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Exploring Presence of and Access to India's Food and Nutrition Entitlements: Realization of the Right to Food by Women in Bihar

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Abstract

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Background:
Maternal malnutrition is critically important in Bihar, India due to the high prevalence of malnutrition and intergenerational impacts of maternal undernutrition. Since its independence, India has regarded support of the right to food as a responsibility of the government and has developed entitlement programs to improve food and nutrition security. In 2013, the government passed the National Food Security Act (NFSA) to expand food and nutrition support. It is crucial to understand the experiences of entitlement providers and beneficiaries to inform future implementation of maternal and child nutrition programs.

Objective:
This study provides formative research on the implementation of the NFSA in Bihar, barriers and facilitators of widespread implementation of the NFSA, and actions to better support the demand and uptake of food and nutrition entitlements and consequential realization of the right to food by women in Bihar.

Methods:
Qualitative research was carried out from May-July 2014 in two comparative panchayats. In-depth interviews with pregnant or lactating women (n=8), Anganwadi Workers (n=4), Public Distribution Shopkeepers (n=4) and focus group discussions with husbands (n=4) and mothers-in-law (n=3) explored the supply, distribution, access, and utilization of entitlements available to women of reproductive age. Systematic coding and analysis of transcripts was conducted to describe data trends within and across each participant group.

Results:
Strong cultural beliefs exist with regards to women's responsibilities, the power of household "guardians," and prioritization of maternal health. All participants recognized Anganwadi Center services, but specifics about eligibility were unknown and services were not widely accessed. Interviewees were aware of Public Distribution System services, but the majority of participants were dissatisfied with the reduction in provisions in the 6 months prior to this study. Entitlement providers indicated challenges associated with the supply of resources they are given relative to demand.

Discussion:
Women's restricted autonomy, the minimal awareness of entitlement eligibility, and limited quantity and quality of provisions limit the realization of the right to food. In order to support the realization of the right to food in India, particularly for women, these challenges must be mitigated through a combination of citizen empowerment and improved entitlement accountaibility systems.

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Chapter 1. Introduction

Context of problem

Despite improvements in food availability and price stability in recent years, the United Nations Food and Agriculture Organization (FAO) estimates that 805 million people across the globe were undernourished in 2012 (FAO, 2014). Though this metric indicates a decrease from the early 2000s, the overall decline in undernutrition masks the disparities in food and nutrition security that exist within and across regions. Sub-Saharan Africa and Southern Asia have made slow progress in the reduction of chronic malnutrition compared to other geographic regions, and Southern Asia holds the largest number of malnourished individuals due to its sizable population (FAO, 2014). Moreover, an estimated 60% of undernourished individuals across the globe are women or girls; in India, 30% of women are undernourished, 57% are anemic, and 28% had low birthweight infants (UNICEF, 2013; FAO, 2010; NFHS, 2006), with immediate implications for maternal and child morbidity and mortality and long term effects on poverty, health, and wellbeing (Mason et al, 2014). Substantial and sustainable reduction of malnutrition in India, especially among women, will require political commitments that regard adequate and appropriate food as a basic human right and prioritize the improvement of women's status. Understanding current political action towards improving food and nutrition security in India, particularly through the "right to food" lens, is of critical importance in the pursuit of improved global maternal health.

Problem statement

Food security, though a constantly-evolving concept, is defined by the FAO as a state that exists "when all people, at all times, have physical, social and economic access to sufficient safe

and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (FAO, 2015). Although sufficient access to food alone does not ensure adequate nutrition intake and utilization, insufficient access to food is strongly associated with inadequate nutrition outcomes; across the globe, food insecurity has been shown to be inversely associated with diet quality and health outcomes in low-income adults (Leung et al, 2014; Tarasuk, 2001). Food insecurity for women of reproductive age is particularly important, as the effects of food insecurity impact the health and well-being of women and their children; inadequate maternal nutrition has an immense and permanent impact on the nutritional status of young infants and children, spurring an intergenerational cycle of malnutrition that affects entire populations (Delisle, 2008). Studies have shown that preconceptual nutrient deficiencies lead to low birthweight infants, child stunting, delivery complications, and increased child mortality (Martorell and Zongrone, 2012). Moreover, because of women's contribution to food production and preparation, role in care giving, increasingly prevalent role as head-of-household, and disproportionately poor economic status compared to men, a special focus needs to be placed on women's food security (Ivers and Cullen, 2011). For these reasons, there is a pressing need for global improvement of maternal food security, particularly in Southern Asia.

Bihar, India

In 2014, over 190 million people – or 15 percent of the population – in India were undernourished (FAO, 2014). However, the distribution of undernourishment is not uniform across the Indian states; the prevalence of undernutrition and food insecurity varies greatly by state, and is particularly high in the state of Bihar. The intergenerational cycle of poor infant health outcomes of undernourished mothers is evident in Bihar, where 45% of women of

childbearing age (15-49) have BMI <18.5 and 19% have BMI <17.0; in Bihar, 21.7% of infants are low birth weight, two in every five children under 3 are stunted, and one in every four children under 3 is wasted (Nozensky et al, 2012; NFHS, 2006; Dharmalingam et al, 2009).

Bihar is India's third most populous state, with a population of 103 million that is 90% rural, but has the highest population density in the country (UNDP, 2011). The state is located in northeast India, landlocked between the states of West Bengal, Uttar Pradesh, and Jharkhand and Nepal. Physically, at 94,163 km^2, Bihar is the twelfth largest state in India (UNDP, 2011). Bihar also has the lowest annual per capital income of all states at INR 14,654 (USD$236) (UNDP, 2011). According to the 2009 Tendulkar Committee Report, 55% of Bihar's population lives below the poverty line; this is far beyond the national average of 37%, and is associated with many negative social and health outcomes (Government of India Planning Commission, 2011). Furthermore, if the Multidimensional Poverty Index is considered, about 80% of the population lives below the poverty line (UNDP, 2014). Almost 58% of the population in Bihar is under the age of 25, and nearly 16% of the Bihar population comprises Scheduled Castes while less than 1% comprises Scheduled Tribes (UNDP, 2014).

While developmental progress has been made in recent years, Bihar still lags far behind the vast majority of Indian states on most health and development indicators. Within state disparities are also evident; the development of northern Bihar lags behind southern Bihar, due to low agricultural productivity, poor irrigation facilities, and high vulnerability to floods (Choudhary, 2014). Women in Bihar are especially vulnerable, as they represent a disproportionate share of the poor, have limited access to health services, are prone to malnutrition during pregnancy and lactation, are subject to life-threatening complications of pregnancy and child birth, and are exposed to unequal societal power dynamics and

disempowerment across the globe (Glasier et al, 2006). Because of its low developmental status and high prevalence of maternal malnutrition, Bihar is in critical need of strengthened food and nutrition security policies that enable the full realization of the right to food for women and their families. Currently, the government of India sanctions many food and nutrition entitlements to Bihar's citizens through local Anganwadi Health Centers and Public Distribution System shops; however, the delivery of these entitlement programs must take a wide range of social, political, and environmental factors into consideration to achieve the intended aims of supporting food and nutrition security.

India's Constitution enshrined the right to food for citizens in 1947, when India achieved independence. However, the persistent and dire state of maternal and child undernutrition across the country has caused increasing pressure to be placed on the Indian government to intensify its commitment to ensuring food and nutrition security for its population, especially the most vulnerable. The citizen-led Indian Right to Food Campaign promotes the ideal that "everyone has a fundamental right to be free from hunger and undernutrition," and considers the achievement of this right as a primary responsibility of the state (RFC, 2015). The campaign aims to ensure that hunger and malnutrition become a political priority and that resources reach the intended beneficiaries, and has placed pressure on the Indian government to create appropriate multi-sectoral policies to reduce hunger and malnutrition (Srinivasan and Narayanan, 2014). The Indian national and state governments have implemented a wide variety of nutrition and food entitlements, resources, and schemes in order to improve the health conditions of vulnerable populations, many of which have been supported by the Right to Food Campaign (RFC, 2015). Most recently in 2013, the Indian government passed the National Food Security Act, an act that intends to provide subsidized grains to 820 million people across the country for

USD$21 billion each year; based on these recent policy developments, an assessment of government support of the right to food – especially as it relates to maternal health – is necessary (Kishore et al, 2013).

Purpose of project

Despite extensive evidence documenting the impacts of maternal nutrition on the lifelong health and well-being of a woman's child, little policy and programmatic attention has been dedicated to efforts that facilitate improvement in women's nutrition before, during, and in the two years following pregnancy (Mason et al, 2014). Since 2010, Emory University Rollins School of Public Health students and faculty have conducted research in partnership with CARE India to understand the complex and interrelated facets of infant, child, and maternal nutrition and health outcomes in Bihar, India. In particular, more information is needed in regards to the Indian government's food and nutrition entitlements and their potential for impacting maternal nutrition. This thesis aims to provide a greater understanding of the awareness, perceptions, and practices that women of reproductive age, community members, and front line workers have with regards to food and nutrition support currently available in Bihar. This research is critical to further inform CARE program activities from a right to food perspective. From a broader perspective, this research can inform government implementation of the National Food Security Act and consequential realization of the right to food for women.

This study provides formative qualitative evidence from women, husbands, mothers-in-law, Public Distribution System Shopkeepers, and Anganwadi Center community health workers regarding the supply, distribution, access, and utilization of the national and state nutritional programs, entitlements, and other benefits available to women of reproductive age in Bihar.

The following three research objectives were used to guide data collection and analysis:

1. Provide formative research on the implementation of the National Food Security Act in Bihar
2. Identify barriers to and facilitators of widespread implementation of the National Food Security Act specifically as they relate to ICDS and PDS programs
3. Recommend actions to better support the demand and uptake of food and nutrition entitlements and consequential realization of the right to food by women in Bihar.

Chapter 2: Literature Review

Burden of maternal malnutrition

Malnutrition refers to both undernutrition and overnutrition, but for the purposes of this paper, will refer to undernutrition. Many factors lead to the development of malnutrition, the majority of which are related to inadequate dietary intake and/or the incidence of severe or repeated infections (Blössner, 2005; Gomez et al, 2013). Inadequate dietary intake includes deficiencies in quantity (total caloric intake) and/or quality of food (variety, diversity, nutrient content, and safety) (Gomez et al, 2013). Without proper dietary intake, the immune system is weakened and malnourished individuals become more susceptible to disease. Consequential diseases can result in increased nutrient needs and further weakening of the immune system (Gomez et al, 2013). Malnutrition is thus both a primary health outcome and a risk factor for disease, and leads to a cycle of life-threatening consequences (Blössner, 2005).

Maternal malnutrition relates to the inadequate nutrition of a woman during the preconception, pregnancy, and lactation stages; at these critical junctures in the lifecycle, women have increased nutritional needs to support both themselves and their child. Maternal undernutrition – defined as having a body-mass index of less than 18.5 – is especially prevalent in Southern Asia, and has an important role in global health due to cyclical nature of undernutriton (Black et al, 2013; Blössner, 2005). Malnutrition not only plays a powerful role in the health and development of individuals, but also of entire societies. Linear growth failure, or "stunting," is the most common form of undernutrition across the globe (Prendergast and Humphrey, 2014). Stunting has a widespread, detrimental effect on societal development and human capital potential; when linear growth retardation occurs in early life, individuals face increased likelihood of morbidity, mortality, and reduced physical, neurodevelopmental, and

economic capacities that exacerbate inequalities on a micro- and macro-scale (Prendergast and Humphrey, 2014; Black et al, 2013).

Both chronic maternal undernutrition that results in stunting and acute or chronic maternal undernutrition that results in wasting have independent adverse effects on pregnancy outcomes (Black et al, 2013). Short statures as a result of stunting result in higher rates of cesarean delivery; even in an area that can provide accessible and safe delivery, such surgery increases the risk of maternal morbidity (Black et al, 2013). Additionally, low maternal BMI is associated with intrauterine growth restriction; poor fetal growth resulting from intrauterine growth restriction can lead to birth asphyxia and various fatal infections, which account for 60% of all neonatal deaths, and increased risk of stunting within the first two years of life (Black et al, 2013). Micronutrient deficiencies such as vitamin A, zinc, iron, and iodine, which are commonly present in underweight mothers, also result in a variety of maternal and child morbidities (Black et al, 2013).

Undernutrition that leads to linear growth failure impacts future generations, as "women who were themselves stunted in childhood tend to have stunted offspring, creating an intergenerational cycle of poverty and reduced human capital that is difficult to break" (Prendergast and Humphrey, 2014). More than one third of child deaths and 10% of total global disease burden are attributed to maternal and child undernutrition, indicating an urgent need for improvement in maternal nutrition status across the globe (Black et al, 2013).

Role of Food Security in Malnutrition

Using the working definition stated by the Food and Agriculture Organization, food security implies access to adequate nutritional resources. However, because food security is a "multidimensional concept that encompasses aspects of availability, access, and utilization," it is

difficult to create and identify a standardized measure to determine food security across all settings and cultures; studies discussing food security and its impacts on health therefore use a variety of measurement tools and methodologies to classify levels of food security (Ivers and Cullen, 2011). In many cases, these measurements capture some – but not all – aspects of food security. Regardless of the measurement used, there are many linkages between food security and individual nutritional status.

Adults from food-insecure households have higher estimated prevalence of nutrient inadequacy than those from food-secure households, particularly in protein, vitamin A, thiamin, riboflavin, vitamin B-6, folate, vitamin B-12, magnesium, phosphorus, and zinc (Kirkpatrick and Tarasuk, 2008). Where specific nutrient levels have not been identified, household food insecurity has been consistently associated with lower likelihood of fruit and vegetable consumption, which leads to lower consumption of critical micronutrients (Gulliford et al, 2003). While food insecurity has been shown to predict overweight in countries such as the United States, it does not necessarily predict overweight in countries or regions undergoing the nutrition transition; household food insecurity may a predictor of adult underweight in such countries (Isanaka et al, 2007). In Southeast Asia, household food insecurity has also been associated with stunting and underweight in children <5 years (Sreeramareddy et al, 2014).

