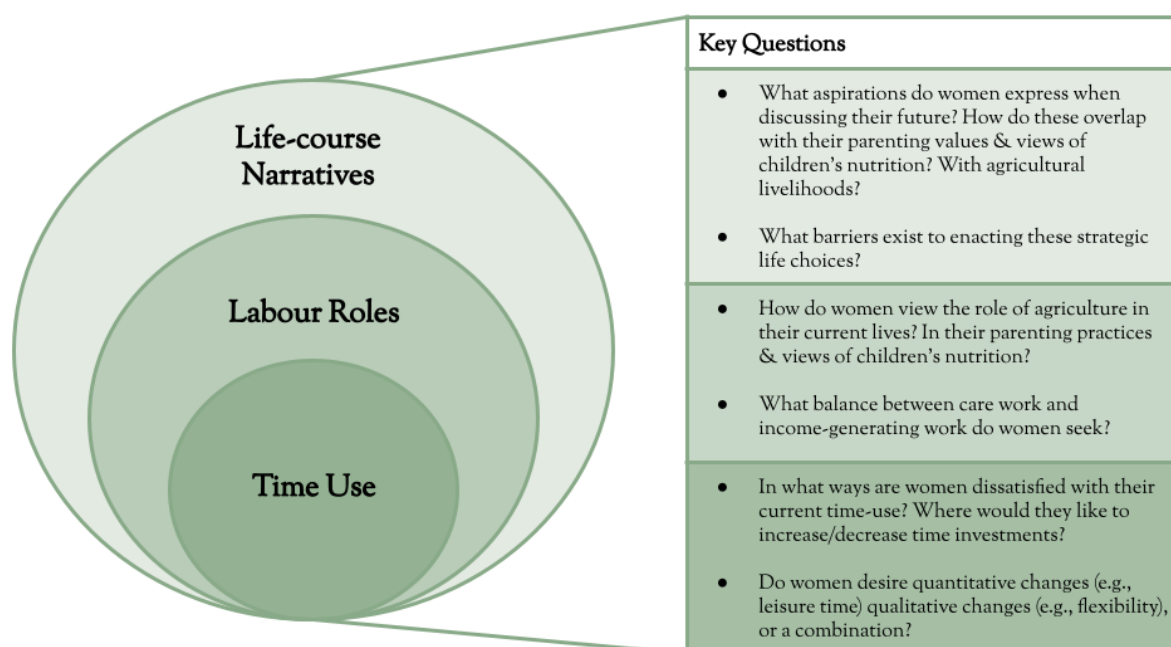
For example, the preceding two sections have demonstrated how agriculture interventions can only achieve empowerment when designed in relation to women's aspirations regarding time use and labour roles. The logical extension of this analytical framework is to ask how agricultural interventions can support the expansion of women's choices in the longer-term context of women's life-course narratives. Without this bird's-eye perspective, it becomes easier to lose the thread of precisely how a particular agricultural intervention justifies its claim of empowering women. In Busoga, women expressed clear long-term goals related to agriculture, such as reducing the physical intensity of agricultural labour, passing on agricultural skills to their children, and giving their children sufficient education to access career opportunities outside agriculture. Not coincidentally, these long-term views of the role of agriculture in one's life-course overlap with parenting aspirations and illuminate intersections with nutrition interventions.

In the context of nutrition, the importance of life-course narratives reinforces the strengths of the reproductive justice analytical framework. As discussed in Chapter 5, a reproductive justice lens encompasses all aspects of if, when, and how women raise their children, spanning from family planning throughout all parenting years, rather than solely a narrow period (e.g. pregnancy and early childhood). For example, because women in Busoga wanted to provide a wider diversity of foods to their children, but lacked the resources to make this possible, nutrition interventions that remove the barriers to those resources would be the most empowering (compared to, e.g. providing information about nutrient-dense foods). Other opportunities for overlap between nutrition outcomes and empowerment outcomes were apparent in Basoga women's discussion of reproductive justice issues over the long-term; namely, they wanted to be able to have power of consent in polygynous marriages, to earn

more independent income via less exhausting labour, to control the timing of their pregnancies, and to balance income-generating work with care work.

In existing theories of the intersections between empowerment, agriculture, and nutrition, there is a tendency to first look for common ground between agriculture and nutrition, and later add in women's empowerment (typically wherever inserting women's participation is easiest). As discussed in chapter 2 (p. 43), while the issues raised are relevant to women's empowerment, the specific empowerment objectives to be met are unclear in these theoretical pathways. I have proposed that assessing women's articulated aspirations for their time use, labour roles, and life-course narratives should guide identification of the intersections of empowerment, agriculture, and nutrition relevant to any particular context (See Figure 30). To demonstrate how these principles may be applicable in practical terms, I turn to specific types of agriculture-nutrition interventions, and how they could potentially align or conflict with women's empowerment objectives in Busoga, given the conclusions drawn from Chapters 4 and 5.

Figure 30: Proposed conceptual framework for identifying intersections between women's empowerment, agriculture, and nutrition



6.2.2 Practical Applications: Types of Interventions

In this section, I examine five different types of development interventions common in the literature that aim to achieve objectives in agriculture, nutrition, and women's empowerment: 1) biofortification, 2) livestock, 3) social behaviour change communication, 4) gender norms training, and 5) unconditional cash transfer. In each example, I demonstrate how the lessons learned from the preceding chapters could be applied to future development interventions, as illustrated by the evidence from Busoga.

Biofortification

Biofortified crops (i.e. varieties of food crops bred to have higher levels of selected micronutrients) present an opportunity to provide farmers with improved crop varieties while also increasing the nutritional value of home-consumed crops. In this case the nutrition-agriculture benefits are clear and direct. However, the connection to women's empowerment is less assured. In Uganda, a prominent example of this type of intervention is the introduction of orange-flesh sweet potatoes, which are rich in vitamin A (Low et al., 2017). The women interviewed in Busoga generally described sweet potatoes as a staple crop that could be grown at home and depended upon during lean times. Sweet potatoes with wild amaranth was described as a meal eaten when income was low. In one sense, biofortified sweet potatoes could increase empowerment by strengthening women's confidence that, even during hard times, they could provide a nutritious meal for themselves and their family. However, women also described sweet potatoes as a time-consuming food to harvest and to cook. If an intervention places too much pressure on women to increase their consumption of sweet potatoes, this could have detrimental effects on their empowerment, especially their time poverty. As previously discussed, this decrease in empowerment would not necessarily be reflected in an increase in total working hours, but rather a reduction in flexibility. Any constriction of women's choices about how to spend her time and what to feed her family constitutes disempowerment. Therefore, regarding the home-consumption side of this biofortification intervention, it may be more realistic to expect increases in women's resilience, rather than women's empowerment. That is, providing a hardier and more nutritious variety of sweet potato would bolster an existing safety net, rather than expand women's available choices.

Aside from the nutritional objectives of introducing biofortified sweet potatoes, there is also an opportunity to empower women by improving women's ability to practise agriculture. For

example, if the improved variety of sweet potato produced higher yields, and was a higher-value crop than traditional varieties (e.g. because of its nutritional value), then it could increase women's access to income. However, the evidence from Busoga also raises a few potential challenges to this theory of change. First, sweet potatoes are generally a food crop in Busoga, not a cash crop; innovative marketing strategies may be necessary for enabling women to earn income from selling sweet potatoes. Second, if the new variety developed a higher market value, then the intervention would need to take precautions to ensure that women maintain control over the crop and its profits. The evidence from Chapter 4 on decision-making in production and income showed that in some households men were more likely to control decisions made about selling cash crops than food crops; some women also had limited access to agricultural income, due to her husband's behaviours. Third, the current method of growing sweet potatoes in Busoga requires heavy manual labour; this is the type of farming that many Basoga women said they wanted to minimise. Therefore, to increase women's empowerment, one strategy would be to implement the biofortification intervention alongside another intervention that offered an alternative livelihood option (e.g. starting a non-agricultural business) that could provide comparable income to selling sweet potatoes. This increased income would give women the option of purchasing vitamin-A rich foods if they chose not to grow the biofortified sweet potatoes. And because women would have at least two livelihood options that resulted in more nutritious diets for their children, the intervention could justifiably claim that its theory of change included an expansion of women's strategic life choices (i.e. empowerment).⁴¹

In addition, the intervention could provide cash to hire labourers or agricultural inputs (e.g. mechanised equipment, fertiliser, pesticides) that make the process of growing sweet potatoes less arduous (techniques to facilitate orange flesh sweet potato production that were documented in Mozambique by Jenkins et al. 2018). However, as discussed previously, the introduction of technological innovations alone is unlikely to be sufficient to increase empowerment. Introduction of any agricultural technology should be accompanied by women's evaluations of the tool's benefits, and the overall impact on her time poverty, labour roles, and her feelings about the role of agriculture in her life in general. This principle would

⁴¹ As a reminder, this is not a conclusion about the role of empowerment in *all* biofortification-centred nutrition-sensitive agriculture interventions. Rather, it is an example of how to construct a robust theory of change for women's empowerment within such an intervention, using the evidence from Busoga as an illustration. Different biofortified crops in different regions could require completely different intervention designs to achieve outcomes in women's empowerment. But the same principles of the analytical process outlined here (and in subsequent examples) would apply.

also apply to any other agricultural intervention focused on boosting household diet diversity through increased productivity, and enhancing women's ability to practise agriculture (see prior discussion about resilience vs. empowerment).

Livestock

Another prominent approach to increasing women's empowerment through nutrition-sensitive agriculture is supporting women's ability to raise livestock. As with the biofortified staple crops, the agriculture-nutrition premise of this intervention is that some of the agricultural product (in this case, milk or eggs) will be consumed at home, thereby boosting intake of protein and essential micronutrients and improving nutrition outcomes. However, this does not mean that a livestock intervention would necessarily mirror a biofortification intervention's interactions with empowerment outcomes. Unlike manual fieldwork, raising livestock was described in positive terms by several Basoga women interviewed. The reasons for this included 1) the ability to use livestock as a form of savings, 2) the social status associated with owning livestock, and 3) the ability to keep livestock near the home and multi-task with care work. These advantages make livestock appear more directly complementary to increasing women's empowerment in Busoga than biofortified sweet potatoes. Nevertheless, it is still essential to closely examine how an intervention that provides women with additional livestock affects their time use, labour roles, and life-course narratives. Previous research on an intervention in Busoga providing crossbred (i.e. high-producing) dairy cattle to women (Bain et al., 2018) found that the new breed required higher amounts of care than traditional breeds, resulting in heavy workloads for women that were sometimes difficult to balance with care work demands. However, women also increased their agency in parenting by gaining the ability to feed their children milk when they wished and to pay for education fees with the income from the cow. Furthermore, some women said that they enjoyed the work of caring for cattle (when they had time enough to do it) (Bain et al., 2018).

This example provides a good illustration of the mixed trade-offs that can exist within an intervention, and the importance of allowing women's own values to shape the weighting of indicators evaluating empowerment. Women may find that, despite the challenges of intensive milk production, the financial, nutritional, and agential benefits make the intervention an empowering experience overall. Other women may find the time costs and incompatibility with care work to be too burdensome for the intervention to be viable. Life-course narratives provide

helpful context for assessing the nature of empowerment; some women may find owning a productive cow short-term to be empowering, as a means of saving enough cash to transition to a more desirable type of work. Here again, providing multiple livelihood options, both agricultural and non-agricultural, would help to maximise empowerment across women with different preferences and needs.

Social Behaviour Change Communication

Because women's care work is often cited as a key route to improving children's nutrition outcomes, transferring information about nutritious foods through social behaviour change communication is another common arm of nutrition/agriculture/empowerment interventions. In some cases, these behaviour change messages may be directly connected to agriculture, such as interventions promoting home gardens cultivated by women (with the intention of consuming the harvests at home, as a means of increasing diet diversity). In other cases, the information may not be directly connected to agriculture (e.g. breastfeeding, feeding practices, or hygiene practices) but rather bundled alongside an agriculture intervention. The former may provide more direct connections between the objectives of nutrition, agriculture, and nutrition than the latter. However, both types must clearly articulate the theories of change linking the three categories of objectives. Otherwise, an intervention may be implementing co-location of objectives, rather than thorough integration (see p.33). For example, if an intervention provides information about home-gardening techniques, there must also be an accounting of the time required to learn about and implement those techniques to ensure that women's time poverty does not intensify. Likewise, an intervention providing information about breastfeeding recommendations must first establish why women are not currently using the recommended practices. For example, in Busoga, women reported that their work burdens (both agricultural and domestic) interfered with their ability to breastfeed their children at will. In this context, any breastfeeding behaviour change communication would need to be paired with an intervention (e.g. expanding livelihood options) that increased women's ability to spend their time as they wished.

Interventions targeting empowerment and employing social behaviour change communication must also be scrupulous in supplying information and resources, rather than persuasion and judgement. The success of a social behaviour change communication intervention should not be measured by the degree to which people change their behaviour (as determined by external

preferences), but the degree to which recipients value the information as helpful and relevant to their lives (e.g. resources that help individuals align their behaviours with their own values). Otherwise, an intervention risks impinging on individuals' ability to make their own choices, and therefore decreasing empowerment. For example, an intervention that provides information about how macronutrient and micronutrient intake contribute to health is markedly distinct from an intervention that encourages people to eat more or less of any particular food. The reproductive justice framework is useful in this respect, as it centres women's individual parenting priorities.

Equally essential, any intervention that incorporates social behaviour change communication must examine the degree to which its theory of change depends on individual action versus systemic change. For example, in Busoga women reported that their food choices were limited by a paucity of livelihood options, patriarchal gender norms, and reproductive injustice. An intervention seeking to change nutritional behaviours (e.g. eating higher protein foods) would need to not only provide information about the health benefits of high-protein foods, but also support systemic changes that strengthen women's access to those foods.

Gender Norms Training

One example of effecting such systemic changes is to incorporate gender norms training into an intervention. For example, in previous research in Uganda (Ickes et al., 2017), both women and men supported the idea that gender norms around childcare could/should change in their communities. In Busoga, Alupo et al. (2020) investigated men's involvement in antenatal healthcare, and preliminary results show that changing gender norms around antenatal healthcare would require not only educating men, but also educating physicians and midwives. Through their research Alupo et al. also identified barriers to men's involvement in the healthcare infrastructure and opportunities for supporting men's healthcare needs (e.g. nutritional assessments). In this way, a focus on fostering equitable gender norms can lead to the identification of complementary interventions that are democratically supported, a prerequisite condition for the success of any intervention challenging existing gender norms (Cislaghi & Heise, 2018). Similarly, some women interviewed in this research volunteered ideas about community trainings that could improve gender norms to the benefit of women (e.g. decreasing domestic violence and normalising the idea of women earning independent income). If an intervention in Busoga used these suggestions as a basis for designing/facilitating

community trainings/dialogues, then that process could also identify complementary interventions that remove/mitigate the root causes of violence and prejudice against women (e.g. providing employment opportunities and mental health support to men). Badstue et al. demonstrate in their study of gender norms of rural agricultural communities in Tanzania (2020) that understanding “the continuous performance, reproduction and renegotiation of gender” (p. 1) in a particular place (both historically and contemporarily) is essential for designing context-appropriate gender-transformative interventions.

Evaluating a development intervention from the perspective of its efficacy in fostering more equitable gender norms reverses the lines of inquiry presented in the previous three examples (biofortification, livestock, and social behaviour change communication). Rather than scanning for ways that an intervention might inadvertently disempower women, identifying the theory of change related to women’s empowerment is a primary step, and establishing its compatibility with agricultural production and nutritional health is secondary.⁴² Ensuring that this process occurs for all three main objectives within an intervention, giving each equal weight, provides a rigorous assessment of the overarching theory of change.

Unconditional Cash Transfer

In the previous four examples, I examined a type of intervention that is distinctly aligned with at least one objective among agriculture, nutrition, and empowerment. For example, biofortification is invariably connected to agriculture and nutrition; gender norms trainings are invariably connected to empowerment. However, another approach to meeting multiple objectives is to employ an intervention that is intrinsically adaptable. Unconditional cash transfers meet this description; they are not primarily correspondent to either agriculture, nutrition, or empowerment, and compatible with all three. This adaptability is instead merely a reflection of the synonymy between money and power in a capitalist global society, and therefore relevant to efforts to increase agricultural productivity, procure more nutritious foods, and/or expand women’s ability to make strategic life choices.

In more tangible terms, this means that an intervention effectively delegates to recipients the calculation of priorities between agriculture, nutrition, and empowerment. Individuals can

⁴² Secondary in sequence, not secondary in consequence.

determine for themselves whether to invest in improving and diversifying crop production, whether to purchase more nutritious foods, whether to pursue a self-actualising ambition (e.g. establishing a small business), or a combination of these options.⁴³ Providing cash alone may not be sufficient for beneficiaries to access these options; e.g. an intervention may need to also provide access to improved agricultural inputs, nutritional education, or gender norms trainings in order for individuals to spend their cash as they desire. Viewed from another angle, an unconditional cash transfer could alternatively be employed as a buffer/correction to other arms of an intervention, to increase the flexibility of the intervention overall, and ensure that its benefits are also accessible to individuals with less common priorities. For example, in Busoga most women reported that they would prefer opening a small business to earning income from farming. However, a minority of women preferred to earn an income from farming. An intervention in this community could focus on providing training and resources to aspiring entrepreneurs, while also providing an unconditional cash transfer that allowed women with no interest in entrepreneurship to invest in her ongoing agricultural livelihood. As another example, the unconditional cash transfer could serve as a means to cover less obvious connections between agriculture, nutrition, and empowerment. In Busoga, many women pointed out the difficulty of deciding how to allocate a stretched budget between food costs and education costs. An unconditional cash transfer could provide greater flexibility in the household budget and ease the tension between these competing expenses, which both serve the same overarching goal – parenting their children well. Furthermore, the cash could make women more resilient to expensive shocks, such as the need to flee an abusive marriage, or unforeseen medical expenses, thus allowing them to remain receptive to other aspects of an intervention.

6.3 Chapter Conclusion

The approaches outlined in this chapter demonstrate how an intervention integrating women's empowerment alongside both agriculture and nutrition can design a rigorous theory of change that identifies and balances trade-offs between different objectives. The discussions in this

⁴³ For an example of a successful unconditional cash transfer resulting in improved nutrition outcomes, see Briaux et al., 2020.

For an example of a successful unconditional cash transfer resulting in increased agricultural productivity, see Handa et al., 2020.

For an example of a successful unconditional cash transfer resulting in increased women's empowerment, see Haushofer et al. 2019.

chapter also offer practical insights for interpreting the results presented in literature studying women's empowerment, agriculture, and nutrition, by illuminating the points of stress in their theories of change. For example, a recent study (van den Broeck et al., 2020) of the relationships between women's independently earned income, agricultural income, and household nutrition in Tanzania found that women's independent income and off-farm employment offered no significant advantage in household nutrition (when compared to agricultural employment and joint income). While these results are informative, in light of the analysis presented in this chapter, I would caution interventions in a similar context to follow-up with a more thorough investigation of women's empowerment, and potential trade-offs with agricultural employment and household nutrition. The results from Chapter 4 illustrated how women may find off-farm employment opportunities more empowering, even at the same income level, because of less taxing labour and more flexible time. The results from Chapter 5 showed that, for women's empowerment to be aligned with children's nutrition outcomes, women must experience increased agency in their parenting decision. Thus, both independent income and non-farm employment could be critical in expanding women's ability to make reproductive justice-related decisions. The conclusions from van den Broeck et al. (2020) do illuminate the trade-offs between agricultural/non-agricultural income and household nutrition in the context of Tanzania. However, to reprise an overarching theme of this thesis, without asking women about their own preferences and ambitions related to agriculture (especially with consideration of women's time use, labour roles, and life-course narratives), it is difficult to detect and correct any wobbles in the third leg (i.e. women's empowerment) of any tripartite intervention.

This chapter has focused primarily on the project design stage of international development; achieving true gender integration requires active confrontation of complex gender inequalities, with opportunities for assessment and course-correction, throughout all stages of an intervention (e.g. the management approaches suggested by Briere & Auclair, 2020). This type of steady monitoring of the implementation of an intervention is made easier by a firm theory of change established at the outset of intervention planning. This chapter has attempted to secure a grasp on the often-slippery concept of women's empowerment and its complex interactions with agriculture and nutrition, and to provide practitioners with more prehensile tools to seize opportunities for enhancing women's empowerment conjointly with agricultural production and improved nutrition.

CHAPTER 7: Conclusions

7.1 Introduction

This research grapples with the challenges of evaluating women's empowerment and designing empowering interventions in international development. In doing so, it joins a body of literature on women's empowerment in international development that has grown wider and more nuanced over the past several decades, as described in Section 2.2 (p.8). The definition of empowerment as "the process by which those who have been denied the ability to make strategic life choices acquire such an ability" (Kabeer, 1999b, p. 435) is widely accepted and applied within international development research and practice. However, uncertainty remains about the most accurate, efficient, and appropriate methods of evaluating women's empowerment across varied contexts.

In recent years the Women's Empowerment in Agriculture Index and its variants have gained popularity as a method for measuring the effects that agricultural development interventions have on women's empowerment (see Section 2.4, p.17). The Index appeals to researchers and practitioners conducting cross-disciplinary projects in part because it provides a single, quantitative, aggregate score of empowerment. This allows the Index to be incorporated into a wide variety of gender-sensitive studies and interventions, including those focused on the relationships between women's empowerment and children's nutrition outcomes. Thus, in this thesis, I examined the theories and methods of evaluating women's empowerment in agriculture, understanding relationships between women's empowerment and children's nutrition outcomes, and designing development interventions that effectively integrate all three: empowerment, agriculture, and nutrition. These three investigations were guided by three main research questions (see Section 2.4, p.48):

- 1) How do different frameworks and methods of data collection and analysis influence interpretations of women's empowerment in agriculture in Busoga, Uganda?
- 2) What relationships exist between women's empowerment and children's nutrition in Busoga, Uganda?
- 3) How do theories of women's empowerment in agriculture align or conflict with theories of women's empowerment in nutrition?

