



INTERNATIONAL
FOOD POLICY
RESEARCH
INSTITUTE

IFPRI Discussion Paper 01600

January 2017

Gender Justice and Food Security in India
A Review

Nitya Rao

Mamata Pradhan

Devesh Roy

Markets, Trade and Institutions Division

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

The International Food Policy Research Institute (IFPRI), established in 1975, provides evidence-based policy solutions to sustainably end hunger and malnutrition, and reduce poverty. The institute conducts research, communicates results, optimizes partnerships, and builds capacity to ensure sustainable food production, promote healthy food systems, improve markets and trade, transform agriculture, build resilience, and strengthen institutions and governance. Gender is considered in all of the institute's work. IFPRI collaborates with partners around the world, including development implementers, public institutions, the private sector, and farmers' organizations, to ensure that local, national, regional, and global food policies are based on evidence.

AUTHORS

Nitya Rao (n.rao@uea.ac.uk) is a professor in the Gender and Development School of International Development at the University of East Anglia, Norwich.

Mamata Pradhan (m.pradhan@uea.ac.uk) is a Ph.D candidate in the School of International Development at the University of East Anglia, Norwich.

Devesh Roy (d.roy@cgiar.org) is a research fellow in the Markets, Trade and Institutions Division of the International Food Policy Research Institute, New Delhi.

Notices

¹ IFPRI Discussion Papers contain preliminary material and research results and are circulated in order to stimulate discussion and critical comment. They have not been subject to a formal external review via IFPRI's Publications Review Committee. Any opinions stated herein are those of the author(s) and are not necessarily representative of or endorsed by the International Food Policy Research Institute.

² The boundaries and names shown and the designations used on the map(s) herein do not imply official endorsement or acceptance by the International Food Policy Research Institute (IFPRI) or its partners and contributors.

³ This publication is available under the Creative Commons Attribution 4.0 International License (CC BY 4.0), <https://creativecommons.org/licenses/by/4.0/>.

Copyright 2017 International Food Policy Research Institute. All rights reserved. Sections of this material may be reproduced for personal and not-for-profit use without the express written permission of but with acknowledgment to IFPRI. To reproduce the material contained herein for profit or commercial use requires express written permission. To obtain permission, contact ifpri-copyright@cgiar.org.

Contents

Abstract	v
Acknowledgements	vi
1. Introduction	1
2. Framing the Debate	2
2. What the Evidence Tells Us	6
4. Emerging Issues	18
References	21

Tables

2.1 Nutritional status of children: Percentage of children aged 0–59 months	8
2.2 Trends in sex ratios at birth (females per 1,000 males) by birth order of all births to women age 15–49, India	9

Figure

2.1 Malnutrition of women 15–49 years by caste/tribe and household wealth	8
---	---

ABSTRACT

There is ample evidence to suggest a strong correlation between gender inequality and food and nutrition insecurity, yet the policy discourse around food and nutrition security in India has largely been gender-blind. This paper, based on a review of existing literature and emerging research, emphasizes the need to place gender justice at the center of all food and nutrition interventions, if food and nutrition security for all is to be achieved. Rather than exclusively targeting women and often overburdening them with the responsibility for household food security, policy approaches need to encourage and enhance reciprocity and sharing between men and women in households and communities, and empower them to negotiate effectively vis-à-vis institutions of the state, markets, and society.

With the aim of moving toward gender-transformative approaches in policies and programs for achieving food and nutrition security in India, in this paper we set out an alternate framing of the agenda, drawing on what the evidence tells us. We flag emerging issues that need to be addressed to draw out possible implications for research and policy in gender-just food and nutrition interventions in India.

Keywords: gender justice; food and nutrition security; India

ACKNOWLEDGMENTS

We thank Dr. P. K. Joshi of IFPRI for his comments on an earlier draft of this paper. We also thank Bereket Kebede at the School of International Development, University of East Anglia, for his comments, and participants at a national workshop, Framing the Agenda for Gender Just Food Security in India, held in Ahmedabad, India, on December 14–15, 2015, for their rich discussions and comments on different dimensions of this theme.

1. INTRODUCTION

Despite sustained economic growth over the last decade, India's poor performance in reducing hunger and malnutrition has been considered "a national shame."¹ A sixth of India's population and a fourth of its children remain undernourished (IFPRI 2015). Clearly, a vibrant economy and related market mechanisms have been unable to meet the challenge of ensuring food and nutrition security, defined by the 1996 World Food Summit in Rome as a situation "when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (FAO 1996).

Over the last decade, there has been growing evidence of an agrarian crisis, reflected not only by an increase in farmer suicides (Sainath 2014) but equally by large-scale male migration to nonfarm jobs in urban areas in order to survive. These developments have brought home the reality of a feminized agricultural sector in policy circles (Rao 2011a). Uncertain and irregular male remittances mean that women's work in agriculture—and other forms of rural labor—remain the mainstay of food availability and access for a large majority of the poor and marginalized, especially rural women and their children (Patnaik 2005).

Since the year 2000, global attention has been placed firmly on food and nutrition security, first through the Millennium Development Goals (MDGs) and now through Goal 1 of the Sustainable Development Goals (SDG). Indian policy makers, too, have refocused attention on the links between poverty and hunger, recognizing freedom from hunger as a basic human right. In particular, they have acknowledged the role of women in ensuring food security at the household level. The National Food Security Act (NFSA) (India, MLJ 2013) formalizes this recognition by legitimizing the most senior woman in the household as its "head" for purposes of securing food entitlements. This is indeed a welcome step. It has put on the agenda the need to better understand the linkages between the recognition of women in food security policies, changing gender relations, and well-being outcomes in terms of actual food and nutrition security. This paper lays out a framework for achieving gender justice in Indian food security policies.

The goal is to further movement toward gender-transformative approaches in all policies and programs that address food and nutrition security. In this paper, we briefly examine the different pathways linking gender to food security, the available evidence, and the gaps in research. In Section 1, we frame the debate around gender justice and food security, moving from a gender-aware to a gender-transformative approach. Section 2 briefly reviews extant studies on gender as it relates to the three pillars of food security. These are: (1) food availability (or adequate food production); (2) accessibility (economic and social access to food); and (3) utilization and stability (nutrition security, which depends on the availability of nonfood resources like child care, health, clean water, and sanitation). In Section 3, we examine the emerging issues and draw out possible implications for research and policy in food and nutrition interventions.

¹ Former Indian Prime Minister Manmohan Singh called malnutrition among children a "national shame," after a report said nearly half of children under age 5 five in the country were underweight. <http://www.bbc.co.uk/news/world-asia-india-16481731> accessed on March 25, 2016.

2. FRAMING THE DEBATE

What Do We Mean by Gender Justice in Food Security Policies?

The commitment to food and nutrition security adopted at the World Food Summit, 1996, is a good starting point for this paper. It clearly articulates the need to ensure gender equality and women's empowerment, in line with the Beijing Platform for Action, 1995 (adopted at the Fourth World Women's Conference at Beijing). This commitment supports the equal participation of men and women across the economy by ensuring equal access to productive assets (land, water, credit), technologies, and services. Nevertheless, it falls short of the goals of gender justice by adopting a purely materialist stance—ignoring the reality of unequal gender relations, division of labor, and social normative expectations—across societies.

An alternate conceptualization of “gender-just” food and nutrition security would mean “a world without hunger, where women, men, girls and boys have equal access to nutritious, healthy food” (Brody 2015, pp.5). In addition, it would ensure equal and local access to the means to produce, sell, and purchase food. One of the drawbacks of the NFSA 2013 is its failure to make an explicit connection between food distribution and food production, especially in localized production systems (RTFC 2011)². Further, the NFSA fails to focus on the larger dimension of gender justice and its implications for food security. This includes “a world free of gender-based violence, where the roles, responsibilities, opportunities and choices available to women and men—including unpaid caregiving and food provision—are not predetermined at birth but can, where possible, be developed in line with individual capacities and aspirations” (Brody 2015, 5).

There are three elements to this larger vision of gender justice. First, we use the term “gender-based violence” in a structural sense, as a tool of control within the patriarchy but also a mechanism for wider social control—of the poor, lower castes, and tribes in India. While food deprivation itself can be considered a form of violence, hunger and food insecurity can aggravate other forms of violence, especially in times of crisis. These include early marriage, trafficking of young girls, and intimate partner violence.

Second, the concept of “justice” implies an entitlement backed by law, a right rather than a social welfare measure provided to “beneficiaries” at the whims of state governments. These whims are based on alternate ideologies and justifications of what is fair in terms of resource allocation—should it be the “pursuit of human fulfilment, or removal of poverty, or entitlement to enjoy the products of one's own labour”? (Sen 2009, 14). Each of these justifications would point to a different type of social arrangement, to be enabled through different forms of incentives and social institutions. In relation to food security, however, the idea of gender justice, or indeed social justice more broadly, would include the right of all human beings, men and women, to live a healthy and fulfilling life, with dignity. Food constitutes the basic element for a functioning life; therefore, access to food cannot and should not be mediated through social hierarchies and identities. In this sense, the NFSA 2013, is a great leap forward, at least in ideological terms, as it replaces relations of patronage with a legitimate claim or right of citizens, irrespective of who they are.

Third, what becomes clear from this alternate conceptualization is that the problem of food insecurity is multidimensional and interconnected: it involves food but equally broad visions of well-being and freedoms. According to Sen (1999), the freedom to choose our lives can itself make a significant contribution to our well-being. However, not everyone has a choice. Further, as we demonstrate in this paper, persistent discrimination of the poor, lower castes, and tribes in India—and the women among them—often leads to engagement with particular activities and forms of work for the sake of survival, rather than an enhanced sense of well-being.

² The Right to Food Campaign (RTFC) is an informal network in India of over 500 organizations and networks which fought to secure innovative, irreversible and universal entitlements to food.

This implies that technical solutions alone will not work. Apart from being singular and therefore partial, they ignore the underlying social relations and institutional structures and norms that perpetuate inequalities. For solutions to work, they need to recognize the materiality of everyday life. At the same time, they must also acknowledge the values and meanings attached to particular roles and identities, and the likely challenges of enabling but also legitimizing—socially, legally and morally—normative shifts therein. Women (and men) are not unified, homogenous categories; gender relations are embedded within a complex web of social relations. In the case of India, gender relations intersect not only with wider relations of caste, ethnicity, and class but equally with age and stage in the life cycle, to shape the vulnerabilities confronted by and opportunities available to differently positioned women and men.

If gender justice is placed at the heart of the food security debate, it becomes important to not merely be sensitive to different interests, roles, and responsibilities, but to actively challenge injustices based on social identity. Therefore, alongside ensuring adequate, nutritious food as a right, one is also challenging, renegotiating, and transforming previously unequal relationships—in particular, gender relationships. While strengthening women’s entitlements, we must address the question of why providing food and unpaid care are the exclusive responsibilities of women. Are these always in line with women’s capacities, choices, and aspirations? Why do women who are better off financially and have access to resources hand over these tasks, often routine and involving considerable drudgery, to less privileged women? Gender justice, then, is about wider notions of social transformation based on principles of equality and well-being. We refer to such approaches to food security—those that challenge existing unequal norms and social hierarchies—as gender-transformative approaches.

Finally, we need to clarify the term “food security.” While the FAO definition provided at the beginning of this paper includes nutrition, more recent writing makes a distinction between food security and nutrition (FAO 2013). At its simplest, food security can be understood as energy adequacy, with implications for basic functioning in life. “Nutrition security” goes beyond this definition to include the sufficiency of proteins and micronutrients as well. While these, too, are essential for leading a full and healthy life, they are not always visible and therefore referred to as “hidden hunger.” As will be discussed in section 2, while gender difference may seem negligible in terms of calorie deficiency (as measured through BMI, or body mass index), differences become apparent when one examines the intake of proteins or micronutrients; anemia resulting from iron deficiency is a case in point.

The Centrality of Social Relations and Institutions

Food security is a dynamic concept and the ways of achieving it change over time, dependent as they are on a host of factors—political, economic and sociocultural—that operate at multiple levels. At a macro (global) level, the context for food (in)security is shaped by such factors as: (1) rising and volatile food prices; (2) vulnerabilities created by regional concentrations in food production; and (3) unequal power relations in both imports and exports and domestic markets, fueled in part by global trade agreements and other changes such as shifts in cropping pattern from food crops to biofuels in major food-exporting countries (Agarwal 2012).

