

1

MAKING A REAL DIFFERENCE TO UNDERNUTRITION

Dipa Sinha and Vandana Prasad



Taylor & Francis

Taylor & Francis Group

<http://taylorandfrancis.com>

Part I

THE MACRO ISSUES FOREGROUNDING AN AGENDA FOR COMMUNITY- BASED NUTRITION ACTION

Dipa Sinha and Vandana Prasad

Introduction

Addressing malnutrition requires multiple interventions at all levels, beginning from the household and community to national level policies and programmes. This chapter provides an overview of malnutrition in the country, its causes and determinants followed by a discussion on community-based interventions in Part II. While community-based interventions are critical for making a dent in undernutrition, larger economic and social changes that affect livelihoods and food security can either enable improvements or pose challenges to local initiatives. A synergy between national and state-level policies with community-level action could therefore contribute to rapid progress in addressing malnutrition. For instance, a well-funded and universal maternity benefit programme, along with community-based interventions for the promotion of exclusive breastfeeding through counselling support, would contribute to appropriate breastfeeding practices. On the other hand, the absence of policies on the regulation of junk/ultra-processed foods, resulting in wide availability and access to cheap but unhealthy foods, could deter community-level efforts at improving dietary practices through nutri-gardens, nutrition counselling and diverse cropping.

Despite the significant economic progress of India, malnutrition remains a big challenge for the country. Malnutrition has an impact on health, survival and quality of life. Although malnutrition is prevalent across age groups, the period from pregnancy to early childhood (first 1000 days) is considered the most critical. This is a vulnerable phase in the life cycle, and malnutrition that sets in during early childhood is often difficult to reverse entirely; undernutrition during this period can have lifelong implications for health

and productivity. Malnutrition is the underlying cause of a large proportion of child mortality in our country.

Chronic as well as acute childhood undernutrition in India, measured by anthropometric indicators,¹ continues to remain high and shows slow improvements in relation to the targets set by the Government of India's Poshan Abhiyan (Sinha, 2022b). However, from 2005–06 onwards, there has been a consistent decline in the prevalence of undernutrition (as seen in Figure 1.1.1), which was a break from the 1990s when there was little or no improvement (Citizens Initiative for Rights for Children Under Six, 2006). The period from the mid-2000s onwards also saw an expansion in the number of direct interventions to address malnutrition, most notably the Integrated Child Development Services (ICDS) scheme, whose scope is to provide education, health and nutrition services to children under six years of age, and additionally to pregnant and lactating women. This programme is delivered through anganwadi centres (AWCs) by anganwadi workers (AWWs). Following the Supreme Court orders in 2006 on the universalisation of ICDS, population norms were fixed for the opening of AWCs. Accordingly, there is supposed to be one AWC for a population of 400–800 persons, two for a population of 800–1600, and so on in multiples of 800. In tribal and hilly areas, there is one AWC for a population of 300 and a provision for a 'mini-AWC' for habitations with smaller populations. There are about 1.4 million AWCs in the country today, and this programme is the main vehicle through which the Poshan Abhiyan (National Nutrition Mission) of the government is implemented. While there has been a tremendous expansion in some of these direct services, there continues to be exclusion and issues of quality. Further, the prevalence of undernutrition, although reducing, still remains high.

The country is currently facing a triple burden of malnutrition, with undernutrition manifested in the form of low height and weight, micronutrient

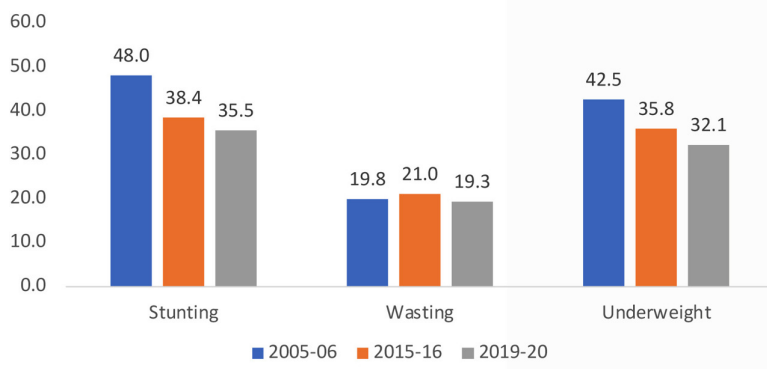


FIGURE 1.1.1 Child malnutrition in India (under 5 years)

Source: NFHS Reports, Rounds 3, 4 and 5.

deficiencies and the rapidly increasing trend in overweight/obesity leading to a ‘triple burden’ of malnutrition. The concern for overweight/obesity is also driven by its contribution to the increasing burden of non-communicable diseases in the country. However, given that overweight and obesity are relatively recent phenomena and currently at a lower scale, in comparison to the chronic problem of undernutrition, data, grassroots and policy action are relatively poor. The overview chapters have tried to include available information on this important nutritional challenge, but undernutrition is dealt with in greater detail.

To set the context in which the community-based actions are being implemented, Part I of this overview chapter initially lays down the status of malnutrition in India. This is followed by a discussion of widely used frameworks for understanding the determinants of malnutrition as well as identifying interventions that are effective in addressing maternal and child undernutrition. A brief assessment of the main determinants as well as interventions of the union government in this context is also presented. This part then concludes with an introduction to civil society action at the national level, which often stems from community action in different parts of the country and aims to influence policy at the national and state levels. These campaigns and movements also inform community action, various components of which are discussed in Part II of this chapter.

Status of Malnutrition in India

According to National Family Health Survey - 5 (NFHS-5) (2019–21), 35.5% of children are stunted, 19.3% are wasted and 32.1% are underweight. Based on the WHO’s prevalence cut-off values for public health significance, these levels are all considered ‘very high’ (WHO, 2019). Given that India is now the fifth-largest economy in the world (Livemint, 2023) and falls in the category of ‘middle-income countries’ (Rajadakshya, 2022), it is concerning that, in terms of malnutrition indicators, it continues to fall in the lowest category. The high prevalence of malnutrition in India, as well as other countries in the South Asian region, has been discussed in the literature as the ‘Asian enigma’ (Ramalingaswami et al., 1997). Over the years, a number of explanations have been brought forth regarding the factors behind the high prevalence of malnutrition, attributing it to the most notable determinants: the poor status of women (Ramalingaswami et al., 1997) and high prevalence of open defecation (Spears, 2020).

The anaemia prevalence among women and young children in India is very high. Anaemia amongst women in the reproductive age can have a direct bearing on the health of the newborns (Dharmalingam et al., 2010). According to the latest NFHS-5 data, over two-thirds of children under five

and more than half of the women in the reproductive age group are anaemic. Around 17% of children are born with a low birth weight.

Further, there are wide differences in nutrition outcomes among children based on households' socio-economic status. For example, 46.1% of children (in the poorest wealth quintile) are stunted, while the prevalence is 22.9% (in the highest quintile). Between NFHS-3 and NFHS-4, it was found that the wealth inequalities in stunting had increased in almost all the states across the country (Mukhopadhyay and Chakraborty, 2020). In the case of social groups, 40.2% of Adivasi/ST children are stunted compared to 29.1% among the 'others', who mainly comprise upper-caste Hindus (Sinha, 2022a). Figure 1.1.4 shows the trends in malnutrition outcomes across social groups and wealth quintiles. While there seems to be some convergence, gaps are still wide.

A wide gap also exists among states of India with regard to malnutrition. For example, it is seen that 28% of children in Telangana, 27% in

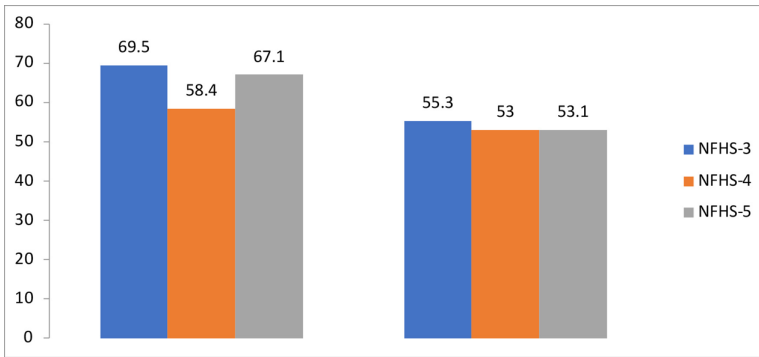


FIGURE 1.1.2 Anaemia amongst women and children

Source: NFHS Reports, Rounds 3, 4 and 5.

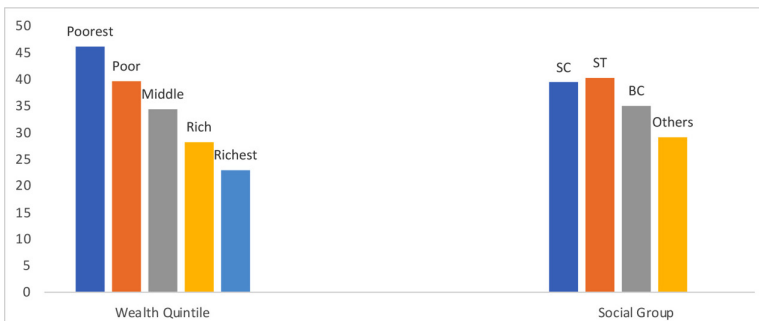


FIGURE 1.1.3 Prevalence of stunting among children under five, by wealth quintile and social group

Source: NFHS-5.

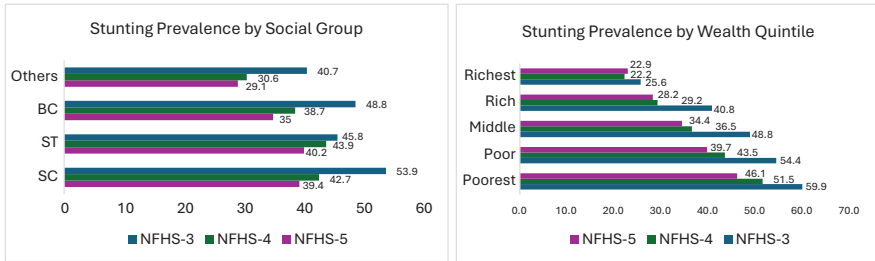


FIGURE 1.1.4 Trend in stunting prevalence by social groups and wealth quintile (under 5 years)

Source: NFHS Reports, Rounds 3, 4 and 5.

Tamil Nadu and 20% in Kerala are stunted, and the corresponding figures for Bihar and Madhya Pradesh are as high as 48% and 42% (Sinha, 2016). Using NFHS-5 data, Table 1.1.1 shows the standard anthropometric indicators for states and districts of India, highlighting the top and bottom-most amongst them. The table shows a huge variation for each of these indicators. For example, the district with the lowest stunting is Jagatsinghpur in Odisha, with a prevalence of 13.2% compared to 60.6% prevailing in the district of Paschimi Singhbhum in Jharkhand. Bihar has the highest stunting of 42.9%. A study based on NFHS-4 data concluded that only 15 out of 38 districts in Bihar were likely to reach the global target of a 40% reduction in child stunting by 2025, while some districts could take over 25 years to reach that target (Sethi et al., 2017).

Though significant differences in child undernutrition outcomes are not visible on the basis of gender regarding food consumption from adolescence onwards, adult BMIs and anaemia, it is clearly visible that women and girls are at a disadvantage (CNNS, 2018; Sinha, 2023). Children belonging to certain marginalised groups are also at greater risk of malnutrition. This includes homeless children, children of migrant families, children living in mining areas and in brick kilns (Ali et al., 2021).

With regard to obesity, there is an increase in the prevalence among children and at an alarming rate for adult men and women (see Table 1.1.2). Further, the prevalence of high blood sugar and elevated blood pressure, also related to food practices and overweight, is high as measured by NFHS-5 (the previous rounds of NFHS did not include these indicators).

While food insecurity and lack of dietary diversity are amongst the main contributors to malnutrition, the role of other factors cannot be ruled out. Policies and community interventions have to address these factors to bring significant change in the nutritional status of women and children in our country.

TABLE 1.1.1 Best and Worst Districts and States in Terms of Nutrition Outcomes

	<i>Top-Most District</i>	<i>Bottom-Most District</i>	<i>Top-Most State (Large)</i>	<i>Bottom-Most State (Large)</i>	<i>Top-Most State (Small)</i>	<i>Bottom-Most State (Small)</i>
Stunting	13.2 (Jagatsinghapur, Odisha)	60.6 (Paschimi Singhbhum, Jharkhand)	23.4 (Kerala)	42.9 (Bihar)	20 (Puducherry)	46.5 (Meghalaya)
Wasting	4.5 (North District, Sikkim)	48 (Karimganj, Assam)	10.6 (Punjab)	25.6 (Maharashtra)	8.4 (Chandigarh)	19.1 (Nagaland)
Underweight	7.2 (South District, Sikkim)	62.4 (Paschimi Singhbhum, Jharkhand)	16.9 (Punjab)	41 (Bihar)	12.7 (Mizoram)	26.9 (Nagaland)

Source: Compiled from response to question in Rajya Sabha given by the Union Minister of Women and Child Development, Smt. Smriti Zubin Irani, in a written reply in Rajya Sabha on 16 March 2022 (Unstarred Question No. 1752). Data based on NFHS-5.