To address these questions, I considered two contrasting analytical frameworks throughout all stages of research design, data collection, and data analysis. One framework contained the

mainstream theories of change present in development literature on women's empowerment, which builds upon Kabeer's definition of empowerment, but also employs instrumentalist arguments for the role of women's empowerment in international development. Alongside this conventional analytical framework, I trialled alternative analytical frameworks that placed stronger emphasis on the intrinsic rights-based value of women's empowerment, rather than instrumentalist logic (see Section 2.3, p.46). For the first research question, this entailed a critical analysis of the baseline assumptions of the Abbreviated Women's Empowerment in Agriculture Index, and of the implications of each indicator's data collection and data analysis methods for drawing accurate conclusions about Basoga women. For the second research question, the alternative framework was based on the tenets of reproductive justice, to explore whether it could articulate clearer, bi-directional causal pathways between women's empowerment and children's nutrition. For the third question, the conclusions produced from the first two questions shaped the search for ways to integrate agriculture, empowerment, and nutrition via compatible theories of change, and the identification of potential pitfalls in practical application.

The empirical data gathered to conduct these investigations focused exclusively on women practising agriculture in rural Busoga (see Section 3.7, p.71). Because of the focus on young child nutrition outcomes, the population sampled was further narrowed to women with a child younger than four years old. The data collection process incorporated mixed methods, carried out in two phases. The first stage was quantitative, and implemented a slightly modified version of the Index, a more detailed quantitative measurement of time use, and a broad survey of household demographic characteristics across 207 women (see Section 3.4, p.57). The second stage was qualitative, conducted with a subset (30 women) of the first phase sample, and constituted an in-depth, semi-structured interview with questions that explored women's feelings, opinions, and aspirations related to empowerment, agriculture, and parenting (see Section 3.5, p.65). I analysed the quantitative data using both descriptive and statistical methods, and analysed the qualitative data using thematic analysis through NVivo.

7.2 Summary of Findings

In Chapter 4, the results showed that the Abbreviated Women's Empowerment in Agriculture Index gave a partial view of women's empowerment in agriculture in the context of Busoga, and that its foundational assumptions about empowerment and agriculture were not necessarily

aligned with Basoga women's own views and experiences. Analysis of the Index according to the standard calculation method (see Section 4.2, p.89) suggested that Basoga women were most disempowered in the time use domain, with 95% of women exceeding the cut-off of 10.5 hours of labour in a single day. Most women were also categorised as disempowered in the leadership and resources domains, while most were categorised as empowered in the production and income domains. Overall, 82% of women surveyed did not receive an aggregate score of at least 0.8 (i.e. empowered in 4 out of 5 domains), and thus would be considered disempowered in agriculture, according to the Index. Based on this information alone, an agricultural intervention seeking to increase Basoga women's empowerment would likely focus on decreasing the daily number of hours women spend working, encouraging group membership, and expanding credit access.

However, close examination of the questions forming each indicator and the process of calculating each score revealed multiple opportunities for the picture of women's lives and empowerment in Busoga to become distorted. For example, the types of agricultural activities included in the production domain had equal weighting, despite having visibly different rates of participation among women, and gendered roles within each type of activity. Furthermore, devising a tailored re-weighting of the domain to more accurately reflect the context of Busoga is impossible without qualitative data that probes the trade-offs between participation in these agricultural activities and the available alternative activities (if any).

To fill in at least some of the gaps exposed by the quantitative analysis, I turned to the qualitative data (i.e. women's responses to semi-structured interview questions relating to empowerment and agriculture). This occurred in two stages: deductive analysis (see Section 4.3, p.115) and inductive analysis (see Section 4.4, p.151). The deductive analysis consisted of analysing data strictly according to the domains of the Index; i.e. the major themes were pre-determined. Regarding the production domain, the interviews illustrated the complexity of the decision-making processes ostensibly catalogued by the Abbreviated Women's Empowerment in Agriculture Index. Not only did different types of agricultural decisions vary in consequences, gender norms, and ambiguity, but also the degree of predictability within these variations depended heavily on the relationship dynamics between a woman and her husband/partner. Responses related to the income domain also provided essential context to decision-making dynamics by suggesting that, at least for some women, sole decision-making

about income expenditures does represent a greater exercise of agency than joint decision-making. In the resources domain, women highlighted certain types of resources (e.g. houses and land, but also smaller items like clothing and chickens) and sole ownership as being particularly meaningful in terms of empowerment, in contrast to the standard Index calculation. Women's comments also contradicted the credit portion of the resources domain, voicing suspicion of loans and a fear of insurmountable debt, rather than a lack of access. Similar views emerged regarding the leadership domain, as some women actively chose not to join local groups. Finally, discussion of women's feelings about time use showed that, while women certainly experienced acute time poverty, not all types of labour were equally burdensome (in contrast to the undifferentiated weighting in the Index calculation). Farming, laundry, and cooking caused more weariness than childcare, even though many more total hours were spent caring for children. Throughout all these domains, there were frequent incidences of dissonance between the individual quantitative score received in a domain and the woman's descriptions of her own empowerment.

The second stage of qualitative analysis employed inductive analysis; i.e. identification of themes that emerged from within the coding process (see Appendix G, p.325). Instead of identifying themes that provided context to the domains of the Index (i.e. the purpose of the deductive coding), the purpose of the inductive coding was to gain a better understanding of Basoga women's own views and experiences of agriculture and empowerment. When discussing empowerment, the main recurring themes were that women valued 1) the ability to shape their own appearance; 2) the ability to make decisions about pregnancy, childbirth, and parenting; 3) the ability to travel freely; 4) good health, both physical and mental; 5) earning independent income from employment that they enjoyed; 6) the ability to consent and withhold consent to sex; 7) education; and 8) community support of women's rights. When discussing agriculture, the main negatively-oriented themes were that 1) women felt they had no agency in choosing their employment (i.e. agriculture was their only option) and 2) farming was a source of fatigue and, in some cases, physical pain. However, some women also appreciated certain aspects of farming, such as 3) feeling pride in harvests and other successes, because it provided food and income to her household, and 4) being able to teach her children how to farm, to ensure they would not go hungry in the future. These positive and negative views of agriculture were not mutually exclusive; several women expressed ambivalent feelings about the role of agriculture in their lives. Overall, Chapter 4 demonstrated that the Abbreviated

Women's Empowerment in Agriculture Index, especially when applied alone, may not be the most appropriate tool for evaluating women's empowerment in Busoga (see Section 4.5, p.172). It may be more accurately described as a measurement of women's resilience in agriculture, rather than empowerment. A more robust evaluation of women's empowerment in agriculture must also include an understanding of whether women actively choose to participate in agriculture, and whether they are able to change their methods of farming if they so wish.

In Chapter 5, the results from Busoga were more coherently fitted with a reproductive justice framework than the predominant instrumentalist pathways between women's empowerment and children's nutrition. For both frameworks, the inductive qualitative analysis explored discussions of care work, food choices, marital dynamics, and trade-offs between household nutrition and other parenting priorities (see Section 5.3.1, p.183). The main themes identified included 1) women's (self-reported) inability to give children the foods they (women) wanted because of limited income, 2) a strong desire to give their children diverse diets and good education, 3) financial support from husbands/partners perceived as insufficient for the household, and 4) difficult trade-offs between agricultural work and care work.

According to the standard instrumentalist pathways between women's empowerment and children's nutrition, improvements to women's caregiving, women's physical health, and/or women's household resources should result in improved child nutrition outcomes. However, after close inspection of each theorised pathway (see Section 5.3.2, p.198), I concluded that each provided a poor fit with the qualitative results, leaving multiple analytical gaps and a shaky foundation for building an intervention that both improved children's nutrition *and* empowered Basoga women. A central weakness throughout these theorised pathways was a lack of clarity about how/if women's empowerment (i.e. the ability to make strategic life choices) would expand. In contrast, when analysing the same qualitative data through a reproductive justice lens (see Section 5.3.3, p.206), women's parenting choices were the foundation of analytical inquiry, and supporting reproductive justice allowed for avenues through which women's empowerment and children's nutrition could be advanced simultaneously. The framework offered the additional advantages of being highly adaptable to diverse contexts and being less susceptible to inadvertently disempowering women. This theoretical premise was borne out by the degree to which the empirical data formed a coherent picture of the relationships between women's empowerment and children's nutrition in Busoga.

Major themes directly related to reproductive justice, which were overlooked by the instrumentalist framework (i.e. control over family planning, negative views of polygyny, and parenting aspirations), could be identified and examined for their connections to children's nutrition. And the key concepts of care work and the first 1000 days could be re-examined from an empowerment perspective, to formulate a more robust understanding of their roles in linking women's empowerment to children's nutrition. In Busoga, this meant that it became possible to see that (in addition to previously identified barriers) some women's ability to give their children diverse, nutritious diets was also constricted by their lack of access to suitable family planning, rigid gender roles in caregiving, non-consensual polygyny, education costs, struggles with poor mental health, and social structural inequalities (rather than individual choices).

In Chapter 6, the conclusions drawn from the previous two chapters were synthesised to identify practical approaches for development interventions seeking to incorporate objectives related to agriculture, women's empowerment, and children's nutrition simultaneously. I proposed three key areas of investigation for ensuring that women's empowerment objectives remained in harmony with agriculture and nutrition objectives. Namely, these were 1) women's time use, 2) women's labour roles, and 3) women's life-course narratives. These three areas are equally relevant to both agriculture and nutrition (as evidenced by their steady presence in Chapters 4 and 5); first establishing their meaning to women in a particular context will produce clear goalposts for successful empowerment outcomes in any type of nutrition-agriculture development intervention. To demonstrate this, I provided examples of interventions that incorporate biofortification, livestock, social behaviour change communication, gender norms trainings, and unconditional cash transfers, using the empirical evidence from Busoga to model the process of designing robust theories of change and guarding against conflicting objectives.

7.3 Contributions to Literature

Novelty

This research makes novel contributions to the field of international development in several ways. First, while the Women's Empowerment in Agriculture Index has been widely used since its introduction in 2013, to date there has not been an in-depth, critical analysis of each of its components, including both micro-level (i.e. individual indicators/survey questions) and macro-level analysis (i.e. foundational assumptions). Second, this research proposes a

conceptual framework based on reproductive justice theory as an improved method of understanding relationships between women's empowerment and children's nutrition, a lens heretofore unused in the nutrition sector of international development. Third, the conclusions from my research on women's empowerment in agriculture and nutrition led me to propose a novel conceptual framework for more rigorously designing international development interventions that integrate objectives in women's empowerment, agriculture, and nutrition. Finally, to my knowledge no in-depth research on women's empowerment in agriculture in Busoga has been conducted (in English publications) since Sorensen's 1996 study. This research attempts to partially fill that research gap.

Generalisability

The results from Chapter 4 relating to the Women's Empowerment in Agriculture Index provide both theoretical insights about the baseline assumptions of the Index (e.g. its tendency toward instrumentalism), as well as empirical data relevant to the specific context of Busoga. Uganda was a particularly informative context to perform this investigation, as it was among the first countries (alongside Bangladesh and Guatemala) in which the Index was piloted. If there are weaknesses in the structure of the Index in these countries, it is reasonable to expect that research in other countries would encounter at least as many challenges to the validity of the Index.

This research contributes qualitative insights that offer more nuanced understanding of quantitative measurements (i.e. women's empowerment, and its relationship to agriculture and nutrition outcomes). While qualitative research methods of assessing empowerment are sometimes critiqued as less generalisable across contexts than standardised quantitative methods (e.g. Quisumbing et al., 2020), there are counterarguments that, with the appropriate analytical methodology, qualitative research can yield powerful insights even in a comparative context (Leung, 2015). This has been demonstrated in the specific research context of women's empowerment in agriculture; one recent example is the GENNOVATE approach (Badstue et al., 2018; Petesch et al., 2018), which was designed to investigate patterns in gender norms related to agricultural innovations generated by qualitative data from dozens of case studies across 26 countries in the Global South. While this thesis is not nearly so sweeping in scope, it shares a general theoretical premise. Counterbalancing the profusion of quantitative assessments of women's empowerment in the literature, the qualitative portion of this thesis

expands the comparatively limited qualitative investigations, building upon the methods used in previous qualitative studies (e.g. Ickes et al., 2017), and laying the groundwork for future qualitative investigations that illuminate the nuances of evaluating women's empowerment in the context of international development. Alongside the important role of identifying context-specific exceptions, comparing results across qualitative studies can also reveal key patterns that reappear across diverse settings and approaches. For example, some of the central findings from this thesis echo the ways that intrahousehold gender norms shape agricultural decisions in Nigeria (Farnworth et al., 2020) and Malawi (Farnworth et al., 2018), despite using different qualitative methods. So too did the qualitative data on the relationships between men's labour roles and children's nutrition parallel qualitative findings in Ghana (Debpur et al., 2020) and Burkina Faso (Compaore et al., 2020). These contemporary studies suggest that the qualitative results of this thesis could be generalisable outside the specific contexts of Busoga or Uganda, and contribute empirical evidence to active, widespread discourses about women's empowerment, agriculture, and nutrition.

7.4 Limitations & Future Research

7.4.1 Limitations

As with all research, this thesis faced limitations on the scope and depth of its investigations. These limitations can be roughly categorised between the facets of the research questions that were omitted and the methodological approaches that were not incorporated.

Regarding the research questions, a major limitation is the lack of exploration of masculinities. From the evidence presented, it is clear that an essential step in fully understanding gender dynamics (and their implications for women's empowerment) in Busoga is to thoroughly investigate the gendered experiences of Basoga men. The women interviewed frequently discussed the influential impacts – both positive and negative – that household men can have on women's empowerment opportunities. In the research related to children's nutrition outcomes, it is especially important to document the views of Basoga fathers. The research presented in this thesis would be deeply enriched by an understanding of these men's beliefs, aspirations, insecurities, and frustrations. If any discrepancies exist between the testimonies of Basoga men and women, identifying them can critically inform development interventions, especially those incorporating gender norms trainings (e.g. differences found by Namazzi et

al., 2020 in Busoga, in describing the amount of care work that men provide). The ability to accurately anticipate how men may react to major changes in women's empowerment would be a significant strength in safeguarding the sustainability of gender-transformative interventions. For example, Badstue et al. (2020) found that women challenging traditional gender roles in Tanzania (especially in earning income) provoked anxiety in men about their own household roles (e.g. fear over loss of income control and, by extension, control over his wife). Foreseeing and preventing such potential conflicts early in an intervention requires thorough investigations of masculinities. Unfortunately, such research was not feasible in this thesis, due to limited resources, but would be a pressing priority for any future extension of this research.

Another logical next step for future extensions of this research would be to expand the narrow sample of women included in this thesis to explore how empowerment, agriculture, and reproductive justice interact among women of other ages, and those without children. Although the focus on women with young children was justified to the extent that children's nutrition was of principal interest in this thesis, a truly comprehensive investigation of how to evaluate women's empowerment in Busoga would include a wider representation of diversity among women (e.g. adolescent girls/women, post-menopausal women, and women of all ages who have no children). In fact, this diversity is especially needed *within* the context of nutrition outcomes, because the wider nutrition literature tends to focus disproportionately on women aged 18-49 who are pregnant and/or have children (Fox et al., 2019). Similarly, this research only included questions that presume heteronormativity, and did not at all engage with LGBTQ+ issues in Busoga. While it is true that such research is particularly challenging to conduct in Uganda, which continues to uphold notoriously homophobic legislation (Rodriguez, 2018), ignoring queer issues constitutes erasure of the activism, scholarship, and experiences of queer Ugandans (e.g. Nyanzi, 2014). Again, including this population in research is particularly important because queer experiences are so often ignored in the wider international development literature (Jolly, 2011).

In terms of methodological limitations, there were at least four aspects of the data collection and analysis that limited the strength of the conclusions drawn. First, there was a time lag of approximately 1.5 years between the end of quantitative data collection and the beginning of qualitative data collection. While in some ways this was advantageous, making it possible to

document significant short-term changes in empowerment for some women (e.g. two women who had moved away from their village), it is also possible that some comparisons between the quantitative and qualitative data may have been misconstrued at the individual level (e.g. if there was a change in empowerment whose cause was missed during the qualitative interview). Given sufficient resources, a preferable approach would have been to conduct quantitative and qualitative data collection simultaneously (presuming precautions to avoid survey fatigue), followed by a second round of both methods 1-2 (or more) years later.

Second, the quantitative assessment of children's nutrition outcomes was far from comprehensive. Diet diversity is a proxy for nutrition outcomes; however, it is generally representative of overall nutritional health (Ruel et al., 2010) and an important pursuit in its own right (Ruel et al., 2018). Nevertheless, a more in-depth assessment of children's nutrition outcomes would contain analysis of additional indicators, such as anthropometric data measuring stunting and wasting, as well as assessments of caregivers' nutrition knowledge.

Third, during qualitative data analysis only one person did the coding of text. This approach holds advantages and disadvantages. While a single coder can code more iteratively and flexibly, and can more fully express all facets of their individual interpretation of the data (particularly valuable to a thesis), having multiple coders collaboratively compare and refine their coding approaches can potentially result in a higher degree of consistency in code application, and identification of patterns overlooked by individuals. Repeating some of the qualitative data analysis with multiple coders, or applying a multiple-coder approach to a future study could bolster the findings of this research.

Finally, the qualitative data were somewhat limited by the narrow geographical range selected (i.e. communities in Bugiri). While this limitation was necessary for optimising the number of interviews collected (given finite resources), it carried the risk of insufficiently representing the diversity of women's experiences across different sub-regions of Busoga. For a comprehensive understanding of women's empowerment in Busoga (i.e. either confirming consistency with this study's findings or identifying variations) it could be informative to repeat the methods presented here with samples from communities across a wider geographical range.

7.4.2 Future Research

In the previous section, I highlighted the areas of research that are arguably contained *within* the three research questions that comprise this thesis. In this section, I note unexplored avenues of research that are closely related to this thesis' research questions but were beyond its narrow scope. I also suggest areas of future research prompted by the conclusions of this study.

Future of the Women's Empowerment in Agriculture Index

New variants of the Index are currently being released, including the project-level Index (pro-WEAI) (Malapit et al., 2019), the Women's Empowerment in Livestock Index (WELI) (Galie et al., 2018), the Women's Empowerment in Nutrition Index (WENI) (Narayanan et al., 2019), and the Empowerment in WASH Index (Dickin et al., 2021). The pro-WEAI was designed to make the Index more accommodating to the monitoring and evaluation practices of development projects. It reduced the Index from five domains to three and includes five new indicators with a greater emphasis on individual agency (rather than resources), such as measurements of self-efficacy, attitudes toward intimate partner violence, and respect from household members (Malapit et al., 2019). These modifications notwithstanding, the key aspects of its structure discussed in this thesis (e.g. method of measuring time use, binary cut-offs, single aggregate score, and survey question design that may overlook or oversimplify key trends) remain intact.

The WELI (Galie et al., 2018) has a similar structure to the Abbreviated Women's Empowerment in Agriculture Index, but instead of a broad production domain, it focuses on specific agricultural tasks, recognising that individual tasks are gendered in different ways (in corroboration with the findings from this thesis). Notably, it also includes a nutrition domain, citing the significance of connections between women's empowerment, agriculture, and children's nutrition outcomes. This inclusion of nutrition in the WELI further underscores the relevance of the conclusions of this thesis, and the importance of designing future development interventions with clear and robust theories of change regarding the intersections of agriculture, empowerment, and nutrition.

The indices measuring women's empowerment in nutrition (WENI) (Narayanan et al., 2019) and WASH (water, sanitation, and hygiene) differ from their predecessors in that they focus on an aspect of women's own health, rather than a specific sector (i.e. agriculture and livestock).

(Note that the WENI assesses women's nutritional health, not their children's nutritional health.) Although their constructions were guided by the methodology used in creating the original WEAI, because of this distinct focus the resulting domains are significantly different from other descendants of the original WEAI. Comparing and contrasting these new ventures into measuring empowerment in non-agricultural topics with the agriculture-centric indices would be a fascinating premise for future research.

One of the original (and ongoing) objectives of the Index was to create a tool that facilitated comparisons of women's empowerment across countries and types of interventions. The development of new versions of the Index is partially an attempt to wrangle the modifications made by practitioners (while they were adapting the Index to suit the context of their research/evaluation), and to encourage comparability between studies. However, is it possible – or even desirable – to create a singular index for measuring empowerment? The results of this thesis seem to point in the opposite direction; the complexity of empowerment means that the indicators most relevant to a particular context will constantly shift across geographies and over time. This does not mean that researchers should always start from scratch; in the case of Busoga, I hope that the results of this thesis will go on to inform women's empowerment initiatives in the region in the future, and I have proposed conceptual frameworks, data collection strategies, and intervention designs for precisely that purpose. The broad methodology could also inform similar efforts outside of Busoga, but I would be reluctant to claim that any single indicator or domain has global relevance, much less that they could compose a standard index. The creation of a standard index seeks to increase rigor in research by coordinating methods, but may in fact be less rigorous than a flexible research methodology in which women's changing experiences and ambitions shape the indicators, rather than allowing superimposed indicators to shape development interventions, and by extension women's lives.

Nevertheless, the newest updates to the Index will certainly be a part of international development practices in the near future and should be judged on their own terms. I have listed some initial possibilities for testing these new tools, and there will doubtless be many more. Regardless, the rapid emergence of these new indices signals the relevance of the critical questions and analytical frameworks offered by this thesis.

Resources, Resilience, & Empowerment

One major finding of this thesis was that the Abbreviated Women's Empowerment in Agriculture Index may more accurately represent women's resilience, rather than women's empowerment (see p.174); more broadly, this point illustrates the importance of distinguishing between helpful coping mechanisms and genuinely transformative change. Throughout this thesis, I have explored the Index's heavy dependence on indicators of resource access/ownership, and argued for more robust measurements of agency. However, it would also be informative to conduct research that 1) examined the relationship between resilience and empowerment (e.g. Is resilience a component or lower level of empowerment? Or something else?) and 2) more clearly articulated the theoretical and empirical relationships between resources and resilience. For the latter, it could be productive to build upon the work of Cools and Kotsadam investigating the relationship between resources and intimate partner violence (Cools & Kotsadam, 2017). In addition to providing thorough analysis of proposed resources theories, the study included empirical findings that 1) women's employment is associated with a higher risk of abuse and 2) attitude toward violence is a poor proxy indicator for actual experience of violence; all these results could have important implications for measurements of resilience *and* empowerment, and warrants further research.