At the national or meso level, the bases for entitlement of citizens, both men and women, matter. Are entitlements based on work, are they universal rights, or are they framed in terms of welfare/needs? In response to grassroots mobilization and advocacy, over the past decade India has increasingly moved from a welfarist (needs-based) approach³ to a rights-based framework for citizen entitlements. This is very important for ensuring the dignity of human beings, as deprivation is often a result of discrimination across generations rather than an individual flaw (Thorat and Sadana 2009). A watershed year was 2005, which witnessed the passage of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) and the Right to Education Act, both of which transformed decent work and education into rights. Equal wages and workplace facilities like *crèches* are central to MGNREGA. They have

³ Needs were largely determined on the basis of poverty line estimates, which involved large exclusion and inclusion biases (Deaton and Dreze 2002).

contributed to increasing the labor force participation of women, who no longer have to beg for wages or provide sexual services to the contractor, as was often the case previously (Rao 1999). The Right to Information Act (India, MLJ 2005a), which requires public bodies to provide information to citizens, has been used effectively as a mechanism to redress grievances and realize entitlements.

Interestingly, 2005 also witnessed an amendment to the Hindu Succession Act, 1956, which provides daughters with the same rights to inherit property as sons. Also created in 2005 was the Prevention of Domestic Violence Act, which protects women from domestic abuse. Both of these laws are central to ensuring gender justice and women's rights. In a rural context, the lack of assets—in particular, land—can enhance women's dependence and, consequently, vulnerability. Widespread gender-based violence can undermine the rights of women, impeding access to the public sphere and in turn access to food. It can keep them locked in abusive relationships for the sake of food security for themselves and their children.

Campaigning for the right to food security started around 2004, alongside other progressive legislation, though it finally saw fruition in the passage of the NFSA by Parliament in 2013. Implementation of the NFSA is uneven across the country, with some states like Andhra Pradesh, Telengana, Tamil Nadu, Punjab, Himachal Pradesh, Chhatisgarh, and Karnataka ahead of others in their provision of pulses (millets, oil) and cereals. These are key elements proposed by the Right to Food Campaign (RTFC), which seeks to make a reality the vision of gender-equal food security. The NFSA (1) recognizes the adult woman as the head of household; (2) is based on a life-cycle approach, which acknowledges differentiated needs at key moments in a person's life; (3) ensures universal maternity benefits; and (4) widens the food basket to include more nutritious cereals like millets, *ragi*, and *jowar*.

At the household level, apart from changes in income, evolving food habits, gender relations, and changing aspirations (with more resources allocated to education and other nonfood items) have also become important factors shaping food security (Rao 2012a). Village studies conducted by ICRISAT (the International Crops Research Institute for the Semi-Arid Tropics) in Andhra Pradesh, India, demonstrate that despite rising incomes from livelihood diversification, diets have not changed much; rather, the surplus is invested in other forms of consumption expenditure (Rao and Charyulu 2007). Understanding the gendered nature of decision-making and resource allocation at the household level is important, as this often involves trade-offs between short-term well-being and investments in future security, as reflected in large educational expenditures.

In India, relationships between genders or between the household and the state or markets are mediated by caste and ethnicity. While patriarchy exists across different castes and ethnicities (and, indeed, classes), it takes different forms. Among the poorest and those without assets, gender relations are often more equitable and resources shared; unless both spouses cooperate, survival itself may be threatened (Swaminathan, Suchitra, and Lahoti 2011). But it is these groups, lacking in assets and social networks, that are often excluded from state entitlements (Rao 2008), including institutional credit (Prakash 2010) and public extension services (Birner and Anderson 2007). Alongside administrative inadequacies, red tape, and corruption, social and economic hierarchies contribute to the muting of the voices of these groups, especially those of women.

There is evidence that labor markets also discriminate, not just by gender but also by caste and ethnicity (Deshpande and Sharma 2015; Thorat, Kundu, and Sadana 2010; Mander 2012; Rao and Mitra 2013; Unni and Raveendran 2007). At the same time, economic mobility has a contradictory effect on gender relations, what Agnihotri (2002) calls the “prosperity effect.” Adverse sex ratios, revealing female disadvantage, are most prevalent among the middle castes and classes. Community norms and institutions create mechanisms for inclusion and exclusion, alongside labor market segmentation and discrimination. These cannot be marked merely as constraints or problems to be overcome; their workings and underpinning logic need to be better understood in order to be confronted.

There are two final points that need stating at this juncture. First, poverty is a major indicator of food insecurity in India. Addressing poverty is an important first step, but this in itself is unlikely to be sufficient for dealing with food insecurity. Apart from economic factors, there are issues of physical and social access as well as attributes of food, such as safety and nutritional value, that play a part. Recent

economic growth and government welfare initiatives have to an extent contributed to a reduction in poverty. According to Planning Commission estimates (2014),⁴ poverty decreased from 38.2 percent to 29.5 percent between 2009 and 2010 and between 2011 and 2012.⁵ Yet, India continues to face enormous challenges related to food insecurity and hunger for a sizable population. While largely chronic, the problem of hunger is intensified during natural calamities such as floods and droughts, but equally in situations of conflict. There is a lack of attention to the impacts of broader development policies (such as the indiscriminate digging of borewells⁶ in drought-prone areas and the cultivation of water-guzzling crops). Also unaddressed is the neglect of longer-term measures to build the resilience and coping capacity of local communities, in particular, women. Both of these contribute to the persistently high levels of malnutrition in the country.

Second, while women are valorized as the key to household food security across cultures (Quisumbing 1995), their work (both productive and reproductive) has been underestimated and their contributions to agriculture and food security not properly acknowledged. Policy makers have targeted women in their reproductive roles, yet they have been neglected as productive agents (Agarwal 2011; Quisumbing 1995; Rao 2012b). Despite amendments to the Hindu Succession Act (1956) in 2005, inheritance of land eludes a majority of women. What seems lacking is a recognition of the gendered power dynamics within and across social institutions, including those of the state and the markets, that continue to perpetuate disadvantage.

In a context of state neglect of agriculture, low productivity, and unpredictable crop prices, many women prefer to maintain social relations with their brothers and parents for support in the event of a crisis, rather than claiming their share of land. Gender wage gaps in labor markets and the importance of nonfarm engagement for survival similarly perpetuate women's dependence on men. On the ground, women therefore seek relationships of reciprocity and interdependence with men. Yet, the focus in policy discourse and interventions so far has been on targeting women as individual "beneficiaries," rather than as people embedded within wider social relations of production and reproduction. Understanding the multiple dimensions of this challenge could provide key insights to help shape future interventions and policies, and also make existing ones more effective.

With this background, we attempt to synthesize some of the debates on the issue of gender and food security and also flag emerging issues. Broadly, we address the following question: How can we move toward gender-just and gender-transformative strategies for implementing existing food and nutrition security policies and programs in India? We begin by analyzing what constrains women (and men) from achieving food security. A significant strand of literature examines this issue by linking women to agriculture and addressing "resource gaps" (FAO 2011), such as those concerning women's access to land, credit, extension services, and so forth. We believe that little attention has been paid to the nature of gender relations within agriculture and the rural economy, and the pathways through which food security can be better achieved alongside gender equality.

⁴ World Bank estimates show this to be from 31 percent to 21 percent over this period, based on an alternate methodology for poverty measurement.

⁵ The poverty ratio has declined from 39.6 percent in 2009-10 to 30.9 percent in 2011-12 in rural India and from 35.1 percent to 26.4 percent in urban India. The decline was thus a uniform 8.7 percentage points over the two years. The all-India poverty ratio fell from 38.2 percent to 29.5 percent. Totally, 91.6 million individuals were lifted out of poverty during this period.

⁶ Borewells definition: a pipe that is put into a hole that has been bored in the ground, and used with a pump in order to get water from under the ground

2. WHAT THE EVIDENCE TELLS US

The Role of Agriculture in Food Security

For a majority of the Indian population, still rural and dependent on agriculture, one of the primary determinants of food security remains the performance of the agriculture sector. However, in India since the 1990s, there has been a consistent neglect of investment in agriculture, including public-sector research and infrastructure development (Rao 2015a; Mitra 2015). There have been no institutional responses to the need to confront emerging challenges resulting from climate change and its impacts on crop yields. Growing losses, indebtedness, and the resultant agrarian crisis have led to the migration of men to towns and cities in search of work (Mitra and Rao 2016). Agriculture is increasingly feminized, and, despite the NFSA's recognition of women as household heads, the implications of this trend for food security of both individuals and households are not fully understood (Agarwal 2012; Rao 2006).

The State of Food and Agriculture's 2012 report (FAO 2011) revealed that women constitute 43 percent of the agricultural labor force in developing countries. Regional differences do exist. For example, in sub-Saharan Africa, women constitute 50 percent of the agricultural labor force; in south Asia, about 30 percent; and in Latin America, 20 percent. Irrespective of women's exact contributions to agricultural labor, it is nevertheless true that their responsibilities for food provisioning (food production, purchase, preparation, and processing) imply that they play a significant role in shaping agriculture and food practices.

In fact, reproductive and domestic work, including household maintenance and social reproduction, is nearly the sole responsibility of women (Edholm, Harris, and Young 1977), especially in contexts where infrastructure is poorly developed. This results in their working many more hours than men (Johnston et al. 2015). FAO (2009) estimates that women work as much as 13 hours more per week than men in Africa and Asia. Time-use studies confirm the unequal time burden of women (Kumar and Hotchkiss 1988; Garikipati 2012; Rao 2015b), but additionally and more importantly point to the need for making women's unpaid work visible (Hirway 2010). Debates surround the intensity of effort required by male and female work, and whether time alone is a sufficient criterion for calculating food requirements (Jackson and Palmer Jones 1998.) Nevertheless, it does appear that most female-dominated activities, such as food processing and preparation, are more laborious as they hide a range of preparatory tasks such as collecting firewood and water (Hyder et al. 2005; Rao 2015b). There is little technological development to support the reduction of drudgery involved in women's tasks.

This problem has been highlighted most often in the context of the growing number of female-headed households (FHHs) in developing countries, with calls for policy design changes in addressing household food security, especially child nutrition (Kennedy and Peters 1992). FHHs are often in a disadvantaged position compared with male-headed households (MHHs) in terms of access to a range of resources and services, including land (in both size and quality), livestock, credit, education, health care, markets, and extension services (Odame et al. 2002; Quisumbing 1995; World Bank 2001). This is due to unequal inheritance practices, restrictions on women's mobility, and norms concerning status and respectability (Rao 2008). Further, FHHs are often male-absent households and are therefore disadvantaged in the labor markets as well, where gender wage gaps are widely prevalent (Harriss-White 2003, Mahajan and Ramaswami, 2015). There is considerable variation within FHHs, depending on the reason why they are female headed (Jackson and Pearson 1998). If the reason is to escape violence, for instance, then it is likely to enhance women's autonomy and freedoms; it could also lower the dependency ratio and therefore overall well-being. In India, over the last decade or so, institutional responses through women's collectives have helped to mitigate the problems confronted by FHHs and to strengthen their agency. One such example is the *Ekal Nari Shakti Sangathan* (ENSS, or Single Women's Power Collective). This group has organized single women and enabled them to claim entitlements such as pensions and ration cards, fight against sexual harassment and other discriminatory caste and community practices (Srivastava and Chaudhury 2011; Berry 2011), and create new leadership to advocate for their rights.

Notwithstanding the constraints and relative poverty that FHHs face, such as owning less land or inferior land, they seem to allocate higher expenditure to food than do MHHs (Choudhary and Parthasarathy 2007; Kennedy and Peters 1992). This is evidenced by emerging studies of intrahousehold allocations of incomes and expenditures. This research indicates that a relatively larger share of women's contribution to the household income is spent on food and private goods, while a larger share of men's contribution is spent on alcohol and tobacco (Duflo and Udry 2004; Mencher 1988; Kadiyala et al. 2014). In the African context, Mackenzie (1998) and Heyer (2006) found that female farmers in Kenya tended to focus on producing food rather than cash crops. While food crops may generate lower incomes, such households tended to be less food-insecure conditional on a similar set of productive resources.

