

Interrogating Progress in Addressing Malnutrition in India

Author(s): Dipa Sinha

Source: *Social Scientist*, September–October 2022, Vol. 50, No. 9/10 (592–593)
(September–October 2022), pp. 59–82

Published by: Social Scientist

Stable URL: <https://www.jstor.org/stable/10.2307/27192736>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <https://about.jstor.org/terms>



Social Scientist is collaborating with JSTOR to digitize, preserve and extend access to *Social Scientist*

JSTOR

Interrogating Progress in Addressing Malnutrition in India

Dipa Sinha

Malnutrition in India has been a persistent problem and has even been called a 'national shame'. This has been one aspect of the Indian economy that regularly reminds us during both periods of high economic growth as well as stagnation, that the 'development' being experienced is lop-sided. India consistently ranks below what is expected based on its per capita income level in various global indices of hunger, malnutrition and food security. While the literature in the 1990s referred to this problem as the 'Asian enigma' (Ramalingaswami, Jonsson and Rhode 1997), to reflect the worse malnutrition outcomes in south Asian countries compared to poorer countries in Africa, in more recent times we are observing what seems an 'Indian enigma' (Drèze and Sen, 2020), with neighbouring countries such as Bangladesh breaking out of this trend while India continues to lag.

Malnutrition is a multi-dimensional issue with outcomes being determined by a number of economic and non-economic factors (Smith and Haddad 2000). While the access to food and freedom from infections are the immediate determinants of the extent of malnutrition, these are in turn dependent on a number of other factors such as the household economic status, food security including food availability and affordability, access to sanitation, availability of health services, access to care services for young children and women's status especially within the household. Any increase or decrease in malnutrition is often a result of a combination of these influences and it is difficult to separate out the impact of each of these. In relation to the Asian enigma, it was often argued that one of the main factors that resulted in the difference in outcomes between Africa and Asia was the poorer status of women in South Asian countries. As a result, it has been shown, that although south Asian countries had better access to health services and hence lower child mortality rates, anthropometric indicators of nutrition such as stunting and wasting have been historically high (Ramalingaswami, Jonsson and Rhode 1997).

More recent literature also attributes this difference between south Asian countries, especially between India and its poorer neighbours to the poor sanitation standards in India (Spears 2013). India has one of the highest levels of open defaecation in the world, which has been shown to cause higher malnutrition levels through greater susceptibility to infections. It has also been argued that the poor performance of India in terms of malnutrition and other human development indicators is a reflection of

the exceptionally high levels of caste, class and gender inequalities in the country (Drèze and Sen, 2020).

With declining poverty levels, there has been an implicit understanding, especially in government documents, that food security is no longer a problem. Programmes have therefore focussed on behavioural change in relation to infant and young child feeding practices, with the understanding that more than the lack of access to food the problem lies in lack of awareness and adoption of appropriate feeding practices. Emphasis is also being given to interventions such as mandatory fortification of staples with certain micronutrients, which is again something that implicitly ignores the problem of food insecurity and poor diets and proposes technocratic solutions that focus on single nutrients.

In this paper, we start by looking at the trends in malnutrition while also highlighting the geographical and social inequalities that persist. Following this, we look at the other indicators related to the explanatory variables to draw some conclusions on possible explanations for the observed trends. While many of these factors no doubt play an important role in determining the status of malnutrition, in this paper we argue that household food security continues to be an issue of concern and cannot be ignored. Further, it is proposed that in the most recent period for which data are available (between 2015–16, NFHS-4 and 2019–21, NFHS-5), among the various factors, household food insecurity has played a dominant role in the overall slowdown in improvement in malnutrition in the country. As a result of poor improvements in diets, we see rather meagre advances in malnutrition with prevalence of stunting increasing in some states and overall increases in anaemia and wasting.

The reason for continued poor diet qualities in households is linked to broader economic developments such as slowdown in economic growth, stagnant wages and, most recently, increased food prices. Two economic shocks, that particularly affected those in the informal sector, demonetisation and the introduction of the new goods and services tax (GST) regime also contributed to this situation. Studies show that during economic shocks, household food security tends to have a negative impact on child feeding practices as well. In the absence of consumption expenditure data from the NSS (the last available official data is for 2011–12), it is very difficult to assess the food consumption patterns of households or poverty trends. Based on what we know from various sources, diversity in diets and nutritional quality of food consumption in India are extremely poor and this has probably been negatively affected by the overall economic slowdown as well as the covid pandemic.

Using some of the food consumption data available from NFHS as well as FAO statistics, we try to look at what has happened to household food security during this period, when sufficient support through welfare programmes such as the ICDS and mid-day meals has also been missing.

This is reflected in the lower union budgets for these schemes in real terms. While these programmes continued and provided some support, budget allocations by the central government were cut in real terms or did not see any expansion commensurate to the declining economic situation.

Before getting into the details of the trends in malnutrition it must be mentioned that what is presented here is exploratory in nature, keeping in mind data limitations. In the absence of recent consumption expenditure data, the analysis related to food consumption is considerably weakened. There are many data quality issues as well as methodological gaps in the way the FAO statistics measure hunger and food insecurity. NFHS data on food consumption is also limited. Further, the NFHS round this time has been conducted almost over a two-year period, from late 2019 to mid-2021 with the survey being disrupted for a number of months due to the Covid pandemic and the lockdowns. It is not yet clear how this may contaminate the results, especially considering the significant impact Covid has also had on livelihoods, hunger and food security. A number of surveys have shown that people reported higher levels of food insecurity after the national lockdown and that this continued for a much longer period than the lockdown (Drèze and Somanchi 2021, Right to Food Campaign 2022). These heightened levels of food insecurity over a longish period of time, along with disruptions in services such as ICDS, are likely to have an effect on malnutrition levels among children.

The present analysis however does not take into account the impact of Covid on malnutrition. Considering that half the NFHS survey was done before pandemic, and the other half immediately after, it is also likely that the impact on indicators of chronic malnutrition such as prevalence of stunting among children under five is not yet visible. Therefore, in the rest of this paper there is no discussion on Covid and its impact and the data from NFHS-5 is taken to be broadly representative of the period 2019–21.

Trends in Malnutrition in India

The National Family Health Survey (NFHS) is considered to be the best source of data on malnutrition outcomes for India. Five rounds of NFHS have been conducted so far, at varying intervals, starting from 1991–92. While the first two rounds used older growth standards and included anthropometry only for children under three years of age, the latter three rounds are comparable as they all use the WHO's global reference standards for anthropometric indicators and include children under five years of age.

Amongst the three anthropometric indicators, stunting (height for age), wasting (weight for height) and underweight (weight for age), stunting indicates chronic undernutrition whereas wasting is a reflection of acute undernutrition. Underweight is considered a composite indicator. Stunting is considered a good indicator for not only childhood malnutrition but also a measure of overall children's well-being and social inequalities (De

Onis and Branca, 2016). This paper focusses mainly on stunting. Between NFHS-3 (2005–06) and NFHS-4 (2015–16), at the All-India level there was a 9.6 percentage point (pp) fall in the proportion of children who were stunted from 48 percent to 38.4 percent (i.e., 0.96 pp per year). While there is an improvement between NFHS-4 (2015–16) and NFHS-5 (2019–21) in stunting from 38.4 percent to 35.5 percent, this decline of 2.9pp shows a slower pace of decline of 0.58pp per year compared to the previous period. This is a significant slowing down in progress and needs to be investigated further. The initial results that were released in 2020 for 22 states and UTs, showed an increase in stunting and a worsening of malnutrition outcomes for most states (Drèze 2020, Sinha 2020). This was for states covered before the covid pandemic, and therefore definitely cannot be attributed to the pandemic.