Negative Views of Empowerment

International development interventions that promote women's empowerment are unambiguously seeking to transform social norms on some level – specifically, social norms that perpetuate gender inequalities. Simultaneously, interventions must democratically serve the interests of community members; this is necessary both for successful uptake and to ethically do no harm. In Busoga, the results from this research suggest that most women sampled support women's empowerment and can clearly describe what empowerment means to them. However, a small minority of women gave starkly different responses, expressing tepid or even suspicious views of women's empowerment. If a development intervention were to implement some of the women's suggestions in the future (e.g. community trainings, support for women's entrepreneurship, legal protections for women), then it would be interesting to document 1) whether women holding negative views of empowerment changed their opinions and 2) whether existing methods of measuring empowerment detect such changes. This would be particularly interesting to compare among women with similar levels of resources (e.g. financial, social, time, etc.).

7.5 Final Thoughts

At its heart, this thesis wrestles with the challenge of collecting empirical evidence of a latent variable while maintaining a sharp lookout against reductionism disguised as empiricism. In this way it follows in the footsteps of scholars in feminist science, technology, and society studies (STS) (e.g. Haraway, 1988; Harding, 1992) that have warned against the siren songs of a ‘neutral’ gaze and ‘objective’ data. This philosophical position demands a relentless shakedown of each individual method and variable for pockets of bias and concealed limitations, no matter how benign and straightforward it may initially appear. It also forces a spotlight on the fundamental research questions being asked, their implicit assumptions, and the cascading effects on methodology, results, and conclusions. And because research in international development aims to ultimately have a positive impact on people’s lives, there is an ethical imperative to have a lucid understanding of the underlying epistemology shaping praxis. This thesis is an attempt to meet that responsibility, i.e. to ensure that development interventions are actually evaluating empowerment, and not a mirage of empowerment.

This thesis also openly exhibits a scepticism toward theories of change that depend on individual behaviour change, rather than systemic changes. Understanding women’s empowerment, agriculture, and children’s nutrition from a systemic perspective will be especially vital as global food systems face disruptions from the Covid-19 pandemic (Savary et al., 2020).

Finally, this thesis is not the final word. It has raised many unanswered questions, and discourses around women’s empowerment will continue to evolve as social norms, climates, and political economies fluctuate. My hope is that this thesis prompts more creative and flexible approaches to evaluating empowerment, re-centring women’s own experiences and their own visions of the future.

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Appendix A: Demographic & Empowerment Questionnaire

Maternal ID:	Child ID:
Enumerator ID:	Supervisor ID:
District:	Sub-county:
Parish:	Village:
Date of record: <i>(dd/mm/yy)</i>	Time START: <i>(24-hr)</i> _____
	Time END: <i>(24-hr)</i> _____
Member of a Sasakawa farming group:	Access to maize sheller this harvesting season (Dec-Feb):
<input type="checkbox"/> No - never	<input type="checkbox"/> No, and do not expect to
<input type="checkbox"/> No – but previously	<input type="checkbox"/> No, but expect to
<input type="checkbox"/> Yes – currently, specify group number: _____	<input type="checkbox"/> Yes, specify date accessed: <i>(dd/mm/yy)</i> _____
	<input type="checkbox"/> IDK
	Have you accessed a maize sheller in the past:
	<input type="checkbox"/> No
	<input type="checkbox"/> Yes
	<input type="checkbox"/> IDK
	Yes Date: <i>dd/mm/yy</i>
Checked by supervisor: <i>(code)</i>	<input type="checkbox"/>
Checked by co-ordinator: <i>(code)</i>	<input type="checkbox"/>
Data entry completed: <i>(code)</i>	<input type="checkbox"/>

HOUSEHOLD ROSTER

READ ALOUD: To begin, I am going to ask you some questions about who lives in this household. I am interested in hearing about anyone who lives in this house at least half of the time, and who shares food together with the rest of the household.

Q1									
	Name	Age		Sex	Relationship to Mother	HH Members 6yrs and above:		Mother & Spouse ONLY:	
		Completed years (completed months for children <2)	Num			Y=Years M=Months	Currently in school	If yes, in school this week? (i.e. was the school in session)	Highest level of education completed
				0=Male 1=Female	01=Mother 02=Spouse/partner 03=Index child 04=Child 05=Sister/ Brother 06=Father/ Mother 07=Father in law/ Mother in law 08=Brother in law/ sister in law 09=Other family member 10=Non-family member	0=No 1=Yes		0=Never went to school 1=Primary incomplete 2=Primary complete 3=Senior incomplete 4=Senior complete 6=Tertiary 7=Adult education (no prerequisites)	Read & write with understandi ng in any language. 0=None 1=Only read 2=Read & write
1									
2									
3									
4									
5									
6									
7									
8									
9									
10					284				

Q2

Who is the household head? _____

Relationship to mother: _____

Q3 What is your [MOTHER] relationship status?

Circle only one

1=single

2=married, monogamous

3=married, polygamous

4=divorced

5=widowed

6=cohabiting with a partner

7=Other, specify: _____

Q4 What is your [MOTHER] religion?

Tick all that apply

☐ Christianity

☐ Islam

☐ Traditional

☐ Other

INDEX CHILD

INSTRUCTIONS: Complete the following form for the INDEX CHILD.

READ ALOUD: Now I'm going to ask you some questions about your child [INDEX CHILD]. Please get the Child Health Card for [INDEX CHILD].

Age & Sex

READ ALOUD: Now I am going to ask some questions about the age of [INDEX CHILD].

Q5	Date of birth	Day: Month: Year:
Q6	Source of information <i>Circle only one.</i>	1=Immunisation Card 2=Other document 3=Recall
Q7	Sex	0=Male 1=Female
Q8	Birth weight (kg)	_____ IDK
Q9	Source of information <i>Circle only one.</i>	1=Immunisation Card 2=Other document 3=Recall

Child Health

READ ALOUD: Now I am going to ask some questions about the health of [INDEX CHILD].

Q10	Has [INDEX CHILD] had diarrhoea in the last 2 weeks? <i>(i.e. weekday to weekday)</i> <i>3+ loose or watery stools per day, or blood in stool</i>	0 = No (Skip to Q11) 1 = Yes 88= IDK
Q10a	For how many days?	__ (days)
Q10b	Is it ongoing?	0 = No 1 = Yes
Q11	Has [INDEX CHILD] had a Respiratory Tract Infection <u>in the last 2 weeks</u> ? <i>(i.e. weekday to weekday)</i> <i>running nose or persistent productive cough or both</i>	0 = No (Skip to Q12) 1 = Yes 88= IDK
Q11a	For how many days?	__ (days)
Q11b	Is it ongoing?	0 = No 1 = Yes
Q12	Has [INDEX CHILD] had high temperature <u>in the last 2 weeks</u> ? <i>(i.e. weekday to weekday)</i> <i>temperature above 37°C - NOT just malaria</i>	0 = No 0 = No (Skip to Q13) 1 = Yes 88= IDK
Q12a	For how many days?	__ (days)
Q12b	Is it ongoing?	0 = No 1 = Yes
Q13	Has [INDEX CHILD] received a Vitamin A Supplement <u>In the last six months</u> ?	0 = No 1 = Yes (Child Health Card) 2= Yes (recall) 88= IDK

Feeding & Childcare

READ ALOUD: Now I am going to ask you some questions about the care and feeding of [INDEX CHILD].

Q15 Who participates in <u>feeding (including serving) meals</u> to the INDEX CHILD, either in the household or elsewhere? <i>Probe: Anyone else?</i>					
	Name	Relationship to the INDEX CHILD 1= Mother 2= Father 3=Sister/ Brother 4=Aunt 5=Grandmother 6=Cousin 7=Other family member (Specify) 8=Non family member	< 13 years 0 = No 1 = Yes	HH member 0 = No 1 = Yes	How many days in the past month? [DO NOT READ OPTIONS OUT LOUD] 1=Daily (5-7 dy/wk) 2=Most (3-4 dy/wk) 3=Some (1-2 dy/wk) 4=Rarely (<1 dy/wk)
1					
2					
3					
4					
5					
6					

Q16 Who participates in <u>caring for</u> the INDEX CHILD (NOT INCLUDING FEEDING), either in the household or elsewhere? <i>Probe: Anyone else?</i>					
	Name	Relationship to the INDEX CHILD 1= Mother 2= Father 3=Sister/ Brother 4=Aunt 5=Grandmother 6=Cousin 7=Other family member 8=Non family member	< 13 years 0 = No 1 = Yes.	HH member 0 = No 1 = Yes.	How many days in the past month? [DO NOT READ OPTIONS OUT LOUD] 1=Daily (5-7 dy/wk) 2=Most (3-4 dy/wk) 3=Some (1-2 dy/wk) 4=Rarely (<1 dy/wk)
1					
2					
3					
4					
5					
6					

Breastfeeding Status

READ ALOUD: Now I am going to ask you some questions about breastfeeding [INDEX CHILD].

Q17	Has [INDEX CHILD] ever been breastfed?	0=No (Skip to Q20) 1=Yes
Q18	Are you currently breastfeeding [INDEX CHILD]?	0=No 1=Yes (Skip to Q20)
Q19	At what age did you stop breastfeeding [INDEX CHILD]?	__ (months)
Q20	Are you currently breastfeeding another child?	0=No 1=Yes
Q21	Are you expecting/pregnant?	0=No (Skip to Q23) 1=Yes 88=IDK
Q22	How far along?	1=1-3 months 2=4-6 months 3=7-9 months 88=IDK

IYCF & Nutrition Knowledge

READ ALOUD: Now I am going to ask you some questions about feeding children in general.

Q23	If you had a choice, at what age should babies start being given other foods in addition to breastmilk?	1=At birth 2=Before 6 months of age 3=At 6 months of age 4=Between 7 months & 1 year 5=After 1 year 08= Other(specify)_____ 88 IDK
Q24	If you had a choice, what ingredients could be added to a baby's food or drink to make it more nutritious? Do NOT prompt. Probe: Anything else? Circle all that apply	1=Milk / Dairy 2=Eggs 3=Silver fish/ Mukene 4=Groundnuts 5=Fruit 6=Green vegetables 7=Sugar/honey 8=Oil/butter/ghee 9=Other (specify)_____ 88=IDK
Q25	What can you do to encourage young children to eat their food? Do NOT prompt.	1=Feed slowly and patiently 2=Talk to the child

Q26	<p>What foods do young children need to grow strong and intelligent?</p> <p>Do NOT prompt.</p> <p>Probe: Anything else?</p> <p>Circle all that apply</p>	<p>1=Matooke/maize flour/rice/other starchy foods</p> <p>2=Animal meats such as meat, fish or chicken</p> <p>3=Eggs</p> <p>4=Fruits</p> <p>5=Vegetables</p> <p>6=Milk</p> <p>7=Peas/beans/nuts (dried, pureed, flour)</p> <p>8=Other (Specify):</p> <p>88=IDK</p>
Q27	<p>Why do you think children get malnourished?</p> <p>Do NOT prompt.</p> <p>Probe: Anything else?</p> <p>Circle all that apply</p>	<p>1=Mother's lack of knowledge</p> <p>2=Poor appetite</p> <p>3=Insufficient quantity of food</p> <p>4=Insufficient frequency of food</p> <p>5=Poor quality / balance /diversity of food</p> <p>6=Illness / lack of medical care</p> <p>7=Insufficient time / affection during feeding</p> <p>8=Abrupt weaning</p> <p>9=Poor hygiene / sanitation, unsafe food</p> <p>10=Witchcraft</p> <p>11=Other (Specify):</p> <p>88=IDK</p>

HOUSEHOLD EXPENDITURE AND CONSUMPTION

READ ALOUD: Now we'll talk about expenditure and consumption for the whole household.

Q28	Of all the things your household spent money on in the past 12 months, what did you spend the most money on? 1-Food 2-Rent (Land) 3-Rent (House) 4-Healthcare 5-Schooling 6-Farm inputs 7-Non-farm business expenses 8-Other assets (e.g. bicycle) 9-Other, specify: <i>List up to six, in the order (A-F) in which she [mother] says them.</i>	A
		B
		C
		D
		E
		F

READ ALOUD: Now I am going to ask you about some of the foods that your household has eaten in the last 7 days, either in the home or outside the home.

Q29	FOOD	In the last 7 days, did anyone in your household eat this food? 0=No 1=Yes	If eaten, What was the source of the food? H - Home produced; B – Bought; W - Wild / gathered; G – Gift; P - Picked from another's field; A – food aid/ given by an organisation; O - Other	If B, How much did the household spend in the past 7 days to purchase this food? <i>(USh.)</i> 88=IDK S =stored (bought more than 7 days ago)	If B, Whose income was used to purchase this food in the last 7 days? <i>All that apply.</i> S -Self P -Partner / Spouse F -Other family member's N -Non-family member's NA -bought more than 7 days ago	If B, What type of market? 1 -permanent shop; 2 -permanent market; 3 -once/twice weekly market; 4 -mobile vendor near home 5 - street vendor; 6 -Other, specify; NA -bought more than 7 days ago
1	Maize flour					
2	Matooke					
3	Yellow sweet potato					
4	Doodo					
5	Tomato					
6	Ripe mango					
7	Jackfruit					
8	Mukene					
9	Eggs					
10	Beans					
11	Groundnuts					
12	Milk					

PERSONAL FOOD CHOICE

READ ALOUD: Now I am going to ask you some questions about which foods you think are inexpensive, healthy, and accessible.

Q30	FOOD	How expensive or inexpensive do you think [FOOD] is? 1= very expensive 2=somewhat expensive 3=somewhat cheap 4= very cheap 88=IDK	How healthy or unhealthy do you think [FOOD] is? 1=very unhealthy 2=somewhat unhealthy 3=somewhat healthy 4=very healthy 88=IDK	How quick or slow do you think [FOOD] is to prepare? 1=very slow 2=somewhat slow 3=somewhat quick 4=very quick 88=IDK	How quick or slow do you think [FOOD] is to cook? 1=very slow 2=somewhat slow 3=somewhat quick 4=very quick 88=IDK	How delicious or not delicious do you think [FOOD] is? 1=not delicious at all 2=not too delicious 3=somewhat delicious 4=very delicious 88=IDK	How accessible or inaccessible do you think [FOOD] is? 1=very inaccessible 2=somewhat inaccessible 3=somewhat accessible 4=very accessible 88=IDK
1	Maize flour						
2	Matooke						
3	Ylw sweet potato						
4	Dodo						
5	Tomato						
6	Ripe mango						
7	Jackfruit						
8	Mukene						
9	Eggs						
10	Beans						
11	Groundnuts						
12	Milk						

CROP PRODUCTION

READ ALOUD: Now I'm going to ask about the four most important crops grown by the household over the past 12 months (all seasons).

What are the 4 most important crops grown & harvested by the household in the past 12 months?		How much did you harvest in the last 12 months?		How much of the harvested crop was consumed at home?		How much of the harvested crop was sold?	
Q31	Crop	Quantity	Unit	Quantity	Unit	Quantity	Unit
1							
2							
3							
4							

Codes for **Unit**: 1=Kg 2=Basket, 3=Sack/bag, 4=Bowl, 5=Pail, 6=Tin 7=Basin 8=Jerrycan 9=Cup 10=Other (specify)

READ ALOUD: Now I'm going to ask about everything ELSE you grow, whether to sell or to consume, including crops, vegetables, and fruits.

Q32a	What were the crops <u>harvested by the household</u> in past 12 months? <i>Prompt all crops in the list (ASIDE from the four listed in Q31)</i> <i>Probe: Anything else you grow to sell or eat?</i>	Harvested? 0=No 1=Yes	If yes, was this crop mostly consumed at home, or mostly sold for income? 1=All consumed at home 2=Mostly consumed at home 3=Equally consumed at home & sold for income 4=Mostly sold for income 5=All sold for income 0=Other (Specify) 88=IDK
1	Maize		
2	Rice		
3	Millet		
4	Sorghum		
5	Other cereal (specify)		
6	Cassava		
7	Sweet potato		
8	Other tuber (specify)		
9	Groundnuts		
10	Beans		
11	Other legume (specify)		
12	Sugar cane		
13	Bananas		
14	Jackfruit		
15	Mango		
16	Other fruit (specify)		
17	Leafy greens		
19	Other vegetable (specify)		
20	Sesame		
21	Other (specify)		

Access to extension services

Q33	Have you [MOTHER] met with an agricultural extension worker or livestock/fisheries extension worker <u>in the past 12 months</u> ? (Extension worker can be from an NGO, government, or cooperative.)	0=No (Skip to Q34) 1=Yes
Q33a	How many times did you [MOTHER] meet with the agricultural extension worker or livestock/fisheries worker in the past 12 months? (Extension worker can be from an NGO, government, or cooperative.)	__ (number of visits)

Land Holdings

READ ALOUD: I'm now going to ask you questions about your access, ownership, or use of land for cultivation, only as it relates to your activities & nutrition. I would like to assure you that we are only asking you about the land you use for cultivation because it can affect the type of activities you do (e.g., how much time you spend on farming) and what foods you eat (e.g., whether you are able to grow food for the household in a garden).

Q34	How many plots/fields does your household have access to? (If 0 or IDK, SKIP to Q35)		_____ (number of plots/fields) (88=IDK)	
Q34a	Plot size (Acres) <i>Estimates are OK. An acre is about the size of a football pitch. 88=IDK</i>	Type of tenure <u>Read aloud all options. Enter all that apply.</u> 1=Owned; 2=Rented in; 3=Rented out; 4=Borrowed; 5=Group/communal land 6=Other (Specify); 88=IDK	Cultivated by the household in the last 12 months? 0= No; 1=Yes; 88=IDK	Who manages the plot? <u>Enter all that apply.</u> S=Self; P=Partner / Spouse; H=Other household member; N=Non household member; 88=IDK
1				
2				
3				
4				

Q35	Do you have a home garden in which vegetables are grown?	0=No (SKIP to Q37) 1=Yes
Q36	Who manages the home garden? <i>(Circle all that apply)</i>	S=Self; P=Partner / Spouse; H=Other household member; N=Non household member; 88=IDK

Household Income

READ ALOUD: Now I am going to ask you some questions about your sources of income.

Q37	What were your household's main sources of cash income over the last 12 months? Do NOT prompt. Probe: <i>Anything else?</i>	Income source 0= No 1=Yes 88=IDK	Who received income from these activities in last 12 months? <i>Enter all that apply.</i> S=Self; P=Partner / Spouse; H=Other household member; 88=IDK	What was the total income earned by you [MOTHER] from this activity in the last 12 months ? (US\$) 88=IDK
1	Crop production, June-July harvesting season			
2	Crop production Dec-Feb harvesting season			
3	Livestock and livestock products			
4	Other economic activities (small business, self-employment, buy & sell, crop processing, in-kind or monetary work)			
5	Wage & salary employment			
6	Remittances			
7	Other (specify)			

Q38	If your income increased somewhat, how would you use the extra resources? DO NOT PROMPT. 1. _____ 2. _____
------------	--

List up to two: 1-Food 2-Rent 3-Healthcare 4-Schooling 5-Farm inputs 6-Non-farm business expenses 7-Other assets (e.g. bicycle) 8-Other, specify

Poultry, Livestock, and Fish

READ ALOUD: Now I am going to ask you about all the animals you own or manage.

Q39	What are the animals owned or managed by the household in past 12 months? <i>Do NOT prompt. Probe: Anything else?</i>	Owned or Managed? 0=No 1=Yes, owned & managed 2=Yes, managed but not owned 3=Yes, owned but managed by others	If yes, was this animal mostly consumed at home, or mostly sold for income? 1=All consumed at home; 2=Mostly consumed at home; 3=Equally consumed at home & sold for income; 4=Mostly sold for income; 5=All sold for income; 6=Other (Specify); 88=IDK
1	Cattle for meat		
2	Cattle for milk		
3	Goats/Sheep for meat		
4	Goats/Sheep for milk		
5	Chickens/other poultry for meat		
6	Chickens/other poultry for eggs		
7	Rabbits		
8	Pigs		
9	Fish		
10	Other (Specify)		

Wild Foods

READ ALOUD: Now I'm going to ask you about wild foods that you may have gathered in the forest or bush, for example: plants, insects, or fish.

Q40	Were there any <u>wild foods</u> gathered/hunted by the household in past 12 months? [MONTH TO MONTH] Do NOT prompt. Probe: Anything else?	Gathered / hunted 0=No; 1=Yes	If yes, was this food mostly consumed at home, or mostly sold for income? 1=All consumed at home; 2=Mostly consumed at home; 3=Equally consumed at home & sold for income; 4=Mostly sold for income; 5=All sold for income; 6=Other (Specify) 88=IDK
1	Wild fruit trees		
2	Mushrooms		
3	Other wild plants (specify)		
4	Grasshoppers		
5	Other insects (specify)		
6	Wild fish		
7	Wild animals (Specify)		
8	Other (Specify)		

(IF PREVIOUSLY ACCESSED SHELLING SERVICES ONLY – see front page) Value of Labour-Saving Devices

READ ALOUD: Now I'm going to ask you some questions about your use of the maize sheller.

	Questions	Codes: 1=Very important 2=Somewhat important 3=Not important	Comments (Optional)
Q41	How important is the sheller in reducing your time spent on maize shelling?		
Q42	How important is the maize sheller in increasing the time you have for rest or relaxation activities?		
Q43	How important is the maize sheller in increasing time you have for feeding your child? (breastfeeding, other food)		
Q44	How important is the sheller in increasing the time you have for farm work?		
Q45	How important is the sheller in increasing the time you have for other income-generating activity?		

Access to credit

READ ALOUD: Next I'd like to ask you about your household's experience with borrowing money or other items in the past 12 months.