TABLE 1.1.2 Overweight Statistics

	NFHS-3	NFHS-4	NFHS-5
Children overweight (under 5 years) (weight for height $\geq 2SD$)		2.1	3.4
Women who are overweight or obese (BMI ≥ 25.0 kg/m ²)	12.6	20.7	24

Source: NFHS Reports, Rounds 3, 4 and 5.

TABLE 1.1.3 Blood Sugar Statistics

Blood sugar level – high (>140 mg/dl) or taking medicine to control blood sugar level (%) (NFHS-5)		
Women		13.5
Men		15.6
Elevated blood pressure (Systolic ≥ 140 mm of Hg and/or Diastolic ≥ 90 mm of Hg) or taking medicine to control blood pressure (NFHS-5)		
Women		21.3
Men		24.0

Source: NFHS Reports, Rounds 3, 4 and 5.

Conceptual Frameworks for Intervention

Malnutrition is a complex problem with multiple determinants. A conceptual framework provided by United Nations Children’s Fund (UNICEF) (1990) is widely used by academics and policymakers to understand the problem of malnutrition better as well as to frame policy recommendations more effectively. According to the framework, inadequate diet and lack of age-appropriate care practices are the immediate causes of malnutrition. These immediate causes are affected by underlying causes such as inadequate access to food, inadequate care for mothers and children, insufficient health services and an unhealthy environment, which are broadly placed within three categories – food, practices and services. These, in turn, are affected by enabling determinants, which are the resources, norms and governance, and further include education, institutions, resources, political structures etc (UNICEF, 2020).

While the immediate factors for malnutrition are inadequate consumption of nutritious food, consumption of poor-quality water, improper maternal and child care practices and poor sanitation and health facilities, underlying social, political and economic conditions govern the former. Therefore,

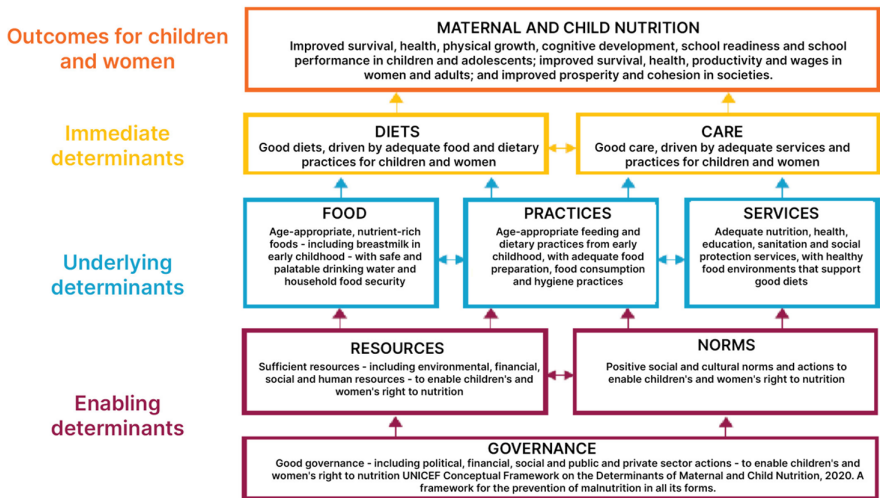


FIGURE 1.1.5 Framework on malnutrition

Source: UNICEF (2020) Conceptual Framework on the Determinants of Maternal and Child Nutrition, reproduced under CC BY 4.0.

a wide range of interventions beyond the purview of the health sector is required in order to reduce malnourishment.

Any strategy aiming at reducing malnutrition, therefore, must focus on the enabling as well as immediate determinants. It is necessary that access to livelihoods and food for entire families is secured while also focusing on the specific target groups (children under two, pregnant and lactating women and adolescent girls) whose nutrition is key to breaking the cycle of malnutrition. These groups also require special interventions through government programmes, along with a more nutritious household diet. The report titled ‘Strategies for Children Under Six’, published in 2007 by the Working Group for Children under Six (of the Right to Food Campaign and Jan Swasthya Abhiyan) enlists three essential components that are required to address child malnutrition (Gupta et. al., 2007):

- A *system of food entitlements*, ensuring that every child receives adequate food, not only in terms of quantity but also in terms of quality, diversity and acceptability.
- A *system of child care* that supplements care by the family and empowers women. Such care needs to be provided by informed, interested adult carers, with appropriate infrastructure.
- A *system of health care* that provides prompt locally available care for common but life-threatening illnesses. Such a system needs to address both prevention and management of malnutrition and disease”.

UNICEF’s Nutrition Strategy for 2020–2030 develops a similar system-based framework where education and water-sanitation systems, along with food systems, health systems and social protection systems (child care and maternity entitlements) are included (UNICEF, 2020).

The Lancet Framework, while building on the UNICEF conceptual framework on determinants for improving nutrition outcomes, defines nutrition-specific and nutrition-sensitive interventions and programmes that include direct and indirect interventions (Black et al., 2013). These actions can fit into the systems that have been discussed above.

These frameworks are useful while analysing the situation in India and also to identify the gaps in the interventions. They also clearly indicate that addressing malnutrition requires multi-sectoral comprehensive interventions. Interventions are required at the community level towards improving feeding and childcare practices, and at the macro level towards building an enabling environment. Such environments can be created through improved governance, building food, education, health, water sanitation and social protection systems that are nutrition-sensitive and focus on the most vulnerable groups (children under the age of six and pregnant and lactating women).

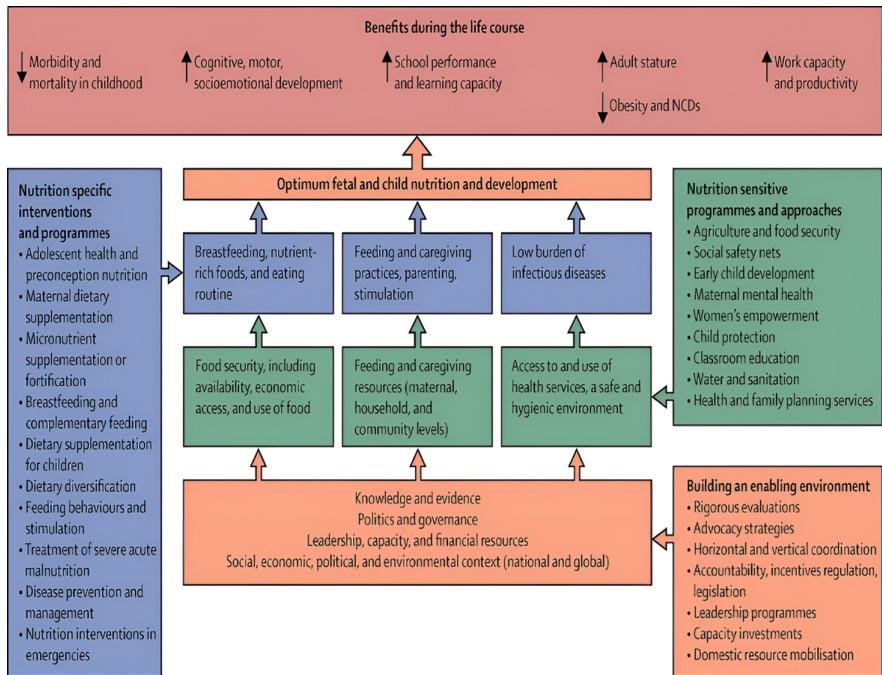


FIGURE 1.1.6 Lancet framework on interventions

Source: Black et al. (2013).

In the next section, the existing national programmes and interventions with regard to some of these aspects in India have been highlighted.

Status of Determinants of Malnutrition in India

(1) Food Security and Healthy Diets

The quality of diets of a large number of people in India, especially children, is of serious concern (Nguyen, 2018). While conditions of starvation have reduced over the years, some communities continue to face acute hunger (Somanchi, 2019). A more widespread issue is the lack of dietary diversity, resulting in an inability to meet nutritional requirements (Prasad and Sinha, 2019). On one hand, dietary diversity is poor due to economic reasons, while on the other, inappropriate food practices are also relevant. Micronutrient deficiencies are recognised as a problem, although the solutions discussed are still focused on supplementation and fortification alone, rather than adequate diets. Here, it is important to note that not just micronutrients, but Indian diets in general lack sufficient protein. A survey, ‘Prodigy’, on protein intakes found that 9 out of 10 people consume inadequate amounts of protein in India (Mahajan, 2015). Most Indians are also unaware of protein requirements for the body, and this inadequacy is relatively higher among vegetarians. It has been reported that, in comparison to other Asian countries and also developed nations, India’s average protein consumption is low – only 47 g per person per day (Suri, 2020). It is clear that, along with the need to focus on the diet of infants and young children, the overall quality of diet, with sufficient consumption of protein in particular, should receive special attention.

The definition of child food poverty in the recent UNICEF report is ‘Children’s inability to access and consume a minimum diverse diet in early childhood’ (UNICEF, 2022). In India, Infant and Young Child Feeding (IYCF) indicators are very poor. For instance, 64% of children (aged 6–24 months) are exclusively breastfed (one-third are not), and only 11% of children in the age group of 6–24 months receive an ‘adequate diet’ as defined by the WHO, according to NFHS-5 statistics. Globally, one in three children lives in severe food poverty (consuming only two or fewer food groups the previous day). Half of all children facing child food poverty in South Asia are in severe food poverty, with children in poor and marginalised households being more vulnerable. The report reveals that globally, children in food poverty are fed only breast milk and starchy staples (UNICEF, 2022).

While there is not much data on dietary patterns amongst Indians, the NFHS gives some indication of the frequency of consumption of foods by men and women from different food groups. This data shows that while

TABLE 1.1.4 Infant and Young Child Feeding – 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

Source: Factsheet, NFHS-5.

about 70% of women and 84% of men consume fish, chicken or meat, respectively, only 45% of women and 57% of men consume these items atleast once a week. A similar proportion of men and women reported consuming eggs only once a week (NFHS-5).

Food consumption patterns are affected by income and market prices, along with other factors such as availability, provision through welfare schemes, convenience and so on. In India, the highest levels of unemployment were reported in 2019, before the pandemic (The Hindu, 2019; Mehrotra, 2021). Further, it has also been observed that real wages have either stagnated or even declined for workers in the informal sector. Almost 90% of the workforce in India is in the informal sector. They grapple with poor working conditions, low wages and a lack of access to social security, leading to an overall situation of precariousness (Mehrotra and Parida, 2022). Inequality is rising, while there is some revival in growth.

Along with signs of distress and the prevalence of low incomes, data on affordability also show similar conditions. The FAO report on the State of World Food Insecurity estimates that 70.5% of Indians cannot afford a healthy diet (Deol, 2022). The cost of a healthy diet is calculated on the basis of the cheapest sources of food available locally that can meet the official national dietary requirements for different age, sex and activity groups. If the cost of a healthy diet is more than 52% of the wages/income earned, then it is considered to be ‘unaffordable’ (FAO, 2024).

In this context, direct interventions to address food security become important. Currently, the Public Distribution System (PDS), through which subsidised grains are provided to a targeted group of the population, is the largest direct intervention towards household food security. Under the National Food Security Act (NFSA), free rations (rice and wheat) are provided to about 800 million beneficiaries across the country through the PDS. During the COVID-19 pandemic, this scheme was one of the most important welfare schemes in place that contributed positively towards basic food security for households at a time of crisis (Sinha, 2021). During this period, an additional 5 kg was given free for almost 2 years, while the

regular allocation is 5 kg per person per month. There are three main issues that face the PDS, which affect its outreach and utility, especially for marginalised communities and from the point of view of improving diets. First, despite the expanded coverage, a large number of vulnerable households are still excluded from the subsidised ration. One of the reasons for this is the exhaustion of the existing ‘quota’ of households that are eligible to meet the NFSA requirements. However, these quotas are based on the Census of 2011, as there has been no recent Census post-2011. If the population is projected for 2022, another 100 million people will be eligible for coverage under this Act. The second issue with the PDS was that of implementation related to leakages, corruption, regularity and quality. Despite several efforts to streamline the delivery systems, there are reports of fraud (The Hindustan Times, 2023; Outlook, 2024). Although Aadhaar linkage was introduced to curb fraudulent activities, it created a new set of exclusions owing to various operational issues. The more community-oriented mechanisms, like social audits and vigilance committees, although mandated, are still not in place.

Another aspect of PDS is the limitation from the point of view of contributing to a diverse diet through the addition of more nutrition-rich foods to the food basket of poor families. In most parts of the country, the PDS only distributes rice and/or wheat, with some areas also including millets. Pulses and edible oils, which contribute to essential macronutrients (protein and fats), are only distributed in some states through State Government programmes. India is also import-dependent in the case of pulses and oils, following the reforms that were introduced in the 1990s towards trade liberalisation. It is well understood that procuring these crops at minimum support prices can encourage expansion in the production of these. The procured grains can be used for distribution through PDS. With the inclusion of pulses and oils, the PDS can contribute more effectively towards food security for the marginalised and vulnerable groups.

To develop a comprehensive policy on food security to combat the country’s nutritional challenges, some other issues also merit attention, such as climate change, output volatility, soil quality and the deteriorating nutrient content of food crops. As we identify these factors as critical, more resources, research and action are necessary in these specific areas to ensure an all-inclusive policy.