While marginally better improvements in wasting and underweight prevalence are seen in NFHS-5, anaemia among children has increased to a considerable extent (Table 1). Further, NFHS-5 data also show some reversal in the rate of improvement in child and infant mortality rates between 2015–16 and 2019–21 compared to the previous years. A slowdown in improvements in child mortality rates in 2017 and 2018 was found by Drèze et.al using Sample Registration System (SRS) data (Drèze et.al. 2021).

To understand the trends in undernutrition better, in the following sections we look at the changes by states, residence, social group and wealth quintiles.

Table 1 Trends in Undernutrition Outcomes

	NFHS-3 (2005–06)	NFHS-4 (2015–16)	NFHS-5 (2019–21)
Stunting	48.0	38.4	35.5
Wasting	19.8	21.0	19.3
Underweight	42.5	35.8	32.1
Anaemia – children aged 6–59 months	69.5	58.4	67.1
Anaemia – women aged 15–49 years	55.3	53.0	53.1

Source: National Reports, NFHS- 3, 4 and 5.

Table 2 Trends in Infant and Child Mortality Rates

	NFHS-3 (2005–06)	NFHS-4 (2015–16)	NFHS-5 (2019–21)
Under 5 Mortality Rate	74.3	49.7 (3.31)	41.9 (1.57)
Infant Mortality Rate	57	40.7 (2.86)	35.2 (1.35)

Note: Figures in brackets indicate percentage change per year.

Source: National Reports, NFHS- 3, 4 and 5.

Convergence among States and Residence: A Case of 'Levelling Down'

Data on prevalence by state shows a concerning trend as the level of stunting has increased in a number of states. Stunting is an indicator of chronic malnutrition whose pace of change may vary depending on a number of factors but the direction of change is usually positive (i.e., a reduction in stunting is seen). It is rare to see increases in stunting over time. Looking at the NFHS-5 data for 22 major states (excluding union territories and northern eastern states except Assam to factor in for small sample size issues), it is seen that seven states (Goa, Telangana, Himachal Pradesh, Kerala, West Bengal, Maharashtra, Gujarat) show an increase in the prevalence of stunting and another four (Andhra Pradesh, Jammu and Kashmir, Karnataka and Assam) show a negligible improvement of less than 1pp (0.2pp per year) in comparison with NFHS-4. In contrast, in the previous period, between NFHS-3 and NFHS-4, there was no single state which showed an increase in stunting prevalence and the smallest decline was seen in Tamil Nadu and Jharkhand of 4.3pp (0.43pp per year).

Broadly, the state-wise figures show that states that are generally considered to be better in terms of human development outcomes such as Kerala, Goa, Himachal Pradesh faced a reversal in trends or slow improvement. On the other hand, the highest improvements are seen in states such as Bihar, Jharkhand, Madhya Pradesh and Uttar Pradesh which have high levels of malnutrition. To an extent this is unsurprising because those states that have poorer outcomes can be expected to show faster improvements owing to the low base effect ('low hanging fruits'). It is well documented especially in the case of health indicators, including malnutrition, that it becomes and more and more difficult and requires greater resources to improve outcomes as things get better. This is because there is a limit to how much better things can get – infant mortality cannot be less than 0, literacy rate cannot be more than 100, undernutrition cannot be less than 0, and so on. The ill-health and mortality that persist are usually more attributable to causes such as genetic factors, disease etc. that are relatively unavoidable or more difficult to treat when compared to that at higher levels where many of the deaths or instances of malnutrition can be prevented through simple interventions such as improved sanitation, prevention and treatment of diarrhoea/pneumonia, and basic improvements in diets. Convergence in human development outcomes is therefore expected, with backward states improving faster.

However, the data from NFHS-5 are still a cause for concern. The apparent convergence seems to be not so much because of poor states showing faster improvements but driven by better off states slowing down or even getting worse. While convergence between states is desirable, if the reasons for the same is deterioration in status in some states, then it is not a positive change. Figure 1 plots the extent of change in stunting in

relation to the level of stunting in the initial period. The change in stunting is measured as percentage points change per year, with a positive sign indicating a decline in stunting and therefore an improvement. The figure depicts two fitted lines for the periods, 2005–06 to 2015–16 (NFHS-3 to NFHS-4) and 2015–16 to 2019–21 (NFHS-4 to NFHS-5). As can be seen in the figure, in both periods, there is some convergence defined as there being a larger reduction in stunting in states that initially had higher levels of stunting. This relationship is steeper in the later period indicating greater convergence with states with higher levels of stunting improving even faster. However, for this period it is also the case that a number of states with lower levels of stunting are showing deterioration (below the X-Axis) or negligible change (close to the X-Axis). On the whole, the points relating to the earlier period are at a higher level indicating a greater change compared to the points on the figure relating to the more recent period.

A similar trend is observed even when we compare the change between rural and urban areas. Rural areas have a higher prevalence of stunting and also show a faster improvement. Once again, this convergence between rural and urban areas seems to be happening at a faster pace in the most recent period, not because of higher improvements in rural areas but rather slow improvements in urban areas. Table 3 shows the level of stunting in urban and rural areas across the last three rounds of NFHS. While rural areas showed a relatively faster improvement during both the periods, in the period between 2015–16 to 2019–21, there is hardly any improvement in urban areas and the rate of change in rural areas has also slowed down. Therefore, what we see here is a case of convergence which is driven by deterioration amongst the better off rather than superior improvements among the worse off.

Figure 1 *Stunting Prevalence: Convergence between States*

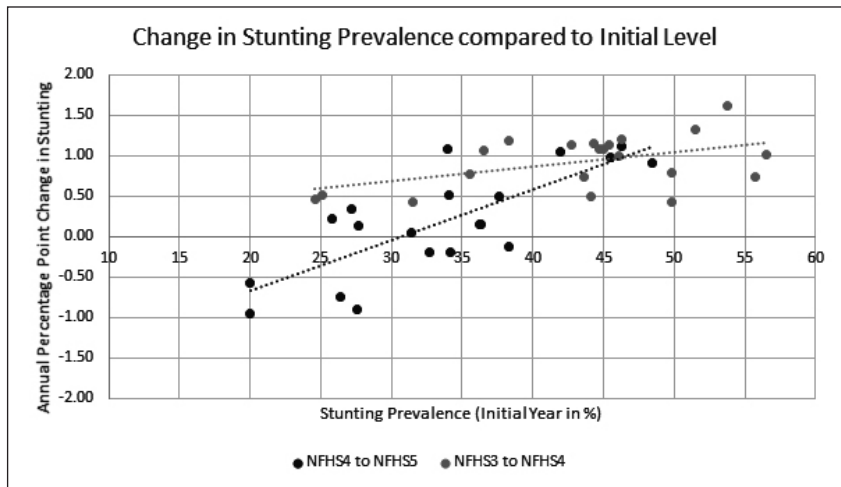


Table 3 Trends in Stunting by Residence – Urban and Rural

Stunting	All	Urban	Rural
NFHS-3	48	39.9	50.7
NFHS-4	38.4	31	41.2
NFHS-5	35.5	30.2	37.4
<i>Annual percent point change</i>			
2005–06 to 2015–16	0.96	0.89	0.95
2015–16 to 2019–21	0.58	0.16	0.78

Source: Estimated from NFHS-3, NFHS-4 and NFHS-5 child dataset.

