



Agriculture, nutrition and gender in India

The South Asian region has one of the highest rates of child and maternal undernutrition in the world. Undernutrition is widespread and persistent even in India despite its relatively strong economic performance and is particularly high in rural areas and among those in agriculture based livelihoods. Though agriculture has the enormous potential to contribute to improvements in undernutrition, the evidence so far in the Indian context demonstrates weak linkages between agriculture and nutrition (Kadiyala et al. 2014). Few studies in the past have focused on adult nutritional outcomes, specifically on women's nutritional status, which has emerged as an important research topic in recent years and is an area of focus of LANSAs research in the region and in India.

For India, under the research theme, *'How enabling is the wider context in linking agriculture and food systems to other determinants of nutritional status?'*

– LANSAs research focuses on understanding barriers and facilitators to nutrition-sensitive agricultural development in the country. Based on empirical work on the available large secondary datasets, these studies analyse the pathways that connect agriculture and nutrition and the type and degree of interaction with other non-food drivers. This research brief summarises the key findings from the different studies focusing on women's agency and nutrition undertaken by LANSAs in India.

Women's agency and child undernutrition

Women's agency is understood to be the process by which women use their endowments to achieve desired outcomes; and the empowerment of women is known to create positive women's agency. The concept of development, in particular human development,



has now been broadened to include the enhancement of one's choices, which results in improved capabilities and consequently better welfare achievements. Enhanced capabilities also promote women's agency. The exercise of the agency for desirable child nutrition outcomes, however, is mediated by women's own educational and health status, access to

↑ Women from the farming system (FSN) study villages are involved in taking care of the community nutrition garden at Wardha district.

LANSA

¹ These include aspects of access to water, sanitation and hygiene, public provisioning of healthcare and food and role of women

² See References

resources and freedom to take decisions and implement them. Women's agency may be independent or collective; however, in the context of health and nutrition, the reference is mainly to the individual agency of women.

Nutritionally adequate diets and the absence of infection in the early period of infancy is a pre-requisite for good nutritional outcomes in childhood. The quality and quantity of time available for childcare are critical in this context; more so considering the fact that close to 80 per cent of women in rural India are involved in agricultural work. Women's agency is pivotal within three of the six pathways linking agriculture to child nutrition (Kadiyala et al. 2014); these include women's influence in household decision-making, her own nutritional status and her ability to manage the care, feeding and health of young children. While subsistence agricultural production may offer some flexibility to women, a large body of existing evidence points towards the impact of women's employment and agricultural work practices on child undernutrition; it suggests that there is a trade-off between mother's employment and the child's nutritional status through the income effect versus quality of childcare.

A LANSa study that attempts to explain the variations in underweight rates across predominantly rural areas of districts in India has looked at the agency effect of women's work participation and educational levels in an agricultural setting. These were controlled for access to toilets as proxy for hygienic conditions that affect the absorption of nutrients and anaemia in pregnant women as proxy for health status of expectant mothers; both significantly influence the prevalence of underweight in children. While work participation rates of women resulted in positive outcomes for child nutrition they were not consistently so; it was found that women's work participation appeared to contribute to better nutrition only in districts with lower prevalence of underweight children (possibly due to higher wages for women's

work in the better-off districts). It was observed that women's education above secondary level consistently emerged as a significant factor in improving child nutrition. It would appear that women's agency is enhanced with the combined influence of women's work and education. The research points to the need for social provisioning of healthcare, improved sanitation and education for women's agency to have an impact on improving child nutrition outcomes in rural India (See **Figure 1**) (Swarna et al. 2016).