Contribution of Food Security to Health Beyond Nutrition

Historically, food security has primarily been linked to its impact on nutrition; however, the effect of food security on other health and behavior outcomes is increasingly recognized (Ivers and Cullen, 2011). Household food insecurity has the potential to impact human health beyond the impacts of malnutrition, particularly psychosocial health, in both resource-poor and

resource-rich settings (Ivers and Cullen, 2011). Regular insufficient household food resources have been associated with poor mental health outcomes such as depression and chronic stress, particularly for females (Sorsdahl et al, 2011; Hadley and Patil, 2006; Heflin et al, 2005). Furthermore, self-reported quality of life scores are lower for women than men in food insecure households (Heylen et al, 2014). Additionally, children are particularly susceptible to negative psychosocial health outcomes. Controlling for education and income, food insecurity has been linked to compromised psychosocial functioning of school-aged children (Olson, 1999). Though it is difficult to separate mental health consequences of food insecurity from poverty and other shared risk factors, there is growing evidence that policies to improve food security will positively impact the mental and cognitive health of low-income women and children across the globe (Heflin et al, 2005). In addition to mental health outcomes, maternal food insecurity has been associated with increased odds of child morbidities including cough, fever, and diarrhea (Pinstrup-Andersen, 2012). These complex health impacts have broad reaching impacts on community development and individual capacity, and are critically important for the development of nations; in all of its forms, the estimated cost of malnutrition is between 4-5% of global GDP (de Silva and Chan, 2014).

Global Right to Food Movement

India's National Food Security Act and other food and nutrition programming have been devised as part of the global initiative to support the human right to food, a concept that has been slowly woven and shaped over the past century. The Universal Declaration of Human Rights was adopted in 1948, and marked the first formal international acknowledgement of the right to food for all individuals of all nations; Article 25 reads,

> "Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, *including food*, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control" [emphasis added] (Assembly U.G., 1948).

After the Universal Declaration of Human Rights, this right to adequate food was repeatedly reaffirmed in documents such as the International Covenant on Economic, Social, and Cultural Rights, the International Covenant on Civil and Political Rights, and the Convention on the Rights of the Child, promoting food as a fundamental right in the global community (De Schutter, 2013). In 1974, attendees of the World Food Conference declared that "every man, woman and child has the inalienable right to be free from hunger and malnutrition in order to develop their physical and mental faculties," and planned to eradicate hunger and food insecurity over the next 10 years. However, few clearly defined actions and indicators to monitor food security accompanied this plan, and long-term right to food discussions slowly faded in the minds of global leaders.

In the years after the World Food Conference, global rates of undernutrition continued to increase alongside rising concerns of inadequate agriculture capacities to feed the growing population (De Schutter, 2013). The World Food Summit was called in 1996 as a response to these concerns, and brought together over 10,000 participants from 185 countries (WSFS, 2009). At this meeting, the attendees reevaluated the goals set at the World Food Conference and declared a new goal of "achieving food security for all and to an ongoing effort to eradicate hunger in all countries, with an immediate view to reducing the number of undernourished

people to half their present level no later than 2015" (WSFS, 2009). However, even at this time, access to plentiful and appropriate food for all remained as more of a theoretical aspiration than a tool for negotiating tangible action.

In subsequent years, the Right to Food Guidelines were progressively defined and ultimately adopted by Food and Agriculture Organization member states in 2004. These guidelines, officially named the "Voluntary Guidelines to support the progressive realization of the right to adequate food in the context of national food security," provided practical guidance and legal frameworks for supportive policy-making, from economic development to global food aid (De Schutter, 2013). As the demand for guidelines and frameworks to steer sustainable developments in global food security increased, the 2009 World Summit on Food Security created the Five Rome Principles for Sustainable Global Food Security (De Schutter, 2013). These principles not only reaffirmed the right to food, but also provided specific guidance for policy-making, particularly through Principle 3:

> "Strive for a comprehensive twin-track approach to food security that consists of: 1) direct action to immediately tackle hunger for the most vulnerable and 2) medium and long-term sustainable agricultural, food security, nutrition and rural development programs to eliminate the root causes of hunger and poverty, including through the progressive realization of the right to adequate food" (WSFS, 2009).

According to the Special Rapporteur on the Right to Food Olivier De Schutter, the right to food has now "entered a new phase, in which implementation has become the central focus of efforts," and is realized at three main levels: (1) obligations to respect, protect, and fulfill, (2) a shift from charity-based schemes to legal entitlements, and (3) framework laws and national

strategies in support of the realization of the right to food (De Schutter, 2013). De Schutter defines the right to food as "the right to have regular, permanent and unrestricted access, either directly or by means of financial purchases, to quantitatively and qualitatively adequate and sufficient food corresponding to the cultural traditions of the people to which the consumer belongs, and which ensure a physical and mental, individual and collective, fulfilling and dignified life free of fear" (De Schutter, 2013). The United Nations has recognized that "the right to adequate food is indivisibly linked to the inherent dignity of the human person and is indispensible for the fulfillment of other human right," and that the right to food is inseparable from social justice, requiring appropriate economic, environmental, and social policies, ad the national and global levels" (ECOSOC, 1999). The present challenge of hunger and malnutrition are not a lack of food, but the lack of access to appropriate food, especially for the most vulnerable including young children and women of reproductive age; it is important to recognize that the right to adequate food should not be interpreted in a "narrow or restrictive sense, which equates it with a minimum package of calories, proteins, and other specific nutrients" (ECOSOC, 1999). It is with this lens that countries are beginning to view the provision of assistance to increase food security as a fundamental right, as seen in India's attempt to increase food and nutrition security through national laws and entitlement programs.

Indian Context

Malnutrition in India

Food and nutrition security in India, particularly for women, is far from adequate. Malnutrition has been referred to as India's "silent emergency," due to its lack of significant publicity or political attention despite its incredibly widespread and inter-generational impact

(World Bank, 2013). On the Global Food Security Index, which indexes countries based on 28 indicators surrounding food affordability, availability, quality, and safety, ranks India 69 out of 109 indexed countries (GFSI, 2013). Overall, India has a 15% undernourishment rate and an average food deprivation of 121 kcal/person/day, but food and nutrition insecurity are not uniform across geographic, economic, or social boundaries (FAO, 2014; GFSI, 2013). Though the aggregate levels of malnutrition are staggeringly high, inequities arise both in and across states and socio-demographic groups. Females, rural populations, lowest income populations, and scheduled castes and tribes are disproportionally affected (World Bank, 2013). According to Ramakrishnan et al (2012), "inadequate nutrient intake, early and multiple pregnancies, poverty, caste discrimination, and gender inequality contribute to poor maternal nutrition in India." The rate of under-five malnutrition in India is almost five times higher than China and twice the rates found in Sub-Saharan Africa, indicating a need for improved maternal and child nutrition policy and intervention (World Bank, 2013).

In Bihar, the status of food and nutrition security is even more critical than the rest of the country. Over 56% of children and over 45% of women in Bihar are underweight, indicating a clear need for improved food and nutrition resources for a large segment of the population (NFHS, 2009). Because of the widespread impact of malnutrition on health, education, and economic productivity, improving the realization of the right to food in India should be a paramount political priority to improve the overall development of the country.

Interventions to sustainably improve maternal food and nutrition security in India are not only linked to the provision of adequate resources; long-term changes will also require changes in women's empowerment and other prohibitive social norms. Recent analyses have reaffirmed evidence that more empowered women have better nourished children, possibly slowing or

halting the cycle of malnutrition; studies in nearby Bangladesh demonstrated that when women are involved with household decisions regarding food, families consume more diverse diets and suffer less negative health outcomes (World Bank, 2013; Bhagowalia et al, 2012)

Food and nutrition entitlements for women in India

There is a range of food and nutrition entitlements available for women and their children in India, each of which was created to address the ongoing challenges of maternal and child undernutrition and facilitate realization of the right to food. The following entitlements are some of the most widespread entitlements in India, and are focused on as the primary mechanisms of government-supported food and nutrition security throughout this study; there are many other policies and programs that impact food and nutrition security without provision of food resources, but could not all be captured as part of this study.

Integrated Child Development Services (ICDS)

The Integrated Child Development Services (ICDS) was established in 1975 in order to break the "vicious cycle of malnutrition, morbidity, reduced learning capacity and mortality" (ICDS, 2014). Its objectives include improving the nutrition and health status of children 0-6, achieving coordination of policy and implementation amongst various governmental departments, and enhancing the capacity of a mother to look after the health and nutritional needs of her child. These objectives are achieved through the distribution of an integrated package of services, including supplementary nutrition provision, nutrition and health education, and immunization of both children and pregnant and lactating women (ICDS, 2014).

Each of these services is provided through local ICDS teams: Anganwadi Workers, Anganwadi Helpers, Supervisors, Child Development Project Officers (CDPOs) and District Programme Officers (DPOs) (ICDS, 2014). Anganwadi Workers are female, community-based honorary frontline workers for the ICDS program. According to the ICDS, each Anganwadi Worker is "also an agent of social change, mobilizing community support for better care of young children, girls and women" (ICDS, 2014). The roles and responsibilities for each worker are clearly delineated in government documents, and contain the same set of baseline roles across states. Anganwadi Workers and Anganwadi Helpers are paid 1500 rupees (USD$24) and 750 rupees (USD$12) per month, respectively (ICDS, 2014). Additionally, Auxiliary Nurse Midwives (ANM) and Accredit Social Health Activists (ASHA) work together to provide a variety of services for women and children in India.

The ICDS makes up the largest integrated early childhood program in the world, with 80,211 Anganwadi centers in Bihar alone (ICDS Bihar). The populations historically eligible to receive services through the ICDS Anganwadi centers are children under six years old and pregnant and lactating women in the reproductive age group (15-45); eligibility for these services is currently under revision according to the National Food Security Act, as described later in this review (ICDS, 2014).

Beyond the provision of health services, the ICDS provides support for women's empowerment. In Bihar, over 34,000 Self Help Groups have been formed and 24 Women Helplines have been established. These programs were not investigated through this research, but may be considered for future evaluation due to the crucial need for women's empowerment to achieving the right to food.

ICDS Poorak Poshaahar Yojana Scheme

The Poorak Poshaahar Yojana Scheme of ICDS provides supplementary nutrition take home rations worth between 2 and 6 rupees (USD$0.03-0.10) to a limited number of children between six months and six years of age, pregnant and lactating women, and adolescent girls. Each Anganwadi center is instructed to cover an average of 16 pregnant or lactating women and three adolescent girls under this scheme. This scheme is funded evenly by the central and state governments, and currently benefits 790,000 children and women (ICDS, 2014). The beneficiaries for this scheme are identified by the Anganwadi workers, and provisions are given alongside other routine services at the Anganwadi centers (ICDS, 2014). While this scheme was on-going at the time of data collection, provisions of rations to women was expanded in the National Food Security Act.

Public Distribution System

The Public Distribution System (PDS) began as a system for affordable food grain distribution and scarcity management in response to the Indian food shortages in the 1960s, and has remained a critical component in the Indian government's approach to securing the right to food (ICDS, 2014). Rations from the Public Distribution System are intended to be supplemental provisions, not the primary means of food resources for any given household.

Until 1992, the PDS was a general entitlement scheme for urban consumers, and was further expanded as the Revamped Public Distribution system in an arrangement of 1,775 blocks throughout the country. The current system, which took effect in 1997, is the Targeted Public Distribution System. Under this system, states have to clearly define and implement identification systems for targeted distribution to all individuals under a certain income level. At

the time of implementation, the TPDS was projected to cover 652.03 lakh (65,203,000) families at an allocation of up to 35kg food grains per family, per month. In 2011-2012, India procured 63.4 million metric tons of rice and wheat, and the PDS delivered 513 million tons of grains at subsidized prices to 530 million people (IFPRI, 2013). The cost of such programming has risen from $0.6 billion in 1992 to $16.7 billion in 2012, largely due to the increasing cost of cereals (IFPRI, 2013).

The TPDS is a jointly run system by India's Central and State governments; the Central government is responsible for procurement, storage, transportation, and allocation of grains to states, and the State governments are responsible for the identification of recipients, issuance of ration cards, and supervision of distribution shops. Currently, the PDS commodity provision includes unfortified wheat, rice, sugar, and kerosene oil in all states, and some states opt to include commodities such as pulses, edible oils, and iodized salt.

To identify eligible families (referred to as BPL, or "Below Poverty Line" families), the attendees of the 1996 Food Minister's Conference determined that states would use the population projections from the 1993-1994 Planning Commission state-wide poverty estimates in conjunction with qualitative identification of beneficiaries by Gram Panchayats and Gram-Sabhas. This system, however, was recently overhauled by the implementation of India's National Food Security Act of 2013, as each state has been asked to redefine their BPL populations.

Indian Right to Food Campaign and Movement

The Constitution of India establishes the "protection of life and personal liberty" (Article 21) and "the raising of the level of nutrition and the standard of living of its people and the

improvement of public health" (Article 47) as fundamental responsibilities of the Indian government. The Right to Food Campaign is a citizen-led "attempt to realise the aspirations and guarantees enshrined" in this document. The Indian Right to Food Campaign launched in April of 2001, when the People's Union for Civil Liberties, Rajasthan filed a writ petition to the Supreme Court of India demanding that the national food stocks and reserves be used "without delay to protect people from hunger and starvation" (RFC, 2015). This petition led to minor discussions within the court system, but the delay to tangible change instigated the gradual growth of an expansive public movement to sustain this campaign.

The Right to Food Campaign demands multi-sectoral political approaches to ensuring the protection of life through the right to food, particularly including a national Employment Guarantee Act, land and forest rights, universalization of public food ration systems, and effective implementation of all nutrition-related schemes (RFC, 2015). Participants in the Right to Food Campaign initiate public hearings, conventions, rallies, advocacy, and research to further the movement.