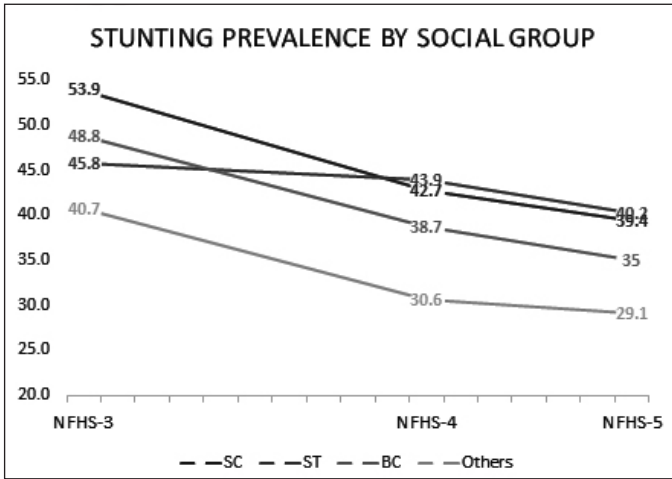
This issue of distress in urban areas needs to be explored further. The paper by Drèze et. al. (2021) on reversals in infant mortality rates also find a greater stagnation in rural areas. A preliminary analysis of data from the PLFS also shows declines in per capita incomes and per capita consumption in urban areas during the period 2018–19 to 2020–21, while rural areas show slight increases (Himanshu, 2022).

Persisting Socio-Economic Inequalities

Like other social indicators, malnutrition outcomes are also influenced by the socio-economic background of the child/household. Children belonging to dalit and adivasi communities and poorer sections have higher odds of being malnourished than those belonging to upper caste households (Pathak and Singh 2011, Mazumdar 2010). At the same time, it has also been the case that even amongst the upper caste households, malnutrition is high compared to global standards.

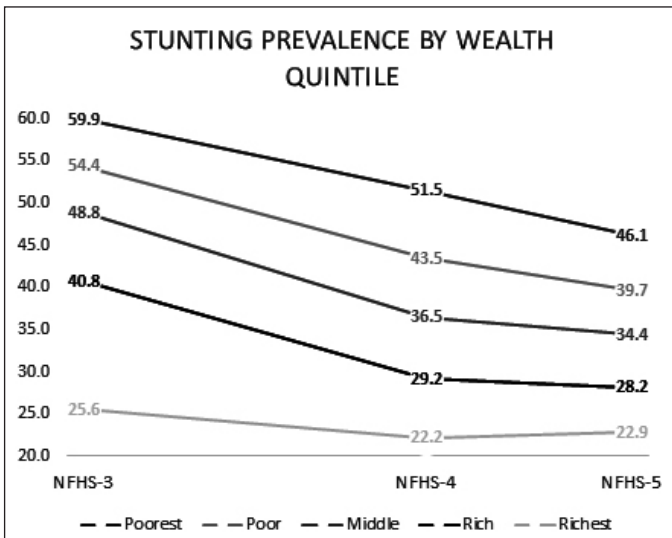
The NFHS-5 finds that there is a convergence in malnutrition levels amongst the different social groups (Figure 2). Once again, while this is a favourable outcome, the convergence is due to the stunting prevalence amongst the upper castes remaining at almost the same level over the six years since NFHS-4, with slight decline in stunting among SCs, STs, and OBCs. Moreover, this decline in stunting amongst the marginalised groups is at a slower pace compared to what was seen during the ten-year period between NFHS-3 and NFHS-4. Among SCs stunting prevalence reduced from 54 percent in 2005–06 to 43 percent in 2015–16 (1.1pp per year). In the next period between 2015–16 to 2019–21, stunting prevalence among SCs continued to decline but at a slightly slower pace from 43 percent to 39 percent (0.8pp per year). Amongst the ‘others’ group which mostly reflects upper castes, the decline was from 41 percent to 31 percent between NFHS-3 and NFHS-4, but less than 2 percentage points in the more recent period with the stunting prevalence in NFHS-5 being 29.1 percent. Amongst STs the decline was slow in the previous period, and picked up pace marginally in the more recent period.

Figure 2 Trend in Stunting Prevalence by Social Group



Source: Estimated from NFHS-3, NFHS-4 and NFHS-5 child dataset.

Figure 3 Trend in Stunting Prevalence by Wealth Quintile



Source: Estimated from NFHS-3, NFHS-4 and NFHS-5 child dataset.

A similar pattern is found in the case of change by wealth quintiles as well. In NFHS-3 the gap between the poorest and richest in terms of stunting prevalence was very wide, over 34 percentage points. This reduced to 29 percentage points by NFHS-4 and further down to 23 percentage points by NFHS-5. However, while there was some decline in the stunting prevalence amongst the richest between NFHS-3 and NFHS-4, during

the period NFHS-4 to NFHS-5, there was a slight increase in the stunting prevalence amongst the richest. As can be observed in Figures 2 and 3, both by social group as well as wealth quintile, the change in stunting prevalence between NFHS-4 and NFHS-5 is flatter when compared to the previous period. While this is the case for all social groups and wealth quintiles, the least change is seen amongst the better off. As stated earlier, the more marginalised groups improving faster is expected and should be how it is. The problem here, however, is that even amongst these groups the change is slower compared to previous periods, even though there is convergence because the better off groups are showing negligible improvements.

This is concerning also given the fact that in the case of undernutrition, the prevalence among the ‘others’ group (mostly upper caste Hindus) as well as the richest wealth quintile is also still very high. Therefore, even in this case, one must not overemphasise the benefits of the low base effect. To put it in context, the overall stunting prevalence is a bit lower in other low-middle income countries (LMIC) such as Uganda, Bangladesh, Kenya and Zimbabwe than amongst the upper castes in India. LMICs such as Bolivia, Vietnam, Ghana and Sri Lanka have lower levels of stunting on average than the richest wealth quintile in India¹. According to the WHO, prevalence cut-off values for public health significance indicate that a stunting prevalence between 20 to 30 percent is considered to be ‘high’ and anything above 30 percent is ‘very high’².

Table 4 Prevalence of Stunting (% of children under 5) in Selected Low-Middle Income Countries (LMICs)

Country (Year)	Stunting Prevalence	Country (Year)	Stunting Prevalence
Uganda (2020)	25.4	Bolivia (2016)	16.1
Bangladesh (2019)	28.0	Vietnam (2020)	19.6
Kenya (2014)	26.2	Ghana (2017)	17.5
Zimbabwe (2019)	23.5	Sri Lanka (2016)	17.3
India (Social Group ‘Others’) (2021)	29.1	India (Richest Wealth Quintile) (2021)	22.9

Source: World Bank Database for other countries and estimated from NFHS-5 for India.

Table 5 Some Women’s Status Indicators – NFHS-4 and NFHS-5

Women’s Status Indicators	NFHS-4	NFHS-5
Women who worked in the last 12 months and were paid in cash (%)	24.6	25.4
Women owning a house and/or land (alone or jointly with others) (%)	38.4	43.3
Women having a bank or savings account that they themselves use (%)	53	78.6
Women having a mobile phone that they themselves use (%)	45.9	54
Women with 10 or more years of schooling (%)	35.7	41

Source: Factsheet, NFHS-5.

