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Towards ‘Gender-Transformative’ Food Security for Tribal Rajasthan

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Executive Summary

Background

While entire populations are affected by food insecurity, it is uniquely an individual experience, with strong evidence that women and girls most acutely experience its impacts. Women and girls in India, in particular, face higher rates of malnutrition, lower empowerment status and decision-making power than men and boys and at rates higher than women and girls in many countries in Sub-Saharan Africa. This paper seeks to 1) explore the relationship between household food security, health, and gender among women from tribal communities in rural Rajasthan and 2) discuss the implications for practices and policies that target a more gender-transformative food-secure world.

Methods

This paper utilizes a baseline assessment conducted among 403 randomly-selected women, who were either pregnant or had a child aged 2 or younger at the time of the survey, and who were members of self-help groups living in tribal communities in rural Rajasthan, India. The relationship between household food security status, as established by a simple 4-point scale, health behaviors such as initial and exclusive breastfeeding and access to the Indian Integrated Child Development Scheme (ICDS) and gender status and women's autonomy as measured through a comprehensive index of sixteen gender-related questions including household decision-making, mobility, and communication with one's spouse were examined using statistical tests of association.

Results

The results from this study suggest that gender dynamics, particularly intra-household dynamics such as decision-making power of women, their autonomy, and their communication and relationship with their spouse, are statistically significantly associated with self-reported food security status of the woman and her children. For example, among women classified as having high autonomy, 39 percent of them were food secure; among women with low autonomy, only 12 percent of them were found to be food secure. Important health and nutrition behaviors such as accessing ICDS services and for initial and exclusive breastfeeding were also found to be associated with gender dynamics. Among women who reported they exclusively breastfed their child for six months, 46 percent of them reported to have made joint decisions with their husband regarding household finances; among women who did not report exclusively breastfeeding for six months, only 18 percent reported making joint financial decisions with their husband.

Discussion and Conclusion

These results have implications for how food security of the household is measured and understood since most practitioner-friendly food security tools do not consider intra-household disparities in food consumption among household members. There also appears to be a great opportunity to improve household food security, not only by simply improving food supply, as many food security initiatives do, but also by addressing the "social access" dimension by improving the autonomy of women for resource allocation and management at the household- and community-level. Government policies and programs, in collaboration with ICDS centers, community-based organizations, and self-help groups, can also work to ensure activities and services are gender-inclusive and directly attempt to transform social norms that directly reduce the effectiveness of the very policies and programs designed to improve food security and nutrition of women and children.

Introduction

While often misunderstood as the promotion of women only, *gender* is defined as the relationship between men and women. It is not determined biologically, but is a social construct known to affect all dimensions of life, from family planning to agricultural production.¹ One dimension where gender dynamics have particular influence is in access to food and household food security.

Food—a basic necessity of all humankind for survival—has played a critical role in human development, in the transformation of civilizations, and in the progress of nations. *Food security*, as a concept, has evolved from its foundation as an “inalienable right for every man, woman and child”² and a focus on food supplies to its current and more expanded multidimensional definition of “a situation 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.”³

While entire populations are affected by food insecurity, it is uniquely an individual experience,⁴ with strong evidence that women and girls most acutely experience its impacts: at least 60 percent of malnourished people globally are women and girls.⁵ Research has also demonstrated the close correlation between high levels of gender inequality and food insecurity, malnutrition and other nutrition deficiencies.⁶ While women have the potential to feed the world through their roles in agricultural production and child care responsibilities, they often face limited access to markets, financial services, and agricultural inputs such as seed, livestock and labor, which limits their productivity, agricultural production and consequently the well-being of their families.⁷ Despite their crucial contributions to agriculture and the rural enterprises they manage, women’s own food security and nutritional needs, as well as those of their daughters, are neglected at the household level,⁸ and persist inter- and intra-generationally.⁹

India faces what has become known as the “India enigma,” which describes the paradox that exists where improvements in stunting and undernutrition have not kept pace with economic growth and where Indian malnutrition rates are actually higher than some locations in Sub-Saharan Africa.¹⁰ Women in South Asia also tend to have lower empowerment status and less decision-making power than women in Sub-Saharan Africa.¹¹ Thousands of women and girls in India therefore still lack food and nutrition security due to socio-cultural barriers.¹²