Significance of women's own nutritional status

A woman's own nutritional status particularly among those engaged in agriculture (and other manual work) is another pathway that links agriculture to child nutrition. A study conducted by LANSa used the 2005 Indian Human Development Survey and looked at dietary diversity and women's nutritional status using body mass index (BMI) as an indicator (Brinda et al. 2015)

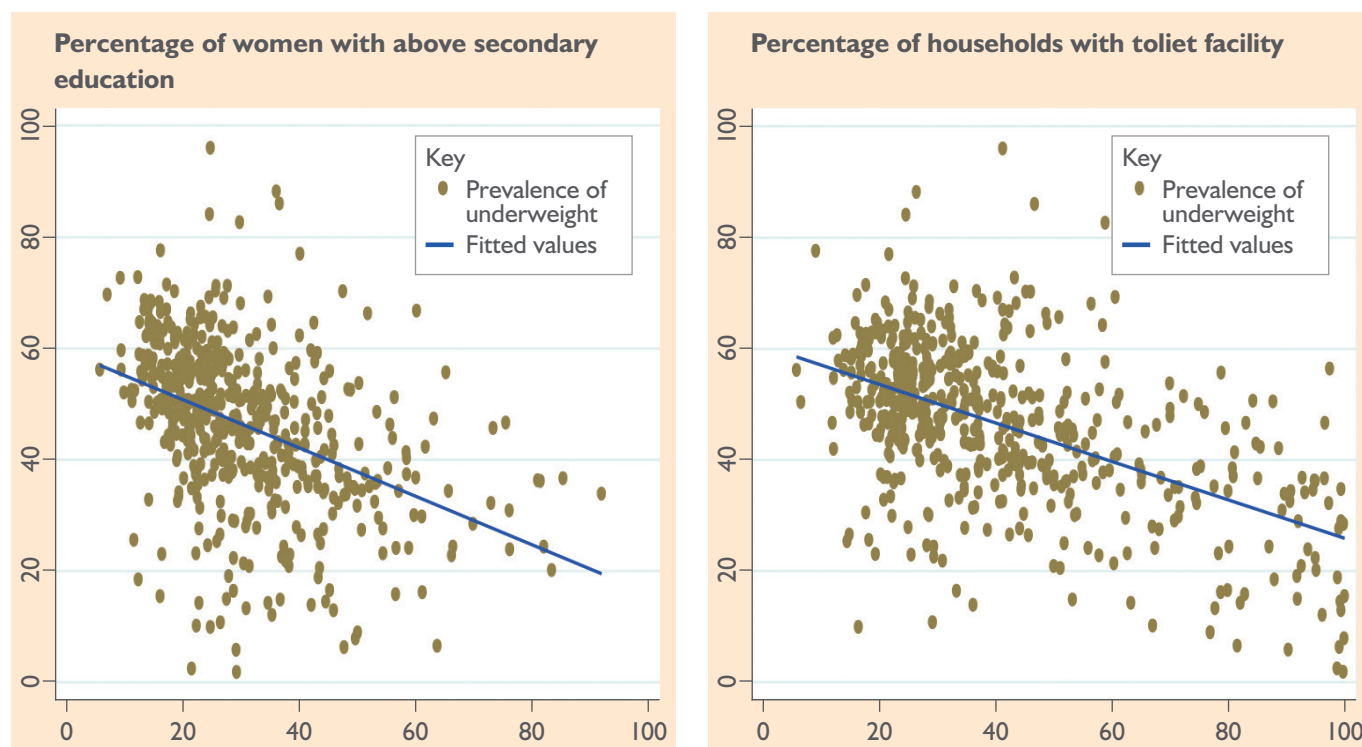
In rural India's agricultural environment, lower rates of maternal undernutrition based on

“While work participation rates of women resulted in positive outcomes for child nutrition they were not consistently so; women's work participation appeared to contribute to better nutrition only in districts with lower prevalence of underweight children.”