The trends in malnutrition as seen above show that while there is convergence, it is probably in the nature of what may be called ‘levelling down’, namely achieving greater equality not by raising the disadvantaged to the status of their relatively advantaged brethren, but by lowering the standards of the relatively advantaged population to those of the disadvantaged sections of society’ (Subramanian, 2019). One could also relate this to the concept of ‘harmonising down’ as used by Diane Elson in the context of declining gender gaps in wages in labour markets as a result of greater informalisation and poor wages for men because of neoliberal economic policies (Elson 1999). In the case of stunting, while we see an average improvement across the board, the pace of improvement has slowed down for all groups and has stagnated or even reversed for the better-off.

This concept of ‘levelling down’ developed by Derek Parfit (1997) is referred to in the Indian context by S Subramanian (2019) when discussing the trends in monthly per capita expenditure (MPCE). Analysing data available in the leaked report of the consumption expenditure survey (CES) conducted in 2017–18 by the NSO, Subramanian (2019) finds that while there is indeed a decline in inequality as observed from Lorenz curves for 2011–12 and 2017–18, this is not necessarily a positive development. What the data in fact show is a decline in average incomes across all deciles, with the relatively advantaged population’s incomes declining even more sharply than the relatively disadvantaged.

The slowing down in consumption expenditure might also be one of the reasons for the trends in malnutrition observed above. Malnutrition is affected by multiple factors and it is difficult to pinpoint the effect of one over the other. During the period 2005–06 to 2015–16, the reduction in stunting was substantial compared to previous years. While an even higher rate of decline would have been desirable as this improvement was not commensurate with the economic growth in this period (Jose, Bheemeshwar and Agrawal 2018), it was felt that India had now gained momentum in addressing malnutrition and the situation could only improve. A number of reasons have been given for the decline in malnutrition during this ten-year period including decline in poverty ratios, improved living standards, expansion in public programmes such as the ICDS and food distribution system and overall improvement in access to healthcare services. Other factors that help reduce malnutrition such as women’s education and access to toilets and clean drinking water also showed progress during this period (Kohli et. al. 2020, Jose, Bheemeshwar and Agrawal 2018). However, infant and young child feeding as well as overall dietary diversity continued to be poor.

In the sections below, we look at how these factors changed in the six-year period between NFHS-4 and NFHS-5.

Trends in Determinants of Malnutrition

A wide range of factors together determine the malnutrition outcome of an individual child and the distribution of heights and weights across a population (Harris and Nisbett, 2020). In the sections below, we look at some of the important determinants of malnutrition and how they have changed in the last decade. The literature on malnutrition discusses immediate and underlying determinants for explaining poor nutritional outcomes among children. Underlying determinants include women's status, access to sanitation and drinking water, household food security and economic status of the household (UNICEF, 1990). While the NFHS provides some data on the former, there is not much on food security and economic status. The NFHS only gives a wealth index which is based on an asset-score, but there is no data on incomes or consumption expenditure. Although the wealth index has been used above to indicate the distribution of malnutrition across wealth quintiles, there are limitations to comparing the wealth quintiles over time and therefore the wealth index cannot be relied on too much. There is some information on food consumption but this does not include quantities or prices.

Data related to some underlying determinants such as women's status, sanitation and access to drinking water etc. are available from the NFHS. Indicators related to women's status show overall improvement between the different rounds of NFHS, although it could be argued that this is also slow. The proportion of women in the 20–24 age group among mothers of children under-5 who have completed 10 or more years of education increased from 15.1 percent in NFHS-3 to 32.5 percent in NFHS-4 and 42.2 percent in NFHS-5 (as estimated from the unit-level data for all three rounds). We estimate the education level among this subset of women because as far as child malnutrition is concerned, what matters is the mother's education level. Further, the changes in the education levels of older women reflect earlier achievements and developments rather than those in more recent years. Other indicators of women's status also show some progress. For instance, the proportion of women who hold a bank account that they operate increased from 53 percent in NFHS-4 to 78.6 percent in NFHS-5. The proportion of women having a mobile phone that they can use has increased from 46 percent to 54 percent and proportion of women owning land in their name or jointly has also increased from 38 percent to 43 percent. However, there is hardly any change in the proportion of women who are engaged in paid work (24.6 percent in NFHS-4 to 25.4 percent in NFHS-5).

Indicators such as access to clean drinking water, electricity, and clean cooking fuel have shown some improvement during this period which are in line with the secular trend (Table 6). Sanitation has been emphasised as one of the most significant factors affecting malnutrition outcomes, especially in the case of India when compared with other countries at

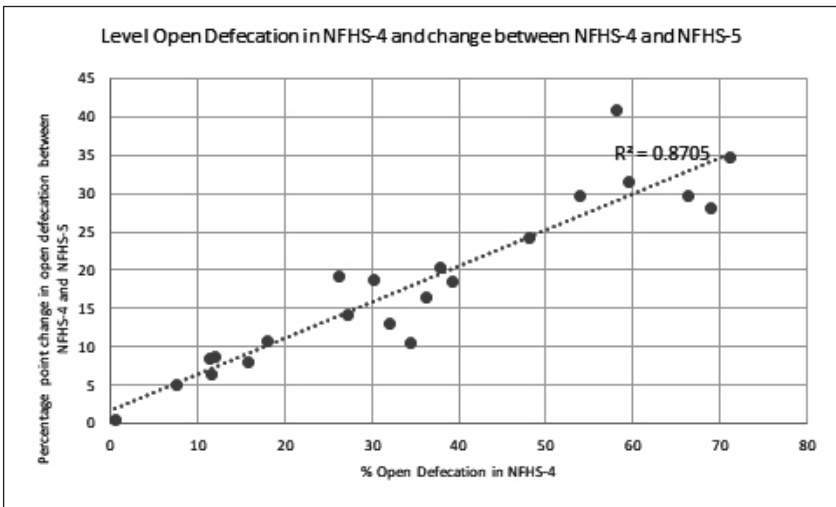
similar levels of economic development (Spears, Ghosh and Cumming 2013, Spears 2013). The proportion of the population living in households that use an improved sanitation facility has risen substantially from 48.5 percent to 70.2 percent. This needs further analysis in the context of reports of households having toilets but not using them or some members in the households not using toilets. While this paper does not go into the details of assessing the improvements in sanitation and access to toilets, they can be mentioned here as one of the possible explanations for the patterns of change in stunting that have been observed.

Table 6 Access to Infrastructure and Basic Services, NFHS-4 and NFHS-5

	NFHS-4	NFHS-5
Population living in households that use an improved sanitation facility (%)	48.5	70.2
Households using clean fuel for cooking (%)	43.8	58.6
Population living in households with an improved drinking-water source (%)	94.4	95.9
Population living in households with electricity (%)	88	96.8

Source: Factsheet, NFHS-5.

Figure 4 Relation between Initial Level and Change in Open Defecation Rates



Source: Estimated from NFHS-4 and NFHS-5 child datasets.

Open defecation rates among households with a child under five years of age are estimated to have reduced from 57.5 percent in NFHS-3 to 44.1 percent in NFHS-4 and further down to 22.6 percent in NFHS-5. This substantial reduction between NFHS-4 and NFHS-5 could be one of the main drivers of the improvements that have been seen in stunting prevalence. They also partially explain the pattern of change observed, where there is a

convergence between states, among social groups and wealth quintiles (Table 7). States which see a smaller reduction in open defecation are those that had lower levels of open defecation in NFHS-4, and some of these also coincide with the states which show reversal or slower improvement in stunting (Figure 4). The correlation coefficient between pp change in stunting and pp change in open defecation is 0.53. In the case of open defecation by wealth quintile, the top two quintiles already had a very low prevalence in NFHS-4 and this reduced further over the subsequent six years.