One of the new challenges of nutrition facing India is the increase in overweight/obesity among children. Even though the figures depicting the same are low, as seen in Table 1.1.2, they have started showing an increasing trend (Mukhopadhyay, 2023). With poor dietary diversity on one end and profiligacy of ultra-processed foods on the other, it could be argued that some of the underlying causes of both underweight and overweight are the same (such as conflict of interest and interference of commercial interests in policy

making). To reduce the consumption of junk and ultra-processed foods, a number of policy issues related to regulating this industry are relevant. Considering the scale of this industry, large vested interests are involved, and therefore, regulation is not easy unless backed by very strong political will. A recent controversy has emerged around processed and junk food packets carrying warning labels. Though it was a recommendation by several scientific and advocacy groups, it was strongly opposed by the packaged food industry (for example, see the box on NAPi later in the chapter). This is one case in point where, despite evidence and experience from other countries showing the effectiveness of such strategies, they do not get implemented in our country. Experiences from several countries, such as Chile, show that a legal framework for the control of junk food, including mandatory warning labels and restrictions on advertising to children, is successful in curbing the consumption of these items to an extent (Gupta et al., 2023). Hence, along with the food system, the rights of children to other systems, enabling better nutrition, would include healthcare, care services, sanitation and food along with mothers' rights to maternity entitlements and a more empowered status in general.

(2) Gender/Care

The status of women is particularly important in determining malnutrition outcomes. This is because of the intergenerational nature of malnutrition, where undernourished mothers are likely to have undernourished babies and patriarchal structures that expect women to be primarily responsible for childcare.

Mothers who bear the major burden of child care are unable to give adequate time and resources to take care of the various needs of their children due to their regular household responsibilities. Additionally, lack of appropriate knowledge results in poor care and feeding practices such as inadequate hygiene, lack of support for breastfeeding, delayed and inadequate complementary feeding and so on, which can contribute to increased malnutrition. Gender norms and women's status at home are therefore important determinants of the status of child nutrition. Access to education is an important way through which women's status can be improved and enhanced. In fact, women's literacy is one of the strongest determinants of child nutrition (Haddad, 1999).

Women bear an unequal burden because of their reproductive roles. For instance, it is highly likely that malnourished women will give birth to low birthweight children. Further, women share a disproportionate burden of childcare responsibilities, and in a patriarchal society, this is not seen as "work"; hence, public/social support is not extended to them.

Strategies such as the provision of creche facilities and maternity entitlements (like leave, cash benefits and nutrition support) become important for creating an enabling environment. These are not only critical from the point of view of improving child nutrition but also have other benefits, such as reducing the time poverty of women (Ghosh, 2016), creating opportunities to participate in remunerative economic activities. Day care services can contribute to the proper feeding of children and impart the necessary care needed, leading to improved nutritional outcomes. Further, they allow greater participation of women in the workforce, thereby addressing issues of low female workforce participation rates. Improved livelihood opportunities at the local level increase affordability and contribute to better nutrition for the entire household.

State Interventions in India for Addressing Malnutrition

Currently, the main interventions in India towards women and children are the ICDS, the Mid-day Meal (MDM) Programme, maternity entitlements and creches. These are each discussed below.

(1) Poshan Abhiyan – Nutrition Mission and ICDS

Government of India's Poshan Abhiyaan is a flagship programme to address malnutrition in a comprehensive manner through a multi-pronged approach (Poshan Abhiyaan, 2017). While the Poshan Abhiyaan discusses 'convergence', coordination between different ministries and departments responsible for different aspects of nutrition, the main platform through which the nutrition services are delivered is the Integrated Child Development Scheme (ICDS), now also called 'Anganwadi services' or 'Saksham Anganwadi'. For convenience, the term used in this chapter is ICDS.

The ICDS was launched in 1978 as a pilot project, and following Supreme Court orders, was universalised after 2006. The ICDS is implemented through approximately 1.4 million Anganwadi Centres (AWCs) across the country. These centres provide nutrition, health and preschool services with a focus on children under six, pregnant and lactating women and adolescent girls. The supplementary nutrition entitlements under NFSA for these groups (excluding adolescent girls) are also to be delivered through the ICDS. Previously, studies have shown that ICDS has been effective in addressing severe malnutrition and in the reduction of child mortality (Kapil and Pradhan, 1999).

Although new initiatives within the ICDS are functional under the Poshan Abhiyaan, such as monthly campaigns, *pakhwadas* etc. the budget in real terms under the Union Government for the ICDS has been reducing over the last ten years. A study by the Accountability Initiative shows that the

budget for ICDS Core between 2010–11 and 2020–21 has reduced by 34% (Accountability Initiative Staff, 2023). This was a programme that was already under-resourced, requiring greater investment. It is also observed that coverage under the scheme reduced between 2014 and 2019 (Niti Ayog, 2020).

The quality of the supplementary nutrition provided through the ICDS remains a concern. The cost norms are not regularly adjusted for inflation, and budgetary allocations are inadequate to match the calorie norms through nutritious sources. As per the current norms, the Supplementary Nutrition Programme (SNP) is Rs. 8 per child per day, Rs. 9.50 per pregnant/lactating woman per day and Rs. 12 per severely malnourished child per day, according to the Saksham Anganwadi and Mission Poshan 2.0 guidelines issued in August 2022 (PIBa Ministry of Women and Child Development, 2022). These are no different from the updated norms brought into effect in 2017 (PIB, 2017). An outcome of this is that the supplementary nutrition is often substandard and has a high sugar content (WFP, 2019). Alternatives based on local foods, including eggs, have been demanded by many civil society groups, but in many parts of the country, eggs have been opposed on religious/caste grounds and have also not been implemented due to cost considerations.

A longstanding issue with the ICDS has been the overburdening of human resources. A single anganwadi worker is responsible for all the services of the programme, including centre-based activities such as preschool education as well as community activities such as nutrition and health counselling. Despite various proposals, a second worker has not been appointed for the anganwadi services. This affects the performance of the anganwadi centres in taking care of children, especially those below three years of age, who are the most vulnerable. Converting at least some anganwadis into anganwadi-cum-creche has been recommended, but the progress under this scheme has been rather slow and limited.

(2) Creches

While the need for anganwadi-cum-creche has been identified, different models of creche services are also required. Care is an important aspect of the nutrition framework and, with most mothers in paid and unpaid work, the availability of childcare services is critical. Several experiences have shown that care, nutrition and growth monitoring services through creches have been effective in treating and preventing malnutrition, especially acute undernutrition (Prasad et al., 2018; Prasad and Sinha, 2015; Gope et al., 2019). During COVID-19, when the creches were shut, the same services, including food distribution, supervised feeding and growth monitoring of children, continued uninterrupted. This has shown improvement in the wasting status among SAM children, albeit at a rate lower than the pre-COVID period (Khan et al., 2023).

While there are several provisions for creches in India, ensuring accessibility to child care services for young children and their families has been neglected to quite an extent. The Maternity Benefits Act mandates that all places of work that employ more than 50 workers must have a creche. However, there is no monitoring of whether this is indeed the case, and there are reports of rules not being followed in all states (Lexplosion, 2018). Under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), child care services should also be provided if the workplace has more than five mothers with young children, another provision that is not monitored regularly. Moreover, there are no rules or guidelines on how child care services at workplaces should be managed in terms of the availability of space and food provisions. Available field studies suggested very poor implementation (FORCES, 2019). The National Creche Scheme (NCS), which replaced the Rajiv Gandhi Creche Scheme (RGCS) in 2017, also suffers from budgetary constraints and seems to be a scheme that is being slowly withdrawn (Benu, 2022).

(3) Maternity Entitlements – PMMVY

Early initiation and exclusive breastfeeding for six months are important for the child's nutrition. Maternity entitlements enable women to exclusively breastfeed. Maternity entitlement schemes such as the MAMTA Scheme in Odisha have been shown to have a positive effect on reducing malnutrition among children (Patwardhan, 2023). In the organised sector, the Maternity Benefits Act (MBA) amended in 2017 provides six months of leave for the first two children. However, more than 90% of women in India are not eligible to be covered under the MBA. For women in the unorganised sector, there are some sector-specific provisions (such as the Construction Workers Act), but the entitlement covering pregnant women is based on the NFSA (Sinha and Sengupta, 2019).

The Pradhan Mantri Matru Vandana Yojana (PMMVY) is the scheme that was started in 2017 in order to implement the NFSA entitlement. Initially, the scheme itself restricted the entitlement to only one live birth, but it was amended in 2022 to include the second pregnancy, if the child is a girl child (PIB, 2022). The scheme also reduced the amount being given to Rs. 5000, while the Act states that the amount to be given is at least Rs. 6000 (Sinha, 2017). While this scheme is now being implemented across the country, there are a number of barriers to accessing its benefits, even for the limited number of women who are eligible (for the first birth and after meeting some service utilisation conditionalities). Field studies across the country have found that the application process to access the benefits of the scheme is cumbersome and the documentation requirements are onerous. Requirements like updated Aadhaar cards for the mother and her husband and a functional

bank account have often resulted in exclusions and/or delays. Further, inordinate delays in receiving funds, especially during the most critical period (right after childbirth), have dissuaded households from actively participating in the scheme or its benefits. At the macro level too, not much priority is being given to this scheme, driven more so by reduced budgetary allocations in real terms and low coverage (Dreze and Khera, 2023).

Other initiatives, such as setting up of breastfeeding-friendly hospitals, regulation of the sale of breastmilk substitutes and so on are also important for ensuring exclusive breastfeeding. The World Breastfeeding Trends Initiative (WBTi) report shows India's score as 45/100 in 2018, which was just a point above the previous report in 2015, where the score was 44/100 (Gupta and Suri, 2015).

(4) Mid-Day Meal Scheme

The Supreme Court of India, through its orders in 2001, directed that all government schools must provide Hot Cooked Meals (HCMs) to all students on working days. Since then, the National School Mid-Day Meal Programme has expanded to all states across the country and has been hailed to be the most successful initiative of the Government. The Programme has not only addressed issues of classroom hunger but has also increased enrolment and attendance, especially amongst girls and children from marginalised communities. The NFSA also provides a legal entitlement to a cooked meal daily for children in government schools. While the scheme continues to be implemented, issues regarding the quality of foodgrains and pulses being cooked have been of concern.

Though the scheme has been rechristened as PM-POSHAN, coverage and allocations indicate a deterioration. The budgetary allocations for MDMs have seen a drastic reduction in terms of the Union Budget over the last ten years, by 45% between 2011–12 and 2022–23 (Accountability Initiative Staff, 2023). Despite recommendations by official committees items like eggs and milk have not been added to the meals at the national level, except for a few state governments that provide eggs from their own funds (Barman, 2023; Sanjay, 2023). Reportedly, a proposal from the Ministry of Education for introducing breakfast in the government schools as part of the scheme was turned down by the Finance Ministry (Vishnoi, 2021). Field reports suggest that in the context of rising prices, the scheme has been receiving low priority and therefore, quality in some areas is of serious concern (Nath, 2022).

Agenda for Action

The above discussions indicate that a comprehensive framework for government interventions to address malnutrition in India exists. However, a

number of gaps have been identified. Community mobilisation and collective action at various levels can contribute to the expansion and strengthening of the public system and towards the changes required at the individual and household levels.

To understand such actions at various levels, the typology below can provide a useful framework for understanding community action (See Fig 1.1.7). Different kinds of actions exist at the community level: (1) participatory learning and action (PLA) and similar approaches, involving local communities, especially women's groups, on nutrition issues; (2) direct interventions such as feeding programmes, the setting up of creches and so on which not only provide services but also build models in the absence of similar interventions by the state, for upscaling and mainstreaming; and (3) interventions focused on system strengthening and/or making claims on the state for accountability and protection of the rights of people, which involve actions such as social audits, community-based monitoring, report cards and so on. Often, these are different components of the same programme and strengthen each other. Furthermore, they are also connected with actions at a more consolidated level in the form of policy advocacy and mobilisation for policy change at the state and central levels. Therefore, not only are community actions affected by state and central policies and other macro determinants, but community-level actions also inform legislations, programmes and policies through different forms of collective action. Collective action usually manifests through campaigns, social movements and advocacy groups.

There has been a long history of wide-ranging advocacy and campaigns around the appropriate and comprehensive interventions required for addressing undernutrition in the country. Some of these have also contributed to policy design and reforms at the national level (strategies for children under six, 11th and 12th plans by the Right to Food Campaign and Jan Swasthya Abhiyan, NAPI etc.)

The campaigns and movements have contributed towards making the problems more visible. Further, their collective analysis of the socio-economic situation highlighted the root causes contributing to the poor health, nutrition, growth and development of children in the country. Several movements, including those around land rights, human rights, migrant workers, women's issues, the right to education and social security have been closely interlinked and are trying to bring the issues related to malnutrition and its determinants within their ambit.

The Right to Health (Jan Swasthya Abhiyan) and Right to Food Campaigns have, in particular, focused on issues related to maternal and child undernutrition. A sub-group of these two campaigns, the 'working group for children under six', conducted an in-depth analysis of policies and technical issues pertaining to young children and took them for discussion to both the grassroots and state levels. The working group worked on designing a framework of interventions for addressing child malnutrition.