The Nutritional Context in India

Recent findings from the National Nutrition Monitoring Bureau (NNMB 2012) show no significant difference between men and women in terms of some of the major nutrition indicators. Among adults, the prevalence of chronic energy deficiency (that is, a BMI <18.5) was about 35 percent among both men and women (NNMB 2012). This could be a result of social protection measures like the Public Distribution System, which has ensured the availability of cheap cereals to poor households over the last decade and longer. Recent data from the National Family Health Survey-4 (NFHS-4) confirm that among both young children and adolescents, boys and girls seem to be equally disadvantaged in terms of being underweight and anemic (India, MHFW 2016). Therefore, preference does not seem to be working in the context of nutrition and food intake.

Yet at particular stages in the life cycle, we find women more disadvantaged than men, especially in terms of their micronutrient status. The 2015 India Health Report found that more than 55 percent of all women of childbearing age (15 to 49) across 13 Indian states are anemic, ranging from 76.3 percent in West Bengal to 32.7 percent in Kerala (Raykar et al. 2015). The rate is even higher among pregnant women, with 41.4 percent moderately, 25.8 percent mildly, and 2.2 percent severely anemic (Raykar et al. 2015). It is important to note that women's food and nutrition needs do not remain the same throughout their lives. Children born to malnourished mothers are often underweight and face a 20 percent increased risk of dying before the age of 5 (UNICEF 2007). This is further compounded by the prevalence of early marriages. Breaking the vicious circle of intergenerational transmission of malnutrition demands attention to life-cycle needs, especially those of women.

But more than gender difference, there is a concentration of deprivation and poverty among social groups that have suffered discrimination based on social and cultural identities such as caste, ethnicity, and religion. A higher proportion of children belonging to Scheduled Tribes (STs [30.4 percent]) are severely undernourished compared with other backward castes (OBCs [20.6 percent]) or general castes (16.3 percent [NNMB 2012]), with similar levels of wealth and mother's education (Raykar et al. 2015). The situation is worse in high-burden districts like Koraput in Odisha, where primary research found that 67 percent of Scheduled Caste (SC), 53 percent of ST, and 43 percent of OBC children are underweight (Rao 2015b). According to Rapid Survey on Children (RSOC) 2013–2014 data, stunted growth is about 9 percent higher in these groups compared with higher-caste groups, 42 percent versus 33 percent (India, MWCD 2014). See Table 2.1 for other indicators.

Table 2.1 Nutritional status of children: Percentage of children aged 0–59 months

Key indicators	Male	Female	SC	ST	OBC	Other	Wealth* index-lowest	Wealth index-highest
Stunted	39.5	37.8	42.4	42.3	38.9	33.9	50.7	26.7
Severely stunted	17.6	16.9	19.3	19.5	17.8	14.2	25.8	10.7
Wasted	15.6	14.5	15.5	18.7	14.8	13.6	17.0	13.0
Severely wasted	4.8	4.4	4.9	5.3	4.4	4.4	5.0	4.4
Underweight	30.0	28.7	32.7	36.7	29.3	23.6	42.1	18.6
Severely underweight	10.0	8.9	10.8	13.0	9.3	7.0	16.3	5.1

Source: Rapid Survey on Children (RSOC) 2013–2014 (India, MWCD 2014).

Note: SC = Scheduled Caste; ST = Scheduled Tribe; OBC = Other Backward Caste. *The wealth index used in this survey was constructed using data on household possession of assets, infrastructure, and housing characteristics collected in the household questionnaire. Based on principal component analysis technique, each of the household assets/facilities have been assigned a weight. The Asset Scores have then been computed for each household by using the following formula:

[Value of Asset Variable- Mean of Asset Variable]

HH Asset Score (AS) = Standard deviation of Asset Variable x Weight of component

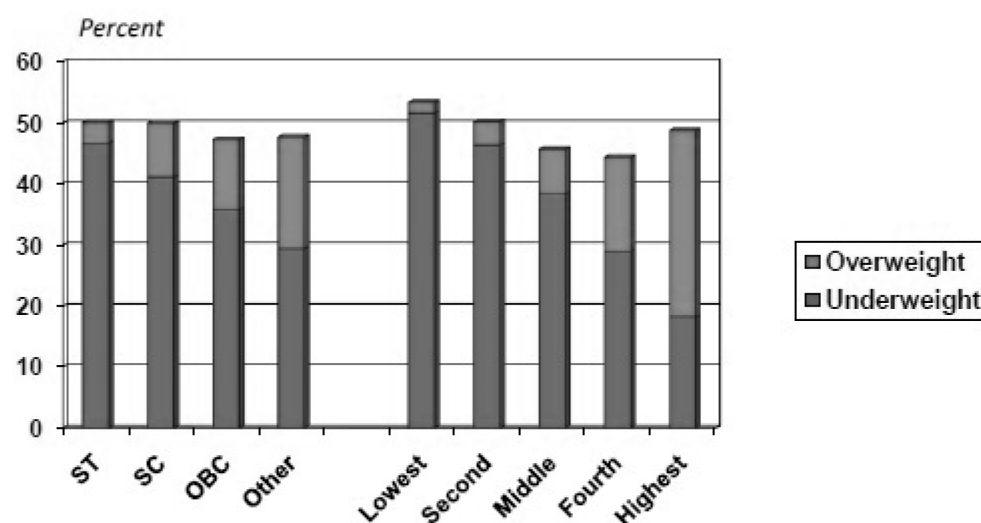
Subsequently, the AS of all the variables are added at the household level to get the Total Asset Score for each household.

Thereafter, the households are ranked according to their individual Household Asset Score and divided into five quintiles at the national level. This provides the cutoff points for each quintile.

Among adults, too, malnutrition is higher among SC and ST women compared with those from other caste groups (NNMB 2003). Malnutrition is largely due to undernutrition (NFH-3 2005–2006 [IIPS and MI 2008]), and this decreases sharply with increase in wealth. However, malnutrition increases in the highest-wealth quintile, with 22 percent of women mainly from the “other” overweight category and another 8 percent obese. Overweight and obesity account for 63 percent of total malnutrition for women in the highest-wealth group, which often coincides with the middle and upper castes (See Figure 2.1).

The reasons for undernutrition in these groups is due not to lack of food but often to cultural and social practices that deny appropriate food at critical moments.

Figure 2.1 Malnutrition of women 15–49 years by caste/tribe and household wealth



Source: NFHS-3 2005–2006 (IIPS and MI 2008).

Note: ST = Scheduled Tribe; SC = Scheduled Caste; OBC = Other Backward Caste. The percentage of women who are underweight decreases sharply throughout the wealth distribution. Total malnutrition decreases with wealth status in the first four wealth-quintile groups, but increases in the highest-wealth quintile because of a large increase in the percentage overweight or obese women in that group. In the highest-wealth quintile, 22 percent of women are overweight and another 8 percent are obese. Overweight and obesity account for 63 percent of total malnutrition for women in the highest-wealth group.

For the poor and lower castes and tribes, addressing equal access to public services, including education, water and sanitation, and markets, could go a long way in ensuring improved nutrition outcomes. They may, for instance, have access to cheap cereals from the Public Distribution System and greens or other homegrown products. Yet, poor quality water and contaminated spices and oil can restrict the ability to absorb the nutrients therein. In regions where the SCs have experienced a history of both mobilization and education, through the *Ambedkarite* and other lower-caste movements (such as those in Wardha, Maharashtra), they tend to do better than the STs and even OBCs (Rao 2015b). It is important to remember that while caste is a critical variable in India, the experience of caste, the levels of inclusion/exclusion, and the well-being of different caste groups vary with context. There is no room for complacency, as bottom-up pressure and mobilization are clearly central to ensure state accountability for the implementation and realization of citizen entitlements.

Nutrition anthropologists have noted a generally pro-male culture in south Asia, extending to biases in food intake and nutrition. An early study (Miller 1981) conducted in India, for example, noted that the breastfeeding duration for boys was longer than that for girls, partly because there is no urgency for another child after the birth of a boy. A fundamental indicator of gender inequality in India—and, arguably, one of the most powerful—is a preference for sons, which is manifested in limiting the very birth and survival of girls. The 2011 census data revealed a sharp decline in the sex ratio for the population age group of 0 to 6—from 945 females per 1,000 males in 1991, to 927 females per 1,000 males in 2001, to 914 females per 1,000 males in 2011 (India, MHA). The trend in the sex ratio of the population under age 7, based on the NFHS data for the period 1992–1993 to 2005–2006 also provides evidence of continuing decline. In 2005–2006, the under age 7 sex ratio had fallen to 919 females per 1,000 males, well below the normal range (NFHS-3, 2005–2006; IIPS and MI 2008). In fact, there seems to have been an acceleration in the decline in sex ratios between 1993–1997 and 2000–2004 (IIPS and MI 2008.), pointing perhaps to the easy access to technology for identifying the sex of a child prior to birth and consequent sex-selective abortions, despite their illegality.

The total fertility rate in India of 2.7 children per woman suggests that most women do not stop having children after only one child. Table 2.2 shows that the sex ratio at birth for firstborn children has been below normal in all three NFHS surveys, and has been declining steadily since the 1992–1993 NFHS-1. This is also true for second births. However, in all three surveys, the sex ratio at birth for second births was substantially lower than at firstborn and any other birth order. The sex ratio at third births was also lower than the sex ratio at birth for all births, except second births. This suggests that substantial proportions of couples with two or three children stop having more children if their last is a boy. This has certainly been the trend since the early 1990s, coinciding with the NFHS-1 (IIPS 1995).

Table 2.2 Trends in sex ratios at birth (females per 1,000 males) by birth order of all births to women age 15–49, India

Birth Order	NFHS-1	NFHS-2	NFHS-3
1	901	873	843
2	819	765	762
3	832	819	837
4	921	919	961
5	986	1019	1026
6	1002	1052	1054
7+	1039	1034	1094
Total	935	920	926

Source: National Family Health Survey (NFHS)-3 2005–2006 (IIPS and MI 2008).

The interesting point that emerges from the above discussion is that while sex ratios are becoming more skewed against women and at a faster pace, the nutritional differences between men and women seem to be declining. The preference for a son, therefore, is playing out before birth. But once the child is born, regardless of its gender, she or he seems to receive the same treatment from the parents, especially

the mother. Therefore, it seems unlikely that Miller's (1981) observation that boys are breastfed for a longer duration than girls may still hold true, but this is worth exploring in future research. The message from these data is an important one, namely, the need to address hunger and malnutrition at the household level. This should be done instead of picking out particular individuals for special attention; when a child or a woman is nutritionally disadvantaged, it is likely that other members of the household (including the parents) face a similar situation.

Having set the context in terms of both agriculture and nutrition in India, we turn next to women's specific role in ensuring food and nutrition security.

Women's Role in Food and Nutrition Security

While questions remain about the linkages and/or disconnects between agriculture and food and nutrition security, women are central to at least three of these pathways (Gillespie, Harris, and Kadiyala 2012):

1. food production (that is, women as producers)
2. economic and social access to food (through control over income/ employment)
3. nutrition (in)security (through lack of time for feeding and care)

We now examine key issues relevant to each of these pathways.

Food Production

Women are and have always been “farmers,” who grow both food and cash crops. Yet, because of patriarchal norms and male bias across institutions (Elson 1991), they lack recognition of this status as farmers. This is reflected in women's limited control over resources and, in turn, restricted bargaining power (by allowing few outside options). Women have a critical role in the food value chain, from farm to plate, and as producers, managers, and servers of food. Ensuring an enabling environment, both in terms of material resources and status recognition, could potentially be beneficial for the food and nutrition security of men, women, and children (Mayoux 2009; Brody 2015). In fact, the Women Farmers' Entitlement Bill, 2011, introduced in the Indian Parliament (*Rajya Sabha*) as a private member's bill, sought to address both these dimensions—redistribution of resources and recognition of women's identity as farmers (Rao 2013). Unfortunately, the legislation was never taken up for discussion and lapsed at the end of the term of Parliament in 2014.