Within the Indian state of Rajasthan, women face poor health outcomes and gender constraints, often at levels greater than the national average. Over half of women and adolescent girls suffer from anemia, 36 percent of children under the age of five are stunted.¹³ Stunting is highest among tribal children in the region compared to non-tribal children (54 percent compared to 45 percent, respectively); severe stunting was greatest among tribal girls compared to tribal boys (31 percent vs. 27 percent, respectively), clearly indicating gender discrimination in intra-household feeding patterns.¹⁴ Moreover, woman’s empowerment status falls below the national average in Rajasthan as measured by a Gender Empowerment Index. Rajasthan scores 0.4, compared to the national average of 0.5, on a scale of 0-1 where 1 represents greater empowerment.¹⁵ Only 25 percent of married women make decisions about their own healthcare; only 35 percent of women participate in the workforce.¹⁶

This paper seeks to 1) explore the relationship between household food security and gender among women from tribal communities in rural Rajasthan utilizing data from a baseline assessment and 2)

discuss the implications for practices and policies that target a more gender-transformative food-secure world.

Methods

Freedom from Hunger, a supporting organization of Grameen Foundation, together with its Indian affiliate organization Freedom from Hunger India Trust, New Delhi and its Indian implementing non-governmental organization (NGO) partners, Voluntary Association of Agricultural General Development Health (VAAGDHARA) and Professional Assistance for Development Action (PRADAN), are currently collaborating to improve household nutrition through the integration of agriculture, nutrition, financial services and gender in two districts of Rajasthan—Banswara and Sirohi. This program is collaboratively known as the Rajasthan Nutrition Program.

A baseline assessment was conducted in May–June 2015 with 403 women belonging to self-help groups (SHGs) in Banswara and Sirohi districts of Rajasthan.¹⁷ A simple representative random sample was applied, stratified to include at least 20 percent of currently pregnant women, with the remaining sample consisting of mothers with children between the ages of 0-2 years. Independent consultants from the Institute of Health Management Research (IIHMR), developed the sampling strategy, pre-tested the survey instrument, and collected the data for the baseline survey. While the intervention is designed to reach all women clients of VAAGDHARA and PRADAN, currently pregnant and lactating women were targeted for the survey in order to detect changes in key variables related to breastfeeding and infant and child feeding.

The survey assessed household poverty level, drawing on the India Progress out of Poverty Index® (PPI®) Scorecard developed by the Grameen Foundation;¹⁸ a set of health indicators¹⁹ previously tested by Freedom from Hunger for use with microfinance institutions, which includes food security; a coping strategies index;²⁰ a dietary diversity index;²¹ nutrition, sanitation and safe water; curative care; household decision-making; use of Integrated Child Development Scheme (ICDS) services; and breastfeeding and infant/child feeding.

The International Poverty Line (IPL) \$1.25/day, IPL \$2.50/day, and National Tendulkar (hereafter: national poverty line, or NPL) indices were constructed using values from the *India Progress out of Poverty Index (PPI): Scorecard*. Raw values were generated based on responses, summed, and then matched with probability ranges using PPI® documentation.²²

Food security, specifically, was measured by asking the respondent to reflect on the prior twelve months, and choose among four statements that would best describe their household: “have enough food and of the kinds of nutritious foods we want to eat”; “have enough food but not always nutritious food”; “sometimes not enough food to eat and was sometimes hungry”; and “often not enough food to eat, was often hungry”. A four-point food security scale establishes food security levels, where “having enough food and of the kinds of nutritious foods we want to eat” is classified as “food secure”; “having enough food but not always nutritious food” is classified as “food insecure without hunger”; “sometimes not having enough food to eat and was sometimes hungry” is classified as “food insecure with moderate hunger”; and “often not enough food to eat, was often hungry” is classified as “food insecure with severe hunger.” For analysis purposes, clients were described as either food secure or food insecure, where food secure households were those who answered “had enough food and of the kinds of

nutritious foods we want to eat” and food insecure households combined the food insecure with no hunger, with moderate hunger, and with severe hunger categories into one category. Similarly, participants were asked to answer the same question in regards to their children, resulting in a child-level food security measure.

Statistical tests were run in SAS (Statistical Analysis Software) 9.4 to obtain frequencies, percentages, and means of demographic questions and to compare key variables of interest to other variables using t-tests and chi-square tests. This paper will focus on comparing gender indicators to food security status, use of ICDS services, and breastfeeding behaviors as these measures are associated with key interests of the program as well as nutrition and health outcomes, generally.