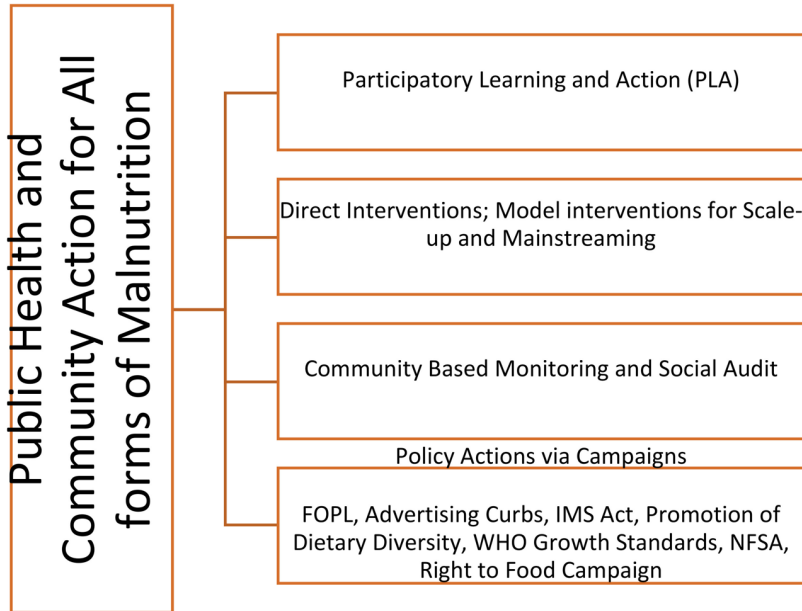


FIGURE 1.1.7 Typology of public health and community action for all forms of malnutrition

Source: Author's own creation.

These campaigns have also supported social audits and other accountability-building interventions such as holding public hearings and conducting field surveys across the country through their partners and members. These efforts have created resources for Non Government Organisations (NGOs) and civil society groups across the country to use. These resources have also been incorporated within the government programmes, such as in the case of social audits. For instance, the NFSA and the NREGA mandate social audits as part of the legislation, as a mechanism for community monitoring and accountability. Similarly, provisions for community-led planning and monitoring, for example, through Village Health Sanitation and Nutrition Committees, have also been incorporated in government programmes. All these efforts have contributed towards expanding the discussions around food security to include not just subsidised food grains but special provisions for young children such as supplementary nutrition, ICDS services, crèches and maternity entitlements.

As seen in the discussion above and illustrated in Figure 1.1.7, community action on malnutrition in India has taken different forms and has led to changes in policy at the micro, meso and macro levels. This has materialised through formal networks and campaigns as well as through working directly with the government at local level. What has been effective is that many of these community actions continuously engage with government policy and often

influence government action. Different approaches have been taken, including legal and public actions backed by research on aspects ranging from the quality and content of supplementary nutrition to national food security and connecting this information with community mobilisation and public action on the streets. The boxes below on the Right to Food Campaign and the Nutrition Advocacy in Public Interest India (NAPi) discuss two such examples of policy-related public action.

RIGHT TO FOOD CAMPAIGN, INDIA

The Right to Food (RTF) campaign in India has been mobilising and advocating for hunger, malnutrition and food-related issues in the country for the last 20 years. The RTF campaign's foundation statement states that it is 'an informal network of organisations and individuals committed to the realisation of the right to food in India'. Over these years, the RTF campaign has expanded into a wide network with members across the country representing different groups, including agricultural workers' unions, women's rights groups, dalit rights groups, single women's networks, child rights organisations, those working with construction workers, migrant workers and homeless populations and so on.

The RTF campaign has its origins in a public interest litigation (PIL) filed in the Supreme Court in April 2001 by the People's Union for Civil Liberties, Rajasthan. The petition demanded that the country's gigantic food stocks be used without delay to protect people from hunger and starvation. Significant orders such as the universalisation of school mid-day meals and the supplementary nutrition programme for children under six years, pregnant and lactating mothers and adolescent girls were passed under this litigation. Most of these were legislated into the National Food Security Act (NFSA) in 2013.

The campaign works for a more equitable model of development where economic growth is not based on exploitation but creates equal opportunities for all. At the same time, the campaign continues to mobilise and ensure that entitlements to food and work, through government programmes, are expanded and strengthened. The campaign has therefore contributed towards legislation such as the National Food Security Act (NFSA), National Rural Employment Guarantee Act (NREGA), as well as strengthening schemes such as the Integrated Child Development Services (ICDS), Mid-Day Meals (MDM) scheme and the Public Distribution System (PDS). At the same time, the campaign is working in solidarity with movements related to land rights, opposing coercive displacement, forest rights, fighting social exclusion and so on.

The activities of the Right to Food campaign involve developing resource material for grassroots organisations in the form of pamphlets, primers and booklets; generating 'evidence' from the field on the status of hunger and starvation, and the status of implementation of government schemes; mobilising

people from across the country to lead public action in the form of rallies, public hearings, dharnas and sit-ins. The campaign promotes advocacy through media, academics, politicians and parliamentarians on policies and legislation. The campaign builds on the experience of grassroots organisations across the country that work on these issues and supports community mobilisation at the local level. Through this network of organisations working at the grassroots, a synergy between community action and national mobilisation is established.

NUTRITION ADVOCACY IN PUBLIC INTEREST – INDIA (NAPI)

Nutrition Advocacy In Public Interest – India (NAPI) is a national think tank on nutrition that emerged in 2016 [<https://www.napiindia.in>]. It has been involved in policy advocacy against the marketing and consumption of unhealthy foods. NAPI is currently a member of the Interdepartmental Committee of the Ministry of Consumer Affairs with a mandate to prepare guidelines on protecting consumers against unhealthy food products. The process of preparing guidelines involves the creation of factual material, policy briefs and reports that are used for intensive advocacy with key government agencies such as Food Safety and Standards Authority of India (FSSAI), Niti Aayog and the Ministries of Health, Food and Consumer Affairs. NAPI has been specifically concerned with the need for Front-of-Pack Labelling for High Fat, Sugar and Salt (HFSS) foods or ‘Junk Food’, and the rising consumption of Ultra-Processed Foods (UPFs). It also identifies that the lack of regulation in the marketing of all these foods can cause considerable hindrance to the good health of the citizens. Some of the key actions taken by NAPI are as follows:

1. Letter to the Chief Secretary, Jharkhand, against the use of Ready-to-Use Therapeutic Food (RUTF) to manage severe acute malnutrition based on the concept note ‘Sustainable Developmental Solutions or Product-based Illusions for Addressing Severe Acute Malnutrition?’ and a position statement on (RUTF) published in October 2019. A response from the then Minister of Ministry of Health and Family Welfare (MoHFW), Sh. J.P. Nadda assured evidence-based research and that RUTF would not be accepted as a matter of standard policy.
2. Acting against the conflict of interest in the technical board on Nutrition constituted by Niti Aayog, leading to changes in its constitution (2017).
3. Complaints and mobilising opinion against film and media personalities endorsing various unhealthy foods have resulted in specific advertisements no longer broadcasted. [<https://theprint.in/india/nutrition-experts-call-out-big-b-for-promoting-britannia-bikis-ultra-processed-food/1309501/>. <https://brandequity.economicstimes.indiatimes.com/news/business-of>

-brands/asci-asks-britannia-to-revoke-big-bs-milk-bikis-ad/96958895 .https://www.moneylife.in/article/public-health-experts- appreciate- amita bh-bachchans-decision-not-to-promote-horlicks-ask-parents-to-stay-away -from-sugary-nutritional-beverages/54555.html.]

Thus, varied grassroots action has included model-building, demonstrating what works and what doesn't. Such action has contributed greatly to the understanding of what needs to be done in terms of design and programming at the national level. It has also helped to build an understanding that community-level action and decentralised planning have to be the backbone of any successful interventions. When these are also rooted in the broader macro understanding of the political economy of undernutrition, they result in actions at the community level which not only focus on behavioural issues but raise issues of system strengthening, community mobilisation, accountability and transparency at the grassroots level. Some of these initiatives are discussed in Part II of the chapter, which concludes with detailed recommendations for future action.

Note

- 1 Anthropometric indicators include stunting (height for age), wasting (weight for height) and underweight (weight for age).

References

- Accountability Initiative Staff. 2023. *The evolution of India's welfare system from 2008–2023: A lookback*. Centre for Policy Research (CPR), 1–23.
- Ali, B., Kumar, S., Madhav, M., & Sud, S. 2021. *DMFT funds: Need to prioritise rights of children in mining areas*. HAQ Centre for Child Rights.
- Barman, S.R. (2023). Government Revises Nutritional Standards in its Food Safety Schemes for Kids. Indian Express.
- Benu, P. 2022. May 25. 'Why funds were not released for National Creche Scheme in FY22'. *The Business Line*.
- Black, R.E., Victora, C.G., Walker, S.P., Bhutta, Z.A., Christian, P., De Onis, M., Ezzati, M., Grantham-McGregor, S., Katz, J., Martorell, R., & Uauy, R. 2013. 'Maternal and child undernutrition and overweight in low-income and middle-income countries'. *The Lancet*, 382(9890), 427–451.
- Citizens' Initiative for the Rights of Children Under Six. 2006. *Focus on children under six*. Secretariat of the Right to Food Campaign. <http://www.righttofoodcampaign.in>.
- CNNS (Comprehensive National Nutrition Survey). 2018. Ministry of Health and Family Welfare, Government of India, UNICEF and Population Council.
- Deol, T. 2022, October 17. 'Hungry nation: 70% Indians cannot afford a healthy diet'. *Down to Earth*.
- Dharmalingam, A., Navaneetham, K., & Krishnakumar, C. S. 2010. 'Nutritional status of mothers and low birth weight in India'. *Maternal and Child Health Journal*, 14, 290–298.

- Dreze, J., & Khera, R. 2023. June 14. 'Maternity entitlements in freefall'. *The India Forum*.
- FAO. 2024. *The State of Food Security and Nutrition in the World*. Rome: Food and Agriculture Organization.
- FORCES. 2019. *Women in NREGA: Issues of child care, case studies from Rajasthan and Uttar Pradesh*. Centre for Women's Development Studies.
- Ghosh, J. 2016, April. 'Time poverty and the poverty of economics'. *METU Studies in Development*, 43, 19.
- Gope, R. K., Tripathy, P., Prasad, V., Pradhan, H., Sinha, R. K., Panda, R., & Chowdhury, J. 2019. 'Effects of participatory learning and action with women's groups, counselling through home visits and crèches on undernutrition among children under three years in eastern India: A quasi-experimental study'. *BMC Public Health*, 19(1), 1–15.
- Gupta, A., Bidla, N., & Dutta, R. 2023. *Junk push - Rising ultra-processed food consumption in India: Policy, politics and reality*. New Delhi: Nutrition Advocacy in Public Interest in India (NAPi).
- Gupta, A., Patnaik, B., Singh, D., Sinha, D., Dreze, J., Holla, R., Garg, S., Sundararaman, T., Prasad, V., & Shatrugna, V. 2007. 'Strategies for Children Under Six'. *Economic and Political Weekly*, 42, 87–101.
- Gupta, A., & Suri, S. 2018. 'Arrested development: 5th report of assessment of India's policy and programmes on infant and young child feeding'. Breastfeeding Promotion Network of India (BPNI)/IBFAN Asia.
- Haddad, L. J. 1999. 'Women's status: Levels, determinants, consequences for malnutrition, interventions, and policy'. *Asian Development Review*, 17(1/2), 96–131.
- The Hindu. 2019, May 31. 'Unemployment rate at 45-year high, confirms Labour Ministry data'. *The Hindu*.
- Hindustan Times. 2023, June 22. 'PDS rice fraud unearthed, trucks and goods worth ₹27 lakh seized'. *Hindustan Times*.
- Kapil, U., & Pradhan, R. 1999. 'Integrated Child Development Services scheme (ICDS) and its impact on nutritional status of children in India and recent initiatives'. *Indian Journal of Public Health*, 43(1), 21–25.
- Khan, S., Prasad, V., Hegde, A., & Prasad, R. 2023. 'Impact of COVID-19 pandemic on nutritional status of children between six months to three years enrolled in a creche program in Southern Odisha'. *Children First*.
- Lexplosion. 2018, December. 'The crèche conundrum – Complying with the Maternity Benefit (Amendment) Act, 2017 in the absence of the state-centric rules'. *Lexplosion*.
- Livemint. 2023. 'India to remain 5th largest economy in 2023 says RBI bulletin'. *Livemint*.
- Mahajan, M. 2015. 'Protein consumption in diet of adult Indians: A general consumer survey'. *Agricultural and Food Sciences, Centrum Gate. Medicine*.
- Mehrota, S. 2021. *India's unemployment crisis: One that predates the pandemic*. Impact and Policy Research Institute (IMPRI).
- Mehrotra, S., & Parida, J. K. 2022, February. 'Social security for all of India's informal workers is possible. Here's how'. *The Wire*.
- Ministry of Women and Child Development. 2022. *Mission Saksham Anganwadi and Poshan 2.0*. Ministry of Women and Child Development. Government of India.
- Mukhopadhyay, S. 2023. 'Over half of world population to go obese in 12 years, women in India to get overweight at highest rate'. *Mint*.
- Mukhopadhyay, S., & Chakraborty, A. 2020. 'Changing wealth inequalities in child nutrition in Indian states'. *Economic and Political Weekly*, 55(8).