India's National Food Security Act

Despite running the largest safety net food program in the world for over 30 years, India has seen very little reduction in the malnutrition across the population (IFPRI, 2013). In an effort to expand the number of people receiving benefits and improve nutrition and in response to the expanding political strength of the Right to Food Campaign, Indian policymakers drafted the National Food Security Act; this act aims to expand provisions by granting a legal right to food for two-thirds of the Indian population.

Passed by the Indian Parliament on September 10, 2013, the National Food Security Act allows food stockpiles to be created for slow release and price increase mitigation in an effort to increase food resources for millions of low-income individuals across the country (Sajjanhar and Gokarn, 2013). This act was designed to "provide for food and nutritional security in human life cycle approach, by ensuring access to adequate quantity of quality food at affordable prices to people to live a life with dignity and for matters connected therewith or incidental thereto" (NFSA, 2013). The overall objective of this bill is to guarantee affordable food grains to 70% of the country's population, with an intention to alleviate chronic hunger across the nation. With a cost of over $18 billion, this act is intended to cover 75% of India's rural population and 50% of the urban population (Sajjanhar and Gokarn, 2013). Specifically, provisions outlined in the act relevant for maternal and child nutrition and food security include:

1) "Every person belonging to priority households… shall be entitled to receive five kilograms of foodgrains per person per month at subsidised prices specified… from the State Government under the Targeted Public Distribution System"
2) "The entitlements of the persons belonging to the eligible households… at subsidised prices shall extend up to seventy-five percent of the rural population and up to fifty percent of the urban population"
4) "Every pregnant woman and lactating mother shall be entitled to— (a) [daily hot or take-home] meal, free of charge, during pregnancy and six months after the child birth, through the local Anganwadi, so as to meet the nutritional standards [as according to Schedule II]… and (b) maternity benefit of not less than rupees six thousand"
5) "Every child up to the age of fourteen years shall have the following entitlements for his nutritional needs, namely:— (a) in the case of children in the age group of six months to

> six years, age appropriate meal, free of charge, through the local Anganwadi … (b) in the case of children … six to fourteen years … one mid-day meal, free of charge, everyday, except on school holidays, in all schools run by local bodies … Every school … and Anganwadi shall have facilities for cooking meals, drinking water and sanitation" (NFSA.)

Concerns about the Impact of the National Food Security Act

As can be seen from this list of provisions, the primary platforms for implementation of the National Food Security Act are the ICDS Anganwadi system and the Public Distribution System. The NFSA is not without controversy; in particular, members of the Right to Food Campaign have expressed dissatisfaction with the provisions of the Act. Campaign members claim that the provisions fall "woefully short of [the] government's own norm for nutritional requirement of a person" and that the change from government-entitled 35 kg of grain per household to 5 kg grains per person goes against the "intent of the bill" and previous government action to support the right to food (USDA, 2013). One of the NFSA's goals is to provide nutrition security. However, contributions to food security – particularly in the form of coarse grain provision – do not necessarily contribute to nutrition security; the provision of 5kg of coarse grain per person per month has been regarded as "too focused on calories and not on diet diversity," limiting the nutritional impact on intended beneficiaries (Choudhary, 2014).

The Brookings Institute similarly identified the NFSA as a minimal impact, high-cost intervention; currently, India spends more funding on food subsidies, price support, and price stabilization than it does on other sectors such as health and education (Sajjanhar and Gokarn, 2013). Before the NFSA was enacted, the TPDS system was regarded as one of the most inefficient social safety net programs in the world, due to poor targeting, high leakage, and cost

inefficiency; the NFSA increases expenditure on this safety net, without vastly reforming or mitigating any of these challenges (IFPRI, 2013). The Brookings Institute suggests that the food-stockpiling program that is part of the NSFA will only increase the costs associated with the food subsidy programs, and not necessarily lead to positive improvement in food security across the country. Additionally, suppressing the cost of food for low-income populations may do more harm than good; higher food prices lead to higher wages for sellers, and thus higher payment for these foods could be more effective means for reducing rural poverty (Sajjanhar and Gokarn, 2013).

Food Security Act Implementation in Bihar

Per government mandate, each state is responsible for the implementation and eligibility decision-making for the National Food Security Act. Each state was mandated to begin implementation of the new act by July 2014, nearly one year after the act was passed. However, the deadline was extended to October 2014 after many states failed to adequately prepare for implementation; on October 9, 2014, the deadline was again expended until April 2015 (Hindu, 2014). As of April 2015, 6 states had partially implemented the law (Delhi, Himachal Pradesh, Karnataka, Chandigarh, Madhya Pradesh and Bihar) and only 5 states had fully implemented the law (Haryana, Rajasthan, Punjab, Chhattisgarh and Maharashtra)(Hindu, 2015; Hindu, 2014). On April 3, 2015, the government further extended the deadline to October 2015 (Hindu, 2015). The continued delay of implementation of the Act is an increasingly prevalent cause for concern for political leaders and Right to Food Campaign advocates in India.

Bihar began the implementation of the National Food Security Act in February 2014; at the time that this research was conducted, the NFSA was partially implemented in Bihar.

According to the law's general provisions, around 86.7% of Bihar's rural population and 73.2% of the urban population should fall under the provision of the act; the annual allocation of grains should rise by over 110% compared to the allocation under the current TPDS (Choudhary, 2014). Because the Antyodaya Yojana grain provision scheme continues to function for the poorest of the poor families (35kg of grains provided monthly), 54% of Bihar should also receive these additional food grains (Choudhary, 2014). Given limited implementation of the NFSA in Bihar, the following thesis aims to provide a baseline understanding of the context surrounding the NFSA in the state, especially as it pertains to achieving food and nutrition security for women of reproductive age.

Chapter 3: Methods

This study was carried out in partnership with CARE India, which is implementing the Integrated Family Health Initiative (IFHI) in Bihar. The IFHI aims to improve maternal and newborn health outcomes through strengthened maternal care, newborn care, nutrition, immunization, and family planning. CARE India is the implementing agency for the IFHI program; Emory University serves as the program's technical advising entity for nutrition.

This study was a cross-sectional qualitative study designed to gain a comprehensive understanding of current experiences and opinions related to the barriers and facilitators of supply, distribution, and access to nutrition entitlements, programs, and other provisions in Bihar; these experiences include PDS Shopkeepers' management and distribution of grain rations, Anganwadi Workers' provision of goods and services to women of reproductive age, husbands' and mothers-in-law's role in maternal food and nutrition security, and women's roles and experiences related to household food procurement and provision.

The study was designed and tools were piloted in April and May 2014, data collection was conducted between June and August 2014, and data analysis and write-up of findings occurred from September 2014 through April 2015. Two research assistants conducted all interviews and discussions while the two student researchers recorded and took detailed field notes during data collection. Staff located in the CARE India Bihar office as well as at Emory University supported study design and data collection efforts. The primary data collection and analysis procedures are described below in detail.

Study location

Data collection took place within the Nalanda district in Bihar. Nalanda was selected as the focus district due to its proximity to Patna, the city in which the research team resided throughout the data collection period, and because of CARE India's established programmatic presence in the area. In the Nalanda district, the northeastern Hilsa block was selected for the same reasons. Within Hilsa, two panchayats (villages) were purposively selected as the main geographic areas of focus for their diversity, distance, availability of adequate participants, and recommendation by CARE India staff. Based on the CARE India IFHI presence and monitoring data within Hilsa, the Block Coordinator identified appropriate panchayats. Both panchayats were accessible by vehicle and were traveled to daily from Patna during the data collection period.

Study population

The study population consisted of community members with pregnant and/or lactating women in the household as well as local providers of the identified nutrition and food entitlement programs. The household members included mothers, husbands, and mothers-in-law; each of these participants had to currently be pregnant or have a pregnant woman in the household and/or have a child less than two years old in the household to be considered eligible for participation. The local providers included Anganwadi worker leaders and local PDS shop owners, with no specific eligibility requirements other than providing services in the specified panchayats. A total of 16 in-depth interviews and 7 focus group discussions were conducted.

Description of the Study Population

PDS Shopkeepers and Shops

In this study, four PDS Shopkeepers were interviewed. Of these interviewees, three were male and one was female. The age of Shopkeepers ranged between 21 and 60, and their employment history as a PDS dealer ranged between 1.5 and 25 years. Education levels ranged between 9th grade and 12th grade (I.A.). The Shopkeepers represented Yadav (OBC), Bhumiar (UC), Paswan (OBC), and Kurmi (SC) castes.

Anganwadi Workers (AWWs)

The research team interviewed four Anganwadi Workers who ranged in age between 27 and 40. Their experience as an AWW ranged between 10 and 15 years. The AWWs represented Paswan (OBC) and Kurmi (SC) castes.

Pregnant and Lactating Women

A total of 8 pregnant and lactating women, aged 16-27, were interviewed. The number of children ranged between 1 and 7. The majority of women indicated that they had very little schooling, and were illiterate. Detailed demographic characteristics can be seen in table 1.

Husbands and Mothers-in-Law

Demographic information for husband and mother-in-law focus group participants was not collected during the study.

Table 1: Characteristics of In-Depth Interviewees

Pregnant/ Lactating	*Age*	*Children*	*Caste****	*Education*	*Occupation*	*Aware of AWC services*	*Accesses AWC services*	*Aware of PDS services*	*Accesses PDS services*
Panchayat 1									
L	20	3	Bind (OBC)**	Illiterate	Husband does manual labor	Yes	Yes	Yes	Yes
L	*	7	*	*	*	No	No	Yes	No (long term)
L	23	*	Gupta (OBC)	Illiterate	*	Yes	No	Yes	No (long term)
P	17	*	Kurmi (OBC)	Illiterate	*	Yes	No	Yes	No (long term)
L	27	5	Baldar (SC)	Illiterate	Both work in brick kilns	Yes	Yes	Yes	Yes
Panchayat 2									
P	25	3	Kumhar (SC)	5th grade	Husband is "compound-er"	Yes	No	Yes	No (long term)
L	24	3	Jaiswal**	Illiterate	Husband makes furniture	Yes	Yes	Yes	No (Short term)
L	16	1	Yadav (OBC)**	Illiterate	Husband unemployed	Yes	Yes	Yes	No (Short term)

* Information was not identified in interview
** Caste group was not defined in transcript
*** Scheduled Castes (SC), Scheduled Tribes (ST), and Other Backward Classes (OBC) are historically the most disadvantaged population in India

Study team

The Bihar-based study team consisted of 7 individuals: 2 Emory University student researchers, 2 local female research assistants, 2 Emory University/IFHI staff, and the Nutrition

Expert for the CARE IFHI Program. In June 2014, the Emory University student researchers led a two-day intensive qualitative research methods and ethics training for the research assistants; the entire Bihar-based study team attended this training. This training involved a series of presentations discussing the research goals and objectives, rationale to use qualitative methods for this study, fundamentals of qualitative questioning and appropriate probing, principles of the Belmont Report, and obtaining consent and maintaining confidentiality. Additionally, each of these components was addressed through simulation of interviews and focus group discussions and scenario-based case studies led by the Emory student researchers.

Recruitment

A CARE India Hilsa Block Coordinator and the study's two research assistants facilitated recruitment of all participants. To recruit AWW and PDS shopkeeper participants, the Hilsa Block Coordinator used total population purposive sampling in order to recruit all AWW leaders and PDS shopkeepers in the two panchayats. The Hilsa Block Coordinator directed the study team to each AWW leader's or PDS shopkeeper's home to carry out recruitment. To recruit pregnant and lactating women, AWW leaders utilized convenience sampling to identify and lead the study team to the nearest eligible pregnant and lactating women. To recruit mothers-in-law and husbands, the Hilsa Block Coordinator and research assistants used snowball sampling to identify and assemble eligible individuals for recruitment.

Development of Data Collection Tools

In order to develop the qualitative data collection tools, the two Emory student researchers first determined the desired discussion themes for each participant group. They then

developed English-language semi-structured interview and focus group discussion guides. After preliminary development, the guides were sent to Emory staff experts in qualitative research methods for review. After incorporating reviewer changes, the interview and discussion guides were translated into Hindi by a local translator. The translated guides were then piloted in in-depth interviews and focus group discussions with target populations in the Patna district. Feedback from tool piloting was incorporated into the final Hindi-language versions of the data collection tools.

In-depth interviews with pregnant and lactating women

IDIs used a semi-structured interview guide designed for the target population (Appendix 1). IDIs lasted between 15 and 45 minutes, with an average length of 30 minutes. Topics covered in these discussions included typical food acquisition and consumption; challenges related to food security; the purchase, preparation, and intra-household allocation of food resources; household expenditure; household food insecurity; and utilization and perceptions of food and nutrition support provided by the Anganwadi Centers and Public Distribution System. A total of 8 IDIs with pregnant (n=2) and lactating (n=6) women were conducted across the two panchayats.

In-depth interviews with Anganwadi Workers

IDIs used a semi-structured interview guide designed for the target population (Appendix 2). IDIs lasted between 30 and 75 minutes, with an average length of 45 minutes. Topics covered in these discussions included responsibilities of AWWs; work with adolescent, pregnant, and lactating women; awareness and participation in community food and nutrition support;

perceptions of barriers and facilitators to improved nutrition practices; and changes necessary for improved maternal nutrition. A total of 4 IDIs with Anganwadi Workers were conducted across the two panchayats.

In-depth interviews with PDS shopkeepers

IDIs used a semi-structured interview guide designed for the target population (Appendix 3). IDIs lasted between 20 and 40 minutes, with an average length of 30 minutes. Topics covered in these discussions included the role of PDS shops in the community; the type and methods of product supply; the methods and experiences of distribution; and perceptions of the effectiveness of the Public Distribution System. A total of 4 IDIs with PDS shopkeepers were conducted across the two panchayats.