In addition to daily household maintenance activities (food preparation, firewood and water collection) and care work, women spend much of their time on farm and farm-related activities. These include seed selection and preservation, as well as threshing, cleaning, and drying harvested crops. Additionally, they may maintain small livestock, grow vegetables in kitchen gardens, or engage in petty trade or home-based petty commodity production. Women's labor time is then a crucial link when thinking about food security. Especially in peak agricultural seasons, women confront extreme time poverty: they are often unable to cook if they have not collected and stored firewood in advance (Kumar and Hotchkiss 1988). Kadiyala et al. (2014) show that increased income does not necessarily lead to improved nutritional outcomes for children, because women may have less time to spend on child feeding and health care. There is a need to better understand how different patterns of gendered time use shape nutrition outcomes, directly and indirectly, as well as variation across seasons, crops, income groups, castes, and locales (Rao 2015b).

Apart from their domestic and reproductive responsibilities, the issue of limited access to resources is seen as a major constraint facing women farmers (FAO 2011; Agarwal 2012). While this is true, it is important to understand that not only are gender relations socially constructed, but so are the meanings attached to different assets linked to particular gendered roles and identities. Therefore, given the social expectation of men as providers, both land and money are often constructed as “male” assets. Women's association with them is seen to be secondary at best, but in some instances could also be seen as a deviation from the norm, especially as women themselves are seen as a form of male property (Sharma 1980). This is the reason that women insisting on their rights to inherit land are sometimes

viewed as “witches,” a signal that they are deviating from the norm of a “good woman.” Such negative valuation of women’s claims is used to justify the violent backlash against them (Rao 2008, 2013; Kelkar and Nathan 1991). More recently, one finds evidence in the violent actions of *Khap panchayats* in North India, which punish daughters/women who seek control over their own bodies and labor by exercising choice in the selection of their marital partner (Chowdhry 2004). We therefore need to move beyond conceptualizing assets or resources in exclusively material terms, and recognize that these symbolize gendered meanings and identities. This can offer insights and pathways for moving ahead, by addressing deeply embedded norms and values across institutions—from the household to the community, and within state and market mechanisms and structures.

Rights to Land

Compared with men, women own a smaller share of total cultivated land, usually of poorer quality. This is because most of the land in India is privately owned and transferred across generations through inheritance; a very small proportion is accessed through the markets and state redistribution (Agarwal 2003). Over time (from 1995–1996 to 2010–2011), there does seem to have been a positive change, albeit a slow one, with an increase in women’s share of operational holdings from about 10 percent to 12.8 percent (Agricultural Census of India 2010–2011 [India, MoA 2011]). These data, however, relate only to land registered in women’s names, and do not provide any insight into women’s access to land in a majority of “male-headed” households. Despite the amendment to the Hindu Succession Act, women rarely exercise their claims. Nevertheless, the law does seem to have influenced women’s age at marriage and educational attainment (Deininger, Goyal, and Nagarajan 2010), choice of marital family (Roy 2008), and negotiations with their husbands on the terms on which wealth should be distributed to their children (Brule 2010).

Statewise variations in size of operational holdings held by men and women offer interesting insights into cultural and kinship relations, as well as political economy imperatives across contexts. For instance, the gender gap in landholding size across size classes is lowest in Uttar Pradesh. This could reflect an attempt to overcome land-ceiling laws through the division of property among different members of the household, including wives, and does not necessarily reflect women’s enhanced voice (Rao 2012a; WGWLO 2004; Chowdhry 2011). Kerala and West Bengal are two states that underwent land reform under Left Front governments. While in Kerala land reform favored women, in West Bengal women were largely excluded (Gupta 1997).

Lack of land titles is clearly a problem for women in terms of accessing credit and other resources from formal institutions, such as banks and agricultural cooperatives. Yet, field studies seem to indicate that both men and women view household land as joint property, irrespective of who holds the title. In fact, administrative difficulties meant that land was often registered in the name of a forefather, not even the man who was currently “head of the household.” In a study conducted in 19 villages in Andhra Pradesh and Bihar, a surprising finding was men’s generally supportive attitude toward women’s ownership of land (UN Women and RDI 2011). In fact, women were more cautious about being able to operationalize any land claims due to lack of community recognition and support in a patriarchal, patrilocal, and patrilineal society. Clearly, in these villages women seem to recognize the link between land and male identity, as apart from a material resource. This signifies the passing down of a family name (through inheritance); instead of directly claiming titles to land, women prefer to “bargain with patriarchy” (Kandiyoti 1988) in more covert ways. However, if the marriage breaks down, they do demand a share of the land. As Agarwal (1998) has demonstrated, in India, it is widows rather than daughters who own land; other single women—those abandoned or separated—remain vulnerable.

A related issue is access to common property resources. Women in particular are dependent on common lands and ecosystem services for a range of livelihood activities. These include the collection of firewood, fodder, wild foods, and greens— an essential component of food security and diets. Consequently, the closure of forests and the privatization of common lands can adversely affect food security in multiple ways: not just by increasing women’s time burdens, but also by narrowing the

diversity of diets. The Public Distribution System, which mainly distributes cereals (rice and wheat) to the poor at subsidized prices, has helped many to escape starvation and hunger. But it has not yet addressed the issues of protein and micro-nutrient deficiencies, except in a few cases. In some states, midday meals provide micronutrient-rich food like eggs two to three times a week, though this has recently been questioned on ideological grounds (Khera 2015). Baseline surveys conducted by LANSAs (Leveraging Agriculture for Nutrition in South Asia) in two tribal pockets of India, namely, parts of Wardha district in Maharashtra and Koraput district in Odisha, demonstrate this clearly. Consumption of pulses, vegetables, and fats is less than 50 percent of the required quantities in Koraput. Further, while pulses are grown and therefore consumed to meet 80 percent of the requirement in Wardha, vegetable and greens only meet 20 percent of the required standards (Nithya 2015). Limited access to nearby forests plays a part in limiting diets.

Credit, Inputs, and Extension Services

Credit is often a prerequisite for input use and improved productivity in agriculture. Over the past decade, government emphasis on financial inclusion has been achieved by expanding the institutional infrastructure of formal-sector lending institutions, through both direct lending schemes and *kisan* (farmer) credit cards, and credit access has improved for farmers across land-size classes (Rao 2012b). Despite improved access, the average loan taken out by small and marginal farmers remains comparatively low. While women are overrepresented in this category, as are SCs and STs, lack of land titles as collateral obstructs their access to agricultural credit. Field studies in Jharkhand and Gujarat reveal that only 2 percent to 4 percent of women are able to access *kisan* credit cards (Rao 2008; WGWO 2004). Holvoet (2005) compared the gender effects of two subsidized credit programs in southern India: the Integrated Rural Development Program and the Tamil Nadu Women's Development Program. Findings revealed that the decision-making influence of women increases only when credit transfers are made directly to them.

Women's inclusion in microfinance initiatives occur largely through women's self-help groups, which specifically seek to address issues of access and collateral alongside high transaction costs. This inclusion has been presented as an explanation for women's exclusion from *kisan* credit cards and crop loan schemes. However, there is little evidence that microcredit contributes substantially to improved food production or, indeed, to women's empowerment. This can be attributed to the small amount of loans provided, especially in the absence of other supportive infrastructure and services (Duvendack et al. 2011). Evidence from Bangladesh in particular reveals that these loans are often used for men's enterprises or for household consumption (Duvendack et al. 2011).

Apart from credit, field studies reveal that even when women do have access to land, they face substantial sociocultural and institutional barriers to cultivation. These range from limited access to information and technology (BIRTHAL et al. 2015) to threats and harassment from male kin who see themselves as the rightful owners of women's plots (Rao 2008). In one of the few studies of gendered difference in agricultural investments in India, Chen, Bhagowalia, and Shiverly (2011) showed that households with a high proportion of boys tend to use agricultural inputs, including fertilizers and irrigation services, more intensively. This is based perhaps on the expectation that male children will inherit the land and continue to cultivate it to support their elderly parents. Households with only boys had double the amount of irrigated land and fertilizer use as those with no boys. Interestingly, this pattern is more pronounced among wealthier households, whose land and the investments therein pass on to sons, while dowries for daughters may imply the need to sell the land (Heyer 1992). The meaning of land as a male asset is clearly signaled through this pattern of input use.

There is also some evidence on women's limited access to agricultural information and extension services. Information requirements range from weather forecasts to agronomic practices and market prices, given the stresses on land and water aggravated by climate change, as well as changing tastes and preferences for food products (Aker 2011). BIRTHAL et al. (2015), using data from the National Sample Survey Organisation (NSSO), demonstrated that those with greater landholding size, irrigated land, and

better education have the greatest access to information (as well as institutional credit). FHHs, as well as household heads in SCs and STs, form a large number of nonusers. BIRTHAL et al. (2015) also showed that users have a 12 percent higher net return than nonusers, pointing to a clear hierarchy in terms of asset ownership and access to services and returns, with the better off and men having a clear advantage over the poor and women.

Cultural norms and attitudinal problems in India prevent male extension officers from meeting with women. Moreover, domestic responsibilities leave women with little time to attend meetings and agricultural demonstrations or, indeed, to intensify production in the absence of other support systems. Recent changes in the agricultural extension system, which focus on demand and user participation and initiative, have in fact further disadvantaged women. Also negatively affected are people in remote locations and those with few resources, especially the STs. Participation here is constructed as both interest and the expressed desire to innovate, without taking account of inherent hierarchical power relations or other structural constraints (Rao 2005; Birner and Anderson 2007). Agarwal (1994) has pointed out that extension services tend to favor large landowners, who are seen as “progressive,” and among whom women are few. Further, BIRTHAL et al. (2015) observed that where only 13 percent of users (mainly large farmers) use government extension services, the rest opt for the mass media, social networks, or private information providers. Women face reduced access to assets and restricted mobility, often due to work burdens. This frequently means that under a now largely dysfunctional public extension system, they tend to be excluded from information and extension services more than ever.

What emerges then is that there is no inherent reason nor any substantial evidence showing that women are less productive farmers than men. There are real constraints in terms of resource access and, more importantly, the recognition of women as farmers. Yet, they do seek to overcome these obstacles, especially by seeking cooperation from their husbands and family. In a context of growing vulnerability to hunger, rising prices, unpredictable weather, and poor social security, there is little wonder that women seek the enhanced contributions and reciprocity of men. At the household level, this seems to be a more effective survival strategy than exercising autonomy. A gender-transformative food security strategy would then seek to strengthen women’s ownership, legal, and exchange entitlements (Sen 1981) by creating an enabling environment for women farmers. This has in fact been proposed in the Draft Women Farmers’ Entitlement Bill. This strategy would also enhance male responsibility for production and household food security, rather than overburdening women alone with this task.

We turn now to issues of access, focusing particularly on incomes, purchasing power, and market engagement.

Income Control, Market Engagement, and Access to Food

While food production is important for food security, it cannot ensure that all nutritional requirements are met. For ensuring nutritional security, particular food groups often need to be purchased from the market (for instance, pulses, vegetables, and oils), as shown in the example from the LANSAs study in Koraput and Wardha provided earlier. This depends on the household’s real income or purchasing power. A large body of empirical and theoretical literature (Haddad, Hoddinott, and Alderman 1997; Handa and Davis 2006; Rawlings and Rubio 2005; Thomas 1990), suggests that the accrual point of income in the household is not neutral. That is, income controlled by women is more likely to improve household food consumption than that controlled by men. Mencher (1988), in her study of intrahousehold allocations of income and expenditure among agricultural-worker households in Tamil Nadu and Kerala, demonstrated that despite earning a lower wage, women contribute more to household income, in both absolute and proportional terms, by withholding less for personal use than men. Even in months when both earn little, men continue to contribute a lower proportion of what they earn. Hoddinott and Haddad (1995) suggest that to achieve the same improvements in children’s nutrition and health, what can be achieved with a \$10 increase in women’s income would require a \$110 increase in the case of men’s. There are two issues that arise: first, the nature of jobs available to women as compared with men, and, second, the extent of gender wage differentials in earnings across jobs and sectors.