Q46	If you wanted to... <u>Would you or anyone in your household be able to take a loan or borrow cash/in-kind from [LENDING SOURCE]?</u> <i>DO prompt.</i>	Take a loan or borrow cash/in-kind 0=No 1=Yes 2=Maybe 88=IDK	Has anyone in your household taken any loan or borrowed cash/in-kind from [LENDING SOURCE] <u>in the past 12 months?</u> 0=No (SKIP to to next LENDING SOURCE) 1=Yes, cash; 2=Yes, in-kind; 3=Yes, cash and in-kind; 88=IDK	If Yes, who makes the decision to borrow cash/in-kind from [LENDING SOURCE] most of the time? <i>Enter all that apply.</i> S= Self; P=Partner / Spouse; H=Other household member; N= Other non-household member	If yes, who makes the decision about what to do with the cash/in-kind borrowed from [LENDING SOURCE] most of the time? <i>Enter all that apply.</i> S= Self; P=Partner / Spouse; H=Other household member; N= Other non-household member
1	Non-governmental organization (NGO)				
2	Informal lender				
3	Formal lender (bank/financial institution)				
4	Friends or relatives				
5	Group based micro-finance or lending e.g. VSLs				

Access to productive capital

READ ALOUD: Now I'd like to ask you about your household's access to and ownership items that could be used to generate income.

Q47	Does anyone in your household currently have access to? <i>DO prompt.</i>	Have access to? 0=No 1=Yes	If yes, Do you own any of the [ITEM]? This can be owned either solely (by yourself) or jointly (with someone else). <i>If respondent owns at least one thing solely, Enter only 1.</i> 0=No; 1=Yes, solely; 2=Yes, jointly (Specify with whom)
1	Agricultural land (pieces/plots)		
2	Large livestock (cattle)		
3	Small livestock (goats, pigs, sheep)		
4	Chickens, Ducks, Turkeys, Pigeons		
5	Fish pond or fishing equipment		
6	Farm equipment, non-mechanized (hand tools, animal-drawn ploughs)		
7	Farm equipment, mechanized (mech. maize sheller, tractor, tiller)		
8	Nonfarm business equipment (sewing machine, brewing equipment, fryers)		
9	House (and other structures)		
10	Large consumer goods (TV, sofa)		
11	Small consumer goods (radio, mobile phone, cookware)		
12	Other land not used for agricultural purposes		
13	Means of transportation (bicycle, motorcycle, car)		

Group membership

READ ALOUD: Now I'm going to ask you about groups in the area. These can be either formal or informal and customary groups.

Q48	Is there a [GROUP] in your area? <i>DO prompt.</i>	Group in your area? 0=No; 1=Yes 88=IDK	Name of Group(s)?	If yes, are you an active member of this [GROUP]? 0=No; 1=Yes
1	Agricultural / livestock/ fisheries producer's group (including marketing groups)			
2	Water users'/Forest users' group			
3	Credit/microfinance/VSLA/mutual help/insurance/burial society/trade association			
4	Civic (improving community) or charitable (helping others)/local government/religious			
5	Women's group			
6	Other (specify)			

Time allocation

READ ALOUD: Now I'm going to ask you some questions about which people in the household participate in certain activities

Q49 Did any of the household members participate in any of the following activities in the last 12 months? <i>Probe: Anyone else?</i>		
	Activity	Tick all that apply
1	Did you or anyone else in your household work as employed (incl. casual and salaried labour) or self-employed (e.g. making food or crafts to sell)?	<input type="checkbox"/> None <input type="checkbox"/> Self <input type="checkbox"/> Partner/Spouse <input type="checkbox"/> Child <input type="checkbox"/> Other household member (Specify: _____)
2	Did you or anyone else in your household farm, manage livestock, fish, or harvest wild foods? Farming / Livestock / Fishing / Wild harvesting of mushrooms, herbs, insects or other food (for either home consumption or for income)	<input type="checkbox"/> None <input type="checkbox"/> Self <input type="checkbox"/> Partner/Spouse <input type="checkbox"/> Child <input type="checkbox"/> Other household member (Specify: _____)
3	Did you or anyone else in your household prepare or cook food?	<input type="checkbox"/> None <input type="checkbox"/> Self <input type="checkbox"/> Partner/Spouse <input type="checkbox"/> Child <input type="checkbox"/> Other household member (Specify: _____)
4	Did you or anyone else in your household fetch water?	<input type="checkbox"/> None <input type="checkbox"/> Self <input type="checkbox"/> Partner/Spouse <input type="checkbox"/> Child <input type="checkbox"/> Other household member (Specify: _____)
5	Did you or anyone else in your household fetch firewood?	<input type="checkbox"/> None <input type="checkbox"/> Self <input type="checkbox"/> Partner/Spouse <input type="checkbox"/> Child <input type="checkbox"/> Other household member (Specify: _____)
6	Did you or anyone else in your household do domestic work, including laundry, cleaning, and care for others (e.g., children and elderly adults)?	<input type="checkbox"/> None <input type="checkbox"/> Self <input type="checkbox"/> Partner/Spouse <input type="checkbox"/> Child <input type="checkbox"/> Other household member (Specify: _____)
7	Did you or anyone else in your household travel to acquire food (either your own grown or purchased)?	<input type="checkbox"/> None <input type="checkbox"/> Self <input type="checkbox"/> Partner/Spouse <input type="checkbox"/> Child <input type="checkbox"/> Other household member (Specify: _____)
8	Did you or anyone else in your household shell maize by hand/stick?	<input type="checkbox"/> None <input type="checkbox"/> Self <input type="checkbox"/> Partner/Spouse <input type="checkbox"/> Child <input type="checkbox"/> Other household member (Specify: _____)
9	Did you or anyone else in your household shell maize by machine?	<input type="checkbox"/> None <input type="checkbox"/> Self <input type="checkbox"/> Partner/Spouse <input type="checkbox"/> Child <input type="checkbox"/> Other household member (Specify: _____)
10	Did you or anyone else in your household participate in other post-harvest activities (e.g., drying, cleaning, sorting, packing)?	<input type="checkbox"/> None <input type="checkbox"/> Self <input type="checkbox"/> Partner/Spouse <input type="checkbox"/> Child <input type="checkbox"/> Other household member (Specify: _____)

Role in Household Decision-Making Around Production & Income Generation

READ ALOUD: Now I'd like to ask you some questions about your participation in certain types of work activities and on making decisions about household life.

Q50	Did you [MOTHER] participate in [ACTIVITY] in the past 12 months? <i>DO prompt.</i>	Participated? 0=No 1=Yes	(a) When decisions are made regarding [ACTIVITY], who is it that normally takes the decision? <i>Enter all that apply.</i> S= Self (IF <u>ONLY</u> S, SKIP TO (d)) P=Partner / Spouse H=Other household member N= Other non-household member NA=Not applicable	(b) How much input did you have in making decisions about [ACTIVITY]? <i>Enter only one.</i> 0=No input or input in few decisions 1=Some decisions 2=Most or all decisions 3=No decision made	(c) if you want(ed) to... To what extent do you feel you can make your own personal decisions regarding [ACTIVITY]? <i>Enter only one.</i> 0=Not at all 1=Some extent 2=Completely NA=Not applicable	(d) How much input did you have in decisions on the use of the income generated from [ACTIVITY]? <i>Enter only one.</i> 0=No input or input in few decisions; 1=Some decisions; 2=Most or all decisions; 3=No decision made; NA=Not applicable
1	Food crop farming: (primarily for household consumption)					
2	Cash crop farming: (grown primary for sale)					
3	Livestock raising, fishing or fish pond					
4	Non-farm economic activities: (Small business, self-employment, wage & salary employment)					
5	Major household expenditures (e.g., bicycle, land, boda boda)					
6	Procuring food (e.g., purchasing, gathering)					
7	Other minor household expenditures (besides food,					
8	Feeding children					
9	Other child care (e.g., bathing, taking to clinic, helping with schoolwork)					

Perception of time and resources for infant care and feeding, and use of agricultural labour saving devices

READ ALOUD: Now I'm going to ask you some questions about your time and resources for infant care and feeding, and use of agricultural labour-saving devices.

Q51	Do you [MOTHER] agree with the following statements?	0 =No, I completely disagree.; 1 =Yes, I completely agree.; 2 = I agree/disagree to some extent (<i>Explain briefly, if possible</i>); 88 =IDK
1	You [MOTHER] can make an independent decision to access and pay for services (like maize shelling); you [MOTHER] don't need to ask for permission.	
2	You [MOTHER] have your own resources to pay for maize shelling services. (If YES, skip to 4)	
3	You [MOTHER] can access resources to pay for maize shelling services.	
4	You [MOTHER] can decide which activities to do during the day, and when to do them.	
5	You [MOTHER] do not have anyone telling you what work to do.	
6	You [MOTHER] have the resources to give the baby the food that you would like to.	
7	In the past 7 days, You [MOTHER] have had sufficient time to take care of your baby.	
8	In the past 7 days, You [MOTHER] have had sufficient time to do your work during the day.	
9	In the past 7 days, You [MOTHER] have had sufficient time for sleep.	
10	In the past 7 days, You [MOTHER] have had sufficient time to do things that you enjoy during the day.	

Wealth Status

READ ALOUD: Now I'm going to ask you some questions about your house and household items.

Q52	What type of material is mainly used for construction of the wall of the dwelling? <i>DO NOT PROMPT. Circle only one.</i>	1 =Unburnt bricks with mud, mud and poles, or other; 2 =Unburnt bricks with cement, wood, tin / iron sheets, concrete / stones, burnt stabilized bricks, or cement blocks
Q53	What type of material is mainly used for construction of the roof of the dwelling? <i>DO NOT PROMPT. Circle only one.</i>	1 =Thatch, or tins; 2 =Iron sheets, concrete, tiles, asbestos, or other ____ (specify)
Q54	What source of energy does the household mainly use for cooking? <i>DO NOT PROMPT. Circle only one.</i>	1 =Firewood, cow dung, or grass (reeds); 2 =Charcoal, paraffin stove, gas, biogas, electricity (regardless of source), or other
Q55	What type of toilet facility does the household <u>mainly</u> use? <i>DO NOT PROMPT. Circle only one.</i>	1 =No facility / bush / polythene bags / bucket / etc., or other; 2 =Uncovered pit latrine (with or without slab), Ecosan (compost toilet), or covered pit latrine without slab; 3 =Covered pit latrine with slab; 4 =VIP latrine, or flush toilet
Q56	Does any member of your household own a (functioning) radio? <i>Circle only one.</i>	0 =No 1 =Yes
Q57	Does every member of the household have at least one pair of shoes? <i>DO NOT PROMPT. Circle only one.</i>	0 =No 1 =Yes
Q58	Does the household own a (functioning) fridge that keeps things cold?	0 =No 1 =Yes
Q59	What is the <u>main</u> source of drinking-water for members of your household? <i>DO NOT PROMPT. Circle only one.</i>	1 =Piped water into dwelling; 2 =Piped water to yard/plot; 3 =Public tap / standpipe; 4 =Borehole / Tubewell; 5 =Protected dug well; 6 =Unprotected dug well; 7 =Protected spring; 8 =Unprotected spring; 9 =Rainwater collection; 10 =Bottled water; 11 =Cart with small tank/drum; 12 =Tanker-truck; 13 =Surface water (river, dam, lake, pond, stream, canal, irrigation channels); 14 =Other (specify); 88 =IDK
Q60	Do you treat your water in any way to make it safer to drink?	0 =No (SKIP TO END); 1 =Yes, always; 2 =Yes, sometimes
Q61	What do you <u>usually</u> do to the water to make it safer to drink? <i>DO NOT PROMPT. Circle only one.</i>	1 =Boil; 2 =Add bleach/chlorine; 3 =Add ash; 4 =Strain it through a cloth; 5 =Use a water filter (ceramic, sand, composite, etc.); 6 =Solar disinfection; 7 =Let it stand and settle; 8 =Other (specify); 88 =IDK

Thank you!

Appendix B: Women's Time Use (Observation)

IMMANA Observations



Weighed Food Record -
Child



Weighed Food Record -
Mother



Weighed Food Record
- Recipes



Mother's Activities

Household ID:		Mother ID:		Child ID:	
Enumerator ID:			Supervisor ID:		
District:			Sub-county:		
Parish:			Village:		
Salter calibration ID:			Salter calibration weight:		
Date of record: (dd/mm/yy)		Day of the week <u>today</u>:			
Time ARRIVED: (24-hr)		Monday	<input type="checkbox"/>	Friday	<input type="checkbox"/>
		Tuesday	<input type="checkbox"/>	Saturday	<input type="checkbox"/>
		Wednesday	<input type="checkbox"/>	Sunday	<input type="checkbox"/>
		Thursday	<input type="checkbox"/>		
Time DEPARTED: (24-hr)					
Is it a market day <u>today</u>? No, it was NOT a market day yesterday <input type="checkbox"/> Yes, it was a market day yesterday <input type="checkbox"/>			What time did you get out of bed <u>this</u> morning? Time (24-hr): _____:_____		
Is <u>today</u> a holiday or a nonworking day? No, today is NOT a holiday. <input type="checkbox"/> Yes, today is a holiday. <input type="checkbox"/>			Regarding the amount of sleep you had <u>last night</u>, was it? Less than usual amount of sleep. <input type="checkbox"/> Usual amount of sleep. <input type="checkbox"/> More than usual amount of sleep. <input type="checkbox"/>		
<i>Complete at the end of the day</i>					
What time did you go to sleep (for the final time) <u>last night</u>? Time (24-hr): _____:_____			Did [INDEX CHILD] have usual food intake <u>today</u>? No, more than usual. <input type="checkbox"/> No, less than usual. <input type="checkbox"/> Yes, usual food intake. <input type="checkbox"/>		
Regarding the activities <u>today</u>, were they:					

[illegible]

[illegible]

Appendix C: Children's Diet Diversity (Observation)

Time <i>24 hr</i>	Food <i>Using Food Guide</i>	Description <i>Using Food Guide</i>	Source	Market	W /R	Mix #	Recipe #	Empty plate / cup (g)	Amount served (g) <i>w plate/cup</i>	Amount left-over (g) <i>w plate/cup</i>	Who Served

Source: H – home produced; B – bought; W – wild / gathered; G – gift; P – picked from another's field; A – food aid/ given by an organisation; O – other

Market: 1 – permanent shop; 2 – permanent market; 3-weekly / biweekly market; 4-mobile vendor near home 5- street vendor; 6-other, specify.

Who Served: 1 – mother; 2 – other female adult (≥ 13 y); 3 – male adult (≥ 13 y); 4 – child (<13 y); 5 – child served him/herself.

Comments:

Appendix D: Original Abbreviated Women's Empowerment in Agriculture Index

Questionnaire & Excerpt of Calculation Guide

Source: International Food Policy Research Institute, <http://weai.ifpri.info/versions/a-weai/>

MODULE G2: ROLE IN HOUSEHOLD DECISION-MAKING AROUND PRODUCTION AND INCOME GENERATION						
HOUSEHOLD IDENTIFICATION (IN DATA FILE, EACH SUB-MODULE (G2-G6) MUST BE LINKED WITH HH AND RESPONDENT ID						
RESPONDENT ID CODE						
<p>*Now I'd like to ask you some questions about your participation in certain types of work activities and on making decisions on various aspects of household life"</p>		<p>Did you yourself participate in [ACTIVITY] in the past 12 months (that is, during the last [one/two] cropping seasons), from [PRESENT MONTH] last year to [PRESENT MONTH] this year?</p>	<p>When decisions are made regarding [ACTIVITY], who is it that normally takes the decision?</p> <p>CIRCLE ALL APPLICABLE</p> <p>IF THE RESPONSE IS SELF ONLY SKIP TO QUESTION G2.05</p>	<p>How much input did you have in making decisions about [ACTIVITY]? USE DECISION CODES FOR G2.03/G2.05; IF NO DECISION MADE, ENTER 98 AND MOVE TO THE NEXT ACTIVITY</p>	<p>To what extent do you feel you can make your own personal decisions regarding [ACTIVITY] if you want(ed) to? CIRCLE ONE</p>	<p>How much input did you have in decisions on the use of income generated from [ACTIVITY]? USE CODES FOR G2.03/G2.05</p>
ACTIVITY CODE	ACTIVITY DESCRIPTION	G2.01	G2.02	G2.03	G2.04	G2.05
A	Food crop farming: These are crops that are grown primarily for household food consumption	<p>YES 1</p> <p>NO 2 → ACTIVITY B</p>	<p>SELF 1</p> <p>SPOUSE 2</p> <p>OTHER HH MEMBER 3</p> <p>OTHER NON-HH MEMBER 4</p> <p>NOT APPLICABLE 98 → NEXT ACTIVITY</p>		<p>NOT AT ALL 1</p> <p>SMALL EXTENT 2</p> <p>MEDIUM EXTENT 3</p> <p>TO A HIGH EXTENT 4</p>	
B	Cash crop farming: These are crops that are grown primarily for sale in the market	<p>YES 1</p> <p>NO 2 → ACTIVITY C</p>	<p>SELF 1</p> <p>SPOUSE 2</p> <p>OTHER HH MEMBER 3</p> <p>OTHER NON-HH MEMBER 4</p> <p>NOT APPLICABLE 98 → NEXT ACTIVITY</p>		<p>NOT AT ALL 1</p> <p>SMALL EXTENT 2</p> <p>MEDIUM EXTENT 3</p> <p>TO A HIGH EXTENT 4</p>	
C	Livestock raising	<p>YES 1</p> <p>NO 2 → ACTIVITY D</p>	<p>SELF 1</p> <p>SPOUSE 2</p> <p>OTHER HH MEMBER 3</p> <p>OTHER NON-HH MEMBER 4</p> <p>NOT APPLICABLE 98 → NEXT ACTIVITY</p>		<p>NOT AT ALL 1</p> <p>SMALL EXTENT 2</p> <p>MEDIUM EXTENT 3</p> <p>TO A HIGH EXTENT 4</p>	
D	Non-farm economic activities: This would include things like running a small business, self-employment, buy-and-sell	<p>YES 1</p> <p>NO 2 → ACTIVITY E</p>	<p>SELF 1</p> <p>SPOUSE 2</p> <p>OTHER HH MEMBER 3</p> <p>OTHER NON-HH MEMBER 4</p> <p>NOT APPLICABLE 98 → NEXT ACTIVITY</p>		<p>NOT AT ALL 1</p> <p>SMALL EXTENT 2</p> <p>MEDIUM EXTENT 3</p> <p>TO A HIGH EXTENT 4</p>	
<p>G2.03/G2.05 DECISION CODES:</p> <p>NO INPUT OR INPUT IN FEW DECISIONS 01</p> <p>INPUT INTO SOME DECISIONS 02</p> <p>INPUT INTO MOST OR ALL DECISIONS 03</p> <p>NO DECISION MADE 98</p>						

MODULE G3(A): ACCESS TO PRODUCTIVE CAPITAL

"Now I'd like to ask you about your household's access to and ownership of a number of items that could be used to generate income."		Does anyone in your household currently have any [ITEM]?	Do you own any of the item? CIRCLE ALL APPLICABLE
PRODUCTIVE CAPITAL¹		G3.01	G3.02
A	Agricultural land (pieces/plots)	YES.....1 NO.....2 → <i>ITEM B</i>	YES, SOLELY..... 1 YES, JOINTLY..... 2 NO..... 3
B	Large livestock (oxen, cattle)	YES.....1 NO.....2 → <i>ITEM C</i>	YES, SOLELY..... 1 YES, JOINTLY..... 2 NO..... 3
C	Small livestock (goats, pigs, sheep)	YES.....1 NO.....2 → <i>ITEM D</i>	YES, SOLELY..... 1 YES, JOINTLY..... 2 NO..... 3
D	Chickens, Ducks, Turkeys, Pigeons	YES.....1 NO.....2 → <i>ITEM E</i>	YES, SOLELY..... 1 YES, JOINTLY..... 2 NO..... 3
E	Fish pond or fishing equipment	YES.....1 NO.....2 → <i>ITEM F</i>	YES, SOLELY..... 1 YES, JOINTLY..... 2 NO..... 3
F	Farm equipment (non-mechanized: hand tools, animal-drawn plough)	YES.....1 NO.....2 → <i>ITEM G</i>	YES, SOLELY..... 1 YES, JOINTLY..... 2 NO..... 3
G	Farm equipment (mechanized: tractor-plough, power tiller, treadle pump)	YES.....1 NO.....2 → <i>ITEM H</i>	YES, SOLELY..... 1 YES, JOINTLY..... 2 NO..... 3
H	Nonfarm business equipment (solar panels used for recharging, sewing machine, brewing equipment, fryers)	YES.....1 NO.....2 → <i>ITEM I</i>	YES, SOLELY..... 1 YES, JOINTLY..... 2 NO..... 3
I	House or other structures	YES.....1 NO.....2 → <i>ITEM J</i>	YES, SOLELY..... 1 YES, JOINTLY..... 2 NO..... 3

¹ Examples given within productive capital categories are not extensive and should be adapted to local context by either adding to or replacing suggestions in parentheses.