Focus group discussions with husbands and mothers-in-law

FGDs used a semi-structured discussion guide designed for the target population (Appendix 4). FGDs lasted between 30 and 80 minutes, with an average length of 45 minutes. Topics covered in these discussions included household decision making surrounding food and nutrition purchases, preparation, and consumption and awareness, use, and perceptions of nutrition support programs. A total of 7 FGDs with husbands (n=4) and mothers-in-law (n=3) were conducted across the two panchayats, with 4-8 participants in each group.

All FGDs and IDIs were conducted by at least one trained research assistants and attended and recorded (in audio and detailed observation notes) by at least one Emory student researcher.

Ethical considerations

The Emory University Institutional Review Board (IRB) approved this study under an expedited review, as it poses minimal risk, meets the criteria for permissible research with pregnant women, and is intended to provide evidence-based recommendations to CARE and Emory for future maternal nutrition programming. The Emory student researchers were both CITI-certified and all research assistants who assisted with recruitment and the facilitation of the IDIs and FGDs were trained on qualitative and ethical data collection. Additionally, all staff involved in the collection and handling of the data were instructed to keep the content of the focus group discussions private and confidential.

All IDIs and FGDs were recorded once verbal informed consent was received from each participant. In order to protect against coercion or undue influence, all participants were informed that their participation in this study was to remain completely voluntary; they were given the options to not answer any questions that were not applicable or made them feel uncomfortable and to stop their participation at any point. The research assistants also reminded participants that their responses would not negatively influence the benefits they receive from CARE India during and beyond the data collection period. All data were de-identified and names were removed from transcribed transcripts. The IDIs and FGDs took place in community centers, personal homes, or AWW homes where discussion was private, safe, and comfortable for participants.

To maximize the comprehensibility and voluntariness of the informed consent process, the research team included research assistants that speak, read, and write fluently in Hindi, the language of the participants. During the first stage of translations, a local translator translated

data collection and consent documents from English to Hindi. During the second stage of translation, the research assistants verified and corrected the Hindi translations. The research assistants then conducted informed consent, interviews, and discussion moderations entirely in Hindi. All hard copies of collected data were kept in the strict possession of study team members, and all electronic documents were kept on password-protected laptops of study team members.

Data analysis

All IDIs with pregnant and lactating women were recorded with permission and then transcribed verbatim in Hindi before being translated into English. All FGDs with mothers-in-law and husbands and IDIs with AWWs and PDS shopkeepers were recorded with permission, debriefed with facilitators after the discussion, and then transcribed as detailed summaries in Hindi. For all transcriptions, important Hindi words and phrases were left in the transcript in brackets. A CARE India/Emory staff member then checked a sample of Hindi transcripts against the English transcripts for quality and accuracy and edited when necessary. The same staff member then translated all transcriptions from Hindi into English.

Coding of data was completed using the qualitative analysis software MaxQDA version 11. All transcripts were read through line-by-line, and were memoed to capture emerging themes. After each transcript was read and memoed twice, inductive and deductive codes were applied. The codebook (Appendix 4) contained 42 codes. Data analysis was completed using the principles of thematic analysis (Hennick et al, 2010).

Limitations

There were a variety of limitations in this research, though each was an expected component of global research, surrounding sampling, community engagement, and language barriers. Study team members mitigated each limitation to the maximum extent possible.

Because the sampling techniques often relied on convenience sampling, it is likely that many viewpoints were not represented within the sample. However, the study team made a concerted effort to design data collection in two different blocks in order to include a wider variety of participants than would be available in one block. Additionally, relying on different people and strategies at different stages of recruitment led to a more varied sample than would otherwise have been selected by one person or strategy; the participants represented a variety of Scheduled Castes and Other Backward Classes, but there was not religious diversity or members of Upper Castes.

Though participants were eager to be a part of this study, the presence of a study team and/or foreigner seemed to be a distracting factor to many of the participants and their community members. Large crowds often gathered around study team members as participants were being recruited, which resulted in delayed and fragmented recruitment. While this did not seem to greatly impact any of the data collection, it should be noted.

While the study team made every attempt to conduct the interviews and discussions in a private setting, there were many instances in which the presence of additional family or community observers was unavoidable. In most cases, these observers were unobtrusive, but in some cases, would interrupt the discussion. On these occasions, the research assistants would remind observers to not interrupt, which usually prevented future interruptions. While these observers or interruptions may have influenced some of the data collected, the study team does

not believe this influence is significant and these challenges were perceived as necessary in order to conduct the discussions in a convenient location for the participants.

Finally, while one of the student researchers and one research assistant spoke both Hindi and English, the other student researcher had no knowledge of the Hindi language and the other research assistant had little knowledge of the English language. This resulted in a fragmented ability to communicate as a group, and required constant translation between research team members. In order to maximize the amount of information shared between team members, daily debrief sessions were held in Hindi and translated into English to summarize the information gathered during over the course of the day and to inform research decisions by the student researchers.

Chapter 4. Results

A set of salient findings emerged through analysis of in-depth interview and focus group discussion data. Across entitlement providers and beneficiaries in both panchayats, discussion related to community food and nutrition security, food related household roles and responsibilities, prioritization of women's health, perceptions related to supply, demand, and provision of entitlements, and community engagement in demand and advocacy for change were common. Each of these themes helps provide a deeper understanding of the implementation of food and nutrition security programs in Bihar, and can provide guidance for future implementation of the National Food Security Act and the realization of the right to food.

General status of community food and nutrition security

Theme 1: Women and their families feel knowledgeable about what foods they should eat to be healthy, but are not able to obtain the food that they want and need because they have limited financial resources

To gain an understanding of maternal dietary intake, pregnant and lactating women were asked about what they eat on a typical day. The diets of women were fairly consistent: rice, roti (flatbread), dal (pulses), and some vegetables; respondents said that "those who have access to water" and "money" tended to have their own agricultural lands to grow these foods, while the others relied more heavily on the local Hilsa market or purchased foods "close by" at the panchayat shops. When asked about what type of vegetables are eaten, women said that they ate mostly potatoes; many indicated that they wanted to purchase leafy green vegetables, but they were unaffordable and/or unavailable.

"R: Currently, we are only eating potatoes in vegetables. We are not eating green leafy vegetables. I feel like eating them, but we are not.
I: Why?
R: There is no money, that's why." – Lactating Woman, Panchayat 1

Two women indicated that they ate a diet primarily of roti and salt, largely because of financial limitations; one woman said that her husband gives her and her 3 children just 10-20 rupees (USD$0.15 - $0.32) per week for food and she "never had the fate of eating green leafy vegetables," and the other said that the family's funds have been "used up" on healthcare costs for a sick child. Three of the participants said that they had non-vegetarian food (chicken, fish, etc.) 1-4 times a month, generally when the husband was visiting home from work in Patna.

The inability to purchase nutritious foods due to financial constraints was echoed in the husband and mothers-in-law focus groups; almost all participants said that women have little ability to access foods that provide good nutrition and "bring them strength" due to insufficient funds. Focus group participants in both panchayats provided similar explanations including, "it depends on finances; when they have money, it's there or it's not there," "there's financial trouble in the village," and "even if they want to, they can't do much due to poverty."

Whether or not woman are able to purchase what they consider nutritious foods, each woman indicated that they have or currently feel food insecure though frequency of severity varied across participants; two women indicated that they have food shortages between 4-8 times per month, one said that they "rarely" have food shortages, and one indicated that the patterns of food insecurity are seasonal. Women said that they cope with food insecurity by eating less food during shortages, borrowing from neighbors, taking out a loan, or calling their husband to bring more food from Patna.

Based on the in-depth interviews with Anganwadi Workers, the Anganwadi Worker perceptions of barriers to good nutrition conflicted with those raised by women and their families. The Anganwadi Workers typically blamed women's low education, their "backwards" status, or their unwillingness to listen; poverty as a determinant was mentioned secondary to these factors. For example, three of the AWWs explained that the biggest barrier surrounds knowledge and education. One AWW said that the government is supporting change with the provision of education-based AWC programs, but that this change is occurring "slowly-slowly." She further described that her impact as an AWW may be limited because AWWs "are from [the community] so [women] don't listen… if someone comes from higher up, then they will listen." However, another AWW believed that community women did not listen to health education because of their "backward" status; for this reason, she provided limited health education to pregnant and lactating women. Interestingly, this AWW was of the Kurmi Caste, one of the "Other Backward Classes" in Bihar.

> *"I: Okay didi. Have you ever counseled a woman on her health and she has shown improvements?*
> *R: I do counsel, but no one listens over here.*
> *I: Why don't they listen?*
> *R: It's a backward caste right, that's why these people don't listen. Sometimes, some people even tell them not to listen.*
> *I: Who?*
> *R: The mother in law. Here, it's all the "lauta" and "manjhi" caste- they don't listen.*
> *I: Okay didi. Here, what do you think are the main three barriers for woman's nutrition?*
> *R: Due to the poverty line, they don't listen, they're crooked."– Anganwadi Worker, Panchayat 2*

Food-related household roles and responsibilities

Theme 2: Women are responsible for food preparation and serving, but have limited decision-making power with regards to purchase and acquisition

Within most households, women have very little decision-making power over food resources. Interviews with women indicated that other family members hold responsibility for such decisions and purchases, particularly the parents-in-law (n=3) or husbands (n=3). The husbands also said that the "guardian" or the "chief" of the household (most often the paternal grandfather) determines which foods will be purchased and then acquires the food. Interestingly, the mothers-in-law rarely cited themselves as engaged in decision-making surrounding food; instead, they indicated that either the "owner" of the house, elder males, or son and daughter-in-law make these decisions.

> *"I: Who decides what will be bought?*
> *R: All things are decided by the two of them [Mother-in-Law and Father-in-Law]. They are the 'guardians'" – Lactating Woman, Panchayat 1*

Though women were not often engaged with household decision-making, most were able to identify what they perceived to be the biggest household expenditures. The largest perceived expenditures were on healthcare (n=6), household food (n=5), and children's education (n=2). However, only three of the eight women were able to discuss how much money they believe their household spends on food, as well as how much more they would like to spend on food; the range spent on food per month was between 3,000 and 10,000 rupees (USD$50-$160), and the additional amount requested was between 2,500 and 5,000 rupees (USD$40-$50). The other

women did not understand the question, or did not seem to know the monetary value of food because they were not engaged with food purchasing.

> *"I: Now we will talk about your household expenses. In your house, what do you spend most on, in each month?*
> *R: [silent]*
> *I: what are most expenses on?*
> *R: Do you think that I'm the guardian, madam?*
> *…*
> *I: Is this fixed that how much you spend on food, how much on spices? And anything fixed on this? Do you have any information?*
> *R: Fix- what would I know?! The guardian would know!" – Lactating Woman, Panchayat 2*

Though women are rarely engaged with food acquisition, each individual and group said that mothers were the ones that prepared and served food in the household. When asked why these women were the ones responsible for cooking, groups most often indicated that "this is the way of our society" or "this is the custom." Mother-in-law participants said that if the woman could not cook because she worked outside of the house, another young woman or the mother-in-law would help cook; however, the one working mother interviewed said that she cooked the food for her family on top of her work responsibilities.

Prioritization of women's nutrition and health

Theme 3: Husbands and mothers-in-law indicate that they are concerned about women's health, but women feel that their health is not prioritized over other family members' health

The women, husbands, and mothers-in-law were all asked about concerns household

members have for the health of pregnant and lactating women, as well as the perceived responsibilities for ensuring maternal health.

In focus group discussions, participants indicated widespread acknowledgement of concerns about women's health. Respondents in three of the husband groups indicated that they are the ones responsible for women's health, for reasons including, "the husbands vow to stay together through life and death, that's why they are responsible" and "whatever stuff needs to be bought from outside, has to be bought by the men." One of the husband groups said that the entire household comes together to look after a women's health. Similarly, all mothers-in-law said that they were responsible for their daughter-in-law's health "because they are the guardians" of the household. Though the person responsible for ensuring women's health differed between the groups, all groups indicated that women's health was a concern.

In individual interviews, women's expression of family members' concerns about their health varied widely. Only two women indicated that family members were concerned about maternal health, particularly related to the amount of rest and proper nutrition she is able to receive.

> *"I: Didi, you are a lactating mother now who is breastfeeding her child. Are the household members concerned about your health and wellness?*
> *R: they do. Look- my mother in law brings me milk.*
> *I: and what about rest?*
> *R: yes, they say that I should rest. They never tell me to wake up at 4 am and keep doing work all day. Whenever you feel like, wake up and then do the work you need to. Make sure you sleep through the day." – Lactating Woman, Panchayat 1*

The other 6 women expressed that maternal health was not a primary concern for any household member. In the majority of interviews, there was a prevalent theme of prioritizing children's wellbeing and futures over maternal health. Furthermore, some women expressed that other family members' health and wellbeing directly surpasses their concern for their own health:

"I: Okay didi. what do your mother in law and others at home worry about?
R: Why would they think about others.
I: Why?
R: Only his own body is dear to him.
I: What about eating and rest?
R: He tells me. But with five kids what can happen- how can I rest?
I: What do you think about for yourself?
R: What can I think? I leave three kids at home and go out to work. Their grandfather is blind and grandma has gone to her daughter's house. When she comes back, then I can go to work. Then I can earn some money and send it home, then the household can be managed." – Lactating Woman, Panchayat 1

When women were asked about who eats the least amount of food, particularly when there were food shortages, four women said that they eat the least amount of food; in contrast, four women said that they eat the most food in their household. One woman, who said that she eats most, also said that she would also eat least if there were a food shortage because she can "tolerate" it more than the children:

"I: Okay, you eat as hungry as you are. Okay. Now if you ever make food and it falls short, so who eats less?
R: The mother

I: Why
R: Now, once the kids have eaten then, the mother will eat whatever is left right. If there's anything left, she will eat. The mother can tolerate it for an hour. The kids will?"
– Lactating Woman, Panchayat 2

All of the husband groups said that the person who serves the food (their wife) is the one who eats least when food falls short, largely because she is the one who eats last. Similarly, all mother-in-law groups indicated that the one who serves the food is the one who will eat the least amount of food.