Finally, an autonomy scale was created utilizing a set of 16 indicators found in the baseline data presented within this report as well as some additional data not presented in this report. The autonomy scale was derived by combining the following indicators: decision-making about purchase of food items for the households; decision-making about quantity of food to be distributed to the members of household; decision-making about expenditure from own income; unrestricted access to income; using income without requesting permission; decision-making about health care utilization for self; decision-making/ability to visit relatives, parents or friends; mobility to the visit the market, the health facility, other places within the village and outside the village and whether the respondent was allowed to go alone to the above mentioned places or not; whether during the last six months the respondent saved any money for health care or not; whether she saved money for future food purchases; saved some food grains; saved in cattle/domestic animal; or whether during the last six months the respondent ever discussed with her life partner the importance of food and nutrition.

Scores for the autonomy index were assigned against each of the responses of the 16 indicators mentioned above. Before the construction of the scale, a reliability analysis was carried out utilizing a Cronbach’s alpha analysis. The value of the Cronbach’s alpha was 0.738 suggesting the scale was reliable. The values of the scale ranged from 1 to 23. The scale consisted of three categories, namely low (with scores from 1 to 8), moderate (scores 9-16) and high (scores 17 and above). The results of the autonomy levels were compared to food security status of the respondent and her child’s food security status using chi-square tests.

Results

DEMOGRAPHICS

The majority of survey participants were Hindu (99.75%), part of a tribe (90.82%), married (96.53%), and had children under the age of two (94.43%) (data not shown). A total of 21 percent of participants were currently pregnant, which was intentional due to sampling procedures. Among participants, there was an average of 3.21 children (1.72 girls and 1.55 boys). The average age of the participants’ youngest child was 1.09 years of age.

POVERTY AND FOOD SECURITY STATUS

Of the total sample population, 44.7 percent lived below the IPL \$1.25/day, 94.2 percent lived below the IPL \$2.50/day and 34.6 percent live below the NPL (Table 1), as measured by the PPI®. Nearly 77 percent

of the children of households in this survey were reported as being food insecure, compared to 79 percent of women.

Table 1. Poverty and Food Security Status

Variables	Percent
IPL \$1.25/day	44.7
IPL \$2.50/day	94.2
PPI (NPL)	34.6
Child food security	
Secure	23.33
Insecure	76.67
Female head of household food security	
Secure	21.09
Insecure	78.91

SELECT HEALTH BEHAVIORS

ICDS Services Utilization

The Integrated Child Development Services (ICDS) Scheme of India is one of the world’s largest child development programs and provides supplementary nutrition, pre-school non-formal education, nutrition and health education, immunization, health check-ups, and referral services with the goal of improving the nutrition and health status of children and their long-term developmental outcomes.²³ ICDS services are provided at ICDS centres, which are locally known as Anganwadi centres.²⁴

In this study conducted in Rajasthan (Table 2), sixty-one percent of women reported using benefits from the ICDS center in the prior 12 months. Among participants who had received benefits, the most commonly received services were immunizations and supplementary food for young children and pregnant women. Of those who received supplementary food from the ICDS center, the majority received it monthly. The least commonly received services were breastfeeding support and education. A little less than one-half also indicated that in the last 12 months, they had received nutrition messages from the ICDS center (data not shown).

Breastfeeding

Breastfeeding has been established as an essential strategy for reducing poor nutrition and mortality within the first years of life.^{25,26,27} The benefits associated with breastfeeding within the first hour and exclusively for six months to reduce malnutrition and stunting are well documented.²⁸ In India, breastfeeding is culturally accepted, but exclusive breastfeeding rates remain low, especially as the infant increases in age.²⁹ Patwari, Kumar, and Beard, in a study published in 2015, found that 69 percent of infants in India were exclusively breastfed in their first two months of life, 50 percent their first two-to-three months and only 27 percent for their first four-to-five months.³⁰

While almost all children under 12 months in Rajasthan were reported to have been breastfed at all, only 47 percent were breastfed in the first hour, and 28 percent were exclusively breastfed for six months. These statistics are much lower than those found elsewhere in India. Sixty-six percent were also given something else besides breastmilk in the first three days of life (data not shown).

Table 2: Health Indicators

Variables	Percent
Received benefits from the ICDS centre in the last 12 months	60.6
Children (12 months or younger) ever breastfed	99.5
Children (12 months or younger) breastfed within first hour	47.1
Children (12 months or younger) breastfed exclusively for 6 months	27.7

GENDER

Overall, women in this study (Table 3) appear to have the most decision-making power when it comes to deciding how much food will be served to family members (41 percent); however, husband's typically make the majority of decisions when it comes to food purchases, how money is spent generally, on whether she will seek medical treatment for herself, and whether she can visit friends or family. While 69 percent of respondents have unrestricted access to income, less than 30 percent spend that money without receiving permission first. Seventy-one percent of respondents reported to have spoken to their husbands regarding food needs in the past six months. Fewer than 38 percent of any of the respondents can travel to any location within the village without permission; fewer than 12 percent can travel alone to another village without permission.