"Now I'd like to ask you about your household's access to and ownership of a number of items that could be used to generate income."		Does anyone in your household currently have any [ITEM]?	Do you own any of the item? CIRCLE ALL APPLICABLE
PRODUCTIVE CAPITAL¹		G3.01	G3.02
J	Large consumer durables (refrigerator, TV, sofa)	YES.....1 NO.....2 → <i>ITEM K</i>	YES, SOLELY..... 1 YES, JOINTLY..... 2 NO..... 3
K	Small consumer durables (radio, cookware)	YES.....1 NO.....2 → <i>ITEM L</i>	YES, SOLELY..... 1 YES, JOINTLY..... 2 NO..... 3
L	Cell phone	YES.....1 NO.....2 → <i>ITEM M</i>	YES, SOLELY..... 1 YES, JOINTLY..... 2 NO..... 3
M	Other land not used for agricultural purposes (pieces/plots, residential or commercial land)	YES.....1 NO.....2 → <i>ITEM N</i>	YES, SOLELY..... 1 YES, JOINTLY..... 2 NO..... 3
N	Means of transportation (bicycle, motorcycle, car)	YES.....1 NO.....2 → <i>MODULE G3(B)</i>	YES, SOLELY..... 1 YES, JOINTLY..... 2 NO..... 3

MODULE G3(B): ACCESS TO CREDIT

"Next I'd like to ask about your household's experience with borrowing money or other items in the past 12 months."		Would you or anyone in your household be able to take a loan or borrow cash/in-kind from [SOURCE] if you wanted to? *	Has anyone in your household taken any loans or borrowed cash/in-kind from [SOURCE] in the past 12 months? CIRCLE ONE	Who made the decision to borrow from [SOURCE] most of the time? CIRCLE ALL APPLICABLE	Who makes the decision about what to do with the money/ item borrowed from [SOURCE] most of the time? CIRCLE ALL APPLICABLE
LENDING SOURCE NAMES²		G3.03	G3.04	G3.05	G3.06
A	Non-governmental organization (NGO)	YES.....1 NO.....2 → NEXT SOURCE MAYBE.....3	YES, CASH1 YES, IN-KIND2 YES, CASH AND IN-KIND3 NO4 → NEXT SOURCE DON'T KNOW97	SELF1 SPOUSE2 OTHER HH MEMBER3 OTHER NON-HH MEMBER4 NOT APPLICABLE98	SELF1 SPOUSE2 OTHER HH MEMBER3 OTHER NON-HH MEMBER4 NOT APPLICABLE98
B	Formal lender (bank/financial institution)	YES.....1 NO.....2 → NEXT SOURCE MAYBE.....3	YES, CASH1 YES, IN-KIND2 YES, CASH AND IN-KIND3 NO4 → NEXT SOURCE DON'T KNOW97	SELF1 SPOUSE2 OTHER HH MEMBER3 OTHER NON-HH MEMBER4 NOT APPLICABLE98	SELF1 SPOUSE2 OTHER HH MEMBER3 OTHER NON-HH MEMBER4 NOT APPLICABLE98
C	Informal lender	YES.....1 NO.....2 → NEXT SOURCE MAYBE.....3	YES, CASH1 YES, IN-KIND2 YES, CASH AND IN-KIND3 NO4 → NEXT SOURCE DON'T KNOW97	SELF1 SPOUSE2 OTHER HH MEMBER3 OTHER NON-HH MEMBER4 NOT APPLICABLE98	SELF1 SPOUSE2 OTHER HH MEMBER3 OTHER NON-HH MEMBER4 NOT APPLICABLE98
D	Friends or relatives	YES.....1 NO.....2 → NEXT SOURCE MAYBE.....3	YES, CASH1 YES, IN-KIND2 YES, CASH AND IN-KIND3 NO4 → NEXT SOURCE DON'T KNOW97	SELF1 SPOUSE2 OTHER HH MEMBER3 OTHER NON-HH MEMBER4 NOT APPLICABLE98	SELF1 SPOUSE2 OTHER HH MEMBER3 OTHER NON-HH MEMBER4 NOT APPLICABLE98
E	Group based micro-finance or lending including VSLAs / SACCOs	YES.....1 NO.....2 → NEXT SOURCE MAYBE.....3	YES, CASH1 YES, IN-KIND2 YES, CASH AND IN-KIND3 NO4 → NEXT SOURCE DON'T KNOW97	SELF1 SPOUSE2 OTHER HH MEMBER3 OTHER NON-HH MEMBER4 NOT APPLICABLE98	SELF1 SPOUSE2 OTHER HH MEMBER3 OTHER NON-HH MEMBER4 NOT APPLICABLE98
F	Informal credit/savings groups such as merry-go-rounds, tontines, funeral societies, etc.	YES.....1 NO.....2 → NEXT SOURCE MAYBE.....3	YES, CASH1 YES, IN-KIND2 YES, CASH AND IN-KIND3 NO4 → MODULE G4 DON'T KNOW97	SELF1 SPOUSE2 OTHER HH MEMBER3 OTHER NON-HH MEMBER4 NOT APPLICABLE98	SELF1 SPOUSE2 OTHER HH MEMBER3 OTHER NON-HH MEMBER4 NOT APPLICABLE98

* This question is not included in the calculation of the index, but should be collected to be able to identify whether there is a credit constraint, for programming purposes

² To adapt to country context, locally relevant examples may be given within lending sources categories.

MODULE G4: TIME ALLOCATION

G4.01: PLEASE RECORD A LOG OF THE ACTIVITIES FOR THE INDIVIDUAL IN THE LAST COMPLETE 24 HOURS (STARTING YESTERDAY MORNING AT 4 AM, FINISHING 3:59 AM OF THE CURRENT DAY). THE TIME INTERVALS ARE MARKED IN 15 MIN INTERVALS AND ONE ACTIVITY CAN BE MARKED FOR EACH TIME PERIOD BY DRAWING A LINE THROUGH THAT ACTIVITY.

"Now I'd like to ask you about how you spent your time during the past 24 hours. We'll begin from yesterday morning, and continue through to this morning. This will be a detailed accounting. I'm interested in everything you do (i.e. resting, eating, personal care, work inside and outside the home, caring for children, cooking, shopping, socializing, etc.), even if it doesn't take you much time."

	Night				Morning				Day															
Activity	4		5		6		7		8		9		10		11		12		13		14		15	
A Sleeping and resting																								
B Eating and drinking																								
C Personal care																								
D School (also homework)																								
E Work as employed																								
F Own business work																								
G Farming/livestock/fishing																								
J Shopping/getting service (incl health services)																								
K Weaving, sewing, textile care																								
L Cooking																								
M Domestic work (incl fetching wood and water)																								
N Care for children/adults/elderly																								
P Travelling and commuting																								
Q Watching TV/listening to radio/reading																								
T Exercising																								
U Social activities and hobbies																								
W Religious activities																								
X Other, specify...																								

MODULE G5: GROUP MEMBERSHIP

"Now I'm going to ask you about groups in the community. These can be either formal or informal and customary groups."		Is there a [GROUP] in your community?	Are you an active member of this [GROUP]?
GROUP CATEGORIES		G5.01	G5.02
A	Agricultural / livestock/ fisheries producer's group (including marketing groups)	YES1 NO2 → GROUP B DON'T KNOW.....97	YES1 NO2
B	Water users' group	YES1 NO2 → GROUP C DON'T KNOW.....97	YES1 NO2
C	Forest users' group	YES1 NO2 → GROUP D DON'T KNOW.....97	YES1 NO2
D	Credit or microfinance group (including SACCOs/merry-go-rounds/ VSLAs)	YES1 NO2 → GROUP E DON'T KNOW.....97	YES1 NO2
E	Mutual help or insurance group (including burial societies)	YES1 NO2 → GROUP F DON'T KNOW.....97	YES1 NO2
F	Trade and business association group	YES1 NO2 → GROUP G DON'T KNOW.....97	YES1 NO2
G	Civic groups (improving community) or charitable group (helping others)	YES1 NO2 → GROUP H DON'T KNOW.....97	YES1 NO2
H	Religious group	YES1 NO2 → GROUP J DON'T KNOW.....97	YES1 NO2
I	Other [women's/men's] group (only if it does not fit into one of the other categories)	YES1 NO2 → GROUP K DON'T KNOW.....97	YES1 NO2
J	Other (SPECIFY) _____	YES1 NO2 DON'T KNOW.....97	YES1 NO2

END OF QUESTIONNAIRE. FILL OUT COVER PAGE OUTCOME G1.05.

Table 2: The domains, indicators, survey questions, aggregation method, inadequacy cut-offs, and weights in the A-WEAI

Dimension	Indicator name	Survey questions	FTF Variables	Aggregation method	Inadequacy cut-off	Weight
Production	Input in productive decisions	How much input did you have in making decisions about: food crop farming, cash crop farming, livestock raising, fish culture? To what extent do you feel you can make your own personal decisions regarding these aspects of household life if you want(ed) to: food crop farming, cash crop farming, livestock raising, fish culture?	G2.03 A-C, F G2.04 A-C, F	Achievement in two	Inadequate if individual participates BUT does not have at least some input in decisions; or she does not make the decisions nor feels she could.	1/5
Resources	Ownership of assets	Does anyone in your household currently have any [ITEM]? Do you own any of the [ITEM]? Agricultural land, Large livestock, Small livestock, Chicks etc; Fish pond/equip; Farm equip (non-mech); Farm equip (mechanized) Nonfarm business equipment House; Large durables; Small durables; Cell phone; Non-ag land (any); Transport	G3.01 – G3.02 A-N	Achievement in any if not only one small asset (chickens, non-mechanized equipment and no small consumer durables)	Inadequate if household does not own any asset or if household owns the type of asset BUT she/he does not own most of it alone	2/15
	Access to and decisions on credit	Has anyone in your household taken any loans or borrowed any cash/in-kind from [SOURCE] in the past 12 months? Who made the decision to borrow/what to do with money/item borrowed from [SOURCE]? Non-governmental organization (NGO); Informal lender; Formal lender (bank); Friends or relatives; ROSCA (savings/credit group)	G3.06 – G3.08 A-F	Achievement in any	Inadequate if household has no credit OR used a source of credit BUT she/he did not participate in ANY decisions about it	1/15
Income	Control over use of income	How much input did you have in decisions on the use of income generated from: Food crop, Cash crop, Livestock, Non-farm activities, Wage& salary, Fish culture? To what extent do you feel you can make your own personal decisions regarding these aspects of household life if you want(ed) to: Non-farm economic activities? Your own wage or salary employment? Major and minor household expenditures?	G2.05 A-F G2.04 D-E, G-H	Achievement in any if not only minor household expenditures	Inadequate if participates in activity BUT has no input or little input in decisions about income generated, or does not feel she/he can make decisions regarding wage, employment and major household expenditures	1/5
Leadership	Group membership	Are you a member of any: Agricultural / livestock/ fisheries producer/mkt group; Water; Forest users'; Credit or microfinance group; Mutual help or insurance group (including burial societies); Trade and business association; Civic/charitable group; Local government; Religious group; Other women's group; Other group	G5.03 – G5.04 A-J	Achievement in any	Inadequate if is not part of AT LEAST ONE group; inadequate if no groups reported in community	1/5
Time	Workload	Worked more than 10.5 hours in previous 24 hours.	G4.01	NA	Inadequate if works more than 10.5 hours a day	1/5

Source: Authors. Adapted from Alkire et al. (2012)

Source: Malapit et al., 2015a

Appendix E: Semi-Structured Interview Question Guide (English)

Interviewee ID:

Interviewer:

Village:

Date:

Interviewer introduces interview topics: We would like to talk to you today to better understand the types of work that you do, how you spend your time versus how you would *like* to spend your time, and your freedom to make different types of choices, especially related to the care of your children and the foods your household eats.

[WORK & TIME USE] We will start by talking about all the different types of work that you do.

1) Could you tell me about all the different types of work that you did yesterday?

1a) First allow interviewee to respond, saying what first occurs to her as ‘work’. THEN, potential prompts, IF she has not already mentioned them:

	<i>Mother volunteers</i>	<i>Prompted</i>
Agricultural work? (<i>planting, weeding, harvesting to sell, post-harvest processing, livestock care</i>)		
Working taking care of the home? (<i>fetching wood, fetching water, acquiring food, washing dishes/clothing, chopping wood</i>)		
Taking care of your child(ren)? (<i>cooking, feeding, washing, supervising</i>)		
Taking care of other people besides your children? (<i>e.g. elderly relative</i>)		
Any work for a wage?		
Any work that you do in other people’s homes, not for a wage? (<i>but perhaps in-kind</i>)		
Any other work that you didn’t do yesterday, but do sometimes?		

2) Do you feel that you do agricultural work because it is better than doing other types of work? Or do you feel that agriculture is the only work option available to you? Please describe.

2a) When (in your lifetime) did you first start doing agricultural work? Why did you start?

3) Of all the activities that you do, which do you dread the most/like the least? Why?

■ Is it because it's exhausting?	■ Boring?	■ Dangerous?	■ Embarrassing?
	■ Stressful?	■ Pointless?	■ Socially discouraged?

3a) Anything you avoid doing?

4) Which task(s) do you feel are the most time-consuming? Do you wish that any of them consumed less of your time? Why? (*Could be many hours OR just “too much” time, in her opinion*)

5) What activit(ies) (ANY, not just work) do you get any enjoyment from? Why? Please describe.

5a) Of these activities, which gives you the most enjoyment?

6) Is there anything you do just for your own happiness, not for anyone else? Please describe.

(Just for leisure, not because anyone told you/expects you to do them.)

7) Is there any type of work you wish you could do, but cannot, because of some obstacle? If so, please describe.

8) If there was a change in your day, and you had a new extra hour of free time, what would you do?
(optional, can skip if she struggles to answer)

[CREDIT & GROUPS] Now I'd like to ask a few questions about your community more generally.

9) Do you think it is common for people in your community to have access to credit, or to take out loans? Please describe.

9a) Do you feel you personally have sufficient access to credit? Why or why not?

9b) Relevant credit sources include (probing optional):

- | | | |
|-------------------------------|--|-------------------------------------|
| ▪ NGO | ▪ Friends/relatives | ▪ Funeral/burial societies or other |
| ▪ Bank/financial institutions | ▪ Group microfinance/village savings & | informal savings groups |
| ▪ Informal lender | loan associations | |

10) Are you a member of any groups? Do you think it is common for people in your community to be members of groups? Are many people active in groups? Please describe.

10a) Do you there are too many, too few, or a good amount of groups in your community? Why or why not?

10b) Relevant groups include:

- | | | | |
|-------------------------------------|--|------------------------------|---|
| ▪ Agricultural/livestock production | ▪ Credit/microfinance group | ▪ Trade/business association | ▪ Civic/charitable groups (improving community or helping others) |
| ▪ Water users' group | ▪ Burial society/other mutual help group | | |
| ▪ Forest users' group | | | ▪ Religious group |

[EMPOWERMENT] One reason we're doing these interviews is to better understand women's ability to make choices - what types of choices they're free to make for themselves, and what types of choices have been made for them by other people and other people's expectations.

11) If a Musoga woman were free to make any choices about her life, what would her life look like?

11a) What types of choices would she be able to make about her life?

11b) Can you think of a particular woman in your community who is very free to make choices about her life? Please describe her, what is she like?

[OPPORTUNITY FOR A BREAK HERE]

12) Are there any decisions/actions that you are unable to make/take right now, but would like to be able to act on in the future? Please describe. Why is that?

13) Can you tell me about times in your life when you felt more ‘empowered’ or less ‘empowered’? (Any other time? Anything else?)

13a) (*Optional, if the interviewee is married*) Do you feel that you were more empowered before you were married, or after, or about the same? Please describe why you feel this way.

13b) (*Optional*) Do you feel you were more empowered before the birth of your first child, or after, or about the same? Please describe why you feel this way.

14) Are you able to set aside money for your own use (meaning that you decide - by yourself - how to spend it)?

14a) Is it money that you earn, or that someone else in the household earns (or both)? Please describe.

14b) Do you talk with any other family members about what to spend money on? Please describe.

15) If there were going to be changes in your community, so that women are treated better, what would be some recommendations?

[EMPOWERMENT & CARE WORK] Now I’d like to ask you some questions about the choices you make as a mother, and the choices that you are not free to make as a mother.

16) Yesterday [*or last time she cooked for her children*], were you able to give your children all the foods you wished to? Please describe.

16a) Is this usually the case? Please describe.

17) Who decides which types crops the household should eat? How do they make that decision?

17a) Who decides what share of the crops the household should eat (vs. sell)?

17b) Who decides which foods to buy?

18) [*If she is responsible for feeding her children*] Yesterday, did any of your other responsibilities affect how you fed your children? How so?

(*E.g. was busy with other things so didn’t have time to prepare food well*)

18a) If this didn’t happen yesterday, does it ever happen?

18b) Are there any ways that your daily responsibilities affect how long you decide to breastfeed your child?

19) Tell me about any of the ways that your husbands help to care for the children in terms of nutrition.

20) Is there anything else that you wish your husband could help with in regards to caring for children?

20a) If your husband offered to help care for the children more, how would you feel? What tasks would you suggest for him?

21) Have you and your husband ever had a disagreement about which foods to give to the children?

21a) What was the cause of the disagreement? Please describe. (*E.g. a certain food is healthy but too expensive*)

22) Do you have any power to stop your husband from taking another wife? Why or why not?

22a) How does a mother who gets left behind [in the situation of polygyny] feel?

23) How is the decision made in your family about when you will have another child?

(*Ok to say "it just happens", no planning*)

23a) Are you happy with this amount/type of planning? Why or why not?

24) Do you receive help in caring for your children if you are away from home?

24a) What type of help?

24b) What is your relationship with that person?

25) Is there anyone else (*not already mentioned*) who helps to care for the children?

25a) Please describe how they care for the children.

25b) Anyone who helps to care for the children after you have given birth?

26) Tell me about something from your childhood that you want to continue in the way you raise your children.

27) Tell me about something from how you grew up that you want to be different for your children.

[FOOD CHOICES] Last time we visited, you told us about some important considerations in your food choices. We would like to understand this a bit more. [IF SHE DOES NOT MAKE DECISIONS ABOUT FOOD PREP, SKIP]

28) What are the most important things to consider when choosing what foods to cook?

(*First let her respond, then rank, then prompt if necessary*)

28a) Which of these things is the most important? Could you rank these items in order of importance?

- Deliciousness?
- Healthiness?
- Cheapness?

- Quickness?
- In season?
- Closeness?

- Complements other foods?
- Easy to acquire?

29) If you could change something about what you eat, what would it be (if anything)?

29a) For your family?

29b) What are the factors that are preventing this change? Rank in priority...

30) If you had more free time, do you think it would change what you and your family eat?

Why or why not?

31) In the past, has there ever been a time when the foods you/your family eat changed a lot?

31a) Please describe this change. What caused it?

[DOUBLE-CHECK THE CHECKLIST!]

32) Do you have any questions for me, or anything else you would like to add, before we end the interview?

Appendix F: Semi-Structured Interview Question Guide (Lusoga)

Interviewer introduces interview topics: We would like to talk to you today to better understand the types of work that you do, how you spend your time versus how you would like to spend your time, and your freedom to make different types of choices, especially related to the care of your children and the foods your household eats.

WORK & TIME USE: We will start by talking about all the different types of work that you do.

1) Could you tell me about all the different types of work that you did yesterday? (Nkobelaku kumilimu egyendhawulo gyewakoze olwaidho?)

1a) First allow interviewee to respond, saying what first occurs to her as ‘work’. THEN, potential prompts, IF she has not already mentioned them:

	<i>Mother volunteers</i>	<i>Prompted</i>
Agricultural work? (<i>planting, weeding, harvesting to sell, post-harvest processing, livestock care</i>) nkobelaku kumilimu egyigemagana kubyobulimi nga okusimba/okutemela,amakungula,okulabilira byomaze okukungula, nokulabilira ebisoolo).		
Working taking care of the home? Emilimu egyigemagaana kukulabilira amaaka (<i>fetching wood, fetching water, acquiring food, washing dishes/clothing, chopping wood</i>)		
Taking care of your child(ren)? ((Emirimu egyigemagana kukulabilira abaana bo? (<i>cooking, feeding, washing, supervising</i>		
Taking care of other people besides your children? Emilimu egyigemagaana kukulabilira abantu abandhi botazaala? (<i>e.g. elderly relative</i>)		
Any work for a wage? wakozeoyo Omulimu gwona gwona oguvamu ku kasente? Oba ogwavilemu ku sente?		
Any work that you do in other people’s homes, not for a wage? (<i>but perhaps in-kind</i>) Eliyo omulimu gwonagwona gwokola mumaka gabantu abaandhi aye nga tigwakusasulwa ?nga oyambaku buyambe?		

Any other work that you didn't do yesterday, but do sometimes? Waliwo omulimu gwonagwona gwtasoboile kola idho aye nga otela ogukola oba olwisi ogukoola?		
---	--	--

2) Do you feel that you do agricultural work because it is better than doing other types of work? Or do you feel that agriculture is the only work option available to you? Please describe. Mukuboona okukwo, olowooza omulimu gwokulima,ogukoola kubanga nogusinga emilimu egyindh ? Oba olima lwakuba nti nomulimo oguliwo gwosoboola okoola? Yongera ntangazemuku awo?

a) When (in your lifetime) did you first start doing agricultural work? Why did you start? Watandikali okulima mubulamubwo? Lwaki watandika okulima?

b) Is there any way you would like your agricultural work to be different/better? Please describe. Waliwo engeri yonayona yewandyenze emilimugyo egyigemagana nebyobulimi dhikyukemu/ dhongere okulongokamu? Gitya /yongera onhinonolemuku?

Of all the activities that you do, which do you dread the most/like the least? Why? Kubintu byonabyona byokoola, nkobelaku kyosinga butayenda kola? Lwaki?

a) Anything you avoid doing? Kiiki kyosinga okwewala okukoola mwebyo byona byona?

3) Which task(s) do you feel are the most time-consuming? Do you wish that any of them consumed less of your time? Why? (Could be many hours OR just “too much” time, in her opinion) milimuki gyoboona nganegisinga okutwala obwire obungi? Lwaki? Wandyenze emilimu egyindi kitwale obwire butono? Lwaki?

4) What activit(ies) (ANY, not just work) do you get any enjoyment from? Why? Please describe. Bintuki byokoola ebikuletara eisenhu/akaseko kumatama oba biki byokoola ayenga obyeyagaliramu? (yongera ontangazeku? Lwaki?

a) Of these activities, which gives you the most enjoyment? Kubintu bino byokola, kiliwa ekisinga okuletela eisanu elinji/oba kyosinga okweyagaliramu?, Lwaki?

6) Is there anything you do just for your own happiness, not for anyone else? Please describe. waliwo ekintu kyonakyona kyokoola okwesanusa nga iwe nga omuntu, ayenga tokikoze kulwa kusanhusa muntu wundhi yena yena? (yongela ontangazemukhu/ lwaki)?

a) (Just for leisure, not because anyone told you/expects you to do them.) Nga ogukoola mubiselabyo ebyeidhembe tilwakuba waliwo nti aba akukobye okugukoola /oba nti waliwo akusubira okikoola?

7) Is there any type of work you wish you could do, but cannot, because of some obstacle? If so, please describe. waliwo omulimu gwewandyenze okoola/oba gwonagwona gwewegomba okoola, aye nga tosoboola gukoola buti kubanga waliwo ekikulemesa ogukoola? (yongela ontangazemuku?)