- Nath, M. 2022. July. 'Activists, parents flag concern over poor quality midday meal in Telangana'. *Hans India*.
- Niti Ayog. 2020. Evaluation of ICDS Scheme of India. Institute of Economic Growth. New Delhi.
- Nguyen, P. H., Avula, R., Headey, D., Tran, L. M., Ruel, M. T., & Menon, P. 2018. 'Progress and inequalities in infant and young child feeding practices in India between 2006 and 2016'. *Maternal & Child Nutrition*, 14, e12663.
- Outlook. 2024, June 28. 'Probe ordered into PDS rice scam in Assam district'. *Outlook*.
- Patwardhan, V. 2023. 'The impact of the Mamata conditional cash transfer program on child nutrition in Odisha, India'. *Health Economics*, 32(9), 2127–2146.
- PIB. 2017. Cabinet approves increase of cost norms for Supplementary Nutrition provided in Anganwadis and in the Scheme for Adolescent Girls . Government of India. available at <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1503697>
- PIB. 2022a, August. *Ministry of women and child development issues guidelines of "Saksham Anganwadi and Poshan 2.0" - an integrated nutrition support programme*. Ministry of Women and Child Development. Government of India.
- PIB. 2022b, March 30. *Benefit under Pradhan Mantri Matru Vandana Yojana*. Press Information Bureau. Government of India.
- Prasad, V., & Sinha, D. 2015. 'Potentials, experiences and outcomes of a comprehensive community-based programme to address malnutrition in tribal India'. *International Journal of Child Health and Nutrition*, 4(3), 151–162.
- Prasad, V., & Sinha, D. 2019. 'Dietary deprivation: Diets sans diversity'. *Frontline*.
- Prasad, V., Sinha, D., Chatterjee, P., & Gope, R. 2018. 'Outcomes of children with severe acute malnutrition in a tribal daycare setting'. *Indian Pediatrics*, 55, 134–136.
- Rajadhyaksha, N. 2022. May 24. India could be an upper middle-income country within a decade. *Livemint*.
- 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.
- RTFC. 2021. 'Reduced priority to children and malnutrition in budget'. RTFC Press Conference, Annex2.
- Sanjay. 2023, February 6. '14 states provide eggs as part of mid-day meal scheme: Education ministry'. *Careers 360*.
- Sethi, V., Bhanot, A., Dar, S., Parhi, R. N., & Mebrahtu, S. 2017. 'Bihar's burden of child stunting: A district-wise analysis'. *Economic and Political Weekly*, 15, 16–21.
- Sinha, 2016, A Wider Battle. Indian Express. June 13
- Sinha, D. 2017. May 19. 'Modi Government's maternity benefits scheme will likely exclude women who need it the most'. *The Wire*.
- Sinha, D. 2021. 'Hunger and food security in the times of Covid-19'. *Journal of Social and Economic Development*, 23, 320–331.
- Sinha, D. 2022a. 'Interrogating progress in addressing malnutrition in India'. *Social Scientist*, 50(9/10 [592–593]), 59–82.
- Sinha, D. 2022b. March 9. 'Persistence of food insecurity and malnutrition'. *The India Forum*.
- Sinha, D. 2023. 'Nutrition' in Dewan and Raju (eds.) *India Gender Report*, Feminist Policy Collective, New Delhi.
- Sinha, D., & Sengupta, S. 2019. February 6. 'How maternity benefits can be extended to informal women workers'. *The Wire*.

- Sinha Dipa. 2023. 'Nutrition' in Dewan and Raju (eds.) *India Gender Report*, Feminist Policy Collective, New Delhi.
- Somanchi, A. 2019, November 1. 'Food and social security at the margins: The Parhaiyas of Jharkhand'. SSRN. Somanchi, Anmol, Food and Social Security at the Margins: The Parhaiyas of Jharkhand. <https://ssrn.com/abstract=3540956> or <http://dx.doi.org/10.2139/ssrn.3540956>
- Spears, D. 2020. 'Exposure to open defecation can account for the Indian enigma of child height'. *Journal of Development Economics*, 146, 102277.
- Suri, S. 2020. October 16. 'India's protein deficiency and the need to address the problem. Health Express'. *Observer Research Foundation*.
- UNICEF. 1990. Strategy for Improved Nutrition of Children and Women in Developing Countries. New York: UNICEF.
- UNICEF. 2020. *UNICEF Nutrition Strategy 2020–2030: Nutrition, for Every Child*. United Nations Children's Fund (UNICEF).
- UNICEF. 2022. *Child food poverty: A nutrition crisis in early childhood*. UNICEF.
- Vishnoi, A. 2021. August 11. 'Rs 4,000 crore breakfast at school plan vetoed by Finance Ministry: Education Ministry'. *The Economic Times*.
- WFP. (2019). Review of Take-Home Rations under the Integrated Child Development Services in India. World Food Programme. New Delhi.
- World Food Programme. 2019. *Review of take-home rations under the integrated child development services in India*. World Food Programme.
- World Health Organization. 2019. *Nutrition Landscape Information System (NLIS) country profile Indicators: Interpretation guide*.
- World Breastfeeding Trends Initiative (WBTi). 2018. Assessment Report India. Breastfeeding Promotion Network of India (BPNI).

Part II

AN AGENDA FOR COMMUNITY-BASED NUTRITION ACTION

Vandana Prasad and Dipa Sinha

As discussed in detail in Part I of this chapter, historically, India has had a wealth of schemes and programmes for food security, many of which have been codified into the National Food Security Act (2013). We should justifiably be proud of these programmes; namely the Public Distribution System (PDS) (1997), supplementary nutrition to children under six and pregnant and lactating mothers through the ICDS (1975), the Mid-Day Meal (MDM) programme (1995) for school going children between the ages 6 and 14 years, and the Pradhan Mantri Matritva Vandana Yojana (PMMVY) (2017) for nutritional support to pregnant women. In addition, there is some nutritional support for patients with Tuberculosis and, in some states, adolescent girls. The coverage of the PDS alone is about 80 crore people, possibly the largest food security cover that any country provides to its people. The authors have been engaged with these programmes in different ways to improve not only implementation but also introduce new elements to address gaps, emerging issues and epidemiological shifts.

The main critique of these programmes remains that, while they cover caloric needs, they have not sufficiently accounted for nutritional ones. In particular, the population continues to suffer from very poor dietary diversity and protein insufficiency, as discussed in Part I. They also do not allow for contextual flexibility to boost the use of culturally appropriate, locally grown food that would improve both nutrition and many of its determinants, such as the economic stability of the households that are most in need. Food safety too has been neglected, with the usage of foods that have had a more natural, chemical-free production just beginning to enter the nutrition discourse. This too would help in myriad ways – improving the micronutrient content of soil and water and thus of the food that grows from

it, mitigating climate change, and minimising the ill effects of chemical pesticides and fertilisers. In this context, we highlight some innovations in this section that are informing a nutrition agenda for action based upon our own recent community-centred/community-based experiences as well as those of other governmental and civil society organisations.

The underlying basis for all these types of interventions is that malnutrition is the net result of economic, social and political inequalities and power differentials, as discussed in detail in Part I. These result in a resource crunch that affects nutrition through all its determinants. Changes require community mobilisation for intervening at the levels of self and household, community as well as the ‘system’ operating through schemes and programmes.

Some of the main community-level interventions are described briefly below as a basis for the current agenda for nutrition action. We take the life cycle approach to highlight some key interventions that have shown positive outcomes and may form the basis for a current agenda for nutrition action at the level of the community. The life cycle approach highlights the specific age groups where interventions are required and the implications of deficits within these groups for the entire population, as shown in the figure below. Within this, it needs to be highlighted that the first 1000 days are a critical period that calls for the prevention and management of malnutrition for the best and most sustained nutritional outcomes. It simultaneously marks the

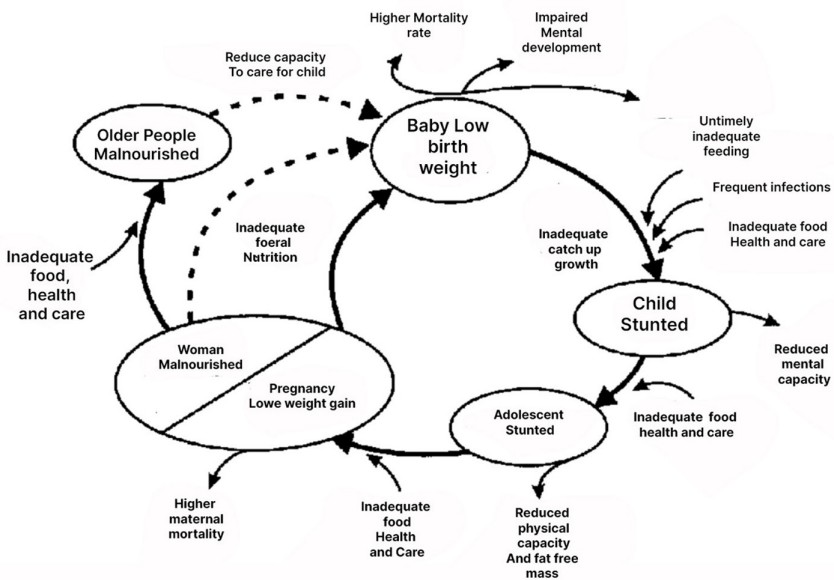


FIGURE 1.2.1 Nutrition throughout the life cycle

Source: ACC/SCN (2000) Fourth Report on the World Nutrition Situation. Geneva: ACC/SCN in collaboration with IFPRI.

period of highest vulnerability to malnutrition, as well as an age-specificity for interventions that is not required as much in future life. The first six months of recommended exclusive breastfeeding, for instance, need very different support and facilitation compared to even the next six months of a child's life, where complementary feeding needs to be firmly established. Nonetheless, every component of the life cycle has specificities that need to be kept in mind for successful intervention, as underscored by the programmes described further on Figure 1.2.1.

Participatory Learning and Action (PLA) may form a necessary basis for all the interventions being recommended and is described first as an overarching element of all interventions.

Participatory Learning and Action and BCC for Nutrition

While behaviour change and Behaviour Change Communication (BCC) have been well-accepted interventions for nutrition, PLA encompasses an additional element of community mobilisation and collectivisation to take action at all the levels mentioned above. Skilled facilitation is key, using principles that include respect for existing (indigenous and/or experiential) knowledge, contextual specificity, flexibility and collaboration.

The basic processes of PLA, as adapted from Kolb's theory (1984) of adult experiential learning, are reflected in Figure 1.2.2.

Studies have demonstrated the efficacy of PLA interventions in enhancing maternal and child health and nutrition. For instance, PLA meetings with women's groups, coupled with counselling through home visits and establishment of crèches, significantly reduced wasting, stunting and underweight cases among children under the age of three in rural areas of Jharkhand and Odisha, India (Gope et al., 2019). The study by Gope et al. also significantly found that the maximum effectiveness of PLA, as well as PLA alongside creches on nutritional status, was observed amongst the most marginalised children defined as those belonging to Scheduled Tribes and the two poorest wealth quintiles. This work, along with evidence from Bangladesh, Nepal and Malawi, led to a WHO recommendation on community mobilisation to include PLA with women's groups to improve maternal and newborn health (Scott et al., 2022; WHO, 2014; Prost, 2013).

Many of the BCC processes do not necessarily define themselves as PLA but have similarities in essential elements and build upon the pre-existing platform of Self Help Groups that have mobilised women in rural areas across the country. An example of one such process is the JEEViKA Multisectoral Convergence (JEEViKA-MC) pilot in Bihar. The JEEViKA-MC pilot found no impacts on anthropometry in mothers of young children or the children themselves, but small positive impacts on dietary diversity (Raghuathan et al., 2023). In another programme, the SWABHIMAAN intervention programme – an integrated multi-sectoral strategy to improve girls' and

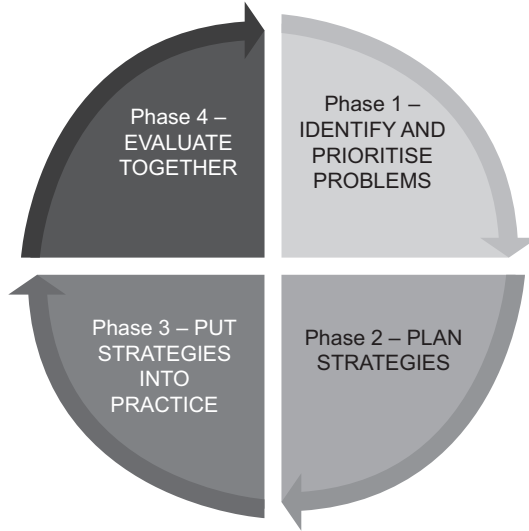


FIGURE 1.2.2 Four Phases of the PLA cycle

Source: Transform Rural India Foundation Health and Nutrition Perspective Building Part II, jointly developed by Public Health Resource Society (PHRS), Child in Need Institute (CINI), CHETNA, Freedom from Hunger India Trust, 2018.

women’s nutrition before conception, during pregnancy, and after child-birth – was layered on a Self Help Group (SHG) programme in three states of Odisha, Bihar and Chhattisgarh in 2018. A qualitative assessment found that women perceived themselves as more empowered through involvement in the SWABHIMAAN intervention programme, and there were improvements in the nutritional status of their households (Pradhan et al., 2023). Key to these interventions has been the agency of trained facilitators belonging to the same community and the SHG, referred to as *Poshan Sakhis* (nutrition friends). These learnings have been scaled up nationally to an extent through the Deendayal Antyodaya Yojana-National Rural Livelihoods Mission (DAY-NRLM) of the Government of India. Similarly, a participatory adult learning programme involving indigenous women and men as “Community Hunger Fighters” in Odisha

highlighted the links between adult learning, gendered power relations, and action for nutrition security, be it with respect to control over common property resources, addressing women’s time and work burdens, or giving them an equal say in decision-making at the community level.