Women's Work, Wages, and Share of Household Incomes

Analysis of NSSO data from 1977–1978 to 2007–2008 shows that male participation, either as cultivators or laborers, sharply declined (from 80.6 percent to 66.5 percent) as compared with female participation, which declined only marginally (from 88.1 percent to 83.5 percent [NSSO 2010]). Male workers have steadily diversified out of agriculture (accounting for a 75 percent increase in self-employment in a nonagriculture area), while women have remained in this sector (a 60 percent increase in self-employment in agriculture [Himanshu 2011]). A longitudinal survey (Rao and Bantilan 2003) of two villages in the Mahbubnagar district of Andhra Pradesh revealed that while agriculture contributed to 87 percent to 97 percent of household income in 1975–1976, it fell by 27 percent to 32 percent in 2000–2001. Interestingly, the share of nonagricultural income, which was 3 percent to 12 percent in the earlier period, was now (2001–2002) 67 percent to 72 percent (Rao and Bantilan 2003). This implies that male, nonfarm incomes now contribute more to household incomes than women's agricultural earnings, especially in a context where the agricultural sector has been more or less stagnant. This can help explain why women may be seeking greater support and reciprocity from their men rather than actively claiming their resource rights.

If we look at different types of employment in agriculture, roughly 65 percent of both men and women are classified as self-employed; the remaining are casual workers. The share of regular workers is negligible (Srivastava and Srivastava 2010). There has been optimism in some quarters that the increase in self-employment reflects the emergence of new productive opportunities. A deeper analysis, however, reveals that this increase has involved a downward spiral for women in terms of investing more labor and time for lower returns, a form of distress employment (Unni and Raveendran 2007; Deshpande and Sharma 2015a). And this is in addition to caste and ethnicity, where SC and ST women are at the very bottom of the earnings hierarchy (Rao et al. 2008).

The category of self-employment includes both own-account workers and unpaid household helpers. In a disaggregated, sectoral analysis of self-employment using NSSO data, Neetha (2009) makes several interesting points. Across sectors, there has been a decline in women own-account workers and an expansion in women's unpaid work as helpers in household enterprises, both farm and nonfarm. Within the agricultural sector, unpaid female family labor, which constitutes close to 70 percent of women categorized as self-employed, has replaced hired wage workers (see also Djurfeldt et al. 2008; Rao 2012a). In manufacturing, too, the increase in self-employment is largely due to the expansion of the putting-out system. This leads to an increase in the number of home-based women workers, whose working conditions are much worse than those of casual wage workers, and reflects a decline overall in the quality of work available (cf. Himanshu 2011, Rao 2014). In the absence of assets such as land, credit, and space for business, SCs in particular are less able to engage in self-employment than other caste groups (Deshpande and Sharma 2015b).

Even where women are engaged in proprietary enterprises, these are very small in size, are generally home based (81 percent), and have an average fixed investment of less than Rs 8000, or one-third that of male enterprises. Returns are also low, with 89 percent of such enterprises (42 percent for men) yielding daily returns less than the minimum wage (Srivastava and Srivastava 2010). In fact, Deshpande and Sharma (2015b) find a “sticky floor” in terms of the earnings of SC/ST-owned businesses at the lower and middle end of the earnings distribution. This is also where women-owned businesses are located, pointing to an unexplained or discriminatory component confronting such businesses. This indicates that greater workforce participation of women per se (self-employment and casual work) does not necessarily lead to improved welfare, unless this is accompanied by higher educational capabilities and/or other assets.

In a rural context, Jayaraj (2004) points to the importance of gender, caste, and access to land for engagement with higher-return, rural nonagricultural employment. Such engagement also becomes crucial for making further investments in land and agriculture (such as wells, irrigation, and farm equipment) and contributes to a positive spiral of upward mobility (Djurfeldt et al. 2008). Women, the lower castes, and

the landless are at a disadvantage in their levels of investment or engagement in better-paid, higher-return, nonfarm employment.

In terms of incomes and wages, agricultural workers receive much lower wages than nonagricultural workers; 90 percent of women are concentrated in agricultural work compared with 71 percent of male casual workers (Srivastava and Srivastava 2010; Harriss, Jeyaranjan, and Nagaraj 2010). Half of female casual laborers belong to SCs and STs, nearly twice their share in the population. Further, women's wages continue to be lower than those of men, with women on average earning 71 percent of male wages in 2007–2008 as compared with 65 percent in 1993–1994 (NSSO 2010).⁷ However, there are variations across states, ranging from 90 percent in Gujarat to 54 percent in Tamil Nadu. Mahajan and Ramaswami (2015) explain the higher gender wage gaps in south India, where other well-being indicators are generally favorable to women, by the differences in the female labor supply and the generally low substitutability of female and male labor.

In their socioeconomic survey of three villages in Andhra Pradesh, Ramachandran, Rawal, and Swaminathan (2010) showed that women in laboring households are almost entirely confined to agricultural wage-work. They earn roughly half that of men, even for activities such as harvesting and threshing that use both male and female labor. There appears to have been a slight reversal in gender wage gaps since 2004–2005 (Usami 2011), linked perhaps to the assurance of equal wages for men and women under the MGNREGA. A decline in female employment in the most recent period (NSSO 66th Round 2009–2010) could then reflect slight improvements in welfare and the reduction in distress employment for women (Himanshu 2011).

A final comment needs to be made about the extent of joint work in farming by men and women within households. The contribution of rural men to joint work in the domestic domain (production and reproduction) has been steadily declining across the country, from 81 percent in 1983 to 49 percent in 1993–1994 and 42 percent in 2004–2005 (Rao et al. 2008). In Andhra Pradesh, just 6 percent of male laborers engaged in joint tasks, compared to 54.5 percent of all females involved in joint work (Garikipati 2008). Government of India's time-use study (CSO 2000), conducted across six states, further shows that male contributions to both farm work and domestic work are declining in both rural and urban areas, with women now performing 53 percent of total work done.

What this suggests is that the links between women's work (mainly in agriculture) and food and nutrition security are precarious on various counts. These include the negative terms of trade for agricultural products, the gender wage differentials that continue to prevail in the labor market, and women's increasing engagement in agricultural work as unpaid household helpers to compensate for the absence of male labor due to migration. Women's declining control over cash incomes once again implies the need to enhance male responsibility for and involvement in matters of food security. But it also focuses much more centrally on valuing and investing in women's labor in particular and in the agricultural sector more generally.

Social Protection

Apart from access to food through production or the markets, a third channel is through state social security provisioning. Given the vast problem of hunger and malnutrition in India, alongside the high levels of social inequality mentioned earlier, the state has increasingly moved from a welfarist approach to a rights-based framework for citizen entitlements through laws such as MGNREGA (India, MLJ 2005b), the Right to Information Act (India, MLJ 2005a), and, more recently, the Right to Food Campaign (India, MLJ 2013). While this is a welcome development, two issues need consideration: the quality of rights and the mechanisms for their enforcement.

⁷ NSSO (2010) Statement 21 reveals female wages of Rs 48 versus Rs 66 for men in 2007–2008, increasing from Rs 15 and Rs 23, respectively, in 1993–1994. Nakkeeran (2003) argues that wage gaps reflect the hierarchies between the ideological valuations of male and female work.

The rights-based approach, represented by the NFSA—landmark legislation ensuring minimum food entitlements to all citizens—has also specified elaborate provisions for subsidized food depending on economic status or personal conditions, such as for pregnant and lactating women. NFSA’s recognition of women as household heads in relation to food management and the life-cycle approach in terms of food entitlements are good starting points. However, it has been criticized for focusing almost exclusively on the distribution of cereals and cooked meals, with little attention to millets, pulses, and oil (exceptions do exist, as mentioned earlier). Another criticism has been its failure to consider production, procurement, storage, and distribution as an integrated process (RTFC 2011). Interestingly, alongside its call for universalization of food entitlements, the Right to Food Campaign has emphasized the need to offer incentives for food production (Khera 2009; Dreze and Khera 2013).

Given the present focus of the Public Distribution System on cereals in most states of India, women should be enabled to bargain more effectively for enhanced access to cash within their households and communities, to facilitate purchase of other essential items as and when required. Economic access has been facilitated to an extent by the right to work guaranteed by the MGNREGA. While this has contributed to stabilizing rural wages at levels higher than those prevalent earlier in agriculture and has given women access to incomes, its focus on manual work has meant imposing stress on women’s bodies, which often are already malnourished (Chanchani 2015). Further, failure of the MGNREGA to provide good-quality childcare and other amenities at the workplace has not contributed to reducing women’s unpaid work. At the same time, the knowledge that women will have assured work and wages for at least 100 days has meant that men have been able to migrate and take risks in seeking better employment opportunities. Unless men increase their contributions to the household, the net effect of MGNREGA for gender outcomes could remain ambiguous. This is an area that needs further research.

Food Utilization and Gender Relations

Having access to an adequate quantity of quality food is necessary but not sufficient to achieve food and nutrition security. Women’s role in food utilization could be far more important than their role in production and income earning.⁸ Women are generally responsible for food preparation and feeding. Therefore, they are crucial to nutritional security at the household level through ensuring the safety of food, diversity of diets, and use of clean drinking water, and equally important in child care, health, and sanitation. This once again calls to attention the time investments made by women, especially in terms of unpaid care work. The relationship between care work and food security has been ignored for too long and has not been sufficiently valued, despite feminist advocacy at both the global and national levels (Hirway 2010; Budlender and Moussie 2013; Eyben and Fontana 2011; Randriamaro 2013).

Unpaid Care and Women’s Time

The time spent by women on household work, both productive and reproductive, exceeds that of men across contexts (Kumar and Hotchkiss 1988, Rajivan 1999). More than 75 percent of women’s work time remains unpaid (Choudhary 2007) and invisible, though this varies with class and caste/ethnicity. A time-allocation study conducted in Koraput district, Odisha, revealed that women of ST, SC, and OBC groups on average have 11 to 12 hours for leisure and rest (NSNA), while men have 15 to 16 hours. That is, women on average spend four more hours than men each day on a combination of productive (SNA) and reproductive (ESNA) work.⁹ SC women are engaged in wage labor and have the least time available for household and care tasks, as well as rest and leisure. The finding that 67 percent of SC children in the 0-

⁸ UNICEF’s conceptual framework identifies care, household food security, and a healthy environment as the underlying factors that determine the health of children and their survival, growth, and development. Further, it highlights as essential enabling factors: (1) the importance of resources needed by the caregiver; (2) specific care practices; (3) education; (4) knowledge and beliefs; (5) physical and mental health; (6) self-confidence, autonomy, and control over resources; (7) reasonable workloads; (8) availability of time; and (9) family and community support.

⁹ SNA, ESNA, and NSNA refer to categories in the System of National Accounts that relate broadly to productive work, reproductive/domestic work, and time for personal use.

to-5 age group are underweight in this location provides evidence of the importance of women's time for improving nutritional outcomes. Apart from farm work, ST women spend considerable time in forest-related activities: collecting and selling minor forest produce, and gathering mushrooms, bamboo shoots, and other greens for household consumption. Their children perform marginally better than SC children in terms of underweight and stunting, though wasting levels are higher. It is only in the general categories, where women are not engaged with wage or agricultural work, that time spent on child care increases and children appear to be normal in nutritional terms. Of course, these are also likely to be the better-off households (Rao 2015b; see also Eswaran, Ramaswami, and Wadhwa 2013).

Interestingly enough, the data suggest that SC and ST men contribute to domestic and care work, though this is only about 10 percent to 15 percent of the total time required for these tasks. As one moves up the caste ladder, however, male contributions decline and are close to nil for the general categories. This points to the socially constructed nature of gender relations, including divisions of labor and differential valuations of reproductive work. A similar observation can be made when the data is analyzed by land-holding size. Male contributions tend to be higher in landless and marginal farmer households, as women are also engaged in waged work in these households. It is important to note here that time-use patterns vary by season, with men offering additional support during the peak seasons for female labor (for example, transplanting) but thereafter withdrawing from household work.

The gender equality goal 5 in the 2030 Sustainable Development Agenda encourages states to “recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.” This recognition signals an important gain at the global level. The Beijing Declaration and Platform for Action, approved in 1995, recognizes the unequal distribution of unpaid work between women and men and calls for it to be accounted for and valued in the System of National Accounts (that is, through time-use surveys). The MDGs, in contrast, do not explicitly mention unpaid care and domestic work. It is perhaps the more recent framing of unpaid care work as an obstacle to the achievement of women's human rights by the UN Special Rapporteur on Extreme Poverty and Human Rights, in 2013, that has pushed the agenda forward. The strategy suggested is three-fold: reduce, redistribute, and recognize.