8) If there was a change in your day, and you had a new extra hour of free time, what would you do? (optional, can skip if she struggles to answer) Singa wabawo enkyukakyuka mubwirebwo wafunamuku ebisera nga ozila kyakukoola, kikyewandibukoozemu? Or singa ofuna omukisa nga mulunakulwo olinamu esaw ndhala eyobwelere nga ozila kyakukoola, wandhigyukozemuki?.

CREDIT & GROUPS: Now I'd like to ask a few questions about your community more generally.

9) Do you think it is common for people in your community to have access to credit, or to take out loans? Please describe. Mukuboona okukwo, kyabulidho abantu bomukitundhu muno okwewoola sente? Oba abantu bomukitundhu munho batera okwewoola sente?

a) Do you feel you personally have sufficient access to credit? Why or why not? Iwe nga omuntu, bwoba oyenze okwewoola sente, olowooza olinawakumala wosoboola okugya wewoola? Lwaki yii oba bhee?

b) Relevant credit sources include (probing optional): Wooba oyenze okwewoola sente mukitundhu kyaimwe kiini, aa wosooboola okugya wewoola?

NGO

Bank/financial institutions

Informal lender

Friends/relatives

Group microfinance/village savings & loan associations

Funeral/burial societies or other informal savings groups

10) Are you a member of any groups? Do you think it is common for people in your community to be members of groups? Are many people active in groups? Please describe. Olinekibiina kyona kyona kye wegaitiramuku?

Olowooza abantu bhomukitundu kyaimwe kiino, betera okwegaitira mu bibiina? A bantu banji abatela okwegaitira /abenhigire mubibiina? Yongera ontangazemuku? Bibiina kikaki byebatera okwegaitiramu?

a) Do you feel there are too many, too few, or a good amount of groups in your community? Why or why not? Mukubona okukw, owulira nga ebibiina bingi inho, bitoono inho oba biweraku mukitundu kyaimwekino?

b) Relevant groups include: Bibiina kikaki byebatera okwegaitiramu?

EMPOWERMENT: One reason we're doing these interviews is to better understand women's ability to make choices - what types of choices they're free to make for themselves, and what types of choices have been made for them by other people and other people's expectations. Emu kunsonga enkulu lwaki tulibuza ebibuza biino erinti twendha tegera ngeri abakya yebasalawo oba okulondawo. Bikibye balinha eidhembe okwesalilawo oba okwelondhelawo?, ate bintuki abantu abandhi abendhawulo byebasalolawo oba byebabasubilamu?

11) If a Musoga woman were free to make any choices about her life, what would that mean? Singa omukazi omusoga singa aba asobola okwesalilawo oba aba neidhembe lyokwesalilawo ebigemagana oba ebifa kubulamubwe, ekyo kiba kitegezaki gyooli?

a) What types of choices would she be able to make about her life? Bintuki byaba nga asobola okwesalilawo nga bigemagana kubulamumwe?

b) What might her life look like? Obulamubwe buba bujafanana butya?

c) Can you think of a particular woman in your community who is very free to make choices about her life? Please describe her, what is she like? Osobola oba oyinza okulowooza kumukazi yena yena mukitundhu kino ali neidhembe okwesalilawo oba okwelondelawo ebifa kubulamubwe? obulamubwe bufanana butya? Munkobereku? Abaatya?

OPPORTUNITY FOR A BREAK HERE

12) Are there any decisions/actions that you are unable to make/take right now, but would like to be able to act on in the future? Please describe. Why is that? Waliwowa okusalawo kwonakwona kubantu ebyendhawulo kwewandyanze okoola ayenga bhuuti tosobola, aye nga mumaiso eyo wandyanze okwesalirawo? Lwaki? Yongera onhinonoleku?

13) Can you tell me about times in your life when you felt more 'empowered' or less 'empowered'? (Any other time? Anything else?) Nkobelaku kubisela mubulamubwo wewatuka oba wewawulira nga osobola

okwesalilawo? Ate ebisela byewali tosoobola kwesalilawo? Yongela ontangazemuku? When? Biseraki ebyo? Why? Lwaki?

a) (Optional, if the interviewee is married) Do you feel that you were more empowered before you were married, or after, or about the same? Please describe why you feel this way. Olowooza wali osobola okwesalilawo nga okali kufumbilwa oba nga ofumbirwa? Oba wazila ndhawulo? Lwaki plowooza otyo?

b) (Optional) Do you feel you were more empowered before the birth of your first child, or after, or about the same? Please describe why you feel this way. Owulira oba olowooza eidhembe elyo elyokwesalilawo, lyali lingi nga okali kuzaala mwanawo asooka oba nga omaaze omuzaala? Oba ensalawo yasigala nendhala? Oba wazila ndhawulo /oba okusalawo kwasigala nekilala

14) Are you able to set aside money for your own use (meaning that you decide - by yourself - how to spend it)? Osoboola okutoolaku sente wadiza kumbali nga didho dha kukosesa bintubyo nga iwe omuntu? Nga osooboola osalawo nensasanhya yadho?

a) Is it money that you earn, or that someone else in the household earns (or both)? Please describe. Sente edho niwe odhikoola oba muntuwundhi mumaka naba adhikooze? oba mwembi? Yongela onhinonoleku?

b) Do you talk with any other family members about what to spend that money on? Please describe. Oyogelaku oba webhuzaaku kumuntu yenayena mumakago mungeli eyokusansanhyamu sente dho edho? (yongela ontangazemuku)?

15) If there were going to be changes in your community, so that women are treated better, what would be some recommendations? Singa wabawo enkyukakyuka mukitundhu kyaimwe kiino mungeri abakazi yebabisibwamu oba yebagemebwamu, batandike okubisibwa oba okugemebwa obulungi iwe nga omuntu, biki byewandhitesiza bikolebwe okusoboola enkuka kyuka eyo?

EMPOWERMENT & CARE WORK: Now I'd like to ask you some questions about the choices you make as a mother, and the choices that you are not free to make as a mother.

Butti nendha kubuzayoku kubibuuzo ebigemagana ku kusalawo kwokola nga iwe maama, nebigemagaana kukusalawo kwotalinaidhembe khoola oba kwotasoboola kwekolera nga iwe maama .

16) Yesterday [or last time she cooked for her children], were you able to give your children all the foods you wished to? Please describe. Idho wasoboile okuwa abaanabo ebika byemele byonabyona bye wayenze obawa?, yongera oninonoleku?

a) Is this usually the case? Please describe. Kityo bewkitera okuba? Oba bee? yongera oninonoleku?

17) Who decides which types crops the household should eat? How do they make that decision? Nani asalawo ekika kyemere ekiba ekiba kilibwe? Okusalawo kutukibwaku kutya?

a) Who decides what share of the crops the household should eat (vs. sell)? Nani asalawo ekitundu oba ekipimo kyemere ekibe kyilibwe nekibe kitundubwe? Okusalawo kutukibwaku kutya? Oba musalawomutya?

b) Who decides which foods to buy? Ani asalawo ekika kyemere gyemunaguula?

18) [If she is responsible for feeding her children] Yesterday, did any of your other responsibilities affect how you fed your children? How so? Obuvunanizibwa bwolinabwo obwendhawulo bulinengeri yebwakosizamu engeri yewalisizamu abaanabo Idho? Butya?

(E.g. was busy with other things so didn't have time to prepare food well)

a) If this didn't happen yesterday, does it ever happen? Bwekibatikyabailewo idho, kyaliwoku?

b) Are there any ways that your daily responsibilities affect how long you decide to breastfeed your child? Waliwo engeriyonayona obuvunanizibwabwo obwendhawulo yebukhosamu eibanga lyomala mukuyonsa omwana?

19) Tell me about any of the ways that your husbands help to care for the children in terms of nutrition.

Nkobelaku mungeli dhonadhona edhendhawulo baalo bwayambaku mukulabilira abaana baimwe mungeri eyebyendya?

20) Is there anything else that you wish your husband could help with in regards to caring for children?

waliwo engeri eyindi yonayona yewandyenze baalo ayongelemuku mukulabilira abaana baimwe?

a) If your husband offered to help care for the children more, how would you feel? What tasks would you suggest for him? Omwamiwo waba yewaileyo okukuyambaku mukulabilira abana okusingaku kwabaile abalabilira, owulira otya? Biiki byewandimukobye akuyambemu?

21) Have you and your husband ever had a disagreement about which foods to give to the children?

Mwafunaku obutaikhanya ni baloo nga buva kubiika byemele yokulisa abaana baimwe?

a) What was the cause of the disagreement? Please describe. (E.g. a certain food is healthy but too expensive, not accessible etc) Obutaikanya obwo bwavakuki? Yongera ontangazemuku?

22) Do you have any power to stop your husband from taking another wife? Why or why not?

Olinobuyinza obusoobola okulobera oba obulemesa baalo okufuna omukazi owundhi? Lwaki yii oba bee?

a) How does a mother who gets left behind [in the situation of polygyny] feel? Omukazi gwebaizizaku mwine owulira atya?

23) How is the decision made in your family about when you will have another child? (Ok to say “it just happens”, no planning) okusalawo li lwemugya okwizaku omwana owundhi kukolebwakutya mumaka gaimwe? Oba kigwawo bugwe?

a) Are you happy with this planning process or type of arrangement? Why or why not? Oli musanufu nentegeka enho oba nokusalawo okwo? Lwaki yii oba bhee?

24) Do you receive help in caring for your children if you are away from home? Bwoba ozilawo waka, ofuna kubuyambi obugemagana kukulabilira abaanabo?

a) What type of help? Buyambi kikaki oba Mungeriki? Nani atera okuyamba? Omweta otya?

b) What is your relationship with that person? Mulina lugandhaki nomuntu oyo? Oba omweta otya?

25) Is there anyone else (not already mentioned) who helps to care for the children? Waliwo omuntu yenayena owundhi gwetutogeileku ayambaku mukulabilira abaana?

a) Please describe how they care for the children. Yongera oninonoleku mungeri edhendhawulo dhakuyambaku mukulabilira abaanabo?

b) After you give birth to a baby, do you receive help from anyone in your household, or anyone else in the community? Bwoba ozaile, otela ofuna okuyambibwa okuva owomuntu yena yena? Muntu wamunumba oba mukitundu?

c) What type of help? Buyambi kikaki?

d) What is your relationship with that person? Omweta otya?

26) Tell me about something from your childhood that you want to continue in the way you raise your children. Nkobelaku kungeri yona yona yoidhukira mubuto bwo nga bwewakuzibwa yo yendha okugya mumaiso nokulizamu abaana bo?

27) Tell me about something from how you grew up that you want to be different for your children. Nkobelaku kungeli yona yona gye wakuzibwamu gyoyendha ebe eyendhawulo/ oba ekyuuke mungeri gyoli kuuzamu abaanabo?

FOOD CHOICES: Last time we visited, you told us about some important considerations in your food choices. We would like to understand this a bit more. [IF SHE DOES NOT MAKE DECISIONS ABOUT FOOD PREP, SKIP]Bwetwaswmbayo okwidha, watukobelaku kubintu ebikuyamba mukusalawo emere gyonafumba. Twandyenze okwongera okutegeramuku kubintu ebyo.

28) What are the most important things to consider when choosing what foods to cook? (First let her respond, then prompt if necessary) Biki ebikulu byolingilira nga osalawo emere yogya okufumba?

a) Which of these things is the most important? Kubino byonkoby, kiliwa ekisinga obukhulu?

Deliciousness?

Healthiness?

Cheapness?

Quickness?

In season?

Closeness?

Complements other foods?

Easy to acquire?

29) If you could change something about what you eat, what would it be (if anything)? Singa oba oyenda okukyusa mundyayo oba mubyolya, ki kyewandikyasiza mu iwe nga omuntu?

a) For your family? Ate ki kyewandhi kyusilizamu abamukaago?

b) What are the factors that are preventing this change? Kiki ekilemeisa enkyukakyuka eno? Oba lwaki okaali kyusamu? Which would be ranked #1? Nkoberaku okuvamu mubukulu bwabyo paaka kuckyolowooza nti tikikuulu inho?

30) If you had more free time, do you think it would change what you and your family eat? Why or why not? Singa oba nobwire obweidhembe oba obwire bwozila kyakolelamu obusingaku kubwolinbwo sawa enho, olowooza kyandikyasizamu byolya nabomumakaago? Mungeriki? Lwaki yi oba bhee?

31) In the past, has there ever been a time when the foods you/your family eat changed a lot? Mubisera ebye'numa, waliwoku ekisera oba obwile ebika byemere byolya nabomumaakago bwebyakyuka enho?

a) Please describe this change Nkeberaku kunyuka kyuka eyo?. What caused it? Ki ekyaletawo enkyukakyuka eyo?

DOUBLE-CHECK THE CHECKLIST!

32) Do you have any questions for me, or anything else you would like to add, before we end the discussion? Oliyo nebibuuzo byonabyona byewandyanze okubuzayo oba ekintu kyonakyaona kyewandyanze okwongelaku nga tukalikumaliliza kuwayamu kuno?

If later you think of anything else you would have liked to say in this interview, you may contact me at this number [0759230884], and we will do our best to arrange a short follow-up interview.

Appendix G: Thematic Analysis Methodology

During the analysis of the semi-structured interview responses I employed both deductive and inductive methods; both fell under the broader methodology of thematic analysis (Braun & Clarke, 2006). The most rigidly deductive methods were present in the analysis of interview responses that related directly to each of the five domains of the Abbreviated Women's Empowerment in Agriculture Index. The codes and themes identified in this stage of analysis were in direct conversation with the theory and structure of the Index, as well as the Index results collected from Busoga. For example, these included any interview responses explicitly discussing intrahousehold decision-making (about agricultural production and income expenditure only), asset ownership, credit access, group membership, and time use. All other responses left aside became the building blocks of the inductive analyses.

Here I outline the process used for inductively coding interview responses and identifying themes. In contrast to the deductive analysis, I did not sort the responses according to a predetermined framework; instead, I searched for patterns within women's responses to broad, open-ended questions about empowerment, agriculture, and parenting. Decisions about what constituted a pattern/theme occurred at roughly two levels: semantic and latent (Braun & Clarke, 2006, p. 84). Semantic themes derived from explicitly named topics (e.g. 'laundry takes too long' received the codes 'time-consuming' and 'laundry'). Identifying latent themes required looking beyond this surface level data to perceive the relationships connecting individual responses.

For example, in this particular dataset, one recurring latent theme was women's shared aspiration to earn steady, independent income from comfortable employment. Identifying this latent theme stemmed from first identifying a cluster of similar semantic themes (e.g. codes for different types of entrepreneurship, desires for increased income, complaints about the physical toll of farming, struggles with time poverty). This was partly determined by the prevalence of repeated codes; i.e. if closely related semantic themes appeared in a majority of the interviews, this was often a good candidate for a meaningful latent theme. However, I also closely examined minority responses, whose dissent could illustrate the heterogeneity of women's experiences and/or illuminate a

corollary to the majority opinion (for an example, see p.166 on women's negative views of empowerment).

In addition to prevalence, I also paid close attention to themes that appeared in response to varied types of interview questions. For example, another overarching latent theme was the obstruction of a woman's ability to make choices by the behaviour of her husband/partner. Women raised this topic in response to multiple open-ended questions, including questions about the type of work they wished to do, polygyny, family planning, parenting, household expenditures, views of empowerment, and suggestions for improving the community. The persistence of this latent theme across interview topics suggested its fundamental importance in interpreting the relationships between empowerment, agriculture, and children's nutrition.

Finally this process was iterative, not linear. For example, after identifying the repeated pattern of women discussing the types of work they would prefer to do instead of agriculture, I returned to the responses previously coded under agriculture (a semantic theme), wanting to understand why women were so eager to quit agriculture. The process of combing through these responses again revealed the nuances of women's views of agriculture (see p.168), and also underscored other latent themes, such as the influence of women's childcare responsibilities in women's choices (e.g. in seeking out home-based employment) and the barriers to choice presented by insufficient income (e.g. preventing women from acquiring business training or materials).

Coding Example

As an example of the process of deriving latent themes from multiple semantic themes, we can examine the broad theme of women's aspirations to change their livelihoods and earn independent income (or at least have the option to). The semantic code I created that is most directly relevant to this theme was called 'non-agricultural economic activity', and I applied it anytime a respondent raised the topic of earning income through an alternative livelihood (whether as an aspiration of description of current practices) (see Figure 31). This included mentions of women starting a retail/trading shop, a tailoring business, a salon, selling cooked food, or renting out a motorcycle.

The latent meanings associated with these topics of discussion emerged from their patterns of coinciding with other codes. For example, women frequently raised the topic of livelihood transitions in response to questions about empowerment (see Figure 32). And even more meaningfully, these responses provided descriptions of how women envisioned a change in livelihood increasing their agency. Thus, non-agricultural economic activity ascended from a simple semantic code to a higher-level theme because of both its repetition/frequency *and* its vivid, explanatory connections to the central topic of interest (empowerment) (see p.161). This theme is further bolstered by the pattern that appears in the responses within the ‘agriculture’ code (see Figure 33). Most women described agriculture as their only option for earning income, and would prefer to try earning income via other means, if the resources were available. Although these responses did not always contain the same semantic phrases (e.g. explicitly saying ‘tailoring’) the *latent* meaning (i.e. desire to transition to an alternative livelihood, but feeling unable to do so) is identical (or strongly connected), further reinforcing its importance as an overarching theme.

Figure 31: Coding process for 'non-agricultural economic activities'

The screenshot shows a coding software interface. On the left is a list of codes with columns for Name, Files, Referen..., and C. The code 'Non-agricultural economic activity' is selected and highlighted in green. Below it, several other codes are listed, including 'Plaiting hair', 'Rent out motorcycle', 'selling cooked food', 'Tailoring', and 'Trading'. On the right, a reference text is displayed, showing a conversation between M and R. The text is titled 'Reference 3: 1.49% coverage'. The bottom status bar indicates '6 items selected' and 'CODES > Nodes > Non-agricultural economic activity'.

Name	Files	Referen...	C
Laundry	19	31	
Law enforcement	9	10	
Leisure	26	43	
Marriage	29	89	
Migration	2	3	
Negative feelings	30	68	
Neutral feelings	2	3	
Non-agricultural economic activity	29	152	
Plaiting hair	5	7	
Rent out motorcycle	1	2	
selling cooked food	4	7	
Tailoring	9	14	
Trading	22	40	
Organising at home	2	3	
Other woman or wife (polygyny)	29	54	
polygyny - can stop him	7	7	
polygyny - cannot stop...	19	19	
polygyny - food	12	15	
polygyny - household i...	17	19	
polygyny - housing	4	5	
polygyny - negative fe...	27	35	
polygyny - witchcraft	4	4	
polygyny - woman's in...	4	4	
Parenting	29	58	
parenting - abuse	15	23	
parenting - children's...	7	10	
parenting - early marri...	7	9	

Reference 3: 1.49% coverage

M: Now, is there any decision about different things that you would like to do but now you cannot but in the future you would like to make that decision?

R: Yes

M: Like on what? What you would like to decide for yourself but now you cannot but in the future you would like to make your own decision on that.

R: Like doing tailoring

M: Like tailoring! In the future do you plan to decide for yourself?

R: Yes

M: When do you plan to decide for yourself?

R: What!

M: When do you plan to decide for yourself? How are you planning it?

R: In the coming years there

M: Like how many

R: When I am alive.

M: Like ten or five there!!

R: Like at three there.

M: Will you just walk yourself and go even if the husband stops you?

R: No.

M: How do you plan to do it?

R: I will tell him and himself allows me.

M: What if he refuses?

R: I leave it.

6 items selected

CODES > Nodes > Non-agricultural economic activity

Figure 32: Appearance of alternative livelihood theme within 'empowerment' codes

Name	Files	Referen...	C
empowerment	30	706	
empowerment - afflu...	7	8	
empowerment - agricu...	18	55	
empowerment - appea...	27	43	
empowerment - childbi...	26	39	
empowerment - decid...	1	3	
empowerment - educa...	6	9	
empowerment - emplo...	26	59	
empowerment - financi...	7	9	
empowerment - food	1	1	
empowerment - groups	10	12	
empowerment - health	12	14	
empowerment - income	29	106	
empowerment - inequ...	1	1	
empowerment - law en...	8	9	
empowerment - leisure	7	9	
empowerment - mana...	23	37	
empowerment - marria...	30	140	
empowerment - menta...	17	27	
empowerment - mobility	17	24	
empowerment - negati...	2	2	
empowerment - parent...	22	34	
empowerment - purch...	19	47	
empowerment - religion	2	2	
empowerment - sex	7	13	
empowerment - violence	2	2	

1 item selected

empowerment - employment

Summary Reference

[Files\\ld 018 transcript](#)
3 references coded, 2.85% coverage

Reference 1: 0.29% coverage

M: That woman would be doing what kind of work?
R: There is being there when doing tailoring work, selling some things, she sells there as you know things of selling or at times she sells in a shop. Sometimes she sells fish. Those clothes. So that what she wants is what she decides.

Reference 2: 0.69% coverage

M: Now, can you think of any woman in your area that you hope that she has freedom to decide for herself about her life.....
R: Showing you that woman?
M: No don't tell me her name or show her to me, but let us use her as an example, I want her to remain in your brain and you tell me, imagine any woman in your area you hope that she can decide for herself and you tell me that, that woman, her life is like this, she takes it this way, like this. Just taking her as an example but don't tell her to me. That you think has freedom to decide for herself.
R: That woman, where she wants is where she goes. She trades clothes. No one decides for her. What she wants is what she does.

Reference 3: 1.87% coverage

M: Now what am asking, if there is to be change in your area so that women can start being treated well, what do you think should be done so that women can start being treated well?
R: The situation of money still, the situation of money.
M: Yes, the situation of money, how is it?
R: It is the one that has left that situation around
M: It is the one that has done what?
R: money, small income source is what causes us being treated badly.
M: How tell me

CODES > Nodes > empowerment > empowerment - employment

Figure 33: Appearance of alternative livelihood theme within 'agriculture' codes

The screenshot displays a qualitative data analysis software interface. On the left, a hierarchical list of codes is shown under the 'Agriculture' category. The 'ag - only option' code is selected, highlighted in green. The right pane shows the 'Reference' view for this code, displaying a transcript excerpt with a reference label indicating 1.05% coverage. Below this, another transcript reference is shown for 'Files\\ld_081_transcript' with 1.93% coverage. The bottom status bar shows the navigation path: CODES > Nodes > Agriculture > ag - only option.