(Narayanan and Rao, 2019)

In another study in rural Odisha, PLA cycle meetings along with Nutrition-Sensitive Agriculture (NSA) interventions showed improvement in maternal

and child dietary diversity and minimum acceptable diet (Kadiyala et al., 2021).

Clearly, PLA is most often used alongside other processes that enhance the overall resource pool available to children with malnutrition and their families, such as childcare, NSA and enabling kitchens. Several studies have highlighted, through evidence that these combinations would be far more effective than stand-alone interventions. A review also highlighted that more effective PLA approaches per se along with betterment in individual and household resources (Scott et al., 2022; Raghunathan and Desai, 2021) are required.

The integration of PLA with food or cash transfers has shown varied impacts on nutritional outcomes. In a study in the Dhanusha and Mahottari districts of Nepal, food transfers combined with PLA women's groups showed an increased birth weight, number of institutional deliveries, and lower prevalence of colostrum discarding compared to PLA alone or PLA with cash transfers (Saville et al., 2016, 2018). Moreover, PLA groups alone were effective in changing nutrition-related behaviour (*ibid*). PLA combined with cash transfers was found to increase dietary diversity and micronutrient adequacy during pregnancy, indicating the potential for integrated approaches to address nutritional deficiencies (Harris-Fry et al., 2018).

Since PLA is intended to take action at various levels including state schemes and programmes, some large-scale programmes have included conversations and capacity building on social audits as part of their PLA cycles (TRIF, 2019–2020). Community-based monitoring programmes have also, conversely, incorporated PLA and BCC on nutrition in their plans for effective results. One of these, piloted with support from the Tribal Development Department, Maharashtra, used interventions of individualised follow-up of children, parental counselling, and actively engaging parents to tackle malnutrition, increased engagement between the community and Anganwadi workers, engaging ASHA workers and improving inter-departmental coordination at the grassroots and higher levels alongside Community-Based Monitoring (CBM) of the ICDS system. These interventions and coordination at all levels in the government hierarchy have culminated in achieving outcomes which have been visible during the period from June 2019 to February 2020. The proportion of Severely Acute Malnutrition (SAM) children was thus reduced from 5.2% to 2.5%, i.e., a 51.9% reduction was observed in children with SAM and the proportion of MAM children was reduced from 14.3% to 8.8%, i.e., a 38.5% reduction was observed in children with MAM (Marathe et al., 2022).

Interventions to Prevent and Manage Low Birth Weight (LBW)

We understand that foetal growth is critical for achieving adequate birth weight, which, in turn, is a major determinant of child survival and nutrition

in future years. It goes without saying that good foetal growth depends, in large part, on maternal characteristics of well-being and the level of care available to women during their pregnancy. Factors such as age below 19 years, low BMI status, low education status, belonging to the poorest wealth quintile and to scheduled caste communities, were found to contribute strongly to LBW outcomes (Mishra et al., 2021). Additionally, the access to Antenatal Care (ANC) was found to be a significant factor. Many of these factors, especially early marriage and access to Reproductive and Child Health (RCH) services, are at least partially amenable to community-based action through PLA, as will be discussed later in the chapter. Where ANC is concerned, it is not merely quantity, but quality that makes a real difference. The issue of quality here deserves further elaboration since currently, ANC is mostly concerned with enumerating the number of visits during pregnancy. A review by Neupane et al. (2023) defined quality as including the activities of weight assessment, blood pressure measurement, blood and urine sample collection, monitoring regular consumption of 100+ iron folic acid (IFA) and calcium supplements, conducting ultrasound at regular intervals, counselling regarding any signs of danger, receiving two tetanus shots, preventive deworming, food supplements and imparting health and nutrition education to pregnant mothers; a package that is comprehensive and achievable if the health system and ICDS are considered convergently. Of all of these aspects of ANC, the nutritional interventions were found to have higher weightage. The study concluded that fewer high-quality ANC visits may be more productive and prevent LBW than poor-quality ones. It also pointed to a critical and very problematic observation in the field, which has been documented in a very recent field-based study (PHRS 2023) conducted by one of the authors: the sheer absence of birth weight data in RCH records is preventing specific interventions and monitoring. Again, these factors are amenable to community-based PLA activities.

As far as interventions are concerned, a systematic review in 2017 (Lopes et al., 2017) of Randomised Control Trials (RCTs) found six interventions comprising oral supplementation with vitamin A, low-dose calcium, zinc, multiple micronutrients, nutritional education and provision of preventive antimalarials to be associated with a reduction in LBW. Of course, the predominance of support for micronutrient supplementation arises from the nature of the published material available. However, an RCT conducted in Mumbai observed the effect of introducing a nutritious daily snack made from green leafy vegetables, fruit and milk (instead of micronutrient supplements) into the diet of pregnant women. It was found that while the overall effect on birth weight wasn't visible, gains were still made. It postulated that a possible increase in birth weight was expected if the mother was supplemented more than three months before conception and was otherwise not underweight, reinforcing the need to intervene even earlier in the lifecycle.

A few community-based nutritional interventions have been attempted at implementation during every stage of pregnancy and provide valuable insights into specific areas for improvement in schemes and programmes for maternal nutrition. Amongst these, a programme called 'sight and life' (2023) has initiated a simple but effective and structured intervention of 'assess – classify – counsel' through regular ICDS workers for Gestational Weight Monitoring (GWM) and identification of pregnant women with high nutritional risk. Nutritional risk is defined in this programme using age, height, BMI for both underweight and obese women, haemoglobin levels, dietary adequacy and frequency and monthly weight gain during pregnancy. The programme depends upon specific capacity building and skilled counselling during a structured series of seven home visits alongside referral for intractable issues. It is very evident from the above discussions that the basic causes of malnutrition – poverty, education and gender discrimination – call for more effective interventions for reducing incidences of low birth weight significantly. However, community action is necessary to transform the macro issues and nutrition-specific interventions with pregnant women and adolescents to tackle LBW. Interventions that have the potential to enhance catch-up growth have been described in the following sections.

Promoting Breastfeeding at Facility and Community Level

Though optimal IYCF is understood as critical for child nutrition, breastfeeding and breast milk as the first form of food security are still poorly understood and acknowledged. Moreover, limited work has been done in this area at the community level. A few notable interventions in this sphere will be briefly presented in the following discussions that could inform the agenda for action at the community level. Further, a need arises for maternity entitlements to enable exclusive breastfeeding by women engaged in the informal sector, an aspect that remains largely unmet, as discussed in Part I of this chapter.

One of the earliest well-documented interventions, conducted as a quasi-experimental study (Kushwaha et al., 2014), was in the Lalitpur district of UP, where the formation of peer support groups (PSGs) and Mother support Groups (MSGs) was very effective. These groups were trained about IYCF by middle-level trainers who were in turn supported by block-level referral centres. A total of 425 mother-baby dyads were formed from a total population of 105000. The results were reassessed after 2 years (T1) and 5 years (T2) of the intervention and then compared with the pre-intervention phase (T0). The results were found to be significant and have been presented in the box below:

(REPRESENTED AS %; ADJOR (95% CI, P)):

1. *Initiation of breastfeeding* within 1 hour at both T1 (71% vs. 11%); 19.6 (13.6, 28.2, $p = <0.0001$) and T2 (62% vs. 11%); 13.3 (9.4, 18.9, $p = <0.0001$);
2. *Rates of exclusive breastfeeding for 6 months* at both T1 (50% vs. 7%); 13.6 (7.6, 25.0, $p = <0.0001$) and T2 (60% vs. 7%); 20.5 (11.3, 37.2, $p = <0.0001$);
3. *Initiation of complementary feeding* at T1 (85% vs. 54%); 5.6 (3.6, 8.7, $p = <0.0001$) and T2 (96% vs. 54%); 22.9 (11.8, 44.1, $p = <0.0001$)
4. *Complementary feeding along with continued breastfeeding* at both T1 (36% vs. 4.5%); 6 (1.15, 31.4, $p = 0.033$) and T2 (42% vs. 4.5%); 8.06 (1.96, 49.1, $p = 0.005$) compared to the pre-intervention period (T0) after adjusting for important social and demographic variables.

The major recommendation that emerged was the need for skilled counselling on IYCF. This contrasts sharply with the type of Information Education Communication (IEC)/BCC that is currently being employed, which is mostly limited to imparting key messages in bullet points.

While this study demonstrated a pathway to achieve outcomes, another intervention involved measuring net outcomes on child growth. The intervention was undertaken in collaboration with an NGO, the Foundation for Mother and Child Health (FMCH), in the slums of Mumbai, India, between 2013 and 2016. It covered a cohort of 286 children (Dalal and Agnihotri, 2021) and the interventions focused on group counselling at antenatal clinics for pregnant and nursing women to further impart skills on appropriate breastfeeding, including the ‘Cross Cradle Hold’ technique using audio-visual aids. The cohort group was monitored once a month to ensure that mothers were motivated and to resolve any inherent problems, in addition to anthropometry. Growth faltering was identified early with specific advice to enable catch-up growth. Complementary feeding was also supported by increasing the home visits to up to twice a month after the completion of six months. These visits also involved the demonstration of nutrient-dense foods such as eggs, fish, organ meats like chicken liver, cooked sprouts, millets, nuts and seed powders, as well as improved cooking techniques (sprouting, germinating and adding green vegetables and using protein-rich powders).

Encouraged by positive results in the ‘pre-post’ analysis of these 286 children in Mumbai, a formal quasi-experimental study (Dalal et al., 2023) was conducted for 576 Exclusively Breastfed (EBF) infants from 0 to 14 weeks in Gujarat between August 2020 and September 2021. This study focused on the

adoption of the ‘cross cradle hold’ technique and other appropriate breastfeeding techniques, which were taken up through the regular staff of the government primary health system. The only additional input in this case was, again, the capacity building on skills and monitoring the weight of the child.

The findings revealed that the median weight gain per day between 0 and 14 weeks was significantly higher ($p=0.000$) in the Intervention Care Group (ICG) (32.7g) compared with the Standard Care Group (SCG) (28.05g). The median weight-for-age Z score (at 14 weeks of age) was also significantly higher in the ICG compared with the SCG ($p=0.000$). Underweight prevalence was three times lower in the ICG (5.3%) compared with the SCG (16.7%) at 14 weeks of age. Infants in the ICG were observed to be 2.65 times more likely to achieve a weight gain of 30g or more per day compared with infants in the SCG. The study concluded that there was an urgent need to revisit the existing government guidelines on EBF to consider the inclusion of weekly weighing of infants, information to mothers about weight gain, and specific support for establishing the cross-cradle technique for appropriate breastfeeding. Case studies of a few LBW infants also reportedly showed significant catch-up growth when using this intervention.

Another health worker dependent programme was the ‘Yashoda programme’ piloted by the Norway-India Partnership Initiative (NIPI) with state governments in Rajasthan and Odisha in 2008 and evaluated independently in 2011. It involved the creation of birth companions at the level of the district hospital, in addition to the support extended by ASHA. These birth companions were created in a ratio of approximately 1:8 pregnant women going through institutional deliveries. Amongst other postnatal outcomes on maternal and child health, the rates of initiation of breastfeeding within 5 hours of birth, even in the context of caesarean sections, increased significantly from 44% in controls to 77% in the intervention sample (Varghese et al., 2014). This helped to build upon the experience from a previous birth companion programme launched by the Tamil Nadu government in 2004 and was scaled up to some extent in four states. However, from 2017, the current approach has been to improve the quality of the existing health system. Additionally, these programmes have attempted to achieve better outcomes for maternal and child health through the ‘labour room and quality improvement of the operation theatre’ or ‘LaQshya’ programme.

Clearly, the common thread amongst all these interventions is the facilitation by skilled and capable health care workers with due supervision and monitoring.

Childcare/Creche Programmes as a Nutritional Intervention

Childcare is conceptually understood as a complex intervention that not only contributes to Early Childhood Care and Development (ECCD), with

health and nutrition as core components, but also to women's rights to work. Additionally, it provides a mechanism to release older siblings, especially girl children, from childcare responsibilities, enabling them to go to school.

In terms of nutrition, these programmes have the potential to fulfil many crucial requirements: supervised feeding with nutritionally balanced meals using local produce, growth monitoring, caring for childhood illnesses, monitored micronutrient supplementation and referral in case of urgent/complicated cases. These may also help promote breastfeeding by providing an appropriate space at workplaces and a locus for PLA activities in the community.

While the expected changes are not yet visible on the ground at any scale in India, Civil Society Organisations (CSOs) have been engaged in showcasing the above model with local improvisations for decades, which show advancement to some extent. Some of the models have been well studied for nutritional outcomes and show significant improvements, especially with respect to SAM (Gope et al., 2019 Prasad et al., 2018). Since there has been a growing interest in ECCD, albeit more, from the point of view of cognitive development than nutrition, many of these have been documented. Thirty similar programmes are described in a recent compendium published by ISST (Banerjee and Kaur, 2023). About one-third of these address a specific objective related to malnutrition/child health, but outcomes have only been documented by a few scholars. One of the commonest challenges faced by these organisations was the lack of regular and assured funding support in the absence of state funding.