Perceptions of food and nutrition entitlement programs

Anganwadi Center

Awareness and utilization of programs

Theme 4: There is general awareness of Anganwadi Center programming, but lack of knowledge on specific entitlement eligibility and provisions

To understand the role of the Anganwadi Centers, the interviewers asked about the purpose of the Anganwadi Centers and responsibilities of the Anganwadi Worker. The AWWs explained that they work at the Center from 9 am - 1 pm every day, and described main responsibilities of immunizing children and pregnant women, educating people about take home rations, distributing take home rations, educating children, and referring malnourished women and children to larger health centers. While one Anganwadi worker explained that she did home visits daily, another AWW explained that she "heard from the office that we don't have to do home visits," thus the extent to which the Anganwadi Worker was engaged with the community women varied.

While the pregnant and lactating women did not understand the probed concepts of "entitlements" and "benefits" offered by the government, all but one were aware of the Anganwadi Center services for children and women. The majority of pregnant and lactating women, husbands, and mothers-in-law knew that the AWC provides dal and rice to women; however, knowledge of the amount that a woman received or was supposed to receive varied across participants. All women that were accessing and utilizing the Anganwadi Take Home Rations (n=4) were lactating, but two lactating women were not accessing any food provisions from the Anganwadi center. While one of the lactating women (who had 7 children) was unaware of the AWC program, the other used to access the AWC but did not offer an explanation as to why she does not currently receive any THR from the center.

> *"I: Have you heard about the AWC?*
> *R: yes, but me and my kids aren't going anywhere now.*
> *I: Didi, when you were pregnant, did you go there?*
> *R: Yes. We had gone. We had got rice and dal. I hadn't gone. My mother in law went and got it." – Lactating Woman, Panchayat 1*

All mothers-in-law were aware that pregnant and lactating women were entitled to rice and dal from the AWC, but the discussion of access varied across groups; only one group indicated that some participants' daughters-in-law were accessing the provisions and another group indicated that some of their daughters accessed the THR when they were pregnant, but are no longer receiving rations. Two of the groups expressed that they did not know why their daughters-in-law weren't selected to receive the THR, and looked to the research team for an explanation of eligibility.

All husbands were aware that lactating women were entitled to rice and dal rations from the AWC, but there were differing opinions about whether pregnant women were entitled to any rations from the AWCs from participants in Panchayat 2; one group in Panchayat 2 indicated that while these provisions are available for pregnant and lactating women in other panchayats, they indicated that the Anganwadi in their does not provide any THR. In Panchayat 1, Husbands said that there was a "limit" to which pregnant and/or lactating women received THR, but did not know the characteristics by which these recipients are selected.

> *"I: Do you know that there is supplementary rations given from the AWC?*
> *R: Yes, yes, I know.*
> *I: Who all get it?*
> *R: I mean, here, a child from 1- 3 years old. I can see that she gives the neighboring households Sir. She doesn't give anyone else, not even to pregnant women.*
> *I: Pregnant women don't get it either?*
> *R: No, no sir.*
> *I: You are informed that pregnant women are supposed to get it?*
> *R: In my maternal home, they do give it, but not here.*
> *I: You don't get it here…*
> *R: No."– Pregnant Woman, Panchayat 2*

Entitlement Details and Selection of Beneficiaries

Theme 5: The limited capacity for providing maternal ICDS beneficiary services results in varied selection mechanisms and reduction of services provided

Each of the Anganwadi Workers explained that they provide 2.5-3 kilos of rice and 1.5 kilos of dal to 8 pregnant and 8 lactating women in their catchment area, per the ICDS guidelines (3 kg rice, 1.5 kg dal). However, the Anganwadi Workers used different strategies for selecting

beneficiaries, often based on observed poverty levels or the Anganwadi's personal determination of need.

> *"I: This program that is running through ICDS for the ration, how do you select the people?*
> *R: We give it first to poor families.*
> *I: How do you identify which ones are more poor?*
> *R: We live in the village so we can observe who is having trouble eating, so we give it to them. When that … happens, we choose as well.*
> *I: Who chooses then?*
> *R: A [community] member becomes the official and chooses the beneficiaries that are poor, so we give the rations to them." – Anganwadi Worker, Panchayat 2*

> *"I: How do you choose them?*
> *R: Those who come to me and tell me, I give it to them." – Anganwadi Worker, Panchayat 2*

Though the Anganwadi Workers explained their processes for selecting beneficiaries, two AWWs explained that though they're only supposed to supply 8 pregnant and 8 lactating women with THR, they supply reduced quantities to all the women that come. Multiple Anganwadi Workers identified the fact that they have limited supplies and food provisions as a barrier to optimal women's health.

> *"I: What do you think are the three biggest barriers when it comes to maternal nutrition?*
> *R: we have problems with the THR. We have to give it only to 8 but 16 come to us. There are no other problems. We reduce the amount given to each one and give the ration to everyone because everyone starts fighting otherwise." – Anganwadi Worker, Panchayat 1*

Perceptions of Programs

Theme 6: Community members feel positively about Anganwadi services, but desire more widespread and sizeable provisions

All of the participants that were receiving provisions from the Anganwadi Center felt positively about the programs; those that did not receive the provisions did not have any strong feelings about the programs because they did not receive them. Interestingly, the women who were not receiving rations from the AWC did not express discontent or frustration with the system or the fact that they were not receiving any supplemental rice or dal. The main reasons that women found the AWC provision to be helpful is that they had to spend less money on those servings of grains, did not have to go to the market to purchase additional grains, and that it was an overall increased amount of food available to them. However, the participants seemed to be skeptical of the true impact of the AWC provisions, due to the meager amount of food provided for short period of time.

> *I: So didi, have you heard of an AWW? Have you gotten any dry rations from them?*
> *R: Yes, we do get it. Two days ago, we got 2 glasses of rice, 1 bowl of daal. They don't give a lot.*
> *I: So is there any benefit from receiving this?*
> *R: No, it only runs for two days. What can happen with just that much? If we get it, it's fine. If they stop giving it, that's also fine. – Lactating Woman, Panchayat 1*

Across all mother-in-law groups, there was consensus that the provision was beneficial, but two groups expressed a desire for more widespread access to these rations and a larger quantity of rations. Each of the husbands FGD groups expressed discontent with the services

provided for their families by the Anganwadi based on the amount of people who are receiving THR and the quantity of THR received.

Public Distribution Scheme

Awareness and utilization of programs

Theme 7: There is wide awareness of PDS schemes, but access to rations is inconsistent

To understand the role of PDS shops in the community, the interviewers asked about the purpose of the PDS shop and responsibilities of the Shopkeeper. The Shopkeepers explained that the purpose of the PDS shop was to transfer food resources to the poor, and that their responsibility in this process was to maintain stocks, distribution, and records of all PDS rations and transactions. Each of the shops was open for 20-30 days out of the month.

Similar to experiences with the Anganwadi Center services, all participants were aware of the Public Distribution System, regardless of whether or not they were accessing the services. Most community members, Anganwadi Workers, and PDS Shopkeepers indicated that wheat could be purchased for 2 rupees (USD$0.03) a kilo, and rice can be purchased for 3 rupees (USD$0.05) a kilo; only some women that were not accessing the rations were unaware of the price of the rations.

Of the pregnant and lactating women, only two women in Panchayat 1 indicated that they actively receive PDS rations. Two women in Panchayat 2 said that they had been receiving rations over the past year, but had not received any in the past 3 months. This discrepancy was attributed to disparate ration card distribution within the communities; the new ration card created under the National Food Security Act was not distributed in either area at the time of this study.

"I: And now for the last two months-
R: We haven't gotten it
I: Why not?
R: We didn't get the paper. The coupon that you need, we haven't gotten that coupon." – Lactating Woman, Ahkbarpur

"R: Yes, we have just received- the amount from the neck to the head, that's how much rice and wheat we have got.
I: You just received it?
R: Yes, since one month. Now it's a new thing, so we are receiving it.
I: Have you got a new card made?
R: Just the ration one." – Lactating Woman, Panchayat 1

The other four women did not currently receive rations from the PDS, and had not been receiving them over the past year or longer.

Theme 8: Perceived corruption in the identification of eligible households, poor quality, and insufficient quantity undermine community and shopkeeper satisfaction with and trust in the Public Distribution System

The PDS Shopkeepers explained that they rely on a government-created list of beneficiaries to allocate rations. From these lists, the Shopkeepers maintain written registers that contain individuals' names and pictures, and they rely on this register for identification of beneficiaries. Unfortunately, Shopkeepers in both panchayats explained that those who are receiving the grains are not always those who need it; in both areas, wealthy individuals are

included on the lists, while many poor people are left off of the list. This process and challenge is best explained by a PDS Shopkeeper in Panchayat 1:

"I: Who are the appropriate people to pick up the rations from here?
R: This is Bihar no? Some are good people
I: Ahan
R: I mean, some are wealthy as well. They get their names in those surveys when people come. And then there are poor people, who are deprived.
I: They're not there
R: No
I: Who comes to do these surveys?
R: For the surveys, it's the officials of the government.
I: Okay, they're from the government.
R: Yes. They're the ones who go to choose and they make the cards for those people, and register their names.
I: Ahan
R: Dome officials come, they identify-
I: Ahan
R: They skip my name, they skip his name, if your name is there then that's when-
I: Yes yes
R: The cards that get made
I: Ahan
R: We have to give only to those who have ration cards
I: So you only give based on the card?
R: Yes, because I only get that much ration.
I: Yes, so you look at the card and give
R: Yes
I: But those who should get it have been left out
R: Yes
I: The wealthy people are getting it?

R: They're getting it." – PDS Shopkeeper, Panchayat 1

Furthermore, another Shopkeeper believed that government officials were modifying the beneficiary list in a way that reduced the number of beneficiaries, and increased the Shopkeeper's daily challenge of supporting community members.

> *"A lot of peoples' names have been skipped in this. Every time, the ministers or officials take out a few names. Those people who were getting it before are no longer getting it and they are creating a ruckus, they come here and tell us these things."*

All of the mothers-in-law focus group participants were vocal about their perceptions of the PDS shops, particularly their frustrations with the reduction of benefits and beneficiaries included over the 6 months prior to this research; each group indicated that fewer individuals received grains from the PDS shop as compared to earlier. One of the mother-in-law groups in Panchayat 1 echoed the Shopkeepers' perceptions and said that "Those who are wealthy, they're getting it [the PDS provisions], those who are poor, are not."

With an understanding of how beneficiaries are selected, interviewers asked the PDS Shopkeepers about their experiences obtaining and distributing grains. Currently, the process to obtain grains requires the Shopkeeper to send money to the field coordinator, the field coordinator to purchase the grains and send an order slip to the Shopkeeper, and then the Shopkeeper to take the order slip to the distribution warehouse and pick up the allotted grains. Respondents said that the supply and distribution of grains was unreliable; PDS Shopkeepers in both panchayats said that while they are supposed to receive new stocks of grains once a month,

they had not received in the last 3-6 months. All three mother-in-law focus groups similarly indicated that grains had not been supplied for the past 2-6 months.

When grains were supplied, Shopkeepers from both panchayats indicated that the quantity of grains available from government often fell short from the quantity of grains required; this occurred both by providing fewer bags of grains than requested and also by providing less volume of grains per bag. One shopkeeper indicated that the limited remaining grains in their stores came from "some people who have gone away and didn't pick up their ration." The mothers-in-law in Panchayat 2 explained that over the past month, the very few grains that were recently distributed were less in quantity than allotted.

> *"I: Has it ever happened that you were distributing the grains, and the grains fell short? R: This is Bihar Madam. The weighting of this stock is about 50 kg., but the "labour" that bends to pick it up, or tosses it in the train- the hole is formed on that end but we find less on this end." – PDS Shopkeeper, Panchayat 1*

While two of the Shopkeepers initially said that the quality of grains received is "good," all four Shopkeepers eventually said that the grains provided by the government are often spoiled due to water or bug infestations. Interestingly, the responsibility for spoiled grains differed between respondents; the responses varied between "sometimes during the rains, the grains do get wet," "the grains that are kept in the godown, it's only natural that it will catch bugs," and another ascribed the issue to the government employees:

> *"There is even the issue of the SFC [field coordinator] who sometimes sells 2-4 quintals [200-400 kg] and then he fills the bags with water. When there is water in the sacks, it will have the same weight as it is supposed to. Due to this reason, that particular sack*

gets sent with the pack, but when it gets to us we realize the grains have rotted… Another thing they do sometimes, is that they put cements in the sacks with the food." –PDS Shopkeeper, Panchayat 2

Because the varying quality of grains, certain populations have opted to not eat the rice or re-sell it, while others eat it because it is their only option:

"[We] don't eat the ration because it's not worth eating. It's infested with worms and bugs. The one who is really poor has to eat it out of compulsion. Most often, the rice is bad. Some people sell the rice in the market and buy other rice." – Husbands FGD, Panchayat 2

The husband FGD participants were less vocal about challenges related to the identification of beneficiaries and receiving ration cards, but expressed frustration related to the quality of grains provided by the PDS Shops. Groups in both panchayats indicated that the quality of grains is so poor that they cannot eat them (as described above), and therefore do not benefit from them.