Name	Files	Referen...	C
▼ Agriculture	30	486	
ag - backup job	10	13	
ag - business	4	6	
ag - children's future	1	1	
ag - climate	1	1	
ag - cooking	1	1	
ag - difficult	4	4	
ag - distance	5	9	
ag - fatigue and pain	21	43	
ag - fertilizer	11	12	
ag - hire labour	12	23	
ag - husband	1	2	
ag - income & market	8	9	
ag - irrigation	1	1	
ag - land	7	9	
ag - livestock	5	11	
ag - only option	21	33	
ag - oxen or tractor	14	14	
ag - pesticide	9	13	
ag - satisfying	14	24	
ag - seeds	11	14	
ag - shame	1	1	
ag - time	26	39	
ag - tools	9	10	
Attitudes and beliefs	4	6	
Awareness of others	1	1	
AWFAI	30	471	

Files\\ld_072_transcript
1 reference coded, 1.05% coverage

Reference 1: 1.05% coverage

M now you told me that yesterday you dug, in the morning and then returned also in the evening, which means that you always dig,
R mmmm (yes)
M So in your view, do you dig because digging is better than other works or you dig because it is the only available work that you can do?
R uhmm, I dig because it is the only work available to do, because it is the source of food and if I don't dig, it means that I won't be able to get what to eat. Because when you dig you get food for eating, even if you don't dig in your own garden, you go and do casual work so that you are able to earn. So digging itself.....
M mmmm.. you go and work as a laborer and then you get something to eat
R yes
M okay
R so digging, I dig, in case I haven't gone to dig, I will have put there some laborers to dig
M those who dig for you for money!
R yes

Files\\ld_081_transcript
1 reference coded, 1.93% coverage

Reference 1: 1.93% coverage

M: Now tell me another thing in what you do, in all like you do, for example you have told

1 item selected

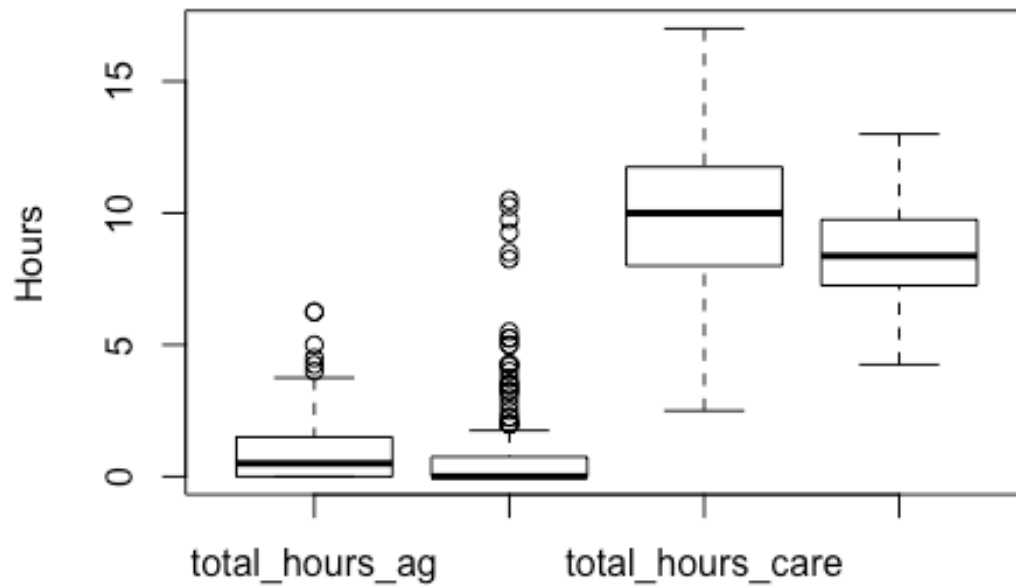
CODES > Nodes > Agriculture > ag - only option

Appendix H: Quantitative Data Analysis R Script

Note: This programming was developed in consultation with Dr. Stephen Young, the Natural Resources Institute statistician.

```
cf<-read_csv("/Users/gwenvarley/Documents/Natural Resources
Institute/timework.csv")
##
##      Column      specification
##
##
##      cols(
##      ID          = col_character(),
##      total_hours_all_work = col_double(),
##      total_hours_ag      = col_double(),
##      total_hours_non_ag  = col_double(),
##      total_hours_care    = col_double(),
##      total_hours_domestic = col_double()
## )
str(cf)
##      spec_tbl_df[,6]      [206 × 6]      (S3:
spec_tbl_df/tbl_df/tbl/data.frame)
##      $ ID                  : chr [1:206] "001" "002" "003" "004" ...
##      $ total_hours_all_work: num [1:206] 13 14 11.8 13.5 13.5 ...
##      $ total_hours_ag      : num [1:206] 0.75 0 0.5 5 4.25 2 1 0
1.25
0
...
##      $ total_hours_non_ag  : num [1:206] 0 0 0 4.25 0 0 0 2 1 0 ...
##      $ total_hours_care    : num [1:206] 10 10.5 8.25 4.25 7.25 9.5
8.5
7.75
6.25
8
...
##      $ total_hours_domestic: num [1:206] 8.75 5.75 7 7.5 8 10 10.5
8.25
9.5
8
...
##      - attr(*, "spec")=
##      .. cols(
```

```
##          ..          ID      =      col_character(),
##          ..          total_hours_all_work      =      col_double(),
##          ..          total_hours_ag      =      col_double(),
##          ..          total_hours_non_ag      =      col_double(),
##          ..          total_hours_care      =      col_double(),
##          ..          total_hours_domestic      =      col_double()
##      .. )
attach(cf)
## The following object is masked from pf (pos = 3):
##
##      total_hours_care
## The following objects are masked from cf (pos = 4):
##
##      ID, total_hours_ag, total_hours_all_work, total_hours_care,
total_hours_domestic,
##      total_hours_non_ag
## The following object is masked from pf (pos = 7):
##
##      total_hours_care
boxplot(cf[,3:6],ylab="Hours")
```



```
mat<-as.matrix(cf[,3:6])
```

```
####non-para      repeated      measure      anova
friedman.test(mat)
##
##      Friedman      rank      sum      test
##
##      data:      mat
## Friedman chi-squared = 495.75, df = 3, p-value < 2.2e-16
#####nonpara      multiple      comparisons
nms<-colnames(mat)
mf<-as.data.frame(mat)

####initialises   vectors   for   the   multiple   comparisons
pvals<-vector()
```

```

comp1<-vector()
comp2<-vector()

#####loops around all the combinations - does wilcoxon test
xxx<-ncol(mat)
for (j in 1:(xxx-1))
{
  for (i in (j+1):xxx)
  {
    print(c(i,j))
    ww<-wilcox.test(mf[,i],mf[,j],paired=TRUE)
    pvals<-c(pvals,ww$p.value)
    comp1<-c(comp1,nms[i])
    comp2<-c(comp2,nms[j])
  }
}
##           [1]                2                1
##           [1]                3                1
##           [1]                4                1
##           [1]                3                2
##           [1]                4                2
## [1] 4 3
#####adjusts the p-values
p2<-p.adjust(pvals,method="holm")

#####assembles the multiple comparison output table
comps<-as.data.frame(cbind(comp1,comp2))
comps$pvals<-round(p2,5)
comps
##           comp1           comp2    pvals
## 1 total_hours_non_ag total_hours_ag 0.00146
## 2 total_hours_care total_hours_ag 0.00000

```

```
## 3 total_hours_domestic total_hours_ag 0.00000
## 4 total_hours_care total_hours_non_ag 0.00000
## 5 total_hours_domestic total_hours_non_ag 0.00000
## 6 total_hours_domestic total_hours_care 0.00000
#####
pf<-read.csv("~/Documents/Natural Resources
Institute/powerDD.csv")
str(pf)
## 'data.frame': 201 obs. of 20 variables:
## $ id : int 1 2 3 4 5 7 8 9 10 11 ...
## $ child_diet_diversity: int 5 4 4 4 3 3 4 4 3 5 ...
## $ aweai_aggregate_obs : num 0.47 0.73 0.8 0.6 0.33 0.53 0.73
0.33 0.8 0.53 ...
## $ aweai_production_obs: num 0.2 0.2 0.2 0.2 0 0.2 0.2 0.2 0.2
0.2 ...
## $ aweai_resources_obs : num 0.07 0.13 0.2 0.2 0.13 0.13 0.13
0.13 0.2 0.13 ...
## $ aweai_income_obs : num 0.2 0.2 0.2 0.2 0 0.2 0.2 0 0.2
0.2 ...
## $ aweai_leadership_obs: num 0 0.2 0.2 0 0.2 0 0.2 0 0.2 0 ...
## $ aweai_time_obs : num 0 0 0 0 0 0 0 0 0 0 ...
## $ age : int 18 29 37 26 42 42 30 19 22 40 ...
## $ household_total : int 3 10 10 5 6 10 9 5 5 8 ...
## $ own_children : int 1 8 7 4 4 8 7 2 2 6 ...
## $ marital_status : Factor w/ 8 levels
"cohabiting_with_partner",...: 6 3 3 4 3 3 4 5 3 3 ...
## $ household_head : Factor w/ 7 levels
"father","father_in_law",...: 6 5 5 6 5 5 5 5 5 5 ...
## $ islam : logi TRUE TRUE FALSE FALSE TRUE
TRUE ...
## $ christianity : logi FALSE FALSE TRUE TRUE FALSE
FALSE ...
```

```

## $ other_religion      : logi  FALSE FALSE FALSE FALSE FALSE
FALSE
## $ education          : Factor w/ 7 levels "adult_education
(no prerequisite)",...: 4 4 6 4 4 2 4 4 6 4 ...
## $ education_partner  : Factor w/ 7 levels
"idk","not_applicable",...: 4 4 6 2 3 4 4 3 6 4 ...
## $ total_hours_care   : num  10 10.5 8.25 4.25 7.25 8.5 7.75
6.25 8 11 ...
## $ ppi                : int  20 5 20 45 58 5 58 20 5 76 ...
attach(pf)
## The following object is masked from cf (pos = 3):
##
## total_hours_care
## The following objects are masked from pf (pos = 4):
##
## age, aweai_aggregate_obs, aweai_income_obs,
aweai_leadership_obs,
## aweai_production_obs, aweai_resources_obs, aweai_time_obs,
child_diet_diversity,
## christianity, education, education_partner, household_head,
household_total, id,
## islam, marital_status, other_religion, own_children, ppi,
total_hours_care
## The following object is masked from cf (pos = 5):
##
## total_hours_care
## The following objects are masked from pf (pos = 8):
##
## age, aweai_aggregate_obs, aweai_income_obs,
aweai_leadership_obs,
## aweai_production_obs, aweai_resources_obs, aweai_time_obs,
child_diet_diversity,

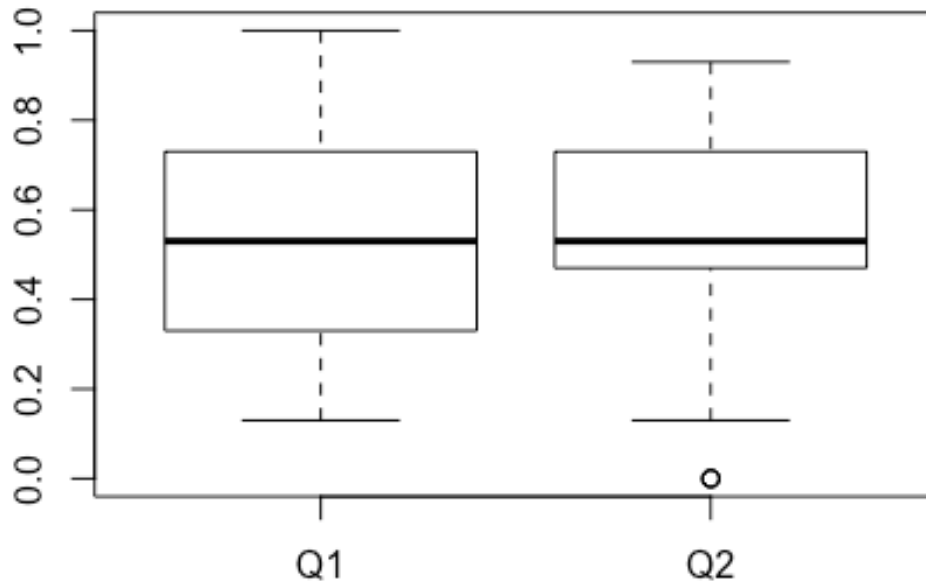
```

```

##      christianity, education, education_partner, household_head,
household_total,                                     id,
##      islam, marital_status, other_religion, own_children, ppi,
total_hours_care
###xile makes a variate into quantile factor - tertile or quintile
eg.
xile<-function(x,n)
{
  brks<-quantile(x,probs=seq(0,1,1/n))
  lbs<-paste(rep("Q",n),seq(1,n),sep="")
  cut(x,brks,labels=lbs,include.lowest=TRUE)
}
powerfac<-xile(aweai_aggregate_obs,3)
ddfacs<-xile(child_diet_diversity,2)
boxplot(aweai_aggregate_obs~ddfacs,
        xlab="Child Diet Diversity (Lower and Upper Quantiles)",
        ylab="AWEA          Index          Aggregate          Scores",
        cex.lab=1.5)

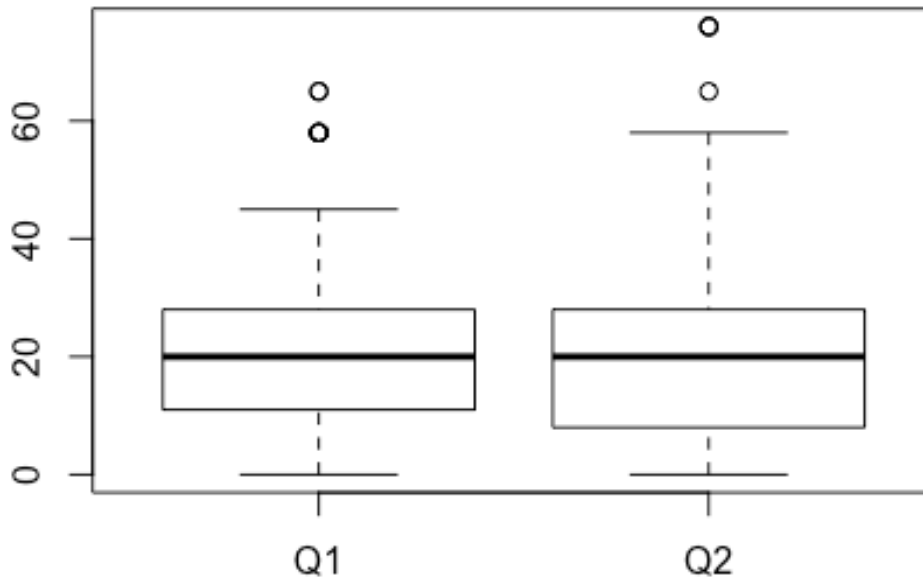
```

CAWEA Index Aggregate Scores



Child Diet Diversity (Lower and Upper Quanti

```
table(ddfac,powerfac)
##
## powerfac
## ddfac Q1 Q2 Q3
## Q1 61 14 42
## Q2 50 11 23
fisher.test(table(ddfac,powerfac))
##
## Fisher's Exact Test for Count Data
##
## data: table(ddfac, powerfac)
## p-value = 0.4494
## alternative hypothesis: two.sided
boxplot(ppi~ddfac)
```



```
scatter.smooth(child_diet_diversity~ aweai_resources_obs)
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
FALSE,      :      pseudoinverse      used      at
## 0.201
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
FALSE,      :      neighborhood      radius
## 0.071
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
FALSE,      :      reciprocal      condition
## number 0
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
FALSE,      :      There      are      other      near
## singularities as well. 0.0049
```

```

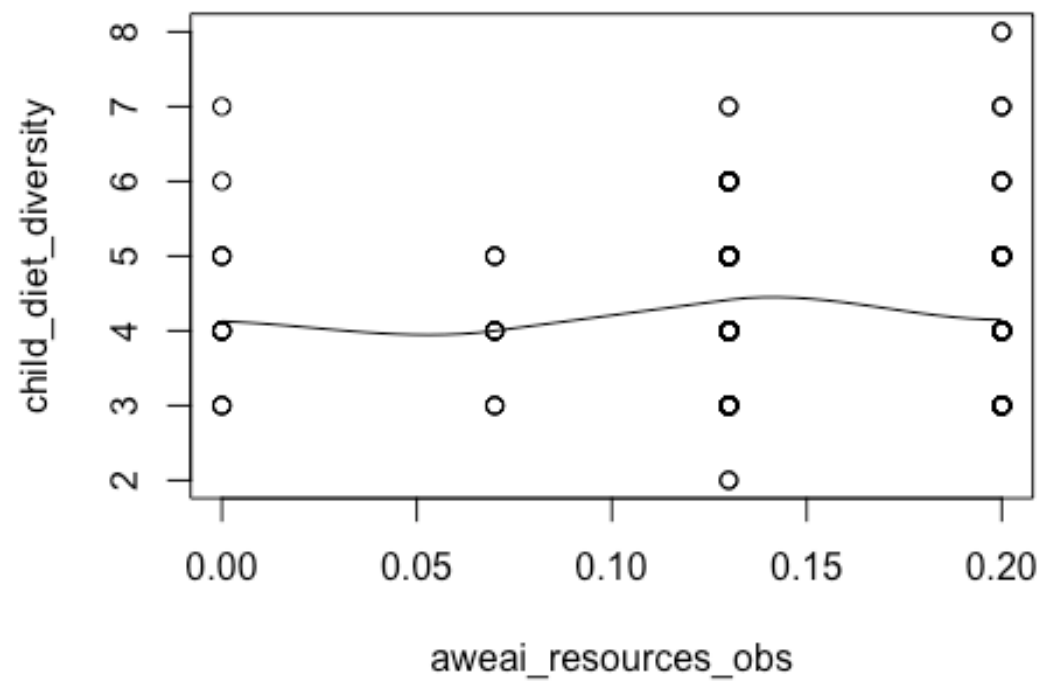
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
FALSE,      :      pseudoinverse      used      at
## 0.201
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
FALSE,      :      neighborhood      radius
## 0.071
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
FALSE,      :      reciprocal      condition
## number 0
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
FALSE,      :      There      are      other      near
## singularities as well. 0.0049
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
FALSE,      :      pseudoinverse      used      at
## 0.201
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
FALSE,      :      neighborhood      radius
## 0.071
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
FALSE,      :      reciprocal      condition
## number 0
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
FALSE,      :      There      are      other      near
## singularities as well. 0.0049
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
FALSE,      :      pseudoinverse      used      at
## 0.201
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
FALSE,      :      neighborhood      radius
## 0.071

```

```

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
FALSE,      :      reciprocal      condition
## number 0
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
FALSE,      :      There      are      other      near
## singularities as well. 0.0049
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
FALSE,      :      pseudoinverse      used      at
## 0.201
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
FALSE,      :      neighborhood      radius
## 0.071
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
FALSE,      :      reciprocal      condition
## number 0
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
FALSE,      :      There      are      other      near
## singularities as well. 0.0049

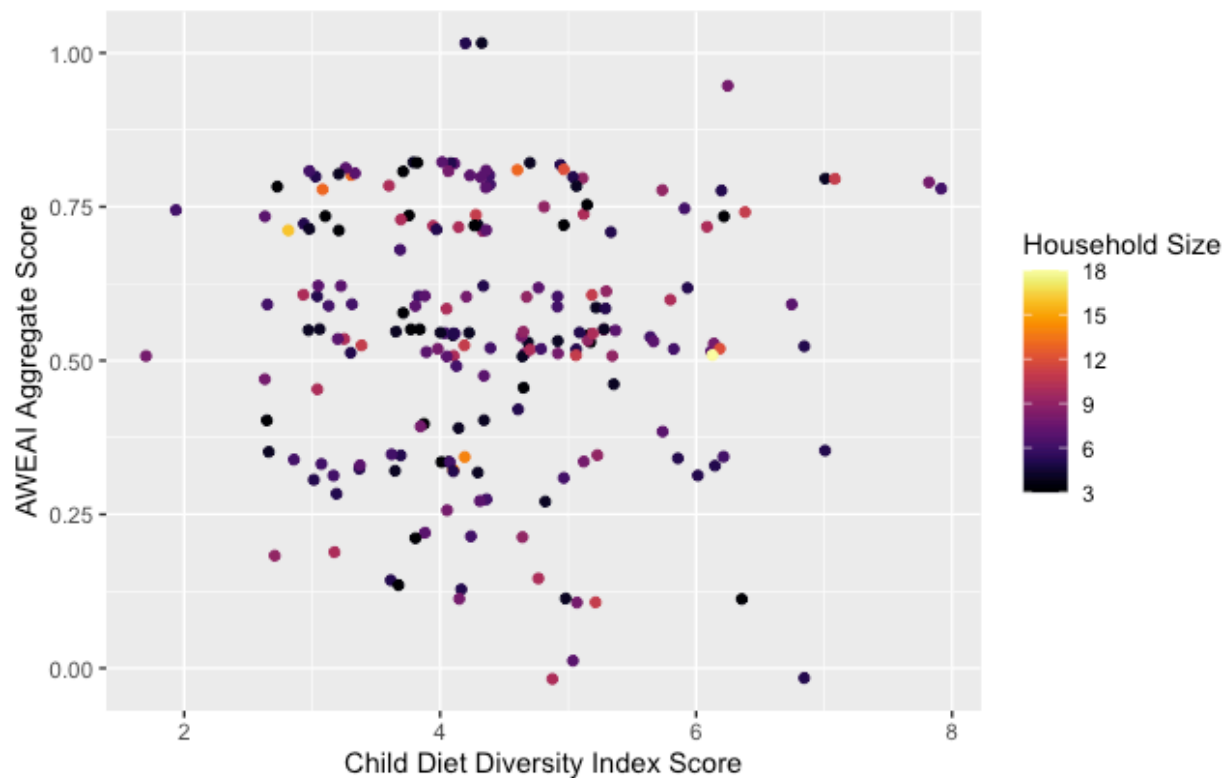
```