Water, Sanitation, and Health

As noted earlier, the utilization or absorption of food is dependent on women's time and unpaid care, but equally on environmental variables such as the availability of clean water, sanitation, and the prevention and treatment of ill health. While there may be enough food to eat, lack of water and sanitation imply poor health—persistent bouts of worm infestation, diarrhea, and other water-borne diseases—that negate the effects on food intake. A study in North India found that close to 50 percent of the population suffered from worm infestation, and this percentage was as high as 75 to 80 per cent among children under age 10 (Kumar, Jain, and Jain 2014).

Access to safe drinking water has improved in both rural and urban parts of India over the last decade. However, this often involves walking longer distances to the source of water, with implications for women's time. Close to 70 percent of rural households, however, still do not have proper sanitation facilities—a problem sought to be addressed by the *Swachh Bharat Abhiyaan* (Clean India Mission). Poor sanitation, including practices of water storage and handling, hand washing, and open defecation, have implications for the health status of local communities, especially young children and particularly during the rainy season.

4. EMERGING ISSUES

Several important issues in the domain of gender and food security have been inadequately addressed from the perspective of gender justice. This section seeks to summarize and draw out some of the key issues emerging from the preceding discussion.

First, agriculture remains key to gender-just food security and women play an increasingly important role in agriculture, as both cultivators and workers. Yet the contributions of agriculture and women to the national economy are undervalued, as measurements focus exclusively on growth rates and productivity rather than contributions to welfare and well-being more broadly. This has meant that investments in agriculture have declined, while women's work and the drudgery involved has also received little attention. The present growth model of development focusing on urbanization and manufacturing, rather than strengthening the bases of rural lives, misses the core elements of gender and broader social equality and justice.

Even within the agriculture sector, the share of basic food crops—cereals and millets—has been declining, and the adoption of high-value agriculture growing¹⁰. This, however, requires both horizontal (farmers' organization) and vertical (contract farming) linkages for success. The little empirical research that exists—as in the case of tomato production in Punjab, cotton picking in Andhra Pradesh, or prawn processing in the coastal areas of Odisha and West Bengal—shows when they are involved, women are at the bottom end of such production processes and considered insecure labor (Mitra and Rao 2016). Singh (2003), based on case studies of hybrid cottonseed production in Andhra Pradesh and vegetable farming in Punjab, demonstrated how agriculture has become increasingly “feminized.” New labor arrangements (contracts) have led to marginal increases in real income for some women workers. But these contracts have done little to make their income on the same par as those of men, and have resulted in generally poorer working conditions and limited bargaining power.

The negative valuation and returns to agriculture have led to extensive migration of men in India, who then work in the nonfarm sector that is largely constituted of the informal economy. While several studies point to the importance of nonfarm incomes for food security, how these incomes are actually allocated for different purposes has not been adequately researched. Women's work, both locally and in migrant capacities, has been examined across different employment subsectors, including the manufacturing industry—often small scale and home-based—and the services sector—involving domestic work (Neetha 2009; Rao 2011b). These studies deal with issues of wages and of working and living conditions, but do not explore these domains of work from the perspective of food security.

In a world where the informal, nonfarm economy and high-value agriculture dominate, the former often dependent on migrant male labor and the latter on cheap female labor, it is important to understand how gender interacts with emerging opportunities and the resultant gains and losses. Equally important to consider are the threats posed by climate change, the loss of ecosystem services and crop diversity, and exposure to global price volatility. How are constraints in access to resources that might inhibit both production and diversification dealt with?

Women's time and local infrastructure provisioning become key in this context, but it is not clear how far policies and their implementation take into account the shifts in gender roles and relations taking place on the ground. How much do policies contribute to strengthening relations of reciprocity and interdependence at the household and community levels, making men also responsible for food security rather than only women? Further, in a context where women are now almost equally represented in panchayats and other local decision-making bodies (Iyer et al. 2011), what role does such institutional change play in shaping food security outcomes?

¹⁰ High-value agricultural goods are generally defined as agricultural goods with a high economic value per kilogram, per hectare, or per calorie, including fruits, vegetables, meat, eggs, milk, and fish. Other crops could be also considered high-value commodities such as spices, flowers, medicinal plants, many industrial crops, and even crops that yield illegal drugs. The motivation for focusing on fruits, vegetables, animal products, and fish is that they are widely grown and face growing demand due to shifts in consumption patterns.

Based on the discussion above, we draw out some implications for the design and implementation of gender-transformative food and nutrition interventions:

- Policies across different sectors (agriculture, credit, labor markets) need to recognize women as equal workers and contributors to household food security and the overall household economy, by ensuring equal entitlements to resources, services, and returns to labor (wages).
- Women's rights to good quality land, albeit use rights, must be secured.
- Women should be recognized as farmers and given full support (including credit and information) to pursue agricultural enterprises, irrespective of their land-ownership status.
- Agricultural information and technology need to take into account gender-specific needs and constraints, including women's time shortages, and provide support for particular crops cultivated by women (for example, millets and vegetables).
- The terms and conditions of women's engagement in the nonfarm sector should be enhanced through improved market access, information, and access to transportation.
- Women's time burdens can be alleviated, especially in regard to unpaid care work, through the provision of good quality infrastructure and services including drinking water, fuel/energy, health, and childcare.
- Local government bodies (panchayats) should provide women with a genuine voice and control over local resources (as in Kerala), enabling them to mainstream gender issues in the design of programs and their implementation.

While there is growing evidence for the importance of effecting these changes, there are some gaps that need to be researched. These include:

- The trade-offs between incomes earned and time intensity of work (lack of time for childcare) for women in the nonfarm/informal economy, as well as high-value supply chains and their links to food security outcomes.
- The effects of climate change on livelihoods, in particular, on alterations of divisions of labor, gender relations, and food security.
- Urbanization and its challenges for food security.
- Women's political empowerment, grassroots collective action, and their interaction with food security programs, policies, and outcomes.
- Better understanding of men's roles in food and nutrition security, especially in relation to migration and changing aspirations.

What is clear is the multidimensional nature of food and nutrition security, especially when examined from the perspective of gender justice. The themes discussed above are all interlinked, be they resource access and control, male migration, feminization of agriculture, unpaid care work, vulnerability to conflict and disasters, social protection policies, water, sanitation and health, or, indeed, gender-based violence. If progress is to be made, it is important for multiple stakeholders—nutritionists, scientists, farmers' and/or women's groups and collectives, health workers, and other state functionaries—to work together rather than create sectoral divides and priorities. A constitutional framework has already been established in the form of the NFSA, 2013. This framework now needs to be analyzed in detail at the programmatic level in terms of budgets, implementation and accountability structures, and rules and norms of inclusion and exclusion, all essential for attaining the goals of gender justice and food security.

Key Message

Gender-just and transformative approaches to food security involve a recognition of men and women as equal citizens and partners in society, with equal rights and entitlements to a good quality life, especially a life free from hunger and malnutrition. Such approaches are multidimensional and involve not just access to adequate food, but “decent work” conditions and good quality services to support the lives and livelihoods of both women and men. Rather than exclusively targeting women and overburdening them with the responsibility for household food security, policy approaches need to enhance reciprocity and sharing between men and women in households and communities. They need to recognize women’s contributions to both the productive and reproductive economies, help reduce the drudgery of their work through innovative technologies and infrastructure, and redistribute responsibilities between social institutions, from the household to the state. Discriminatory markets for both labor and products must be regulated.

REFERENCES

- Agarwal, B. 1994. *A Field of One's Own: Gender and Land Rights in South Asia*. Cambridge, UK: Cambridge University Press.
- . 1998. "Widows vs Daughters or Widows As Daughters: Property, Land and Economic Security in Rural India." *Modern Asian Studies* 32 (1): 1–48.
- . 2003. "Gender and Land Rights Revisited: Exploring New Prospects via the State, Family and Market." *Journal of Agrarian Change* 3 (1&2): 184–224.
- . 2011. *Food Crises and Gender Inequality*. United Nations Department of Economic and Social Affairs Working Paper 107. New York: United Nations.
- . 2012. *Food Security, Productivity, and Gender Inequality*. IEG Working Paper 320. New Delhi: Institute of Economic Growth.
- Agnihotri, S. B. 2002. *Sex Ratio Patterns in the Indian Population: A Fresh Exploration*. New Delhi: Sage.
- Aker, J. C. 2011. "Dial 'A' for Agriculture: A Review of Information and Communication Technologies for Agricultural Extension in Developing Countries." *Agricultural Economics* 42 (6): 631–647.
- Berry, K. 2011. "Disowning Dependence: Single Women's Collective Struggle for Independence and Land Rights in Northwestern India." *Feminist Review* 98: 136–52.
- Birner, R., and J. R. Anderson. 2007. *How to Make Agricultural Extension Demand-Driven: The Case of India's Agricultural Extension Policy*. IFPRI Discussion Paper 00729. Washington DC: International Food Policy Research Institute.
- Birthal, P. S., S. Kumar, D. S. Negi, and D. Roy. 2015. "The Impacts of Information on Returns from Farming: Evidence from a Nationally Representative Farm Survey in India." *Agricultural Economics* 46: 1–13.
- Brody, A. 2015. BRIDGE InBrief: *Towards Gender-Just and Food and Nutrition Security*. Overview Report. Institute of Development Studies. Brighton, United Kingdom.
- Brule, R. 2010. When Revolution Is Not Enough: Evidence on How Women's Legal Land Rights Become Locally Meaningful. Preliminary Findings from Field Work in Andhra Pradesh, India. Personal communication, July 8.
- Budlender, D., and R. Moussie. 2013. *Making Care Visible: Women's Unpaid Care Work in Nepal, Nigeria, Uganda and Kenya*. Johannesburg: Action Aid.
- Chanchani, D. 2015. "Social Inequality, Reproductive Health and Child Development: A Chhattisgarh Village Study." PhD thesis. University of East Anglia, Norwich.
- Chen, S. E., P. Bhagowalia, and G. Shiverly. 2011. "Input Choices in Agriculture: Is There a Gender Bias?" *World Development* 39 (4): 561–568.
- Choudhary, N., and D. Parthasarathy. 2007. "Gender, Work and Household Food Security." *Economic and Political Weekly* 42 (6): 523–531.
- Chowdhry, P. 2004. "Caste Panchayats and the Policing of Marriage in Haryana: Enforcing Kinship and Territorial Exogamy." In *Caste in Question: Identity or Hierarchy?*, edited by D. Gupta, 1-42. New Delhi: Sage.
- . 2011. *Reduction in Violence against Women: Property Ownership and Economic Independence in Rural Haryana*. New Delhi: UN Women.
- CSO (Central Statistical Organisation). 2000. *Report of the Time Use Survey —1998–99*. New Delhi: Ministry of Statistics and Programme Implementation.
- Deaton, A., and J. Dreze. 2002. *Poverty and Inequality in India: A Re-examination*. Working Paper 184. Princeton, NJ, US: Princeton University.