Interestingly, many of the pregnant and lactating women were strongly opinionated regarding the PDS rations, despite the fact that the majority was not currently accessing the rations and that they were not the ones that retrieved the rations when available. Largely, the women viewed the PDS rations favorably, saying "it's support for the poor man," but also questioning the benefit when the rations are not received:

"I: what did you say? Like whatever you are getting from these programs, what do you think, are there any needs for improvements?
R: there is a need for improvement

I: what kind?
R: I mean if we get it, then there will be some benefit right? If we're not getting the paper itself, then what benefit will there be?" – Lactating Woman, Panchayat 2

The women were also the only participants that mentioned the benefits realized from selling PDS rations, which was indicated as a common practice when the grains were spoiled or when the family was looking to make a profit off of the rations:

"I: This [entitlement] benefits people?
R: here, if he gives it in less money, then there, at the market, people sell it for Rs. 14 per kilo. Even yesterday, I sold it for 64 rupees/kilo and bought it for 16 rupees/kilo when I didn't have money. I… got it for three rupees per kilo at the ration shop. So did I not benefit?
I: You have a profit." – Pregnant Woman, Panchayat 2

Community engagement in demand and advocacy for change

Theme 9: Community members exhibit a high level of entitlement provider mistrust and do not feel that they have the power to demand the right to food

Much of the mistrust in the PDS system seemed to stem from the unstable provision of rations through the PDS shop, including the misallocation of provisions to wealthier families as well as the reduction of benefits to families who previously had access to PDS rations.

Some individuals believed that PDS Shopkeepers are the ones responsible for reduction in grains; when asked how many grains a household gets in a year, one mother-in-law group from Panchayat 1 said that they get six months' worth, and the other six months' worth is "eaten up by the dealer." Additionally, the mother-in-law group in Panchayat 2 thought that the PDS

Shopkeeper was also responsible for reducing the number of beneficiaries, indicating that there "were eight names on the card but the dealer cut them and only left four." When the rations are not available, husbands in Panchayat 1 said that the PDS Shopkeeper "will give various reasons- sometimes he'll say he dint get it, or he keeps it himself sometimes, he doesn't give us a straightforward reason."

PDS Shopkeepers described challenges to personal integrity as a result of the low financial compensation received by Shopkeepers. PDS Shopkeepers in Nalanda are offered 40 rupees commission per 100 kg of grain sold, which was considered to be very meager pay. Shopkeepers indicated that in other districts, PDS Shopkeepers are offered a salary or food provision as compensation. One Shopkeeper explained how it is difficult to survive off their commission, and how some Shopkeepers struggle with integrity on the job.

> *"It is with this same money that we can buy rations, pay our rents, buy the paper we need- everything comes from this commission. We have very little benefit from this which is why some people also "muddle" things up. Not all people are honest and neither are all people dishonest. There are all kinds of people." – PDS Shopkeeper, Panchayat 2*

Additionally, one group of husbands in Panchayat 2 believed that the government is responsible for the poor quality and limited quantity of take home rations given at the Anganwadi Center.

> *"The 'Mukhiya's' [chief's] daughter in law is the Sevika* [Head AWW]. *The grains that have gone bad in the mukhiya's house are given to the people of the community and those people keep the ration that comes to the AWC. " – Husbands, Panchayat 2*

The PDS Shopkeepers passed blame up the chain of command and indicate that short supplies in rations are a fault of the government actors that oversee them. One Shopkeeper in Panchayat 2 attributed fault to the lack of monitoring: "because here, they haven't done the right monitoring, that's why… they haven't examined everything here properly."

Compounding this mistrust, many of the participants expressed thoughts that can be perceived as feelings of disempowerment, or the feeling that they have little influence, power, or importance related to their legal rights to food entitlements. When participants indicated dissatisfaction with food and nutrition entitlements, they were asked how the situation could be improved; all participants indicated that they did not have a mechanism to suggest change, or did not believe that their concerns would influence change.

> *"I: How can this be improved?*
> *R: If we receive "support" from someone then we could say something to those people who create these programs. No one is in front of us or behind us- we can't do anything even if we are willing." – Husbands, Panchayat 2*

> *"I: Okay didi, what can be done at the AWC so women like you find it beneficial?*
> *R: What can happen from what I say? – Lactating Woman, Panchayat 1*

Without means to suggest change or belief that suggestions would lead to change, community members were unable to demand or advocate for their legal entitlements, and ultimately were prevented from realizing the right to food.

Chapter 5. Discussion

The objectives of this study were to provide a baseline assessment of current implementation of the National Food Security Act and other entitlement programs intended to improve maternal food and nutrition security in Bihar, as well as inform future implementation of these programs to better support the realization of the right to food. Laws alone are not sufficient for individuals – particularly women – to realize the right to food; non-discrimination, participation, and accountability are all factors of an enabling environment for the realization of the right to food (FAO, 2006). Due to the complicated nature of maternal undernutrition in Bihar, improvement in achieving the right to food will require a unified effort between government sectors and community actors; the following discussion elucidates the most salient study findings in relation to these necessary elements, and recommends next steps for research, programs, and policies to improve maternal nutrition in Bihar.

Women's Autonomy and Status in the Household

Across the majority of participants, there was consensus that women are not the primary decision-makers in the household for food acquisition, health seeking behavior, food allocation, and daily household responsibilities; household decisions and food-related behaviors are often left up to the "guardian" – a woman's husband or the elders. This finding is consistent with prior research done in rural India, indicating that women's decision-making autonomy is often limited due to cultural beliefs that constrain women's status, and is strongly associated with disparities in women's nutritional intake (Ramakrishnan, 2012; Menendez et al, 2006). Furthermore, there was consensus across most groups that a woman's household role is to prepare and serve food and look after the children; this also aligns with existing research and cultural beliefs regarding

household roles and dynamics in Southeast Asia (Noznesky et al, 2012). Similarly, there was a regular occurrence of women de-emphasizing concerns related to their own health, often prioritizing the health of their children or other family members over their own (Noznesky et al, 2012).

Chapter 6 of the National Food Security Act focuses on "Women's Empowerment," and includes provisions aimed at improving women's empowerment by naming the eldest woman (18 years or older) in each household the "head of household for the purpose of issue of ration cards" (NFSA, 2013). While naming females as heads-of-household indicates the intention of empowering women, the predominant cultural expectation of women's limited role in household decision-making and food acquisition remain key facets of women's disempowerment that prohibit improved maternal nutrition (Noznesky et al, 2012). Furthermore, enabling the "eldest" woman to be responsible for NFSA ration cards does not necessarily advance the empowerment of young mothers, as this stipulation further concentrates decision-making power in the hands of the mother-in-law in many households.

Because of women's low status and autonomy, women are not always empowered or equipped with the ability to positively impact their food and nutrition intake, even when they are knowledgeable about what types of foods they should eat for optimal health. Understanding the specific constraints that women face in accessing government nutrition programs due to their disempowerment is crucial for future implementation of the National Food Security Act in India. Interventions to secure the right to food must continue to gradually shift long-standing traditions and perceptions of women's roles, decision-making power, and need for prioritized health so that women are empowered to affect change related to her and her family's food and nutrition security.

Minimal Awareness of Entitlement Eligibility

Broadly, participants were aware of Anganwadi Center services for pregnant and lactating women and the Public Distribution System provisions, but were not well informed on eligibility criteria for participation in these programs. Without providing clear explanations of entitlement eligibility to the target populations, the Indian government limits the realization of the right to food; throughout this study, it was unclear whether individuals were not receiving food entitlements because they were not eligible, were unaware that they were eligible to receive food support, or because they were wrongly denied these supports. The Right to Food Guideline Number 11 focuses on education and awareness-raising of human rights, the right to food, and nutrition; not only does education on the right to food "strengthen duty-bearer's knowledge of their obligations," but it also assists "rights-holders, especially women, girls and children (the most vulnerable), in demanding accountability regarding their rights" (FAO, 2012). Based on the study finding that community members feel disempowered to demand regular access to high-quality food entitlements, awareness-raising activities must not only target information on the right to food and entitlement eligibility, but also strategies for individuals to advocate for realization of their rights.

Overall, there are many limitations and few resources describing the eligibility criteria and status of National Food Security Act implementation in Bihar; clear eligibility guidelines must be established and made evident in order to increase individuals' ability to realize the right to food. One of the significant challenges of establishing clear eligibility guidelines stems from the state-level responsibility for identification of eligible populations, which leaves a great deal of room for fraudulent or misappropriated eligibility. According to recent news articles,

implementing states have been utilizing lists defined by the Department of Rural Development, the Socio-Economic and Caste Census (SECC) of 2011 to develop NFSA beneficiaries lists; however, SECC data was only available for 119 of India's 640 districts, 2 of those out of Bihar's 38 districts (Das, 2015). SECC household information for Bihar is still not complete or available; information for the block targeted in this research was indicated as available in January 2015, six months after research was conducted (SECC, 2015). These misallocations of eligibility may be continued in the future implementation of the NFSA, reducing access to many families and individuals that should be entitled to these programs. Concerns about the impact of imprecise eligibility criteria on the realization of the right to food are calling the intention of the act into question; the economist Jean Drèze reported that "in the absence of clear eligibility criteria, no one is really entitled to anything as a matter of right; this defeats the purpose of having a law" (Drèze, 2014).

The Indian Right to Food Campaign has made progress in education and awareness-raising related to the right to food, but the Indian government must define eligibility criteria and then increase activities to raise awareness and foster empowerment in order to better facilitate the realization of the right to food.

Limited Quantity and Quality of Entitlement Provisions

There were distinct challenges of quantity and quality of entitlement provisions in Bihar from both the beneficiary and provider perspectives. Women and men in Bihar expressed discontent with the limited amount of food that they received from providers, and were particularly dissatisfied with the quality of PDS rations; similarly, Anganwadi Workers felt constrained by the limited amount of food they were provided for a small amount of

beneficiaries, and Public Distribution Shopkeepers were challenged by delayed and reduced quantity and quality of rations received from the central distributors. The responsibility for poor quality and reduced quantity was attributed to individuals at all levels of the supply and demand system, but reflected evaluations carried out in other areas in Bihar that indicated a lack of accountability at multiple points throughout the supply chain (Abraham and Fraker, 2013; Noznesky et al, 2012). Without mechanisms in place to ensure delivery of adequate quantity and quality food entitlements, the right to food cannot be realized.

In 2013, IDinsight carried out an impact evaluation on Bihar's ICDS hot meal and take home ration provisions to quantify the extent and sources of program leakages and non-delivery. The evaluation, which utilized unannounced visits by independent surveyors, found that approximately 53% of allocated supplemental nutrition funds are not spent on the ground; this is particularly concerning based on the fact that ICDS has allocated USD $200 million per year on this supplemental nutrition programming (Abraham and Fraker, 2013). According to this evaluation, 71% of funds intended for hot meals and 38% of take home ration funds are lost to leakage (Abraham and Fraker, 2013). Furthermore, visits to Anganwadi Centers in Bihar indicated that 24% of the Centers were closed during times they should have been open, and that meals were only served on 59% of the days on which meals should be served (Abraham and Fraker, 2013). While such leakages were not necessarily observed in Nalanda, the structural challenges may have impacted the lack of access to ICDS entitlements by the study population.

The leakages seen in the ICDS system are also observed in the Public Distribution System. According to recent estimates, anywhere between 40-90% of food grain distributed to PDS shops is lost due to leakages; the estimates for such leakage vary widely across studies and is highly disputed (Choudhary, 2014; Gulati,and Saini, 2015). Regardless of the proportion that

is leaked, supporting research indicates that the number is unacceptably high; much of this grain is sold in the open market at a higher price than the PDS shops, held by the PDS shopkeeper, distributed to non-card holders, spoiled, or is otherwise not benefitting the intended beneficiaries, as evidenced in this study (Choudhary, 2014). These prior experiences with the PDS before the NFSA may be propelled and exacerbated through the implementation of the NFSA, limiting the government's ability to improve food and nutrition security. In order to successfully implement the National Food Security Act, the Indian government must build accountability mechanisms into delivery systems to ensure that intended beneficiaries are receiving the provisions in the quantity and quality that they are entitled.

Programmatic Recommendations

This study revealed a widespread lack of agency as it relates to advocating for legal rights to food, and a sense of disempowerment. These two challenges can be mitigated by organizations such as CARE India through the development and implementation of community-empowerment focused activities in an effort to increase self-advocacy for legal rights; because the right to food is enshrined in Indian policy, citizens must become empowered to obtain their legal entitlements. Pregnant and lactating women and their families not only need to be well informed on the resources to which they are entitled, but must also be informed about strategies they can use to advocate for their legal right to these provisions. Programmatic interventions to improve families' awareness of the benefits to which they are entitled and support the development of self-advocacy strategies to demand access will improve their ability to obtain improved food and nutrition resources.

Policy Recommendations

This research uncovered a range of common challenges to realization of the right to food in Bihar that may be directly mitigated with targeted policy that (1) safeguards against delays in implementation, which has been observed in the postponed identification of eligible NFSA beneficiaries, (2) emphasizes a transparent and systematic mechanism for entitlement accountability, particularly of quality and quantity of grains, and (3) continues to strengthen efforts to improve women's empowerment. The following data-driven suggestions should be taken into consideration for amendments to current acts or future policy development.

(1) Revision of the National Food Security Act and creation of other policies to support the right to food should institute safeguards for timely and transparent policy implementation, particularly of the identification of eligible individuals and families; such a safeguard may be the identification of eligible beneficiaries before the passage of a law. Without clearly defined eligibility lists, particularly during a transition between entitlement laws, accountability and demand for the right to food cannot occur.

(2) The Indian government should strengthen accountability mechanisms that enable entitlement providers and recipients to report and receive reparation for poor quality and quantity of provisions. While the NFSA has required states to select a "Grievance Redressal Officer" within each district, no community members were aware of processes to air complaints about entitlement delivery; the delays in full implementation of the NFSA may prevent implementation of the limited measures that explicitly aim to empower citizens. Without clearly delineated set of steps to indicate the lack of fulfillment of legal entitlements and a transparent redressal mechanism, individuals are not receiving the support to which they are entitled.