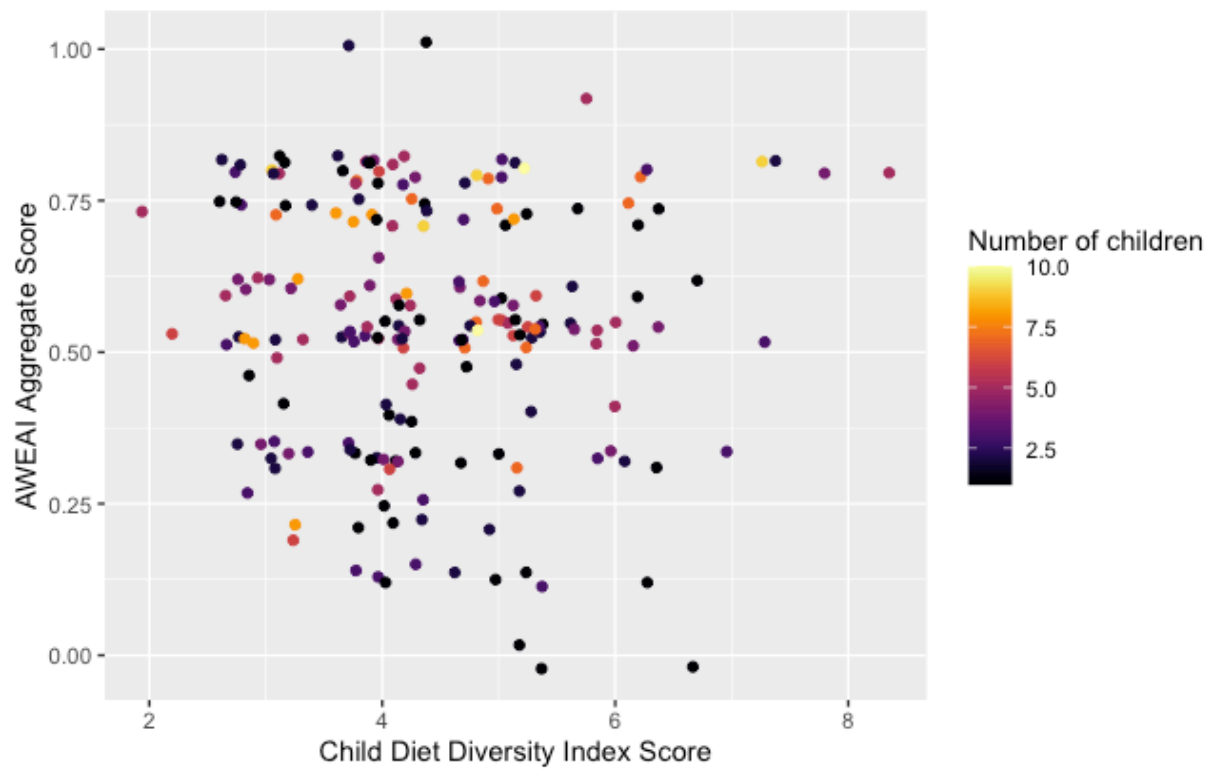
Appendix J: Scatterplots of Potential Mediating Variables in the Relationship Between Women's Empowerment and Children's Diet Diversity

(For all charts, $n = 201$. Data sources include the Abbreviated Women's Empowerment in Agriculture Index, Diet Diversity Index, and Household questionnaire.)

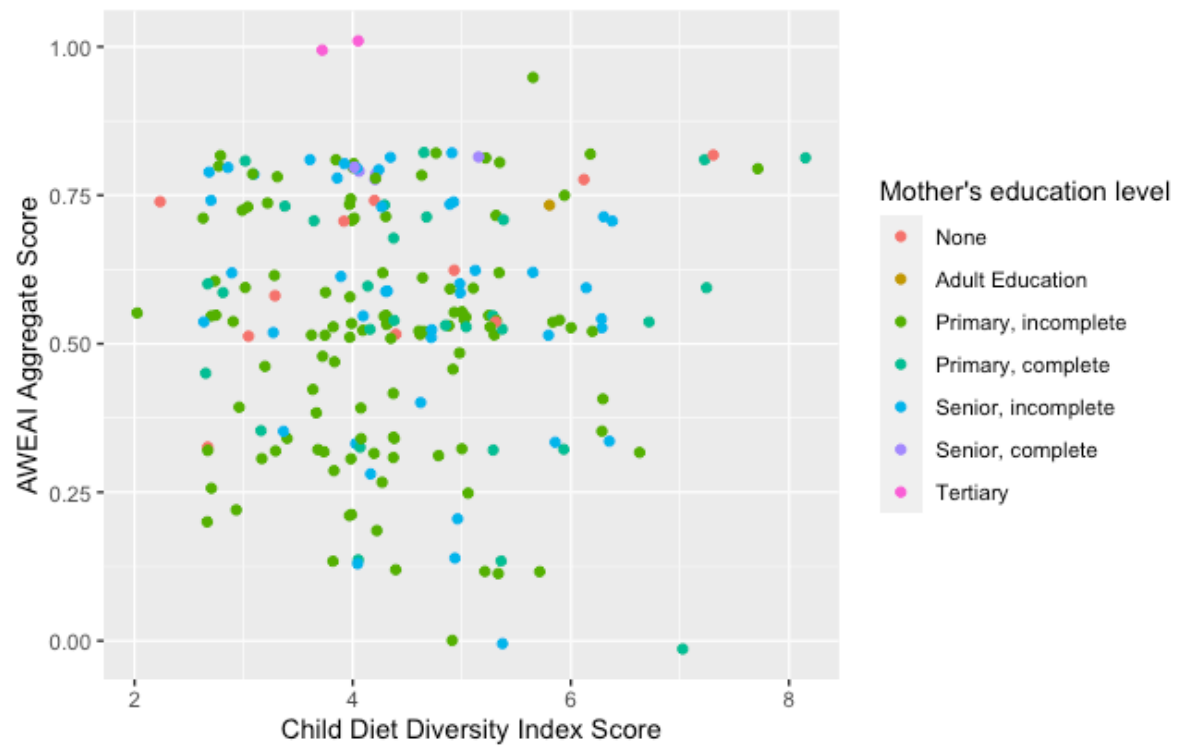
Household size (total number of people)



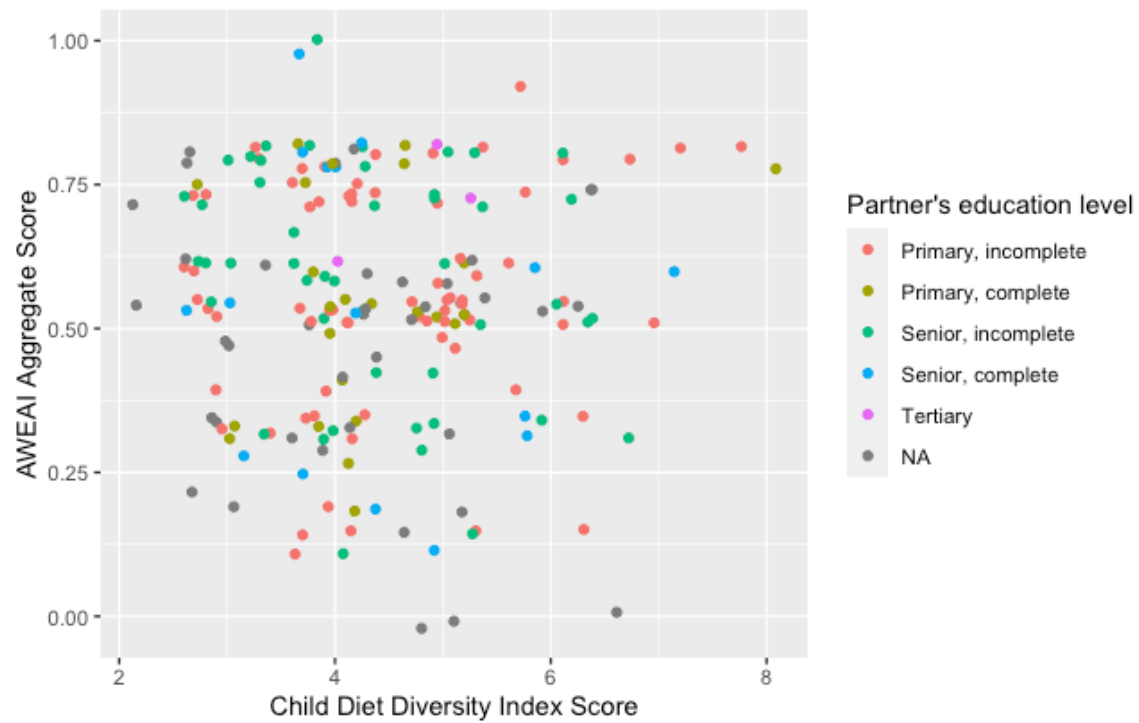
Number of children



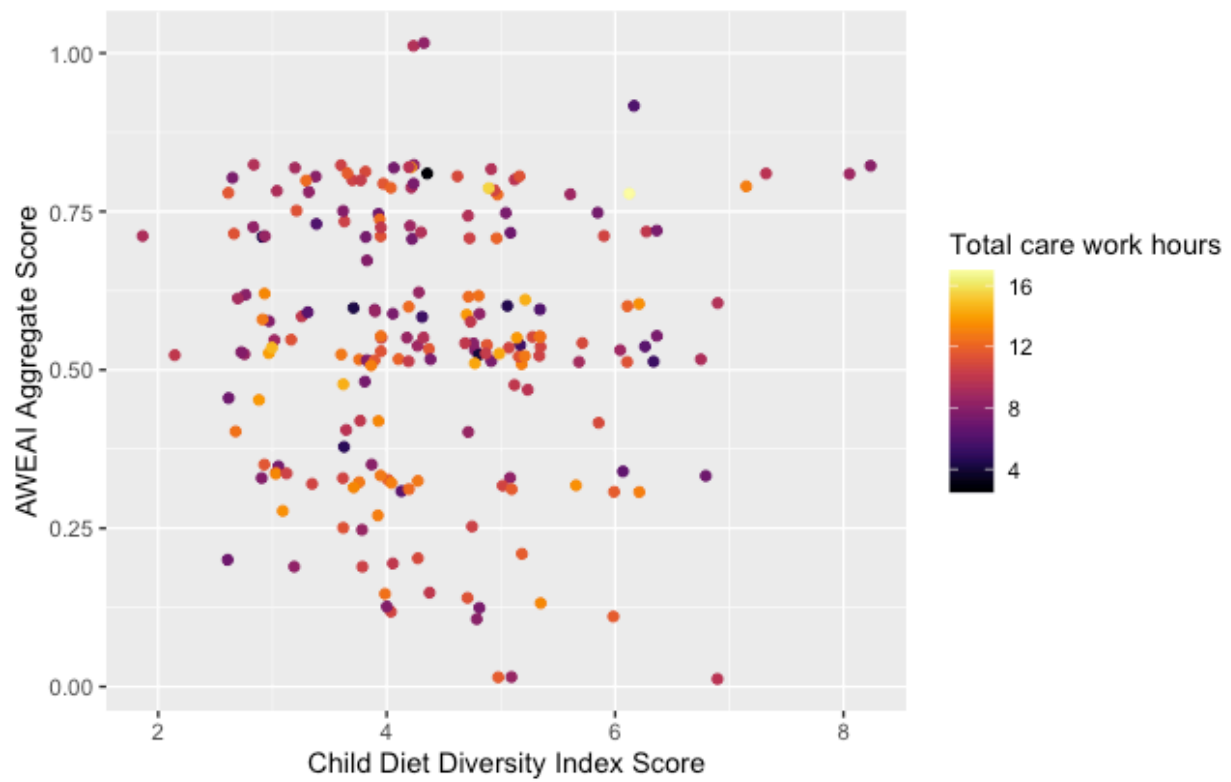
Mother's education



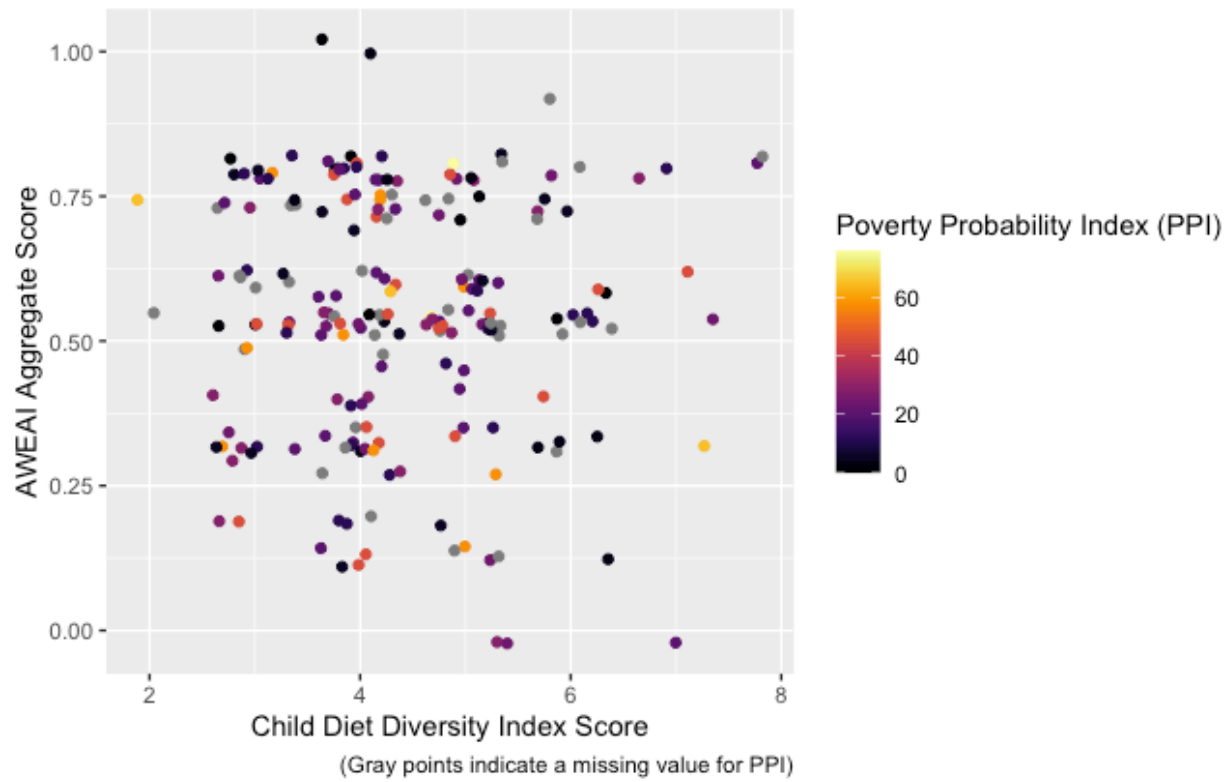
Mother's partner's education



Total number of care work hours



Poverty Probability Index



Appendix K: Additional Time Use Data

Activity	Median Hours	Mean Hours
Accessing Services	0.00	0.03
Breastfeeding	2.50	2.56
Cash crop farming	0.00	0.08
Chopping firewood	0.00	0.38
Cooking food to eat	3.75	3.95
Cooking food to sell	0.00	0.14
Eating	2.25	2.37
Employed by others	0.00	0.07
Feeding young child	2.75	2.91
Feeding others	2.00	1.95
Fetching fuel	0.00	0.38
Fetching water	0.75	0.91
Fish farming	0.00	0.00
Livestock production	0.00	0.40
Livestock product processing	0.00	0.01
Food collection from the garden	0.00	0.39
Food crop farming	0.00	0.44
Food prep	2.75	2.78
Food shopping	0.00	0.20
Young child care	9.75	9.46
Other	0.00	0.01
Other care	7.00	6.67
Other domestic work	4.75	4.89
Other postharvest processing	0.00	0.48
Other shopping	0.00	0.05
Other travel	0.75	1.14
Personal care	1.75	1.89

Playing with young child	1.00	1.28
Religious activities	0.00	0.06
Resting	5.00	4.81
Self-employed work	0.00	0.94
Social activities/hobbies	0.00	0.31
Supervising employees	0.00	0.01
Travel to farm	0.00	0.55
Travel to market	0.00	0.18
Washing clothes	0.00	0.56
TV/radio/reading	0.00	1.21
Wild food gathering	0.00	0.00

Activity	Median Hours	Mean Hours
Agricultural work	0.50	1.01
Non-agricultural economic work	0.00	0.86
Care work	10.00	9.98
Domestic work	8.38	8.48
Total work	13.25	13.14

Appendix L: Additional Detail on the Extent of Collaboration

The methods used in both Projects 1 and 2 collected data that answered my research questions exclusively, data that answered other team members' research questions exclusively, and data that were applicable to multiple team members' research questions. In Table 17 I detail each of the methods that answered my research questions, my involvement in the method's design, and whether other members of the research team used data the method produced.

Table 17: Relationships between method design, my research, and the wider project.

Method	Relationship to Research Questions	Role in Design & Implementation	Data Analysed By
Demographic questions included in mother's questionnaire (Appendix A, Questions #1-4, p.283)	Demographic data provide context relevant to all my research questions, and may be appropriate to include in statistical analysis for Question 1 and Question 2	I had a lead role in determining which demographic questions to include and how to phrase questions (e.g. options provided for relationship status). I was responsible for reviewing completed questionnaires and correcting errors during data collection.	I used these demographic data to inform Questions 1, 2, and 3. Other team members also analysed these data, such as in Bulungu et al., 2020.
Household asset questions included in mother's questionnaire (Appendix A, Questions #28, 37-38, p.290)	Information on household assets provides context for understanding the resources and income domains of the Index (Question 1) and the relationships between women's empowerment	I had a lead role in determining which household asset questions to include and how to phrase questions. I was responsible for reviewing completed questionnaires and	I analysed these data alongside data on empowerment to address Question 1 and Question 3. Other team members also analysed these data, such as in Bulungu et al., 2020.

	and nutrition-sensitive agriculture (Question 3)	correcting errors during data collection.	
Agriculture questions included in mother's questionnaire (Appendix A, Questions #31-36, 39, 40, p.291)	Information on crops produced, livestock raised, and land ownership provide context for understanding the resources and production domains of the Index (Question 1) and the relationships between women's empowerment and nutrition-sensitive agriculture (Question 3)	I had a lead role in determining which agriculture questions to include and how to phrase questions. I was responsible for reviewing completed questionnaires and correcting errors during data collection.	I analysed these data alongside data on empowerment to address Question 1 and Question 3. Other team members also analysed these data, such as in Bulungu et al., 2020.
Abbreviated Women's Empowerment in Agriculture Index questions, included in mother's questionnaire (Appendix A, Questions #46-48, 50, p.295)	Calculations of the Index provide key data for answering Questions 1, 2, and 3.	I was solely responsible for incorporating the Index questions into the questionnaire (minimal adaptations made to the original Index questions, to improve clarity and relevance to Busoga)	I was solely responsible for calculating the Index scores (in each domain and in aggregate). I analysed these data to address Question 1 and Question 3. Some team members are using these calculated scores in their ongoing analyses (as yet unpublished).
Household labour distribution and perceptions of labour and care, included	Information on household time allocation and perceptions of labour and care provide context for understanding the time	I had a lead role in determining which questions to include and how to phrase them. I was responsible for reviewing completed	I analysed these data alongside empowerment data to answer Questions 1, 2, and 3. I am not aware of any other team

in mother's questionnaire (Appendix A, Questions #49, 51, p.297)	domain of the Index (Question 1), the theorised pathways between empowerment and nutrition (Question 2), and theorised relationships between women's empowerment and nutrition-sensitive agriculture (Question 3).	questionnaires and correcting errors during data collection.	members analysing these data.
Time Use Data: (Direct Observation, Appendix B, p.301)	These data are necessary for calculating different versions of the time domain of the Index (Question 1) and play an indirect role in relating measurements of women's empowerment with nutrition (Question 2) and nutrition-sensitive agriculture (Question 3).	I had a lead role in determining which activity categories were included in data collection, and how they were defined. I had a supporting role in designing the study protocols for these methods and facilitating their implementation.	I have analysed direct observation time use data by calculating the standard time domain of the Index, as well as modified versions with the in-depth time use data to address Questions 1 and 2. The results of these analyses informed the discussion of Question 3. Other team members have analysed the direct observation time use data in order to validate this tool against other tools for measuring time use, as described in Bulungu et al., 2020.
Child Diet Diversity Data (Direct Observation)	These data are necessary for understanding the relationships between women's empowerment	I did not have a significant role in designing this method and had a supporting	These methods were primarily designed by and for the team members focusing on nutrition. I used their

(Appendix C, p.304)	and nutrition (as measured by children's diet diversity) in Busoga. (Question 2)	role in facilitating their implementation.	calculations of diet diversity to answer my research question about women's empowerment (i.e. Question 2); in a similar fashion, they have used my calculations of women's empowerment to answer their research questions about nutrition. Their analysis of these data is presented in Bulungu et al., 2020.
Interview Questions (Appendix E & F, p.311)	These questions provide information relevant to understanding methods of measuring women's empowerment (Question 1), the relationships between nutrition and empowerment (2), and between nutrition-sensitive agriculture and empowerment (3).	I independently designed the initial draft of interview questions Appendix E. The final draft benefited from revisions derived from piloting in collaboration with two research assistants in Uganda. The Lusoga translation of these questions was done independently by these same two research assistants. I maintained a lead role in designing the final draft of questions and their implementation. Translation and	I had a lead role in designing and implementing qualitative data analysis (i.e. supervising translation, codebook design, coding, and thematic analysis). While I expect that other team members will make use of the analysed data, none have done so at the time of writing.

		transcription of the interview responses into English was done independently by one of these research assistants (with minor supervision from me for consistency and clarity).	
--	--	--	--