- Deininger, K., A. Goyal, and H. Nagarajan. 2010. *Inheritance Law Reform and Women's Access to Capital: Evidence from India's Hindu Succession Act*. Policy Research Working Paper 5338. Washington, DC: The World Bank.
- Deshpande, A., and S. Sharma. 2015a. "Entrepreneurship or Survival? Caste and Gender of Small Business in India." *Economic and Political Weekly* 48 (28): 38–49.
- . 2015b. *Disadvantage and Discrimination in Self-Employment*. WIDER Working Paper 2015/067. Helsinki, Finland: United Nations University World Institute for Development Economics Research.
- Djurfeldt, G., V. Athreya, N. Jayakumar, S. Lindberg, A. Rajagopal, and R. Vidyasagar. 2008. "Agrarian Change and Social Mobility in Tamil Nadu." *Economic and Political Weekly* 43 (45): 50–61.
- Dreze, J., and R. Khera. 2013. "Rural Poverty and the Public Distribution System." *Economic and Political Weekly* 48 (45&46): 55–60.
- Duflo, E., and C. Udry. 2004. *Intrahousehold Resource Allocation in Cote d'Ivoire: Social Norms, Separate Accounts and Consumption Choices*. NBER Working Paper 10498. Cambridge, MA, US: National Bureau of Economic Research.
- Duvendack, M., R. Palmer-Jones, J. G. Copestake, L. Hooper, Y. Loke, and N. Rao. 2011. "What is the Evidence of the Impact of Microfinance on the Well-Being of Poor People?" *Systematic Review*. London: Department for International Development, U. K. Government. <http://www.dfid.gov.uk/R4D/PDF/Outputs/SystematicReviews/Microfinance2011Duvendackreport.pdf>.
- Edholm, F., O. Harris, and K. Young. 1977. "Conceptualizing Women." *Critique of Anthropology* 3 (9&10): 101–130.
- Elson, D. 1991. *Male Bias in the Development Process*. Manchester, UK: Manchester University Press.
- Eswaran, M., B. Ramaswami, and W. Wadhwa. 2013. "Status, Caste and the Time Allocation of Women in Rural India." *Economic Development and Cultural Change* 61 (2): 311–333.
- Eyben, R., and M. Fontana. 2011. "Caring for Well-Being." Paper commissioned for The Bellagio Initiative on the Future of Philanthropy and Development in the Pursuit of Human Wellbeing. Sussex, UK: Institute of Development Studies (IDS), the Resource Alliance, and the Rockefeller Foundation.
- FAO (Food and Agricultural Organization of the United Nations). 1996. *Rome Declaration on World Food Security and World Food*. Rome.
- . 2009. *FAO's Programme for Gender Equality in Agriculture and Rural Development*. Rome.
- . 2011. *The State of Food and Agriculture 2010–2011. Women in Agriculture: Closing the Gender Gap for Development*. Rome.
- . 2013. *The State of Food Insecurity in the World. The Multiple Dimensions of Food Security*. Rome.
- Garikipati, S. 2008. "Agricultural Wage Work, Seasonal Migration and the Widening Gender Gap: Evidence from a Semi-Arid Region of Andhra Pradesh." *The European Journal of Development Research* 20 (4): 629–48.
- . 2012. "Microcredit and Women's Empowerment: Through the Lens of Time-Use Data from Rural India." *Development and Change* 43 (3): 719–750.
- Gillespie, S., J. Harris, and S. Kadiyala. 2012. *The Agriculture-Nutrition Disconnect in India: What Do We Know?* IFPRI Discussion Paper 01187. Washington DC: International Food Policy Research Institute.
- Gupta, J. 1997. "Voices Break the Silence." In *Just Right: Women's Ownership of Natural Resources and Livelihood Security*, edited by N. Rao and L. Rurup, 135–169. New Delhi: Friedrich Ebert Stiftung.
- Haddad, L., J. Hoddinott, and H. Alderman, eds. 1997. *Intrahousehold Resource Allocation in Developing Countries*. Baltimore, MD, US and London: Johns Hopkins University Press.
- Hoddinott, J., and Haddad, L. (1995). "Does Female Income Share Influence Household Expenditure Patterns?" *Oxford Bulletin of Economics and Statistics* 57 (1): 77–96.

- Handa, S., and B. Davis. 2006. "The Experience of Conditional Cash Transfers in Latin America and the Caribbean." *Development Policy Review* 24 (5): 513–536.
- Harriss, J., J. Jeyaranjan, and K. Nagaraj. 2010. "Land, Labour and Caste Politics in Rural Tamil Nadu in the 20th Century: Iruvelpattu (1916–2008)." *Economic and Political Weekly* 45 (31): 47–61.
- Harriss-White, B. 2003. *India Working: Essays on Society and Economy*. Cambridge, MA, US: Cambridge University Press.
- Heyer, A. 2006. "The Gender of Wealth: Markets and Power in Central Kenya." *Review of African Political Economy* 107: 67–80.
- Heyer, J. 1992. "The Role of Dowries and Daughters' Marriages in the Accumulation and Distribution of Capital in a South Indian Community." *Journal of International Development* 4 (4): 419–436.
- Himanshu, H. 2011. "Employment Trends in India: A Re-examination." *Economic and Political Weekly* 46 (37): 43–59.
- Hirway, I. 2010. "Understanding Poverty: Insights Emerging from the Time Use of the Poor." In *Unpaid Work and the Economy: Gender, Time Use and Poverty in Developing Countries*, edited by R. Antonopoulos and I. Hirway, 22–57. London: Palgrave Macmillan.
- Holvoet, N. 2005. "The Impact of Microfinance on Decision-Making Agency: Evidence from South India." *Development and Change* 36 (1): 75–102.
- Hyder, A., A. S. Maman, J. E. Nyoni, S. A. Khasiani, N. Teoh, Z. Premji, and S. Sohani. 2005. "The Pervasive Triad of Food Security, Gender Inequity and Women's Health: Exploratory Research from Sub-Saharan Africa." *African Health Sciences* 5 (4): 328–334.
- IIPS (International Institute for Population Sciences). 1995. National Family Health Survey (*MCH and Family Planning*), India 1992-93. Mumbai.
- IIPS (International Institute for Population Sciences) and MI (Macro International). 2008. National Family Health Survey (NFHS-3), India, 2005-06. Mumbai.
- India, Ministry of Agriculture. 2011. Agricultural Census. New Delhi: Department of Agriculture and Cooperation. <http://agcensus.nic.in/document/agcensus2010/agcen2010rep.htm>.
- India, MHFW (Ministry of Health and Family Welfare). 2016. National Family Health Survey (NFHS-4), India, 2015-16. Mumbai, India. <http://rchiips.org/nfhs/nfhs4.shtml>.
- India, MHA (Ministry of Home Affairs). 2011. Census Data. New Delhi: Registrar General & Census Commissioner. <http://www.censusindia.gov.in/>.
- India, MLJ (Ministry of Law and Justice). 2005a. Right to Information Act. New Delhi: Legislative Department.
- . 2005b. Mahatma Gandhi National Rural Employment Guarantee Act. New Delhi.
- . 2013. National Food Security Act. New Delhi.
- India, MWCD (Ministry of Women and Child Development). 2014. Rapid Survey on Children (RSOC) 2013–2014. Fact Sheets. New Delhi.
- India, Planning Commission. 2014. *Report of the Expert Group to Review the Methodology for Measurement of Poverty. June*. New Delhi.
- Jackson, C., and R. Palmer-Jones. 1998. *Work Intensity, Gender and Well-Being*. Geneva: United Nations Research Institute for Social Development.
- Jackson, C., and R. Pearson, eds. 1998. *Feminist Visions of Development: Gender Analysis and Policy*, 282. London: Routledge.
- Jayaraj, D. 2004. "Social Institutions and the Structural Transformation of the Non-farm Economy." In *Rural India Facing the 21st Century: Essays on Long Term Village Change and Recent Development Policy*, edited by B. Harriss-White and S. Janakarajan. 175–194. London: Anthem.

- Johnston, D., E. Hull, H. Malapit, S. Stevano, and S. Kadiyala. 2015. *Agriculture, Gendered Time Use and Nutritional Outcomes: A Systematic Review*. London: Research Program on Agriculture for Nutrition and Health, and the Leverhulme Centre for Integrative Research and Health.
- Kadiyala, S., J. Harris, D. Headey, S. Yosef, and S. Gillespie. 2014. "Agriculture and Nutrition in India: Mapping Evidence to Pathways." *Annals of the New York Academy of Sciences* 1331: 43–56.
- Kelkar, G., and D. Nathan. 1991. *Gender and Tribe: Women, Land and Forest in Jharkhand*. New Delhi: Kali for Women.
- Kennedy, E., and P. Peters. 1992. "Household Food Security and Child Nutrition: The Interaction of Income and Gender of Household Head." *World Development* 20 (8): 1077–1085.
- Khera, R. 2015. "Eggs and Prejudice." *The Indian Express*. June 6.
- . 2009. "Right to Food Act: Beyond Cheap Promises." *Economic and Political Weekly* 44 (29): 40–44.
- Kumar, H., K. Jain, and R. Jain. 2014. "A Study of Prevalence of Intestinal Worm Infestation and Efficacy of Anthelmintic Drugs." *Medical Journal Armed Forces India* 70 (2): 144–148.
- Kumar, S. K., and D. Hotchkis. 1988. *Consequences of Deforestation for Women's Time Allocation, Agricultural Production, and Nutrition in Hill Areas of Nepal*. Research Report 69. Washington, DC: International Food Policy Research Institute.
- Kandiyoti, D. 1988. "Bargaining with Patriarchy." *Gender and Society* 2 (3): 274–290.
- Kishor, S., and K. Gupta. 2009. *Gender Equality and Women's Empowerment in India. National Family Health Survey (NFHS-3), India, 2005–06*. Mumbai: International Institute for Population Sciences; Calverton, MD, US: ICF Macro.
- Mackenzie, F. 1998. *Land, Ecology and Resistance in Kenya 1880–1952*. Edinburgh, Scotland: Edinburgh University Press.
- Mahajan, K., and B. Ramaswami. 2015. "Caste, Female Labour Supply and the Gender Wage Gap in India: Boserup Revisited." Paper presented at the International Conference of Agricultural Economists. 2015 Conference, Milan, Italy, August 9–14.
- Mander, H. 2012. "Food from the Courts: The Indian Experience, Standing on the Threshold: Food Justice in India." *IDS Bulletin* 43 (S1), Special Issue, July 2012.
- Mayoux, L. 2009. *Guide for Practitioners. Reaching and Empowering Women: Gender Mainstreaming in Rural Microfinance*. Rome: International Fund for Agricultural Development.
- Mencher, J. P. 1988. "Women's Work and Poverty: Women's Contribution to Household Maintenance in South India." In *A Home Divided: Women and Income in the Third World*, edited by D. Dwyer and J. Bruce, 99–119. Stanford, CA, US: Stanford University Press.
- Miller, B. 1981. *The Endangered Sex: Neglect of Female Children in Rural North India*. Ithaca, NY, US: Cornell University Press.
- Mitra, A., and N. Rao. 2016. "Families, Farms and Changing Gender Relations in Asia." In *Family Farming in Asia: Meeting the Zero Hunger Challenge*, edited by the Food and Agriculture Organization and the MS Swaminathan Research Foundation. New Delhi: Academic Foundation.
- Mitra, A. 2015. "Food Security and Insecurity in India." In *New Challenges to Food Security—From Climate Change to Fragile States*, edited by I. Christoplos and A. Pain, 279–297. London and New York: Routledge.
- Nakkeeran, N. 2003. "Women's Work, Status and Fertility: Land, Caste and Gender in a South Indian Village." *Economic and Political Weekly* 38 (37): 3931–3939.
- NNMB (National Nutrition Monitoring Bureau). 2012. *Technical Report No. 21*. Hyderabad, India: National Institute of Nutrition, Indian Council of Medical Research.