Table 3: Gender Indicators

Variables	Percent
Decision on food purchases	
Wife decision	19.6
Husband decision	36.7
Both	24.8
Someone else	18.6
Decision about how much food to serve family members	
Wife decision	40.5
Husband decision	30.8
Both	11.7
Someone else	17.1
Decision on how money is spent	
Wife decision	5.2
Husband decision	71.2
Both	23.6
Decision on whether she seeks healthcare for herself	
Wife decision	3.5
Husband decision	69.5
Both	27.1
Decision on whether she can visit family or friends	
Wife decision	4.2
Husband decision	63.8

Both	32.0
Spoke to husband in past 6 months regarding food needs	71.2
Have unrestricted access to income	69.4
Spend money most of the time without discussing with husband first	27.5
Mobility	
Can go to market alone	28.3
Can go to health facility alone	23.3
Can visit friends or family within the village alone	37.7
Can visit friends or family outside of the village alone	11.9

COMPARING GENDER TO ICDS SERVICES UTILIZATION, FOOD SECURITY, & BREASTFEEDING BEHAVIORS

Chi-square tests, comparing each gender indicator above to reported utilization of ICDS services, food security status and initial and exclusive breastfeeding behaviors (Table 4), reveal some interesting similarities in the relationship between gender and the key variables of interested. These results are summarized by each key variable below.

ICDS Services Utilization

There was a significant association between accessing ICDS services and who made the decision of how much food to serve each family member. Of those who indicated they had accessed ICDS services, 43 percent were from households where the wife is the primary decision-maker for the amount of food to serve each family member. In contrast, for those that did not access ICDS services, 36 were from households where the wife was the primary decision-maker.

Additionally, there was a significant association between accessing ICDS services and speaking with their spouse about household nutrition needs in the last six months, yet this data presents data contrary to what might be expected. Of those who indicated that they had accessed ICDS services, 67 percent had spoken with their spouse in the last six months regarding household nutrition needs compared to those that did not access ICDS services, of whom 74 percent had spoken to their spouse about nutrition needs.

There was also a significant association between accessing ICDS services and whether the respondent reported spending money without first discussing it with someone, such as a spouse. Of those who indicated that they had received services from the ICDS centres, 33 percent said that most of the time they spent money without first discussing it with someone else. Of those who indicated that they had not received ICDS services, less than 20 percent said that most of the time they spent money without first discussing it with someone else.

Table 4: Gender to ICDS Services Utilization, Food Security, & Breastfeeding Behaviors

Variable	Accessed ICDS Services			Food Security Status			Breastfeeding -Initial			Breastfeeding – Exclusive		
	Yes, %	No, %	P-value	Food Secure,%	Food Insecure,%	P-value	Yes, %	No, %	P-value	Yes, %	No, %	P-value
Decision maker for food purchases			0.2708			<.0001*			0.1775			0.3217
Wife	21.31	17.61		21.18	19.5		25.00	19.00		25.00	20.59	
Husband	34.02	40.88		20	41.19		25.00	37.00		21.15	35.29	
Both	23.77	26.42		18.82	26.42		28.41	19.00		26.92	22.06	
Someone else	20.90	15.09		40	12.89		21.59	25.00		26.92	22.06	
Decision maker for amount of food to serve each family member			0.0224*			<.0001*			0.2438			0.1296
Wife	43.03	36.48		41.18	40.25		44.32	31.00		36.54	37.50	
Husband	27.87	35.22		15.29	34.91		26.14	29.00		17.31	31.62	
Both	9.02	15.72		8.24	12.58		14.77	17.00		23.08	13.24	
Someone else	20.08	12.58		35.29	12.26		14.77	23.00		23.08	17.65	
Decision maker for finances			0.8191			<.0001*			0.1504			0.0003*
Wife	5.33	5.03		7.06	4.72		3.41	6.00		1.92	5.88	
Husband	70.08	72.96		52.94	76.1		64.77	74.00		51.92	76.47	
Joint	24.59	22.01		40	19.18		31.82	20.00		46.15	17.65	
Decision maker for health care			0.2062			<.005*			0.3404			<.0001*
Wife	4.51	1.89		3.5	3.5		2.27	5.00		1.92	4.41	
Husband	66.80	73.58		55.3	73.3		64.77	70.00		42.31	77.21	
Joint	28.69	24.53		41.2	23.2		32.95	25.00		55.77	18.38	
Decision maker for visits to family			0.2741			0.018*			0.0929			0.0208*
Wife	5.33	2.52		1.2	5.1		3.41	5.00		5.77	3.68	
Husband	61.48	67.3		55.3	66.0		56.82	70.00		48.08	69.85	
Joint	33.20	30.19		43.5	28.9		39.77	25.00		46.15	26.47	
Spoken with spouse about household food and nutrition needs in the last 6 months (% Yes)	66.80	77.99	0.0154*	85.9	67.3	<.001*	90.91	60.00	<.0001*	88.46	69.12	0.0082*
Have unrestricted access to any income (% Yes)	66.80	73.58	0.1485	88.2	64.2	<.001*	80.68	59.00	0.0015*	84.62	63.24	0.0046*
Frequency of spending money without first discussing it with someone else			0.0124*			0.175			0.7625			0.5631