Table 7 Trends in Open Defecation Rates among Households with Children under five years

Social Group	NFHS-3	NFHS-4	NFHS-5
SC	67.8	54.5	28.3
ST	80.2	66.5	38.5
BC	62.5	44.9	21.8
Others	36.8	23.2	11.5
Wealth Quintile			
Poorest	88.6	85.1	53.0
Poor	77.3	60.9	28.9
Middle	60.6	37.0	13.8
Rich	28.6	9.5	3.0
Richest	3.4	0.6	0.2
Total	57.5	44.1	22.6

Source: Estimated from NFHS child datasets, three rounds.

Table 8 Access to Health and Nutrition Services

Access to Services	NFHS-4	NFHS-5
Institutional births (%)	78.9	88.6
Children age 12-23 months fully vaccinated based on information from vaccination card only (%)	77.9	83.9
Mothers who had at least 4 antenatal care visits (%)	51.2	58.1
Children under six who received food supplements in the 12 months preceding survey (%)	48.1	62.1
Children under six weighed in the 12 months preceding survey (%)	43.3	59.7

Source: Factsheet, NFHS-5.

The indicators related to service delivery also show some improvement (Table 8). Institutional births increased from 79 percent to 89 percent and full immunisation showed a smaller increase from 78 percent to 84 percent. More than 40 percent of the women still do not get the minimum required number of ante-natal check-ups. Coverage of ICDS services such as

supplementary nutrition and growth monitoring have increased although it is not clear how much the most recent survey captures the impact of closures during the Covid pandemic. The questions asked were in relation to the 12 months preceding the survey, and therefore the responses could have been affirmative if they received the service before Covid but not after.

The problem arises when we look at the immediate determinants related to child feeding and infections among children which show hardly any improvement between NFHS-4 and NFHS-5 (Table). There is a slow improvement in most of these indicators and levels are also quite low – only 9.6 percent of children under two received an adequate diet in 2016 and this has increased to just 11.3 percent in 2021. There is hardly any increase in early initiation of breastfeeding, while there is some change in exclusive breastfeeding and timely initiation of complementary feeding.

These data are sometimes used to argue that poor feeding practices in households due to lack of awareness, poor dietary habits and so on are the main explanation for the poor malnutrition outcomes. For instance, Vir and Suri (2021), based on an analysis of the recent NFHS-5 data conclude:

These findings prove that poor purchasing power is possibly not the primary contributory factor. Child care, including feeding practices, are possibly getting adversely affected since there is a high chance that educated and empowered mothers are employed in tasks outside their homes and there is inadequate time to follow the recommended complementary feeding practices. Such a trend also indicates that caregivers are not paying attention to the appropriate selection of food items for family’s daily diet⁴.

A result of such conclusions is that policy focus is disproportionately focussed on behaviour change communication and awareness campaigns as seen in the POSHAN Abhiyaan in India.

While it is obvious that direct interventions that focus on improving child feeding practices including counselling, awareness building and behaviour change communication need much greater emphasis, some further analysis of data also show that along with poor feeding practices, household food security also remains an issue. This is corroborated with

Table 9 Infant and Young Child Feeding, and Infections – NFHS-4 and NFHS-5

	NFHS-4	NFHS-5
Early initiation of breastfeeding	41.6	41.8
Exclusive breastfeeding	54.9	63.7
Timely introduction of complementary feeding	42.7	45.9
Total children age 6-23 months receiving an adequate diet (%)	9.6	11.3
Diarrhoea in the last two weeks	9.2	7.3
ARI in the last two weeks	2.7	2.8

Source: Factsheet, NFHS-5.

Table 10 Regular Consumption of Food Items, NFHS-5

<i>% consuming following food items daily or weekly:</i>	<i>Women</i>	<i>Men</i>
Milk or curd	72.3	79.8
Pulses or beans	92.9	93.1
Dark green leafy vegetables	90.8	92.4
Fruits	49.6	56.2
Eggs	45.1	57.8
Fish, chicken or meat	45.2	57.3

Source: NFHS-5 India Report.

data from other sources on the increasing food insecurity in India and general inadequacy in dietary quality in the country.

Gaps in Food Security and Dietary Diversity

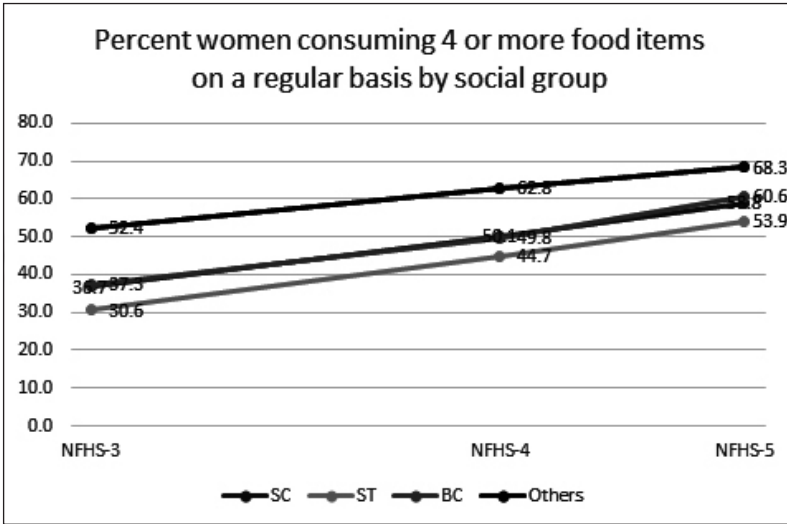
To understand what is going on in terms of food security, we begin by looking at the meagre data that NFHS provides. The NFHS does not include detailed data on food consumption, rather respondents are only asked about the usual frequency (never, daily, weekly, occasionally) of consumption of certain food items such as pulses or beans, milk or curds, fruits, green leafy vegetables, eggs, fish, chicken and meat. Nevertheless, this data can be used to get some idea on household food security. The questions are asked separately for men and women. Most men and women consume pulses or beans and dark green leafy vegetables on a regular basis. About three in four also consume milk or curd. In the case of fruits, eggs and flesh foods only about half the respondents consume these.

For a comparison with the previous rounds of NFHS, we consider the data on consumption of food items only for mothers of children under five years of age, so that it can be related to child feeding and child malnutrition data. For each of the food items, we give a score of 1 if it is consumed daily or weekly and 0 if not. Adding these up gives us a total score of the number of food items usually consumed by the mothers at least once a week. For this purpose, fish, chicken and meat have been combined into one group, i.e. flesh foods. There are in total six food groups, and women can be consuming either none or all of them at least once a week thereby having a score ranging from 0 to 6. We further classify those consuming four or more food items on a regular basis (daily or weekly) as having 'adequate dietary diversity'. Proportion of mothers who have adequate dietary diversity by this definition was 41 percent in NFHS-3 and increased to 53 percent in NFHS-4 and further to 62 percent in NFHS-5.