(3) Additionally, long-term policies must continue to address the status of women through multi-sectoral policies that advance the economic and social empowerment of women. Examples of policies that are associated with women's empowerment and improvements in maternal nutrition include strengthening women's property and ownership rights and the expansion of conditional cash transfer entitlements specifically for pregnant and lactating women (van den Bold et al, 2013). While India has developed a variety of policies aimed to increase women's empowerment (van den Bold et al, 2013), strengthening these efforts should remain an explicit priority within the NFSA and other government food and nutrition policies to support the realization of the right to food.

Need for Future Research

While this study was able to identify whether or not women and their families were accessing governmental food and nutrition supports, the ability to understand why people were not accessing these resources was limited; it was not clear whether women were not eligible for these provisions, or were eligible but were not accessing them. This distinction is of critical importance, and requires a more detailed understanding of who is legally eligible for both Anganwadi Center rations and the PDS system under the National Food Security Act. This study indicated many instances of provisions falling into the hands of those who are not eligible due to misinformation and/or misbehavior by the provider, but further research needs to be done to attain uniform, legal understanding of eligibility to share with the beneficiaries.

Due to the recent and partial implementation of the National Food Security Act, future research is needed to better understand experiences accessing food and nutrition entitlements that fall under this act – particularly those of the Public Distribution System. It is unclear whether

those who are not receiving rations or ration cards from the PDS Shopkeepers due to issues of supply or entitlement. Based on this study, less people are accessing entitlements through the Public Distribution System than were before the National Food Security Act was implemented; the cause of this discrepancy must be determined.

Strengths and Limitations of Research

Due to the recent implementation of the National Food Security Act, very little research has been done to examine perceptions and experiences of the act's provisions. This thesis provides timely and much needed research on potential facilitators and barriers to more effective and scaled implementation of the National Food Security Act in Bihar, particularly as it relates to the two largest food and nutrition entitlement provision systems – the Anganwadi Center network and the Public Distribution System. Data from this research is strong due to the inclusion of both entitlement providers and beneficiaries.

This study is limited by its sample size and saturation. The data collected for this study included only two panchayats in one district; it is important to note that the results only reflect what is happening in this area, and cannot be used to understand the implementation of the National Food Security Act across Bihar. However, this information still serves as a baseline for what is happening within these panchayats, and may be reflective of implementation on a larger scale. Furthermore, this sample size was limited and did not lead to saturation of the data.

Conclusion

Maternal food and nutrition security is critical not only for the healthy development of individuals, but also of entire societies. The Indian government seeks to support realization of the

constitutional human right to food for its citizens, particularly women, through a variety of legal food and nutrition entitlements. However, due to a complex array of social, economic, political, and environmental factors, government-supported food and nutrition programs do not necessarily translate into improved food and nutrition security; in particular, women's empowerment, citizen awareness of entitlement eligibility, and inconsistent and insufficient provision of entitlements contribute to widespread food and nutrition insecurity across India. Though the National Food Security Act was only partially implemented in Bihar at the time of data collection, this thesis provides a rights-based approach for expanded implementation of the NFSA and other food and nutrition entitlements. In order to support the realization of the right to food India, particularly for women, these challenges must be mitigated through a combination of citizen empowerment and improved government accountability systems.

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Appendices

Appendix 1. Pregnant and Lactating Woman IDI Guide

Objectives of this tool:

- To explore household decision-making, beliefs, and expenditure regarding food and nutrition
- To explore perceptions and utilization of national and state nutrition and food entitlements

Participant Info

[*Interviewer: before you begin, ask the participant the following questions and fill in the table below]*

What is your age? What is your educational level?

What is your religion? What is your caste?

Warm up: To start, can you tell us more about who lives in your household (including yourself)?

Probes: How old are they?
Are they male or female?
What is their relation to you?
What is their occupation?
If they are female, are they pregnant or lactating?

Thank you for your answers. Now, we'd like to ask you a few questions about how food comes into your household.

1. Can you describe what meals you have on a typical day?
   Probe:What type of foods do you have in each meal?
   Does everyone in your household eat the same meals?

2. Where does your household food come from? (i.e. local market, personal garden, PDS shop)
   - Who purchases the food?
   - Why are they the ones to purchase the food? How do they decide what foods should be purchased?
   - Who earns the money to purchase food?
   - How does the food purchased differ in the different seasons?
   - How do you decide where to purchase your food?
   - Do you produce any of your own food? If yes, what?

3. What types of foods do you want to eat that you are not able to eat?
   Probe: Why aren't you able to eat this type of food?

4. Okay, thank you. Now that we know a little bit more about your families and what you eat, we'd like talk about how your meals are served in your household.

<u>Encourage the respondent to think about a typical day in her HH . if she has trouble ask her to think about the previous day.</u>

- What did you eat?
- Who prepared the food? Is it always like this?
- Who served the food?
- Who ate first? Why? Why not ____ ?
- Who ate most? Why? Why not _____?
- Who eats less food if there is not enough food?

5. Do your household members have concerns about your health?
    - [Probe why they think this worry exists.

    - (refer to pregnancy or lactating status)
        - Food/nutrition?
        - Rest?
        - Ante-natal care?

6. What are your health concerns around yourself as a pregnant OR lactating woman? Any challenges that prevent you from feeling completely healthy?

Now, we would like to ask a few questions about your household spending on food.

7. What are the three biggest areas of expenditure for your household each month?
    Probe: housing, food, etc.
        - (If food mentioned) Is it a concern how much is spent on food? Why or why not?
        - (If food is not mentioned) Why is food not a major expense? What supports exist for their household to keep these costs manageable?

8. Have you ever felt that your household did not have enough food?

    - Probe: (if yes) When did that happen? Why do you think that happened? How did this affect you?
        - (if no) Do you ever worry about it? Why or why not?
        - How much more food does your household need?

9. Are you able to spend as much money on food each month as you would like to?
    - Probe: (if not) Would you like to buy more food and/or different types of food?
    - How much more money would you need to purchase the amount or type of food that you would like?

Great, now we would like to ask about community programs that are related to food and nutrition.

10. Could you describe the food or nutrition support that you receive?
    - How well do you feel these programs improve your nutrition?
    - What do you like? What do you not like?
    - How do you think that they could be improved?

<u>PROBES: USE THE FOLLOWING AS A LIST OF PROGRAMS IF NOT MENTIONED SPONTANEOUSLY BY RESPONDENT:</u>

a. Anganwadi centers
    - Cash incentives for a woman's first two births (Indira Gandhi); supplementary nutrition (Poorak Poshaahar); take home rations.

b. The Public Distribution System
    - What do you know about free or reduced price grain products available in your community?
    - What do you think about the support from the PDS?

11. Overall, how do women like you feel about government-run welfare programs?
    Probe: In what ways do you think that these programs are important?
    In what ways do you think that these programs are useful?

Cool down questions: Now, we are going to wrap up with a few closing questions.

12. Is there anything else that you'd like to tell us about your food and nutrition consumption or needs that we haven't asked about?

Appendix 2. Anganwadi IDI Guide

Objectives of this Tool:

- To explore the provision and experiences of maternal nutrition support from the Anganwadi workers
- To explore the barriers and possible solutions to maternal nutrition problems in Bihar

Section 1: Introduction and Provision of Maternal Nutrition Programming (20 minutes)
Thanks for agreeing to speak with us. We'd like to start off by talking about your work as an Anganwadi worker.

1. Can you please describe your position as an anganwadi worker?
    Probe: What is your general day-to-day work as an anganwadi worker?
        When is the AWC open (days and times)?
        How long have you worked as an AWW?
        How long have you worked in this specific center?
        Do you live in this community?

2. Now I want to learn more about your work with different types of people in your village. (instructions to RA: read each beneficiary type one by one) What do you do when you work with… [fill in with each of the following options]
    a) A 15 year old girl
        Probe: What about the SABLA nutrition provision, IFA supplementation, and Education in nutrition and health?
        What about the Poorak Poshaahar nutrition supplementation?
        What about the ICDS supplementary nutrition THR and hot meals for 3 adolescent women?
    b) A newlywed 20 year old woman
        Probe: Do you provide any type of pre-pregnancy counseling or education?
    c) A pregnant woman
        Probe: What about the cash incentive for first two births?;
        What about IFA supplementation?
        What about Poorak Poshaahar nutrition supplementation?
        What about the ICDS supplementary nutrition THR and hot meals for 16 pregnant women?
    d) A mother of a two month old child
        Probe: What about the cash incentive for first two births?;
        What about IFA supplementation?
        What about Poorak Poshaahar nutrition supplementation?
        What about the ICDS supplementary nutrition THR and hot meals for 16 lactating women?

3. Can you tell us more about how the ICDS supplementary nutrition (where THR and hot meals are served to 16 pregnant, 16 lactating women, and 3 adolescent women) program works?
    Probe: How are the beneficiaries of this program selected?

4. Within your community, what are other programs impacting women and girls' nutrition?

Probe: What do you know about the National Food Security Act?
What do you know about PDS shops' distribution of grains to families?
What do you think about the PDS system in your community?

Section 2: Experiences working with Maternal Nutrition (10 minutes)

5. Can you tell us about a time that you've seen a woman improve her nutrition practices or behavior after you've worked with her?
Probe: Which specific practice? Why was she able to change her practices?
Which certain strategies or counseling messages helped her change?

6. Can you tell us about a time that you tried to help a woman improve her nutrition, but the woman still did not change her practices?
Probe: Why was it difficult for her to change her practices?
What beliefs did the woman or her family have about food/nutrition that prevented her from changing her practices?

Section 3: Recommendations and Wrap-up (10 minutes)

7. What do you think are the three biggest barriers to good maternal nutrition in your community?
Probe: For adolescent girls?
For pregnant women?
For lactating women?
In provision of anganwadi services?

8. What do you think can be done in the community to overcome these barriers?
Probe: What can be done by women themselves?
What can be done within women's households?
What can be done by anganwadi workers/centers?
What can be done by ASHAs?
What can be done by others (i.e. organizations, government, community members)?

9. Is there anything else that you'd like to tell us about your community's food and nutrition consumption or needs that we haven't asked about?

Section 4. Questionnaire

Where is the AWC housed	own building
	gram panchayat office
	rented space
	private house
	other (explain)
	unclear
AWC condition:	AWC does not need repair
	AWC is water-proof
	AWC is adequately ventilated

	AWC is well lit
	AWC has a boundary wall
Does AWC have:	Medicine kit/First Aid Box
	Vessels for cooking
	Vessel for storing drinking water

Other notes:

Appendix 3. PDS Shopkeeper IDI Guide

Objectives of this Tool:

- To explore the purpose of the PDS shops as it relates to current entitlements for women
- To explore the perceived supply, demand, and distribution of PDS shops in Bihar

Participant Information (2 minutes)

PDS Shop location	PDS shop worker religion
PDS shop worker age	PDS shop worker educational level
PDS shop worker caste	# of years worked at shop

To start, we would like to know more about how the PDS shop works. (5 minutes)

1. Can you please explain what the purpose of the PDS shop is?
2. What is your role at the shop?
    a. Can you please walk us through a typical day of work here?
    b. How often do you work at the shop in one week (or month)?

Thank you for your answers. Now, we'd like to ask you a few questions about the supply in the PDS shop. (15 minutes)

3. What products do you have in the shop?
    a. Do you have any products that aren't supplied by the government?
4. How do you receive your products from the government?
    a. When do you receive the products? (regularly, intervals, etc.)
    b. How much of the product do you receive in one shipment?
    c. What requests can you make for more or different products?
5. What do you think about the amount of product (quantity) that is provided to you by the government?
    a. How constant is the amount of product that you receive?
    b. Do you receive enough? If not, why?
    c. If you don't receive enough, how does this affect you?
6. What do you think about the quality of the supply you have in your shop?
    a. What are the biggest concerns with quality- same for all groups or certain foods are "problem foods"
    b. What do you think the community thinks of it?
7. Can you tell us about a time when you had a problem with the supply of products in your shop?

Now, we'd like to ask you a few questions about the distribution from the PDS shop. (15 minutes)

8. Who is eligible to receive food from your shop?
    a. How do you keep track of who is eligible? [if register, ask to see register]
9. Of the people who are eligible, how many actually come to the PDS shop?

   a. How do you keep track of who comes to the shop? [if register, ask to see register]
10. How do people receive food from your shop? (ration card, voucher, other)
   a. Do people pay for these products or do they receive them for free?
   b. Does each person/family receive the same product?
   c. Does each person/family receive the same amount of product?
11. Is this how the structure works for all PDS shops, or are some blocks or districts different?
12. Do you think that this distribution process works well?
   a. Can you tell us about a time that the distribution of product made a positive impact?
   b. Can you describe a particular time when you had some problems with the distribution of the product?"

Finally, we'd like to ask you a few questions about your perceptions of how well the PDS shop and related entitlements work. (15 minutes)

13. What do you think people in the community think about the PDS system and PDS shops?
   a. How do the beneficiaries feel about it?
   b. How do other PDS shopkeepers feel about it?
   c. How do the local authorities feel about it?
14. What have you heard about the recently passed Food Security Act?
   a. How will this change things for you?
   b. How will this change things for the community?
   c. What are the positive and negative impacts?
15. Currently, how are PDS shops working with other governmental programs to improve nutrition?
   a. In what ways are PDS shops impacting other programs?
   b. In what ways are other programs impacting PDS shops?
   c. How can PDS shops and other programs positively impact eachother?

Thank you so much for you help in answering our questions. Are there any other aspects of the PDS shop that we haven't covered that are important for us to understand?