Most of the time	32.79	19.50	24.7	28.3	29.55	33.00	26.92	33.09
Some of the time	61.07	71.70	63.5	65.7	65.91	61.00	69.23	61.03
Never	6.15	8.81	11.8	6.0	4.55	6.00	3.85	5.88
Ever afraid of husband in the past 12 months			0.205		.0161*		0.0743	0.1069
Most of the time	20.08	13.21	7.06	20.13	11.36	22.00	7.69	20.59
Some of the time	72.95	79.25	83.53	73.27	79.55	74.00	84.62	73.53
Never	6.97	7.55	9.41	6.6	9.09	4.00	7.69	5.88
Feels a husband is ever justified in hitting or beating his wife			0.791		.1213		0.1017	1.0000
Yes	19.67	20.75	14.12	21.7	14.77	25.00	19.23	20.59
No	80.33	79.25	85.88	78.3	85.23	75.00	80.77	79.41
Permission to travel away from home								
Market			0.2864		0.788		0.7538	0.8873
Alone	28.28	28.30	27.1	28.6	21.59	25.00	21.15	24.26
With someone	68.85	71.07	71.7	69.2	77.27	73.00	76.92	74.26
Not at all	2.87	0.63	1.2	2.2	1.14	2.00	1.92	1.47
Health facility			0.6192		0.583		0.3119	0.2131
Alone	24.59	21.38	23.5	23.3	21.59	21.00	28.85	18.38
With someone	74.18	77.99	76.5	75.5	76.14	79.00	69.23	80.88
Not at all	1.23	0.63	0.0	1.2	2.27	0.00	1.92	0.74
Other places in village			0.3573		0.589		0.8904	0.1119
Alone	40.16	33.96	32.9	39.0	38.64	39.00	46.15	36.03
With someone	58.61	65.41	65.9	60.1	60.23	59.00	50.00	63.24
Not at all	1.23	0.63	1.2	0.9	1.14	2.00	3.85	0.74
Places outside village			0.449		0.531		0.2044	0.0347*
Alone	13.52	9.43	14.1	11.4	13.64	6.00	13.46	8.09
With someone	85.66	89.94	85.9	87.7	85.23	93.00	82.69	91.91
Not at all	0.82	0.63	0.0	0.9	1.14	1.00	3.85	0.00
Number of gender indicators associated with key behavior		3		8		4		6

Utilization of ICDS services was not associated with gender-based violence indicators or mobility. In all, out of the fourteen gender variables, utilization of ICDS services was significantly associated with three of them.

Food Security

Food security of the respondent was significantly associated with all decision-making variables, such that food-secure respondents were more likely to have greater say in decisions regarding food purchases, the amount of food to serve each family member, household finances, healthcare decisions, and decisions regarding visiting other family. Of food-secure households, 86 percent reported speaking to their spouse regarding nutrition needs compared to food-insecure households, where only 67 percent reported speaking to their husband. This association was statistically significant.

Food-secure households were significantly more likely to report having unrestricted access to income, but no more likely than food-insecure households to spend money without first discussing it with someone else.

Food-secure respondents were statistically less likely than food-insecure households to report fearing their husbands most of the time in the prior twelve months. Only 7 percent of food-secure households reported fearing their husbands, compared to 20 percent of food-insecure respondents fearing their husbands most of the time. There were no differences in whether the respondent believed a husband was ever justified in hitting or beating his wife, although food-insecure respondents were slightly more likely to report that they were justified.

There were no statistical associations between food-security status and questions on mobility. In all, out of the fourteen gender variables, food-security status was significantly associated with eight of them.