Figures 5 and 6 look at this by wealth quintile and by social group. Among the wealth quintiles, there is some convergence in consumption of food items but the rate of change has slowed down for the middle groups – the poor, middle and rich – whereas there is a slightly faster

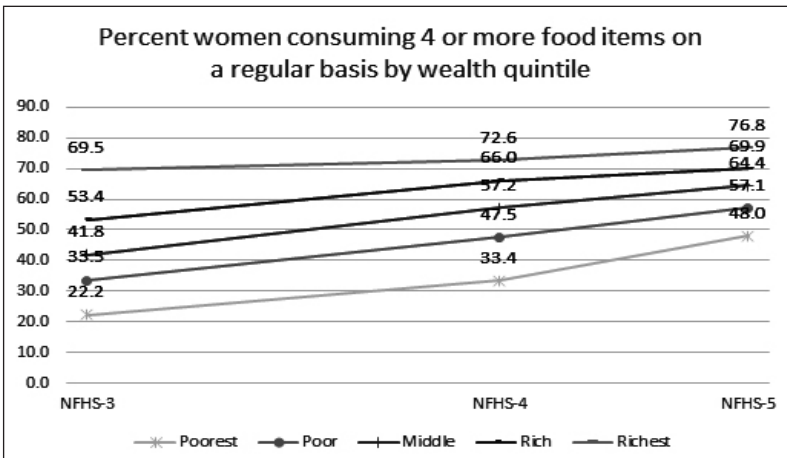
rate of improvement for the poorest and richest. Amongst the different social groups as well, there is not much difference in the secular trend of improvement in consumption of food items.

Figure 5 *Percent of women having adequate dietary diversity (consuming 4 or more food items at least once a week) – by social group*



Source: Estimated from NFHS-3, NFHS-4 and NFHS-5 child datasets.

Figure 6 *Percent of women having adequate dietary diversity (consuming 4 or more food items at least once a week) – by wealth quintile*



Source: Estimated from NFHS-3, NFHS-4 and NFHS-5 child datasets.

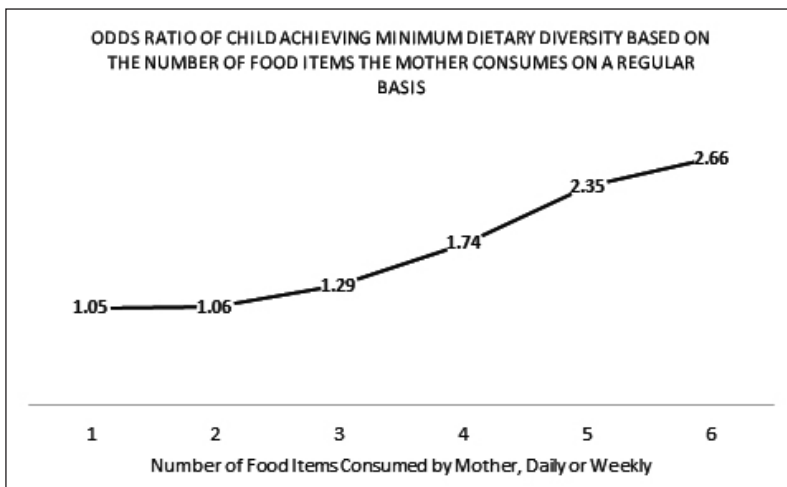
The limitation in this data is that there is no information on quantities consumed or the consumption expenditure on these items. So, for example, when people report that they consume milk or curd daily or weekly it could

just mean that they have a little milk in their tea. Even this limited data show that there are serious dietary deficits amongst both men and women especially when it comes to food items such as fruits, eggs and flesh foods. Over one-third of mothers of young children do not consume four or more food items on a regular basis. While there is some convergence between social groups and wealth quintiles, the rate of change is slow.

Further, the likelihood of young children (between 6 to 23 months) having the minimum dietary diversity as specified by WHO norms is also higher when mothers have greater dietary diversity. The odds of a child having a minimum dietary diversity increases significantly as the number of food items consumed regularly by the mother increases. Therefore, children of mothers who consume six food items regularly are 2.66 times more likely than children of mothers who consume none of these items regularly (cereals are not included in the list) to achieve minimum dietary diversity (figure 7).

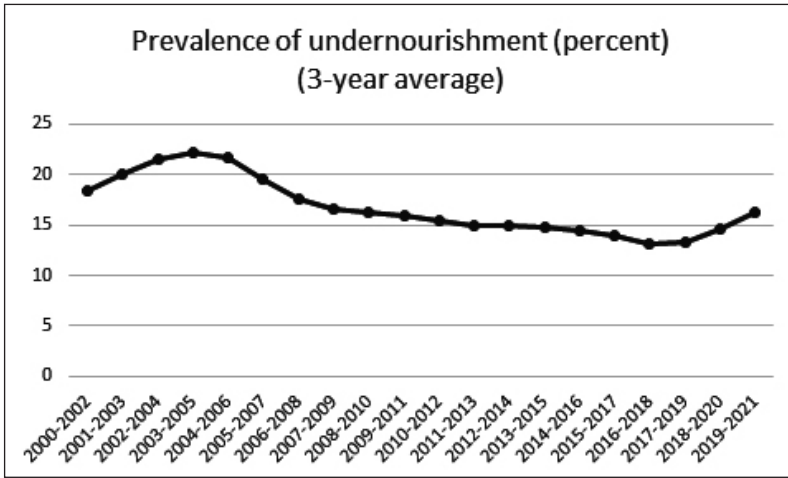
Other recent data also show that food insecurity in India remains a concern. One common way in which food consumption has been measured in India is through estimates of calorie, protein and fat consumption made from the consumption expenditure surveys of the NSS, which give some sense of how much food was being consumed at the household level. But, NSS consumption expenditure data are not available for the period after 2011–12. While another round was conducted in 2017–18 the report was rejected by the government claiming the data were of poor quality. This report was leaked and on its basis Subramanian (2019) has shown that the mean consumption expenditure on food, declined between 2011–12 and 2017–18. These declines in average per capita consumption expenditures on food most likely reflect an increase in hunger amongst the poor (Subramanian, 2019).

Figure 7 Maternal and Child Dietary Diversity



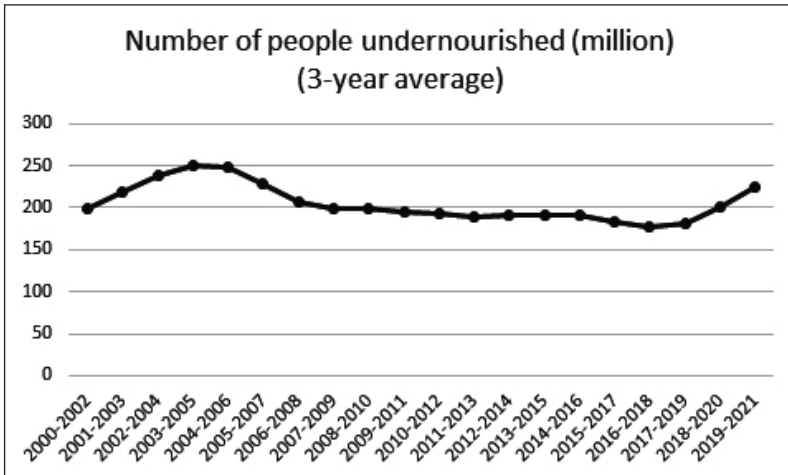
Source: Estimated from NFHS-5, child dataset.

Figure 8 *Prevalence of Undernourishment, FAO*



Source: FAO Stat.

Figure 9 *Number of Undernourished, FAO*



Source: FAO Stat (<https://www.fao.org/faostat/en/#country/100>).