Final Questionnaire (5 minutes)

PDS Shop Type	own building gram panchayat office rented space private house other (explain) unclear
Type of ration cards at shop	APL BPL Antyodaya Annapoorna Other (explain):
Days and hours of operation:	
Does PDS shop have:	An electricity connection

	"Standard" weights
	Electronic weighing scales
	Calculator
	A fingerprint reader
	Smart card readers
	Information Board
	Receipt/bill book
Does PDS display:	Days and hours of operation
	Contact number of dealer
	Helpline/complaint number
	Stock of grain
	Entitlements (price and quantity) of BPL card holders
	List of BPL cardholders
Were the registers available for inspecti on at the time of your visit?	
Was the dealer reluctant to show the regi sters?	
Does the PDS shop have clear, legible, a nd complete sales and stock registers?	
What is the official commission rate pay able to the dealer?	Wheat (Rs./quintal)
	Rice (Rs./quintal)

Appendix 4. Husbands and Mothers-in-Law FGD Guide

Target Group: Mothers-in-law with at least one current or past pregnant or lactating daughter (have dealt with a pregnancy in their household)

Objectives:

- To explore household decision making around food
- To explore perceptions and awareness of food and nutrition entitlements for women

Focus Group Discussion Introduction (10 minutes)

Hello, my name is _____, and I am the moderator for this discussion. I am here to chat with you all about a few topics related to household food and meal consumption. We are looking to learn more about how you, your daughter's in law and other female members of your household use government food and/or nutrition programs, and your opinions of these programs. We are using this information to help CARE India improve its programmatic work to enhance women's access to food and nutrition resources.

Since we're talking about food today, we're going to start by talking about our favorite foods. I want everybody to turn towards one of your neighbors and take turns telling the other about what your favorite food is and why. [instruct them to do so for 60 seconds]

Now that you've had a chance to find out more about another person in the room, let's take turns telling the group about your partner's favorite food. [spend 3 minutes doing this]

Great, now that we know a little bit more about each other, are you ready to begin?\

As you will see, there are no right or wrong answers to any of the questions we're going to ask. The purpose of today's group discussion is to find out what your personal opinions are, and everyone's opinion is equally important to us. Before we begin, I do want to explain a few rules that you should keep in mind.

1. You must respect other's opinions. Since this is a safe space for open discussion, you may find that you disagree with an opinion voiced here by another person. That is okay, and we encourage you to respectfully talk about differences in opinion. However, please remember to respect other's opinions; allow everybody to express their thoughts, and do not be rude about their opinions.

2. Only one person can speak at one time. Because we want to make sure that everybody is able to express their opinions, we will allow only one person to speak at a time. Please listen to the person who is speaking, and wait for her to finish her thoughts before you begin to speak.

3. This discussion is confidential and anonymous. There will be no record of what you say with your name on it. We are not going to quote anyone specifically using her name. So with

that in mind, please don't share anything that you've heard today with anybody outside of this group. However, we would like to use an audio recorder, if that is ok with you, so that we make sure we capture your words accurately, since your thoughts are very important to us; no one will know which person says any specific statement. May we audio record this section? [Wait until all agree]. Lastly, _____ and _____ will also be taking notes on what they observe. When any of this information is used in a report, it will not be linked with your name. Does anybody have any questions?

[Answer questions]

Once again, is everybody willing to participate in today's discussion?

[wait for consent/

Great, let's begin!

<u>To start, we'd like to hear more about where household food comes from.</u>

1. In your community, where does a typical household's food come from?
    Probe: Do families produce their own food? What kinds of foods do they produce?
    If food is purchased outside of the home, where is food purchased? What types of foods are purchased?

<u>Thank you. Keeping this in mind, we'd now like to do an activity to talk about how decisions around food are made.</u>

Activity: Household Decision Making/Action Taking Pile Sort (30 minutes)

Explain that in every household, there are many decisions about food and nutrition that need to be made to maintain the family's health. With this exercise, we are going to explore what those decisions are, who makes them, and how they are made.

Show participants a large paper that shows images of typical household members. Explain that you will read out different actions or decisions related to food in the household, and for each action or decision, they should place one bean underneath the person(s) most responsible for doing that action or making that decision.

Hand each participant a handful of beans, and ask if there are any questions. Answer questions, and then begin by asking the following questions:

- Who decides what food should be purchased for the household?
- Who purchases the food?
- Who earns the money to purchase food?
- Who harvests food (where applicable)?
- Who prepares food?
- Who serves food?

- Who eats first?
- Who eats most?
- Who eats less food if there is not enough food?
- Who feeds children?

After each question is asked and participants place their beans on the appropriate person(s), ask questions such as "how" and "why" to probe further into the rationale behind each decision or action. Make sure to also ask how any of these answers change if there is a pregnant woman in the household.

Thank you. Now, we'd like to ask about the community programs that are related to food and nutrition. (30 minutes)

3. What food or nutrition support programs exist in your community?
    Probe: Could you describe the resources you know about?
        How did you know about these?
    How do you feel about these programs?

4. Where do people access these food or nutrition supports in your community?
    Probe: In the community, how often do people access these services?

5. What do mothers-in-law in the community think about nutrition support provided by the Anganwadi centers in particular?
    Probe: How well do you feel this program supports/improves your community's nutrition?
        What is good about the Anganwadi centers?
        What are problems with the Anganwadi centers?
        How do you think that this program could be improved?

6. What do mothers-in-law in the community think about nutrition support provided by the PDS shops in particular?
    Probe: How well do you feel this program supports/improves your community's nutrition?
        What is good about the PDS shops?
        What are problems with the PDS shops?
        How do you think that this program could be improved?

Now, we'd like to ask a few questions about your role in your daughters-in-law's health and nutrition, particularly when they are pregnant.

7. In your community, when a daughter-in-law is pregnant or lactating, who is responsible for her health?
    Probe: In what ways is that person(s) responsible for her health? Why is it that person?
        What about a daughter-in-law's nutrition?
        Does any of this care change when it is a first pregnancy vs. second pregnancy? Why?

8. During pregnancy, are there any food items that you advise your daughters-in law not to eat? Are there any foods that are prohibited?

8.Do you think women in this community get the rest that they need for pregnancy?
Probe: Why or why not? What needs to change? How can that change?

9. Do you think women get the food and nutrition that they need for pregnancy and lactation?
Probe: Why or why not? What needs to change? How can that change?

Thank you all for your responses.

10. Is there anything else that you'd like to tell us about your food and nutrition consumption or needs that we haven't asked about?

Appendix 5. Codebook

Code	Definition	Example
"Government"	Any mention of term "government"	I: Who comes to do these surveys? R: For the surveys, it's the officials of the government.
Advocacy	Discussion related to the belief and ability to promote, advocate, express opinions to those "higher up"	I: does it ever happen that the rations that are given, fall short? R: yes, it does. For example, if the sack holds 50 kilos, but it comes with less. Then listening to the people's complaints, we go and demand more. But how many officials can we go to with these small-small things?
AWC Access	Discussion related to beneficiaries accessing Anganwadi services	I: okay, didi- tell me about the AWC, do you receiving anything from there? R: yes, we get rice and daal.
AWC Awareness	Discussion related to beneficiaries awareness of Anganwadi services	I: , when you were pregnant or now that you're a lactating mother, do you get anything, from the government? R: yes, from the aanganwadi.
AWW Responsibility	Discussion related to the daily roles and responsibilities of an Anganwadi Worker	I: Can you tell us a little bit about your role? R: We have been recruited for 6 services: children's school education, provision of rations, getting children immunized, weighing pregnant and lactating mothers, provididing ration for their food. This is all the work we have.
Challenges to Good Nutrition	Any discussion related to "why" someone's/a community's nutritional status is poor	I: what do you think are the three biggest barriers when it comes to maternal nutrition? R: we have problems with the THR. We have to give it only to 8 but 16 come to us
Children	Any mention of "child," "children," "son," "daughter," or "baby"	I: yes, so what is he worried about? R: about the children- how will they study, how will they get married- all this.
Community Food Environment	Discussion surrounding food supply, access, habits, and customs in the Nalanda community	I: I would like to know that on average what are they types of foods that are prepared at home in you community?
Community perception of AWC	Discussion surrounding views and opinions on Anganwadi Center	I: Okay didi. the food that one gets from the aanganwadi- it must be helping the women? What do the women think about it?

Concerns about Women's Health	Discussion surrounding "worries," "concerns," and "tensions" related to women's health and wellness	I: like as you were telling me, that my husband is worried about my health…so what does he worry about with regards to your health? Like it may happen, related to your nutrition? Your rest? Your check-up? What does he worry about?
Corruption	Discussion related to government officials (PDS, AWW, mukiya, etc.) doing something that goes against rules	All participants said that they get six months worth, and the other six months worth was eaten up by the dealer.
Daily Diet	Discussion related to what women and their families eat on a daily basis	I: in one day typically what all do you eat? R: Roti with vegetables, daal with rice. Vegetables that are mashed or fried. We eat three times in one day. We eat well.
De-emphasis of Maternal Health	Discussion surrounding maternal health, particularly when the health is not regarded as high priority	R: I think that sometimes I should get some rest, but I am not able to. Nowadays, it's the rainy days. When the kids come from school, I have to wash their clothes. A mother has to do a lot of work. A mother has to tolerate these things.
Disempowerment	Discussion where the participant(s) expressed an inability, lack of desire, lack of belief that they could do something	I: what can be done to improve this? Group: One said that the government will have to do something. What can we do- we don't have that reach. Group: Another said that there is so much corruption going on, we cant do anything
Eating dynamics	Discussion related to eating order, amount, and other dynamics within a household	I: you are the one who eats first. What's the reason that you eat first? R: I get hungry first, so I eat first.
Food harvest	Discussion related to household agriculture and harvest	I: is anything farm-grown at home as well?
Food insecurity	Discussion of not having enough food, going "hungry," not eating as much food as desired	Yesterday, I went hungry to {name of village}. I have three children so I made rice and put potatoes in them. They ate the rice and mashed potatoes and sent them off to school. And I left hungry.
Food purchase	Discussion of how and where household food is purchased	I: where do the groceries come from R: they're bought from the market with money.

HH Decision Making	Discussion related to who makes decisions in the house, and which decisions are made by certain people	I: Who takes the decision of what food is made in the household? FGD: All participants said the "guardian" takes this decision.
HH Expenditure	Discussion of money spent by household	I: okay, so all this has to do with your eating. Now we will talk about your household expenditures okay. What are the things that have the greatest expenses in your house? What do you spend the most on, which things?
HH Roles	Discussion of differing roles, responsibilities, and actions for specific members of the household	I: Who cooks the food in the household? Group: All participants said women do.
Identification of beneficiaries	Explanations of how government entitlement beneficiaries are selected/identified	I: How do you choose the beneficiaries? R: those who are poor, those who don't have food at home- we choose them. Poor people such as chamaar, musahar, maanjhi, dalit, (names of sub-castes) and extremely backward classes. We take these people. Even in the kurmis, we take those who are poor.
Misallocated Provisions	Discussion of government provisions going to the wrong people, or not to the people who are supposed to receive them	R: before this, the poor people used to get it but now they are not getting it. Those who are rich, who have jobs, they are receiving it. This is happening because of the officials.
Nutrition Education	Discussion related to nutrition education provided to women or communities	R: To pregnant women: we tell them about timely eating, they should eat green leafy vegetables, milk, fruits.
PDS Access	Instance in which a community/woman/group discusses accessing PDS	R: we don't have our names on the ration cards.
PDS Awareness	Instance in which a community/woman/group discusses their awareness of PDS	I: didi, what do you know about the dealer's store for grains? R: you get 15 kg rice, dal and oil. On card.
PDS Logistics	Discussion related to how PDS rations are obtained, organized, and distributed	I: what is the process for you to pick up the rations?
PDS Perceptions	Discussion related to what people think of the PDS	I: what do the people in your society think about this scheme? What do the beneficiaries here think about this shop?
PDS Quality	Discussion related to the quality of PDS rations	R: quality? The quality is good. The people even say that its good stock.

PDS Shopkeeper Responsibility	Explanation of the roles of PDS Shopkeepers	I: on the basis of which you have to give certain amounts. So, what is your role in this? What do you do?
PDS Supply	Discussion related to the supply of PDS rations	I: I mean, have you ever fallen short of the supply when you had to distribute it to people?
Possible Improvements	Ideas that any participant has about what could be improved, related to any topic discussed	I: as you all told me earlier, that first for BPL groups you had coupons and now you have not received your cards. So how can this be improved? FGD: They all said that if you write this and give, then there will be change.
Problem with AWC	Discussion of problems observed in the AWC	I: any challenges in working as an AWW? R: we have to give the supplementary nutrition to 8 pregnant women, 8 lactating mother but in this area, it becomes 40 people. In all this, there is 'tension". Everything else is okay
Problem with PDS Shop	Discussion of problems observed with the PDS Shop	I: can you tell me about a time when you had problems meeting the needs of your shop?
Responsibility for Women's Health	Discussion about who is involved and responsible for women's health	I: when there is a lactating mother, who is responsible for her health? FGD: All participants agreed after discussion that the husbands are responsible and even during pregnancy.
Selection of Food	Discussion about what and how foods are selected within the household	I: who decides what all needs to be bought in the groceries? R: the mother in law.
Source of Food	Discussion of where/how community members purchase or grow their food	I: okay, so all this food needed for food- where does it come from? R: we have it ordered from here, or from the markets.
Spoiled Grains	Discussion of government provided grains being spoiled (wet, rotten, contains bugs, filled with another product, etc.)	R: Ahan, if the wheat is spoilt, or it's a little damp, they tell me it's not good.
Sudden loss of PDS rations	Discussion of individuals who used to get rations from AWC or PDS who no are not longer on recipient list	R: a lot of peoples' names have been skipped in this. Every time, the ministers or officials take out a few names. Those people who were getting it before are no longer getting it and they are creating a ruckus, they come here and tell us these things.
Take home rations	Mention of term "take home ration," "THR," or "provisions" from AWC	I: what about THR? R: yes, we tell them about 3 kg rice and 1.5 kilos daal.

Women's rest	Discussion of women's need, ability, or inability to rest	90 % of people don’t get the rest they need because they are poor and have to go work in the fields. Some women go to the fields even in the last month. All participants agreed.