Initial and Exclusive Breastfeeding

Initial breastfeeding behaviors do not appear to be influenced by decision-making power in the household, except for respondents who reported initially breastfeeding were slightly more likely to report making joint decisions regarding visits to family ($p=0.0929$). Those who reported initially breastfeeding were significantly more likely to indicate they spoke to their spouse about nutrition needs in the prior six months. Ninety percent of women who initially breastfeed spoke to their husbands about nutrition needs compared to 60 percent among respondents who did not breastfeed initially; they were also significantly more likely to report having unrestricted access to income. While not significant, respondents who initially breastfed were slightly less likely to report fearing their husband ($p=0.07$) or feeling that husbands were ever justified in hitting their wives ($p=0.10$) compared to those that did not initially breastfeed. There were no statistical associations between initial breastfeeding and questions on mobility. In all, out of the fourteen gender variables, initial breastfeeding was significantly associated with four of them.

Exclusive breastfeeding behaviors are slightly more influenced by gender dynamics. Unlike initial breastfeeding, those who exclusively breastfed were more likely to make joint decisions with their husbands regarding finances, healthcare decisions, and decisions regarding visiting family compared to those that did not exclusively breastfeed. Similar to initial breastfeeding outcomes, those who reported exclusively breastfeeding were more likely to report having spoken to their spouse of household nutrition needs and having unrestricted access to income compared to those that did not report exclusively breastfeeding. Also, those that did not exclusively breastfeed were somewhat more likely to report fearing ones husband, but this difference was not statistically significant. Eight percent among

those who exclusively breastfed reported fearing their husbands; 21 percent of those who did not exclusively breastfeed reporting fearing their husbands most of the time. There were no statistical associations between exclusive breastfeeding and questions on mobility. In all, out of the fourteen gender variables, exclusive breastfeeding was significantly associated with six of them.

COMPARING WOMEN'S AUTONOMY AND FOOD SECURITY

In addition to comparing food-security status with each individual gender indicator, an index was created utilizing a series of variables perceived to be associated with a woman's autonomy such as decision-making power, mobility, savings in cash and livestock, access to and use of income. Prior to comparing the autonomy score to food-security status, a reliability analysis was conducted which revealed that the items in the scale are closely related, with a Cronbach's alpha value of 0.738, suggesting the scale is a reliable measure of autonomy.

The analysis reveals that out of the 403 respondents (Figure 1), more than one third (36 percent) of the women were found as having low autonomy, whereas only 10 percent women in the study area had high autonomy.

Figure 1: Autonomy of Women in Tribal Rajasthan

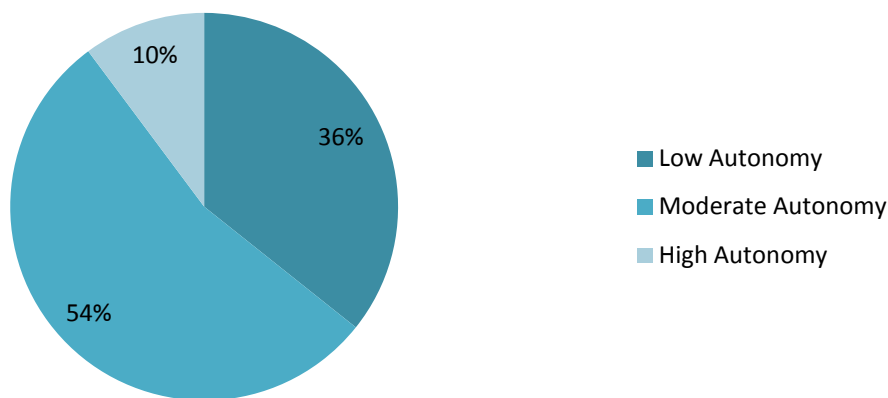
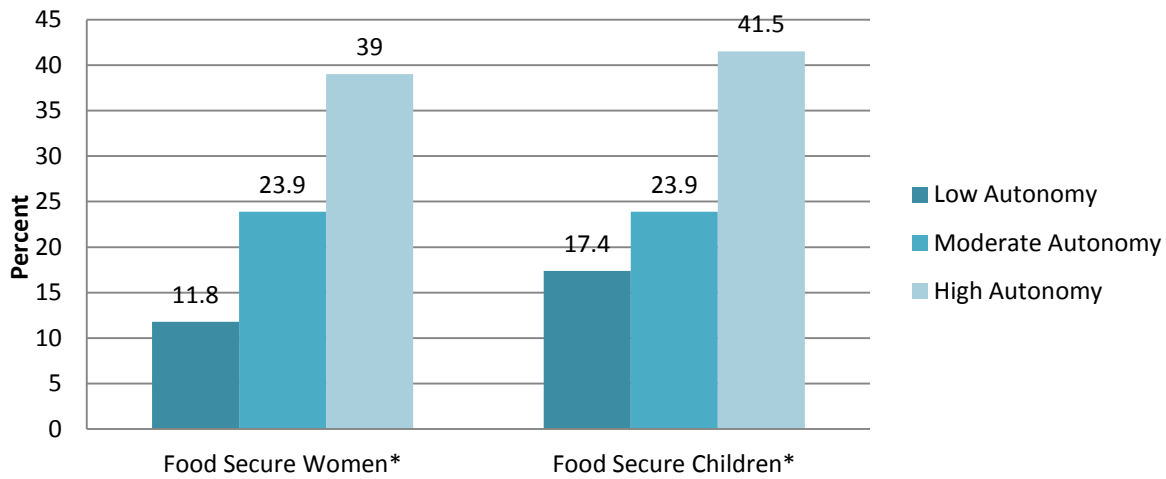