More recent data are also available from the FAO which estimates the Prevalence of Undernutrition (PoU) based on country data from official sources on food availability, food consumption and affordability, and food absorption. The FAOs methodology has been criticised by many scholars with regard to its appropriateness in measuring undernutrition. The FAO data for India also suffer from the problem of lack of updated information for some indicators as they are based on available official country data sources. However, they are just presented here for the purposes of triangulation, with the caveat that what we are looking at here is the trend

in rather than the precise level of undernutrition. The PoU figures for India from the FAO suggest that while there had been a secular decline in the proportion of undernourished and number of people undernourished in the country starting around 2005, a reversal in this trend is observed thereafter. The prevalence of undernutrition taken as a three-year moving average was at its lowest at 13.2 percent for 2016–18 and has since increased to 16.3 percent in 2019–21, which was the level over ten years back during 2008–10. According to these estimates, about 20 million people have been added to the number of undernourished in each period during 2018–20 and 2019–21. While this might partly be a reflection of the effect of the pandemic, the fact that the reversal started slightly earlier points to other pre-pandemic factors as well.

Another source of data on diets in India was the survey of the National Nutrition Monitoring Bureau which has also been stopped⁵. An indicator which tells us that most Indians are probably not eating what is required for a healthy diet because of affordability is given in the State of Food Insecurity (SoFI) report (FAO et. al 2022). This estimate considers a healthy diet to be unaffordable when its cost exceeds 52 percent of income. The percentage of people for whom cost of the diet is unaffordable is derived from comparing the cost of the diet with country income distributions, based on this threshold of 52 percent. Here, a healthy diet is considered to be one that not only provides adequate calories but also adequate levels of all essential nutrients and food groups needed for an active and healthy life and it is pegged to the food-based dietary guidelines adopted by national governments (SoFI, FAO et.al. 2022). So, in India this would be the cost of meeting the ICMR recommended dietary guidelines. Further, for these estimates, the cost of the least expensive locally available foods to meet the nutritional requirements are considered. Once again, this is a new indicator that carries forward all the limitations in price data and whose validity has not been tested widely. However, considering that it is used in an official report of the UN, it is presented here once again for the limited purpose of highlighting that affordability and access remain an issue. Based on this data, in India, 70.5 percent of the population could not afford a healthy diet in 2020. This is an improvement from 74.9 percent in 2017, but slightly higher than 69.4 percent in 2019 (FAO et. al. 2022). It must be kept in mind that this period from 2017–20 was also a period of low food inflation, whereas since 2021 the country has experienced an increase in food prices which might have a further negative effect.

Conclusion

Stunting is determined by a whole range of proximal and distal factors that go beyond household food security. Further work is necessary to understand the complex interplay of all these factors leading to the levels of stunting that we see in India today. While this paper has explored

the various issues involved, it also points to the areas of research that require greater understanding. The limited availability of data on food consumption and diets in India places restrictions on being able to conduct a comprehensive analysis. However, developing on the ideas presented here multivariate analyses could be conducted at the district level to separate the effects of the different factors discussed.

In this paper, we find that there is a slowdown in improvement as far as stunting is concerned. At the same time, a convergence in prevalence of stunting is also seen in the sense that the gaps between states, between urban and rural residents, social groups and wealth quintiles seem to be narrowing. However, it is unclear how this convergence should be interpreted considering that it is accompanied by the process of 'levelling down' where the effect of the advantaged groups slowing down seems to prevail over that of disadvantaged groups catching up faster. The processes that have led to such levelling down need to be understood further. This may also relate to the nature of inequality with the gap between the top 10 percent or 1 percent and the rest of the population increasing and not the inter-decile inequality among the bottom 70 percent or 80 percent of the population.

There are two processes at play simultaneously. On the one hand, there has been an expansion in some welfare schemes, especially for the poorer sections of society, which are known to have a positive impact on stunting. Therefore, we have seen a significant reduction in open defecation which could at least partly be attributed to the expansion in the sanitation programmes. There is also greater access to anganwadi and health services, although the NFHS does not have adequate data to comment on the quality of the services. Data on budget allocations by central government shows reduced resources for these schemes in real terms⁶ but for a fuller analysis, state budgets would also have to be taken into account.

Another area where there has been a significant expansion, although not reflected in the NFHS data, is the public distribution system (PDS). With the introduction of the National Food Security Act, by 2016 there has been a significant expansion in the PDS in terms of its coverage of population who get foodgrains at highly subsidised rates. This expansion has been much more in the poorer states which earlier had low coverage. Earlier studies on PDS have shown that it contributes to poverty reduction as well as improved food consumption for the households that get its benefits (Himanshu and Sen 2013, Kishore and Chakrabarti 2015). PDS not only contributes to basic food security by providing foodgrains but also is an implicit income transfer making available more resources for the purchase of other food items such as pulses and vegetables. With the subsidy burden increasing and the orientation of the government towards a restrictive fiscal policy, these schemes are always under threat of being withdrawn or diluted. Any such move should take into account their

contributions to food security as well as nutrition outcomes, and not just the fiscal costs that they impose.

The other process that has also been underway is that of economic slowdown in the last five years, which to a large extent has also been policy induced. Demonetisation in 2016, followed by the way in which GST was imposed in 2017, has been shown to have had a negative impact on the economy especially on the informal sector and on livelihoods of the poor and middle classes (Ghosh, Chandrasekhar and Patnaik 2017, Nagraj 2020). Even before the economy could be revived, a further slowdown is being faced due to the pandemic and the lockdowns. The NFHS data do not capture entirely the effect of the pandemic on nutrition outcomes. The data from FAO on prevalence of undernutrition as well as on affordability of healthy diets in India suggest that while we might have made strides in dealing with hunger narrowly defined, as keeping at bay the physical feeling of unease due to lack of food, achieving food security, defined as when ‘all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their food preferences and dietary needs for an active and healthy life’⁷ (United Nations’ Committee on World Food Security definition), is still a far cry away. The slowing down in the improvements in childhood stunting, an indicator of chronic malnutrition, needs to be seen in this context.

With schools and anganwadi centres being closed for almost two years, unemployment rising and people losing their livelihoods as well as food prices rising the effects on malnutrition are still unravelling. Initial field studies show that food security in terms of the quality and quantity of food consumption has been significantly negatively impacted during the pandemic. Greater attention is therefore required towards addressing the direct and indirect determinants of malnutrition with the NFHS-5 data clearly showing a need for course correction. Expansion of welfare services, better focus on direct programmes for young children and their mothers, as well as a more equitable and employment centred growth path that enables people to access nutritious diets are the need of the hour. Food systems would also have to be looked at from the point of view of ensuring healthy diets, or producing sufficient quantities of diverse foods and making them available at stable and affordable prices. Globally, experience shows that such a food system is one that is decentralised with little dependence on global markets.

Notes

- 1 https://data.worldbank.org/indicator/SH.STA.STNT.ZS?locations=XN&most_recent_value_desc=false.
- 2 <https://apps.who.int/nutrition/landscape/help.aspx?menu=0&helpid=391&lang=EN>.
- 3 <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>.
- 4 https://www.orfonline.org/research/the-5th-national-family-health-survey-of-india/#_edn26.

- 5 <https://www.thehindu.com/news/national/national-nutrition-monitoring-bureau-axed-antipoverty-schemes-starved/article7815511.ece>.
- 6 <https://thewire.in/government/activists-budget-allocation-women-child-nutrition-schemes-covid>.
- 7 <https://www.ifpri.org/topic/food-security>.