↓ Women farmers in Wardha district sharing the harvest of greens from the community nutrition garden.
LANSa



Figure 1 Association of Child underweight rates with above-secondary education rates among women and percentage of households with toilet facility across districts in India (2002–2004)



Source: Swarna et al. (2016)

BMI cut-offs were observed among women in cultivator households and among those who have a higher share of agricultural incomes as compared to women in non-agricultural wage labour households (See **Table 1**). Modelling dietary diversity at the household level to women’s BMI, the study validated previous observations that greater dietary diversity promotes better nutritional outcomes and is associated with characteristics such as higher agricultural income, larger areas under cultivation, crop and income diversification, access to animal source foods and to markets; as well as better nutritional awareness due to the presence of an educated adult member in the household. Categorical (dummy) variables that indicate use of consumption of purified water for drinking, use of different types of sanitation facilities, access to electricity, and use of LPG/kerosene as primary (clean) cooking fuel were included in the analysis, as were access and use of healthcare facilities during short-term illness and antenatal care during pregnancy

This study demonstrated clearly that an adult woman’s BMI is not only dependent on dietary diversity but also requires enabling

environmental conditions such as quality drinking water, good sanitation, smoke-free cooking facilities and better access to health care – all these findings have important policy implications for India.

Table 1 Relationship of major source of income and prevalence of rural women with low BMI (<18.5) in India

Major source of income	Average share of farm income (%)	Grow at least one crop (%)	Prevalence of low BMI (%)
Cultivation	62.8	94.5	27.6
Agricultural wage labour	12.7	28.5	30.6
Non-agricultural wage labour	11.0	30.4	34.7
Artisans	8.8	22.7	22.7
Trade and Business	9.1	30.4	22.9
Salaried and professionals	13.8	40.7	20.7

Adapted from Brinda Viswanathan, Getsie David, Swarna Vepa and R V Bhavani
LANSA Working Paper Series Volume 2015 No 3

References

Brinda Viswanathan, Getsie David, Swarna Vepa and Bhavani R V (2015) **Dietary Diversity and Women's BMI among Farm Households in Rural India**. *LANSA Working Paper Series* Volume 2015 No.3 September http://www.eldis.org/vfile/upload/1/document/1510/LANSA_Working_%20Paper_%20Series_%20No3.pdf

Kadiyala Suneetha, Jody Harris, Derek Headey, Sivan Yosef and Stuart Gillespie (2014) **Agriculture and nutrition in India: mapping evidence to pathways** *Ann. N.Y. Acad. Sci.* 1331: 43–56

Swarna Sadasivam Vepa, Brinda Viswanathan, Bhavani R V and Rohit Parasar (2015) **Child Under-weight and Agricultural Productivity in India: Implications for Public Provisioning and Women's Agency**. *Review of Radical Political Economics*, 47: 579 – 587. DOI:10.1177/0486613415584587 <http://rrp.sagepub.com/content/47/4/579>

Swarna S Vepa, Brinda Viswanathan, Sandeeptha Dhas, Vinodhini Umashankar and Bhavani R V (2016) **Women's Agency and Child Underweight rates in India in the context of Agriculture: A district level analysis**. Chapter 6 in Sonalde Desai, Amit Thorat, Deepta Chopra and Lawrence Haddad (Edited) *Undernutrition in India and Public policy – Investing in the Future*, Routledge <http://bit.ly/1UNSYJl>



Credits

This summary was written by **Prakash Shetty**, Chief Executive, **R.V. Bhavani**, Programme Manager, and **Rohit Parasar**, Senior Research Fellow of the LANSAs Research Consortium at M.S. Swaminathan Research Foundation, Chennai, India based on the above referenced LANSAs outputs and publications.

The LANSAs project with regional and international partners and lead by MSSRF, Chennai, India is funded by UK Aid from the British people.

Readers are encouraged to quote and reproduce material from issues of LANSAs briefings in their own publication. In return, LANSAs requests due acknowledgement and for quotes to be referenced as above.

↑ Mothers generally take their children to work in Koraput district.

LANSA



LANSA
Leveraging Agriculture for
Nutrition in South Asia



LANSA is an international research partnership, exploring how agriculture and agri-food systems can be better designed to advance nutrition in South Asia. Led by MS Swaminathan Foundation, members include BRAC, Collective for Social Science Research, Institute of Development Studies, International Food Policy Research Institute and Leverhulme Centre for Integrative Research for Action on Health. LANSAs is funded by the UK Government. The views expressed in this document do not necessarily reflect the UK Government's official policies.

Web www.lansasouthasia.org **Email** lansa.india@gmail.com **Twitter** @LANSAresearch