Figure 2 compares women's autonomy levels to their food-security status as well as their child's food-security status. As mentioned earlier in the report, only 21 percent of the women and 23 percent children in the study area were found to be food secure. In the analysis below, among those found to have high autonomy, 39 percent of them were food secure; for those with low autonomy, only 12 percent were found to be food secure. These associations were statistically significant. The results are similar for children, demonstrating that their food security status is associated with their mother's autonomy level. Among women who scored as having high autonomy, 42 percent of their children were food secure; compared to women with low autonomy, only 17 percent of their children scored as food secure. The analysis suggests that as the level of autonomy increases amongst the women, their food security, as well as that of their children, also significantly increases.

Figure 2: Association between Autonomy of Women and Food Security of Respondent and Children



* p<.001

Discussion

The results from this study suggest that gender, particularly intra-household dynamics such as decision-making power of women, their autonomy, communication and their relationship with their spouse, matters for food security as well as for important health and nutrition behaviors such as accessing ICDS services and for initial and exclusive breastfeeding.

With respect to use of ICDS services, this study revealed that women who decide how much food to serve each family member or spend money without discussing it first with someone else were more likely to receive benefits from the ICDS centre. Similarly, a study from Ghana by Ganle et al.³¹ found that women who make their own decisions regarding healthcare are more likely to receive prenatal care than women whose husband or mother-in-law has the decision-making power. However, those who did not access ICDS services were more likely to report speaking with their spouse, which is opposite of what one might expect. In this case, this may be because women who more freely communicate with their spouses may be those that do not require or desire as much the food supplementation services or health services provided by the ICDS centers. A World Bank review of ICDS impacts suggests that women among tribal communities in Rajasthan access ICDS services more often than those from other upper castes due to the social stigma associated with the receipt of benefits among the upper castes.³²

This study found that women's and children's food security status were similar and both were associated with a woman's level of autonomy. Generally, in India, traditional gender roles prevail; women are expected to be primarily childcare providers, which means women's time, activities, and rights are linked to their children's.³³ Households in which women had more decision-making power were also more likely to be food secure. This may be because income in the hands of women is more likely go towards food purchases than income in the hands of men.³⁴ Similarly, a study conducted in Bangladesh found that children whose mothers participated in making all household decisions were significantly less likely to be stunted, underweight, and wasted compared to mothers who did not participate in making any decision, which suggests that increasing maternal decision-making autonomy may reduce the prevalence of malnourished children and contribute to healthier future generations.³⁵ A

literature review assessing the global literature also strongly suggests that raising maternal autonomy is an important goal for improving children's nutritional status.³⁶

Similar to food security, this study found there were several significant associations between a woman's autonomy with household decision-making and whether she will breastfeed, particularly breastfeed exclusively. Women who had spoken to their spouse about household food and nutrition needs, and had unrestricted access to any income were more likely to breastfeed within one hour as well as to breastfeed exclusively. Women who breastfed exclusively were much more likely to make joint decisions in their home about money, health care for herself, and visits to family/relatives compared to women who did not exclusively breastfeed. Shroff *et al*³⁷ have found that mothers in India with higher financial autonomy within the home are more likely to exclusively breastfeed. In the same study, they also found mothers who had higher levels of household decision-making were also less likely to have infants who were underweight and wasted. More autonomy in household decision-making may also signify less influence of a grandmother or mother-in-law and decisions about breastfeeding.