Considering that the central government has not really advanced in using childcare as a vehicle for delivering specific services for malnutrition, it is notable that, as against nutritional interventions in other states, Odisha has made substantial progress in keeping childcare at the forefront. Using a variety of funding sources such as the District Mineral Fund, Odisha Mineral Bearing Areas Development Corporation funds, as well as departmental funds, the state boasts several hundred creches that have a similar programmatic structure for ECCD, including the nutritional interventions. They are also bound by a common Management Information System(MIS), the e Kalika, and common protocols, guidelines and training manuals, all approved by the Women and Child Department (WCD) department GoO. Some programmes have measured outcomes and published encouraging results (DCPCR, 2022). Recent data from this programme reveals significant outcomes for Severe Acute Malnutrition, as shown in Figure 1.2.3.

This figure describes the progress of 308 children who were identified as SAM at any time during their stay at the creches from October 2017 to February 2024 in 125 creches run by PHRS, and who had been enrolled in the creche for at least 4 months after identification as SAM.

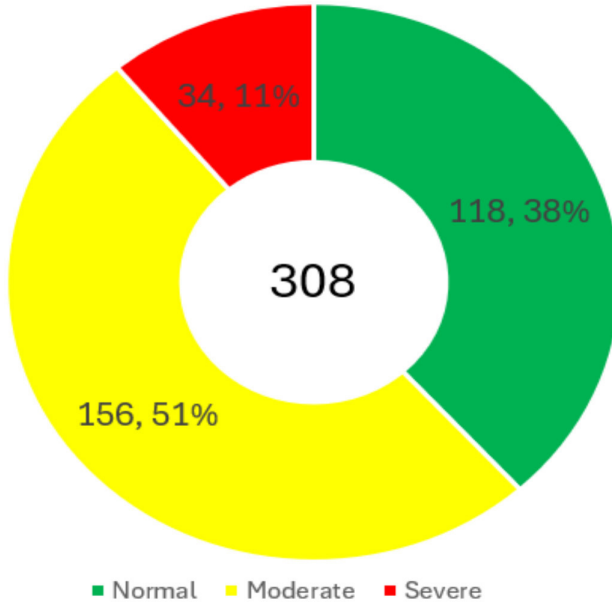


FIGURE 1.2.3 Creche outcomes for SAM

Source: PHRS (2017-2022) MIS data, figure drawn for the purpose of this chapter.

Nutrition-Sensitive Agriculture, Kitchen Gardens and Livelihoods

The concept of ‘nutrition-sensitive’ agriculture (NSA) is relatively new and refers to the growing understanding of the impact of food systems on overall nutrition. Experience and research have confirmed that adequately diverse food, when available from a home-grown source, results in a minimum adequate diet for children being achieved better. Simultaneously, the cultivation of cash crops, according to Dey et al. (2021), do not contribute directly to the food on the plates of the households. Thus, agricultural production cannot be considered a commercial source of income that could be automatically utilised for better nutrition. Also, the quality and nature of agriculture are closely connected to the nutrient content and safety of the produce from toxic chemicals.

While much work has happened in recent times on agroecology, its relationship to nutrition has been sparsely explored since the focus of these practices is more to do with environmental protection. This is reflected in the sparse description of agricultural processes leading to positive nutritional outcomes. However, an important trial conducted in Odisha (2016–20), Upscaling Participatory Action and Videos for Agriculture and Nutrition (UPAVAN), reported significant achievements. An increase was found in the

proportion of children and their mothers with adequate dietary diversity for the treatment group receiving an NSA intervention using participatory videos and PLA processes together. This was also achieved at the least cost per unit increase in dietary diversity (Haghparast-Bidgoli et al., 2022).

Women's role as farmers is poorly acknowledged, though there is a growing body of work to showcase their leadership as farmers for NSA. An intervention in a cash-cropping area of Gujarat showed remarkable success in engaging women in mixed crop production with millets, vegetables and pulses, resulting in enhanced dietary diversity for the entire household (Rukmani et al., 2019). Another study found that domains that can positively influence the dietary diversity of women are women's input in agricultural production decisions, SHG membership, and their adequate time for leisure. In all of these, women's ability to make decisions in production activities is a significant determinant of the diversity of their diets. (Gupta et al., 2019). These experiences point to some important but hitherto unusual recommendations for action.

Many of the community-based interventions described above (if not all) promote kitchen gardens as adjuncts to the primary intervention, be it PLA, creches or NSA. Some of the experiences of women's engagement in kitchen gardens as a community-driven activity to improve their households' nutrition levels have been shared in the following paragraphs.

Happy to say that despite the water shortage, people now have a small kitchen garden in their courtyard. Most of them are growing vegetables for their consumption. Two-to-three produce on a large scale and has [sic] promoted it like a business.

(Pradhan et al., 2023, 10)

Almost all the women stated that they have kitchen gardens (poshan vatika) where they have started growing green vegetables ... women were proud to show their kitchen gardens ... What was striking was to see the entire communities and neighbours coming together. Women often exchanged vegetables and can [sic] be found giving tips to each other on how to grow vegetables. Earlier, even small incidents such as throwing water outside houses would easily turn into conflict and chaos between neighbours. A small but significant change, such as having a kitchen garden, made a huge difference. The kitchen garden, which was meant to tackle the issue of having tri-coloured food without added pressure on the pocket, also proved to be a means of mending relationships between neighbours. People started watering their garden/s with used water instead of throwing it outside onto the roads. This also solved the problem of mosquitoes breeding in dirty water (PHRS, 2020).

While there is little empirical work to provide evidence on kitchen gardens leading to nutrition outcomes in India, it seems reasonable to assume that home gardens improve food security, enhance economic growth and replenish the ecosystem, supported by literature from other countries in Africa, Asia and Latin America (Galhena et al., 2013).

A very recent study has, however, been published that provides clear evidence of the positive outcomes of an agroecology programme in Andhra Pradesh, where out of 3511 households, 1121 participated in a government programme titled 'Andhra Pradesh Community Managed Natural Farming (APCNF)'. Using a case-control method, the difference in dietary diversity across the two groups was examined. The study found statistically significant differences in the two groups for the outcomes of dietary diversity for men, women and children, levels of anaemia in children and scores for the developmental milestones of the children. Significantly, the increase in dietary diversity was pronounced for vitamin A-rich, dark leafy vegetables and pulses, thereby addressing known dietary gaps in the Indian population (Ch et al., 2024).

Nutrition in the Context of Specific Vulnerability

While overall food security is an important goal to achieve, an intersectional lens is needed to reach those who are constrained by specific vulnerabilities. A few community-based interventions have been brought forth as examples of the specific efforts that might be necessary in the context of specific vulnerabilities.

Nutrition of Adolescents

The importance of intervening at all levels throughout the lifecycle of women and human beings has been recognised, but adolescents seem fairly neglected with regard to health and nutritional needs in the existing schemes and programmes. In community action processes too, they need to be specifically engaged and not treated as a subset of the adult population. In terms of determinants, a study of adolescents in Bihar and UP (Chauhan et. al 2022) found that adolescents who received IFA and deworming tablets suffered less from moderate/severe anaemia than those who did not, irrespective of their gender. Stunting was associated with more mild or moderate/severe anaemia, and the prevalence of mild or moderate/severe anaemia was much higher among the poorest adolescents compared with the richest ones. Moderate/severe anaemia was also more prevalent among those belonging to the SC/ST and rural categories.

Another experimental study with adolescents across socio-economic strata in Mumbai using a 'Health Belief Model' for intervention found

improvement in dietary behaviour, though the health outcomes of consuming a high sugar, salt and fat diet were significantly poor (Moitra et al., 2021). A large-scale PLA process in the underdeveloped state of Jharkhand, called Jharkhand Initiative for Adolescent Health (JIAH), was carried out in alignment with the Rashtriya Kishori Swasthya Karyakram programme of the government that emphasised dietary diversity as a primary outcome. An evaluation of JIAH did not find a positive impact on diets but identified resource constraints as a possible cause. It reinforced the need for PLA processes to be layered over specific resource/support-enhancing measures, which were considered difficult in the adolescent age group, especially for those out of school or unable to access MDMs, which are only available currently until age 14 (or class 8) in most states (Bhatia et al 2023).

Nutrition Support for Long-Term/chronic Diseases

There has been an acknowledgement of the nutritional needs of patients undergoing treatment for TB with the launch of the Nikshay programme of the Government of India that allows 500 INR for patients to get registered. However, in a recent trial, Bhargava et al. (2023) examined an intervention of monthly food rations and micronutrients (750 kcal, 23 grams of protein per day with micronutrients) to household contacts of known TB patients and found a 39–48% reduction in tuberculosis incidence in the registered household/s during 2 years of follow-up vis-à-vis the controlled households. Considering that the country still has a high burden and incidence of TB, this is a highly significant intervention that demands scaling to other states across the country. Similarly, one may envision that patients with Non-Communicable Diseases (NCDs) require specialised dietitian services in a good-quality public health system. Additionally, the elderly population is likely to need oral health and dentistry services to enable better nutrition (Padma Sri Lekha et al., 2023).

Nutrition for Children with Disabilities

Where children with disabilities are concerned, the need for incorporating nutritional services to prevent malnutrition and obesity is largely understood conceptually. These include aspects of Family-centric Inclusive Intervention for Children with Intellectual disability involving the Community and Cross-Sectoral System as highlighted in a study by Nair et al. (2023), though only a few community interventions have been documented. A review by Klein et al. (2023) that looked at support for nutrition amongst disabled children in low and middle-income countries found that ‘Food security and nutrition programmes are often not designed in accessible ways and do not reach children with disabilities because of cultural stigma, physical barriers,

and devaluation of their lives'. A flaw in the programmes is the application of the same measures for outcomes for disabled and non-disabled children. The review recommended specific training, tools and protocols for handling nutrition for children with disabilities, with disaggregated data for monitoring. Daycare was also mentioned as a potential intervention in addition to specialist services and aids, like special seating and blenders. The conclusions drawn include the need to build an evidence base, strengthen systems to improve the identification of the target group and provision of services, provide direct support to families of the target group and advocate for the interventions required.

Daycare facilities for children of migrant construction workers as a means of nutritional intervention have been in operation for over five decades (Pispati et al, 2017; Creches, 2010). While overall equitable socio-economic development discussed in Part I cannot be ignored if nutritional goals are to be achieved, we conclude with the 'doable' short-term agenda for action that emerges from the programmes, already summarised above. One must acknowledge that each of these actions intervenes on multiple fronts simultaneously, rather than in a linear manner on isolated factors. Combining and layering such interventions would thus also allow maximum impact.

Emerging Agenda for Short-Term Action

1. Improving the status of women: This emerges as one of the strongest areas demanding action to achieve positive outcomes for nutrition. Some of the specific elements that can be immediately worked upon are as follows:
 - a. Restarting literacy programmes for women, such as Mahila Samakhyā (1988) and incorporating nutrition literacy specifically into their ambit.
 - b. Creating legal and policy (such as expanding the scope of the RTE Act) means increasing girls' enrolments in secondary school to impact adolescent nutrition directly through MDMs as well as prevent early marriages.
 - c. Ensuring the applicability of the Maternity Benefits Act (MBA) for women working in the informal sector through specific mechanisms. Enlarging and expanding the PMMVY for better coverage without conditionalities.
 - d. Making provisions for childcare services, including promotion of anganwadi-cum-creches as a point of nutritional intervention for children under three, adolescent girls and women working in formal and informal sectors. This also has the potential to diversify livelihood practices for vulnerable families, which, in turn, has direct and indirect nutritional outcomes.

- e. Creating and using existing fora, such as SHGs for women's leadership in agriculture and nutrition, with specific additional resources and inclusion of PLA processes.
2. Improving dietary diversity and food safety for the entire population: food systems interventions
 - a. Policy shifts to allow greater diversity in PDS, MDMs and ICDS supplementary food programmes; inclusion of pulses, millets, eggs and other animal-based foods as well as local and seasonal fruits and vegetables.
 - b. Promoting kitchen gardens at scale with horticultural and agricultural inputs, and special attention to access to irrigation.
 - c. Promoting natural/organic multi-cropping practices and integrated farming through specific subsidies and technical assistance from relevant ministries of the GOI.
 - d. Immediate legal and policy initiatives to provide warning labels for high-fat, sugar and salt foods (junk foods) with regulation on marketing and advertising.
3. Improving IYCF practices
 - a. PLA processes for the entire spectrum of child feeding.
 - b. Enabling skilled counselling for breastfeeding and complementary feeding by improving the capacity building of health care workers, including ASHA and AWWs. Increasing the strength of Community Health Workers for populations that are sparsely populated.
4. Early detection and management of malnutrition
 - a. Specific monitoring of birth weight in Maternal and Child Health (MCH) cards as well as protocols for action for CHWs.
 - b. Enabling skilled growth monitoring using WHO standard growth charts with special emphasis on growth faltering as a trigger for action.
 - c. Institutions for community-based management of malnutrition with specific protocols in place promote nutritional adequacy through locally sourced and prepared calorie-dense and protein-rich foods, where indicated, and supervised feeding through creches as needed.
 - d. Improve Rashtriya Bal Suraksha Karyakram to focus on children in need of urgent attention through red-flag protocols. Allocation of additional resources for referral and admission; specific management of underlying biomedical causes.
5. Major nutritional interventions in specific contexts
 - a. Immediate programme to add nutritional supplements for households registered with the TB Preventive Treatment (TPT) programme.
 - b. Nutritional supplements for elderly persons via enhanced pensions/specific transfers of cash or kind, nutritional assistance at the

household level for elderly persons living alone, and also ensuring oral healthcare (through dental services) for them.