References

- De Onis, M., & Branca, F. (2016), 'Childhood stunting: a global perspective', *Maternal & child nutrition*, 12, 12–26.
- Drèze, J. (2020), 'New evidence on child nutrition calls for radical expansion of child development services', *Indian Express*, December 17.
- Drèze, J. and Sen, A. (2020), *An Uncertain Glory: India and its Contradictions* (Updated Edition). New Delhi: Penguin India.
- Drèze, J., Gupta, A., Parashar, S. A., & Sharma, K. (2021), 'Pauses and reversals of infant mortality decline in India in 2017 and 2018', *Economic and Political Weekly*, Vol. 56, Issue No. 19.
- Drèze, J., & Somanchi, A. (2021), 'The Covid-19 crisis and food security', *Ideas For India*, <http://www.ideasforindia.in/topics/poverty-inequality/the-covid-19-crisis-and-foodsecurity.html>.
- Elson, D. (1999), 'Labour markets as gendered institutions: equality, efficiency and empowerment issues', *World Development*, 27(3), 611–627.
- FAO, IFAD, UNICEF, WFP and WHO (2022), *The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable*, available at <https://www.fao.org/publications/sofi/2022/en/>.
- Ghosh, J., Chandrasekhar, C. P., & Patnaik, P. (2017), *Demonetisation decoded: A critique of India's currency experiment*, New Delhi: Routledge India.
- Harris, J. and Nisbett, N. (2020), 'The Basic Determinants of Malnutrition: Resources, Structures, Ideas and Power', *International Journal of Health Policy Management*, 1–11, DOI: 10.34172/ijhpm.2020.259.
- Himanshu, & Sen, A. (2013), 'In-kind food transfers – II: impact on nutrition and implications for food security and its costs', *Economic and Political Weekly*, 60–73.
- Himanshu (2022), 'The worrying slowdown in India's fight against poverty' *Mint*, 1st July 2022. Available at <https://www.livemint.com/opinion/columns/it-is-evident-that-indians-haven-t-fared-well-during-the-pandemic-11656605928915.html>.
- Jose, S., Bheemeshwar, R. A., & Agrawal, M. (2018), 'Child undernutrition in India', *Economic and Political Weekly*, 53(48), 63.
- Kishore, A., & Chakrabarti, S. (2015), 'Is more inclusive more effective? The 'New Style' public distribution system in India', *Food Policy*, 55, 117–130.
- Kohli, N., Nguyen, P. H., Avula, R., & Menon, P. (2020), 'The role of the state government, civil society and programmes across sectors in stunting reduction in Chhattisgarh, India, 2006–2016', *BMJ global health*, 5(7), e002274.
- Mazumdar, S. (2010), 'Determinants of inequality in child malnutrition in India: the poverty-undernutrition linkage', *Asian Population Studies*, 6(3), 307–333.
- Nagaraj, R. (2020), 'Understanding India's economic slowdown: Need for concerted action' *The India Forum*.
- Parfit, D. (1997), 'Equality and Priority', *Ratio* (new series) 10(3): 202–221.
- Pathak, P. K., & Singh, A. (2011), 'Trends in malnutrition among children in India: growing inequalities across different economic groups', *Social science & medicine*, 73(4), 576–585.

- Ramalingaswami, V., Jonsson, U., & Rhode, J. (1997), 'Malnutrition: a south Asian enigma', *Malnutrition in south Asia: a regional profile*. UNICEF Regional Office for South Asia, 11–22.
- Right to Food Campaign (2022), 'Hunger Watch Report (I and II)', Right to Food campaign.
- Sinha, D. (2020), 'India needs to rethink its nutrition agenda', *The Hindu*, December 15.
- Smith, L. C., & Haddad, L. J. (2000), *Explaining child malnutrition in developing countries: A cross-country analysis* (Vol. 111), International Food Policy Research Institute.
- Spears, D. (2013), 'How much international variation in child height can sanitation explain?', *World Bank policy research working paper*, 6351; Washington DC: World Bank.
- Spears, D., Ghosh, A., & Cumming, O. (2013), 'Open defecation and childhood stunting in India: an ecological analysis of new data from 112 districts. *PloS one*, 8(9), e73784.
- Subramanian, S. (2019). Letting the data speak: Consumption spending, rural distress, urban slow-down, and overall stagnation. *The Hindu Centre for Politics and Public Policy*, 11.
- United Nations Children's Fund (UNICEF). (1990). Strategy for Improved Nutrition of Children and Women in Developing Countries.: UNICEF;
- Vir, S. C., & Suri, S. (2021). The 5th National Family Health Survey of India: A Sub-National Analysis of Child Nutrition. *Occasional Papers*. Observer Research Foundation. May 18.

Dipa Sinha teaches Economics at Dr. B. R. Ambedkar University, Delhi.

Farming and Working under Contract
Peasants and Workers in Global Agricultural Value Systems

Edited by
Praveen Jha
Paris Yeros
Walter Chambati
Freedom Mazwi



Farming and Working under Contract

Peasants and Workers in Global Agricultural Value Systems

Edited by PRAVEEN JHA, PARIS YEROS,
WALTER CHAMBATI, FREEDOM MAZWI

March 2022 • 6.25 x 9.5 inches
(xvi+432) 448 pages • Hardback
ISBN: 978-81-947175-0-8 • Rs 1350

Contract farming has expanded and deepened its reach under neo-liberalism, alongside the large-scale land acquisitions under way via purchases or lease agreements. Contract farming in high-value agricultural chains has

been touted by international governmental and non-governmental organizations as a solution for peasants and rural communities, in terms of access to markets, inputs, credit, technology, incomes and employment. Yet global agricultural value systems remain monopolistic and continue to function on the basis of structural asymmetries between multinational corporations and smallholder farmers, as well as the workforce mobilized among family members and farm workers. Decision-making powers over land use and the production process are typically ceded to the MNCs, even if indirectly, while social and environmental costs are borne by the peasants and workers themselves. Positive experiences for peasants and workers have been noted in research, especially when cooperatives, trade unions or state interventions shift the relation of forces. But such experiences within global value systems are not generalizable, nor are they sufficient for the social and economic transformation required today in the global South. This book brings together studies by researchers associated with the Agrarian South Network, to examine the different types of contract farming arrangements in Africa, Asia and Latin America. The studies assess the dynamics of contract farming for various crops, markets and farmers, and point to the need for an urgent change of direction in thinking about the global agrarian question.

Praveen Jha is Professor of Economics at the Centre for Economic Studies and Planning and Adjunct Professor at the Centre for Informal Sector and Labour Studies, School of Social Sciences, Jawaharlal Nehru University, New Delhi, India. **Paris Yeros** is Professor of International Economics and Coordinator of the Postgraduate Program in World Political Economy at the Federal University of ABC (UFABC), São Paulo, Brazil. **Walter Chambati** is Executive Director of the Sam Moyo African Institute for Agrarian Studies, Harare, Zimbabwe. **Freedom Mazwi** is Researcher at the Sam Moyo African Institute for Agrarian Studies, Harare, Zimbabwe.

TO ORDER COPIES WRITE TO US OR CONTACT OUR DISTRIBUTORS:

In India and South Asia: ipd.alternatives@gmail.com / aipb@atlanticbooks.com
In the rest of the world: Columbia University Press, New York. W cup.columbia.edu

TO ORDER COPIES ONLINE: www.tulikabooks.in

Tulika Books, 44, First Floor, Shahpur Jat, New Delhi 110 049, India

T (+91-11) 45051638 E sales@tulikabooks.in, tulikadelhi@gmail.com W www.tulikabooks.in