If gender matters so much for food security status, as well as for other important behaviors such as accessing nutritional services and for breastfeeding, what does this mean for how we design for improving food security as well as measure it?

While definitions of food security, as outlined in the introduction, are currently quite multidimensional and have evolved to capture important social dynamics such as differences in gender, most measurements of household-level food security tend to focus primarily on financial access to food.³⁸ Also, many household food security surveys are designed to be conducted with the female head of household because she is likely most attuned to the food security experiences of the household.³⁹ Detecting a woman's food insecurity level is additionally likely to represent the most extreme case of food insecurity since research shows women and mothers are likely to buffer the food insecurity experienced by their children.⁴⁰

Despite the fact that food-security measures are often detecting a woman's food-insecurity level, this does not mean it adequately captures intra-household distribution of food, which means it is not clear how much more food insecure she is compared to others. In this study, a simple four-item scale was used that has been previously used in other studies where survey length was limited and like many other simple and validated household food security measures, it primarily focuses on financial access to food but it specifically asks the respondent to reflect on her own food security, as well as that of her children.⁴¹

Given the strong and multiple associations between food security status and a series of gender variables in this study and other research, it seems most interesting and curious that very few, if not none, of the existing tools available for use by practitioners and researchers include a gender dimension. It is not clear at this stage whether this means that food security measurements need a "gender lens" or whether supplemental gender measures should be included with the available food security measures. In either case, assessing a woman's equal access to food within the household, her decision-making power over food and other related decisions seem critical for really making progress in improving household food security. Strides are being made in this direction with the introduction and subsequent aims to reduce the size of the *Women's Empowerment in Agricultural Index (WEIA)*.⁴² Perhaps the research validating the WEIA and its various versions will ultimately influence and inform how to incorporate a more gendered approach to food security measurement.

Finally, the National Food Security Act (NFSA) of India, established in 2013, is the world's largest welfare scheme and guarantees cheap food grains to 67 percent of the population. The NFSA also has a special focus on nutritional support to women and children through the provision of meals and financial benefits.⁴³ However, the NFSA does not address the challenge presented by intra-household disparities in food consumption. In a report by Oxfam India, they state that "It is widely believed that in India, food distribution in the household is not based on 'need'. The breadwinner gets sufficient food, the children get the next share, and women take the remains."⁴⁴ There seems to be a great opportunity to improve household food security, not by simply improving food supply, per initial definitions of food security, but also by addressing the "social access" dimension by improving the autonomy of women for resource allocation and resource management at the household- and community-level. While government policies and programs are not solely responsible or perhaps even best positioned to change social norms, in collaboration with ICDS centres, community-based organizations, and self-help groups, the government can work to ensure activities and services are gender-inclusive and directly attempt to transform social norms that directly reduce the effectiveness of the very acts and policies designed to improve food security and nutrition of women and children. This would be a step towards 'gender-transformative' food security, not only for women from tribal communities in Rajasthan, but for men, women, and children across all of India.

Conclusion

This study conducted among women living in tribal communities in Rajasthan India reveals how gender dynamics at the household level influence a woman's ability to access nutrition and health services through existing government schemes such as ICDS as well as influence her choice or her environment for successful breastfeeding behaviors. Moreover, a woman's decision-making power, and overall autonomy, influence whether she and her children can live a food-secure life.

Given the multidimensionality of the definition of food security, multidimensional approaches are also necessary.⁴⁵ Multi-sectoral approaches that link nutrition, agriculture, gender equality, financial services and other dimensions are gaining traction.^{46,47,48} While gender may appear to be its own "sector" or "program" to be integrated with another "sector" or "program," it is more of an intersection or a critical determinant as to whether each sector's activities can be effective separately as well as in collaboration for improving food security and health. For example, the way agricultural services, financial services, nutrition services individually are developed all have to have their own gender considerations. And this does not mean just working towards designing better services for women, but more actively finding ways to engage men and boys in these approaches. For interventions to be gender-transformative, the role of men and boys has to go beyond improving communication to resulting in changing their behaviors and attitudes as well.⁴⁹

Food is a basic need for humankind, but not all people, in particular women and girls, can access it equally, in sufficient amounts, or benefit nutritionally from it. Until women and girls are able to benefit from access to and utilization of food at equal levels as men, cycles of food insecurity, malnutrition, poor health and poverty will continue. This will require that government actors, community-based organizations, financial institutions, agricultural organizations, and nutrition organizations play their part in including gender in their services so that they are not just "just" or inclusive, but also transformative.

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