- . 2012. *Technical Report No. 26. Diet and Nutritional Status of Rural Population, Prevalence of Hypertension & Diabetes among Adults, and Infant & Young Child Feeding Practices*. Report of Third Repeat Survey.
- . 2003. *Technical Report No. 22. Prevalence of Micronutrient Deficiencies*. Hyderabad, India: National Institute of Nutrition, Indian Council of Medical Research.
- Neetha, N. 2009. “Contours of Domestic Service: Characteristics, Work Relations and Regulation.” *The Indian Journal of Labour Economics* 52 (3): 489–506.
- Nithya, D. 2015. “Nutritional Status of Two Districts under Farming System for Nutrition.” Paper presented at the LANSAs Annual Partners’ Meeting, Chennai, India, September 14–16.
- NSSO (National Sample Survey Organisation). 2010. *Employment and Unemployment Situation in India 2007–2008—NSS 64th Round (July 2007–June 2008)*. New Delhi.
- Odame, H. H., N. Hafkin, G. Wesseler, and I. Boto. 2002. *Gender and Agriculture in the Information Society. ISNAR Briefing Paper 55*. The Hague: International Service for National Agricultural Research.
- Patnaik, U. 2005. “Theorising Food Security and Poverty in the Era of Neo-Liberal Reforms.” *Social Scientist*. 33. 7-8. New Delhi.
- Prakash, A. 2010. “Dalit Entrepreneurs in Middle India.” In *The Comparative Political Economy of Development: Africa and South Asia*, edited by B. Harriss-White and J. Heyer. London: Routledge. 291–317.
- Quisumbing, A. R. 1995. *Gender Differences in Agricultural Productivity: Survey of Empirical Evidence. FCND Discussion Paper 5*. Washington, DC: International Food Policy Research Institute.
- Rajivan, A. K. 1999. “Policy Implications for Gender Equity: The India Time Use Survey, 1998–1999.” Paper presented at the International Seminar on Time Use Studies, United Nations ESCAP, Ahmedabad, India, December 7–10.
- Ramachandran, V. K., V. Rawal., and M. Swaminathan, eds. 2010. *Socio-economic Surveys of Three Villages in Andhra Pradesh: A Study of Agrarian Relations*. New Delhi: Tulika Books.
- Randriamaro, Z. 2013. *The Hidden Crisis: Women, Social Reproduction and the Political Economy of Care in Africa*. New York: African Institute for Economic Development and Planning, United Nations.
- Rawlings, L., and G. Rubio. 2005. “Evaluating the Impact of Conditional Cash Transfer Programs.” *The World Bank Research Observer* 20 (1): 29–55.
- Rao, K. P. C., and K. D. Charyulu. 2007. *Changes in Agriculture and Village Economies*. Research Bulletin no. 21. Patancheru, Andhra Pradesh, India: International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). ISBN 978-92-9066-507-6.
- Rao, K. P. C., and M. C. S. Bantilan. 2003. *Rural Development in India: Response in ICRISAT Villages*. Hyderabad, India: ICRISAT.
- Rao, N., ed. 1999. *Owning Their Land: Rights of Santhali Women*. New Delhi: Friedrich Ebert Stiftung.
- . 2005. “Agricultural Research and Extension in India: Changing Ideologies and Practice.” *Economic and Political Weekly* 40 (3): 1371–1375.
- . 2006. “Land Rights, Gender Equality and Household Food Security: Exploring the Conceptual Links in the Case of India.” *Food Policy* 31 (2): 180–193. doi:10.1016/j.foodpol.2005.10.006
- . 2008. *Good Women Do Not Inherit Land: Politics of Land and Gender in India*. New Delhi: Social Science Press and Orient Blackswan.
- . 2011a. “Women’s Access to Land: An Asian Perspective.” Paper presented at the Expert Group Meeting Enabling Rural Women’s Economic Empowerment: Institutions, Opportunities and Participation. UN Women, Accra Ghana, September 20–23.
- . 2011b. “Respect, Status and Domestic Work: Female Migrants at Home and Work.” *European Journal of Development Research* 23: 758–773.

- . 2012a. “Male ‘Providers’ and Female ‘Housewives’: A Gendered Co-performance in Rural North India.” *Development and Change* 43 (5): 1025–1048.
- . 2012b. *Gender Differentials in Access to Land and Productive Assets. Report Prepared for the India Development Report*. New Delhi: The World Bank.
- . 2013. “Rights, Recognition and Rape.” *Economic and Political Weekly* 48 (7): 18–20.
- . 2014. “Caste, Kinship, and Life-Course: Rethinking Women’s Work and Agency in Rural South India.” *Feminist Economics* 20 (4): 78–102.
- . 2015a. *M.S. Swaminathan in Conversation: From Reflections on My Life to the Ethics and Politics of Science*. New Delhi: Academic Foundation.
- . 2015b. “Work, Time and Nutrition: Gendered Insights from South Asia.” Paper presented to the All Party Parliamentary Group on Agriculture and Food for Development, House of Lords, London, June 30.
- Rao, N., and A. Mitra. 2013. “Migration, Representations and Social Relations: Experiences of Jharkhand Labour to Western Uttar Pradesh.” *Journal of Development Studies* 49 (6): 846–860.
- Rao, N., A. Verschoor, A. Deshpande, and A. Dubey. 2008. “Gender Caste and Growth Assessment – India,” Report submitted to DFID. <http://www.uea.ac.uk/dev/publications/RPP8>.
- Raykar, N., M. Majumder, R. Laxminarayan, P. Menon. 2015. *India Health Report: Nutrition 2015*. New Delhi: Public Health Foundation of India.
- RTFC (Right to Food Campaign). 2011. “Right to Food.” *Economic and Political Weekly* 46 (33): 21–23.
- Roy, S. 2008. “Female Empowerment through Inheritance Rights: Evidence from India.” Paper presented at the Second Riccardo Faini Doctoral Conference on Development Economics, University of Milan, Italy, September 7–9.
- Sainath, P. 2014. “Maharashtra Crosses 60,000 Farmer Suicides.” July 15. Accessed on March 24, 2016. <https://psainath.org/maharashtra-crosses-60000-farm-suicides/>.
- Sen, A. K. 1981. *Poverty and Famines: An Essay on Entitlement and Deprivation*. Oxford, UK: Oxford University Press.
- . 1999. *Development as Freedom*. Oxford, UK: Oxford University Press.
- . 2009. *The Idea of Justice*. London: Penguin Books.
- Sharma, U. 1980. *Women, Work and Poverty in Northwest India*. Andover, MA, US: Tavistock.
- Singh, S. 2003. *Contract Farming in India: Impacts on Women and Child Workers*. Gatekeeper Series 111. London: International Institute for Environment and Development.
- Srivastava, G., and P. Chaudhury. 2011. *Are We Forgotten Women? A Study on the Status of Low-Income Single Women in India*. Udaipur, India: National Forum for Single Women’s Rights.
- Srivastava, N., and R. Srivastava. 2010. “Women, Work and Employment Outcomes in Rural India.” *Economic and Political Weekly* 45 (28): 49–63.
- Swaminathan, H., J. Y. Suchitra, and R. Lahoti. 2011. *Karnataka Household Asset Survey: Measuring the Gender Asset Gap*. Bangalore, India: Indian Institute of Management.
- Thomas, D. 1990. “Intra-household Resource Allocation: An Inferential Approach.” *The Journal of Human Resources* 25 (4): 635–664.
- Thorat, S., D. Kundu, and N. Sadana. 2010. “Caste and Ownership of Private Enterprises.” In *Blocked by Caste: Economic Discrimination in Modern India*, edited by S. Thorat and K. Newman, 311–327. New Delhi: Oxford University Press.
- Thorat, S., and N. Sadana. 2009. “Discrimination and Children’s Nutritional Status in India.” *IDS Bulletin* 40: 25–29.

- UN Women and RDI (Rural Development Institute). 2011. *Gender and Land Tenure Security: Challenges and Barriers to Women's Entitlement to Land in India*. New Delhi.
- UNICEF. 2007. *Child poverty in Perspective: An Overview of Child Well-Being in Rich Countries*. Innocenti Report Card 7. Florence, Italy: UNICEF Innocenti Research Centre.
- Unni, J., and G. Raveendran. 2007. "Growth of Employment (1993–1994 to 2004–2005): Illusion of inclusiveness?" *Economic and Political Weekly* 42 (3): 196–99.
- Usami, Y. 2011. "A Note on Recent Trends in Wage Rates in Rural India" *Review of Agrarian Studies* 1 (1): 149–182.
- von. Grebmer, K., B. Jill; A. de Waal, N. Prasai, S. Yin, and Y. Yohannes. 2015. *2015 Global Hunger Index: Armed Conflict and the Challenge of Hunger*. Bonn, Germany; Washington, D.C. and Dublin, Ireland: Welthungerhilfe; International Food Policy Research Institute, and Concern Worldwide. <http://dx.doi.org/10.2499/9780896299641>.
- WGWLO (Working Group for Women and Land Ownership). 2004. *Study on Status of Women and Agricultural Land Ownership in Gujarat*. Ahmedabad, India.
- World Bank. 2001. *Engendering Development*. A World Bank Policy Research Report. Washington, DC.

RECENT IFPRI DISCUSSION PAPERS

For earlier discussion papers, please go to www.ifpri.org/publications/discussion_papers.
All discussion papers can be downloaded free of charge.

1599. *Cities and rural transformation: A spatial analysis of rural youth livelihoods in Ghana*. Xinshen Diao, Peixun Fang, Eduardo Magalhaes, Stefan Pahl, and Jed Silver, 2017.
1598. *The changing structure of Africa's economies*. Xinshen Diao, Kenneth Harttgen, and Margaret McMillan, 2017.
1597. *Perspectives on the role of the state in economic development: Taking stock of the "Developmental State" after 35 years*. Jordan Kyle, 2017.
1596. *Imputing nutrient intake from foods prepared and consumed away from home and other composite foods: Exploring extensions of the Subramanian–Deaton cost per calorie approach*. Dena Metili Mwangi, John L. Fiedler, and Celeste Sununtmasuk, 2017.
1595. *Estimating spatial basis risk in rainfall index insurance: Methodology and application to excess rainfall insurance in Uruguay*. Francisco Ceballos, 2016.
1594. *The effect of land inheritance on youth employment and migration decisions: Evidence from rural Ethiopia*. Katrina Kosec, Hosaena Ghebru, Brian Holtemeyer, Valerie Mueller, and Emily Schmidt, 2016.
1593. *How headquarters relocation is affected by rising wages and ownership: Evidence from China's Annual Survey of Industrial Enterprises, 1999–2008*. Qingtao Wang, Kevin Chen, Longwen Chiang, and Xuanli Xie, 2016.
1592. *External shocks, food security, and development: Exploring scenarios for Central America*. Eugenio Diaz-Bonilla, Valeria Piñeiro, and Pablo Elverdin, 2016.
1591. *The role of learning in technology adoption: Evidence on hybrid rice adoption in Bihar, India*. Jared Gars and Patrick S. Ward, 2016.
1590. *Building effective clusters and industrial parks*. Xiaobo Zhang, 2016.
1589. *Nepal's 2072 federal constitution: Implications for the governance of the agricultural sector*. Jordan Kyle and Danielle Resnick, 2016.
1588. *Entitlement fetching or snatching?: Effects of arbitrage on India's public distribution system*. Suman Chakrabarti, Avinash Kishore, and Devesh Roy, 2016.
1587. *Changing preferences through experimental games: Evidence from sanitation and hygiene in Tamil Nadu*. Yaniv Stopnitzky, 2016.
1586. *Climate change, agriculture, and adaptation in the Republic of Korea to 2050: An integrated assessment*. Nicola Cenacchi, Youngah Lim, Timothy Sulser, Shahnila Islam, Daniel Mason-D'Croz, Richard Robertson, Chang-Gil Kim, and Keith Wiebe, 2016.
1585. *The dark side of competition: Gender differences*. Simon Chang, Kamhon Kan, and Xiaobo Zhang, 2016.
1584. *Harnessing net primary productivity data for monitoring sustainable development of agriculture*. Nathaniel P. Robinson, Cindy M. Cox, and Jawoo Koo, 2016.
1583. *Effects of agricultural mechanization on smallholders and their self-selection into farming: An insight from the Nepal Terai*. Hiroyuki Takeshima, Rudra Bahadur Shrestha, Basu Dev Kaphle, Madhab Karkee, Suroj Pokhrel, and Anjani Kumar, 2016.
1582. *The agricultural sector as an alternative to illegal mining in Peru: A case study of Madre de Dios*. Valeria Piñeiro, Jenny Thomas, and Pablo Elverdin, 2016.
1581. *What drives diversification of national food supplies?: A cross-country analysis*. Samira Choudhury and Derek Headey, 2016.
1580. *Identity, household work, and subjective well-being among rural women in Bangladesh*. Greg Seymour and Maria S. Floro, 2016.
1579. *Youth employment, agricultural transformation, and rural labor dynamics in Nigeria*. Margaret Adesugba and George Mavrotas, 2016.

**INTERNATIONAL FOOD POLICY
RESEARCH INSTITUTE**

www.ifpri.org

IFPRI HEADQUARTERS

2033 K Street, NW
Washington, DC 20006-1002 USA
Tel.: +1-202-862-5600
Fax: +1-202-467-4439
Email: ifpri@cgiar.org

IFPRI NEW DELHI

NASC, DPS Road, Opp Todapur, Pusa
New Delhi 110-012 India
Tel.: 91 11 2584-6565
Fax: 91 11 2584-8008 / 2584-6572
Email: ifpri-newdelhi@cgiar.org