- c. Adding dietitian services in NCD and RBSK programmes for children with disabilities.

To conclude, while malnutrition is understood to be a complex, multifactorial, multi-sectoral phenomenon, the analysis covered in the Agenda for Action chapters (Part I and Part II) provides ample evidence that there are sufficient doable, evidence-based, decentralised and culture-appropriate interventions that can be brought into the ambit of the current schemes and programmes with great potential to improve nutritional outcomes in a very short period of time. Meanwhile, laws, policies and systems are needed to create the macro-environments to deepen such outcomes once the low-hanging fruit has been harvested. At the heart of it lie issues of social justice, equality and human rights, which, though deep-rooted, are essential to tackle a country that is aspiring to reach a higher place in the global order.

References

- Banerjee, M., & Kaur, A. (2023). *Compendium: Towards evidence building for Childcare Provisioning for marginalized communities*. Institute of Social Studies Trust.
- Bhargava, A., Bhargava, M., Meher, A., Benedetti, A., Velayutham, B., Teja, G. S., Watson, B., Barik, G., Pathak, R. R., Prasad, R., Dayal, R., Madhukeshwar, A. K., Chadha, V., Pai, M., Joshi, R., Menzies, D., & Swaminathan, S. (2023). Nutritional supplementation to prevent tuberculosis incidence in household contacts of patients with pulmonary tuberculosis in India (RATIONS): a field-based, open-label, cluster-randomised, controlled trial. *The Lancet*, 402(10402), 627–640. [https://doi.org/10.1016/S0140-6736\(23\)01231-X](https://doi.org/10.1016/S0140-6736(23)01231-X)
- Bhatia, K., Rath, S., Pradhan, H., Samal, S., Copas, A., Gagrai, S., Rath, S., Gope, R. K., Nair, N., Tripathy, P., Rose-Clarke, K., & Prost, A. (2023). Effects of community youth teams facilitating participatory adolescent groups, youth leadership activities, and livelihood promotion to improve school attendance, dietary diversity, and mental health among adolescent girls in rural Eastern India. *SSM – Population Health*, 21, 101330. <https://doi.org/10.1016/j.ssmph.2022.101330>
- Ch, L. D., Bharath, Y., Bliznashka, L., Kumar, T. V., Jonnala, V., Chekka, V., Yebushi, S., Roy, A., Venkateshmurthy, N. S., Prabhakaran, P., & Jaacks, L. M. (2024). Evidence of potential impacts of a nutrition-sensitive agroecology program in Andhra Pradesh, India, on dietary diversity, nutritional status, and child development. *PLOS One*, 19(5), e0286356. <https://doi.org/10.1371/journal.pone.0286356>
- Chauhan, S., Kumar, P., Marbaniang, S. P., Srivastava, S., & Patel, R. (2022). Prevalence and predictors of anaemia among adolescents in Bihar and Uttar Pradesh, India. *Scientific Reports*, 12(1), 8197. <https://doi.org/10.1038/s41598-022-12258-6>
- Children First. (2022). *Journal on Children's Lives*. Delhi Commission for Protection of Child Rights (DCPCR). Govt. of NCT of Delhi.

- Dalal, R. M., & Agnihotri, S. B. (2021). Nutrition Care in the first year of life: significance, key experiences, emerging lessons in preventing growth failure and promoting catch up growth. In S. C. Vir (Ed.), *Public Health Nutrition in Developing Countries* (2nd ed.). Woodhead India Publishers.
- Dalal, R.M, Fancy, M. K., Chaudhary, S., Abraham, M., Vir, S. C., & Gaurav, S. (2023). Establishment of cross-cradle hold technique combined with intensive breastfeeding counselling positively impacts the weight gain rate in early infancy. *Maternal & Child Nutrition*, 19, e13529. <https://doi.org/10.1111/mcn.13529>
- Dey, D., Jana, A., & Pradhan, M. R. (2021). Influence of agriculture on child nutrition through child feeding practices in India: A district-level analysis. *PLOS One*, 16(12), e0261237. <https://doi.org/10.1371/journal.pone.0261237>
- Galhena, D. H., Freed, R., & Maredia, K. M. (2013). Home gardens: a promising approach to enhance household food security and wellbeing. *Agriculture & Food Security*, 2, 8. <https://doi.org/10.1186/2048-7010-2-8>
- Gope, R. K., Tripathy, P., Prasad, V., Pradhan, H., Sinha, R. K., Panda, R., Chowdhury, J., Murugan, G., Roy, S., De, M., Ghosh, S. K., Sarbani Roy, S., & Prost, A. (2019). Effects of participatory learning and action with women's groups, counselling through home visits and crèches on undernutrition among children under three years in eastern India: a quasi-experimental study. *BMC Public Health*, 19(1), 962. <https://doi.org/10.1186/s12889-019-7274-3>
- Government of India. (1975). *Integrated Child Development Services (ICDS)*. Ministry of Women and Child Development. Retrieved from <https://icds-wcd.nic.in/>
- Government of India. (1995). *Mid Day Meal Programme*. Ministry of Education. Retrieved from <https://www.education.gov.in/en/mid-day-meal>
- Government of India. (1997). *Public Distribution System*. Ministry of Consumer Affairs, Food, and Public Distribution. Retrieved from <https://dfpd.gov.in/pds>
- Government of India. (2013). *National Food Security Act*. Ministry of Law and Justice. Retrieved from <https://www.nfsa.gov.in/>
- Government of India. (2017). *Pradhan Mantri Matritva Vandana Yojana*. Ministry of Women and Child Development. Retrieved from <https://wcd.nic.in/schemes/pradhan-mantri-matru-vandana-yojana>
- Gupta, S., Vemireddy, V., & Pingali, P. L. (2019). Nutritional outcomes of empowerment and market integration for women in rural India. *Food Security*, 11(6), 1243–1256. <https://doi.org/10.1007/s12571-019-00952-5>
- Haghighparast-Bidgoli, H., Harris-Fry, H., Kumar, A., Pradhan, R., Mishra, N. K., Padhan, S., Ojha, A. K., Mishra, S. N., Fivian, E., James, P., Ferguson, S., Krishnan, S., O'Hearn, M., Palmer, T., Koniz-Booher, P., Danton, H., Minovi, S., Mohanty, S., Rath, S., ... Kadiyala, S. (2022). Economic Evaluation of Nutrition-Sensitive Agricultural Interventions to Increase Maternal and Child Dietary Diversity and Nutritional Status in Rural Odisha, India. *The Journal of Nutrition*, 152(10), 2255–2268. <https://doi.org/10.1093/jn/nxac132>
- Harris-Fry, H. A., Paudel, P., Harrisson, T., Shrestha, N., Jha, S., Beard, B. J., Copas, A., Shrestha, B. P., Manandhar, D. S., de L. Costello, A. M., Cortina-Borja, M., & Saville, N. M. (2018). Participatory women's groups with cash transfers can increase dietary diversity and micronutrient adequacy during pregnancy, whereas women's groups with food transfers can increase equity in intrahousehold energy allocation. *The Journal of Nutrition*, 148(9), 1472–1483
- Kadiyala, S., Harris-Fry, H., Pradhan, R., Mohanty, S., Padhan, S., Rath, S., James, P., Fivian, E., Koniz-Booher, P., Nair, N., Haghighparast-Bidgoli, H., Mishra, N. K., Rath, S., Beaumont, E., Danton, H., Krishnan, S., Parida, M., O'Hearn, M., Kumar, A., ... Allen, E. (2021). Effect of nutrition-sensitive agriculture interventions with participatory videos and women's group meetings on maternal

- and child nutritional outcomes in rural Odisha, India (UPAVAN trial): A four-arm, observer-blind, cluster-randomised controlled trial. *The Lancet Planetary Health*, 5(5), e263–e276. [https://doi.org/10.1016/S2542-5196\(21\)00001-2](https://doi.org/10.1016/S2542-5196(21)00001-2)
- Klein, A., Uyehara, M., Cunningham, A., Olomi, M., Cashin, K., & Kirk, C. M. (2023). Nutritional care for children with feeding difficulties and disabilities: A scoping review. *PLOS Global Public Health*, 3(3), e0001130. <https://doi.org/10.1371/journal.pgph.0001130>
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice Hall.
- Kushwaha, K. P., Sankar, J., Sankar, M. J., Gupta, A., Dadhich, J. P., Gupta, Y. P., Bhatt, G. C., Ansari, D. A., & Sharma, B. (2014). Effect of peer counselling by mother support groups on infant and young child feeding practices: the Lalitpur experience. *PLOS One*, 9(11), e109181. <https://doi.org/10.1371/journal.pone.0109181>
- Lopes, K. da S., Ota, E., Shakya, P., Dagvadorj, A., Balogun, O. O., Peña-Rosas, J. P., De-Regil, L. M., & Mori, R. (2017). Effects of nutrition interventions during pregnancy on low birth weight: an overview of systematic reviews. *BMJ Global Health*, 2(3), e000389. <https://doi.org/10.1136/bmjgh-2017-000389>
- Mahila Samakhyia Programme. (1988). *Mahila Samakhyia Programme: Genesis*. Retrieved from https://www.education.gov.in/sites/upload_files/mhrd/files/upload_document/Genesis_ms.pdf
- Marathe, S., Shukla, A., Kakade, D., Yakkundi, D., Dikhale, S., & Shende, V. (2022, January 26). Community action for nutrition in tribal areas of Maharashtra: Framework, process and impact. In https://sathicehat.org/images/CAN_REPORT_Book.pdf. Support for Advocacy and Training to Health Initiatives (SATHI). Retrieved April 10, 2024, from https://sathicehat.org/images/CAN_REPORT_Book.pdf
- Mishra, P.S., Sinha, D., Kumar, P., Srivastava, S., & Bawankule, R. (2021). Newborn low birth weight: do socio-economic inequality still persist in India? *BMC Pediatrics*, 21(1), 518.
- Mobile Creches. (2010). Tackling Malnutrition of Children under Six – Evidence from Two Micro Studies. Available from <https://www.mobilecreches.org/resources>
- Moitra, P., Madan, J., & Verma, P. (2021). Impact of a behaviourally focused nutrition education intervention on attitudes and practices related to eating habits and activity levels in Indian adolescents. *Public Health Nutrition*, 24(9), 2715–2726. <https://doi.org/10.1017/S1368980021000203>
- Nair, M., Hazarika, M., Kishore, M. T., Sengupta, N., Sheregar, G., MacGregor, H., Wickenden, M., Kaushik, N. H., Saikia, P., Kelley, M., & Shepperd, S. (2023). A community developed conceptual model for reducing long-term health problems in children with intellectual disability in India. *PLOS Global Public Health*, 3(4), e0000833. <https://doi.org/10.1371/journal.pgph.0000833>
- Narayanan, R., & Rao, N. (2019). Adult learning for nutrition security: Challenging dominant values through participatory action research in Eastern India. *Studies in the Education of Adults*, 51(2), 213–231. <https://doi.org/10.1080/02660830.2019.1573782>
- Neupane, S., Scott, S., Piwoz, E., Kim, S. S., Menon, P., & Nguyen, P. H. (2023). More is not enough: High quantity and high quality antenatal care are both needed to prevent low birthweight in South Asia. *PLOS Global Public Health*, 3(6), e0001991. <https://doi.org/10.1371/journal.pgph.0001991>
- Padma Sri Lekha, P., Irshad, C. V., Abdul Azeez, E. P., & Irudaya Rajan, S. (2023). Nutritional status of older adults in India: An exploration of the role of oral

- health and food insecurity factors. *Heliyon*, 9(10), e21028. <https://doi.org/10.1016/j.heliyon.2023.e21028>
- Pispati, A., Naik Africawala, V., & Varghese, S. (2017). Community-Based Education to Promote Health and Well-Being for the Children of Migrant Construction Workers in Mumbai, India. *Rajagiri Journal of Social Development*, 9(1).
- Pradhan, M. R., Unisa, S., Rawat, R., Surabhi, S., Saraswat, A., R. S., R., & Sethi, V. (2023). Women empowerment through involvement in community-based health and nutrition interventions: Evidence from a qualitative study in India. *PLOS ONE*, 18(4), e0284521. <https://doi.org/10.1371/journal.pone.0284521>
- Prasad, V., Sinha, D., Chatterjee, P., & Gope, R. (2018). Outcomes of children with severe acute malnutrition in a tribal day-care setting. *Indian Pediatrics*, 55(2), 134–136.
- Prost, A. (2013). Women's groups practising participatory learning and action to improve maternal and newborn health in low-resource settings: a systematic review and meta-analysis. *The Lancet*, 381(9879), 1736–1746. [https://doi.org/10.1016/S0140-6736\(13\)60685-6](https://doi.org/10.1016/S0140-6736(13)60685-6)
- Public Health Resource Society. (2017–2022). *Mainstreaming crèches to reduce malnutrition in Odisha: Shishughar MIS reports*. Public Health Resource Society.
- Public Health Resource Society. (2023). *Prevalences and causes of malnutrition among under five children in selected geographies of India*. National Human Rights Commission.
- Public Health Resource Society, Child in Need Institute, CHETNA, Freedom from Hunger India Trust. (2020). Process Documentation for Central Level Integration of TRI-Health and Nutrition Intervention. Retrieved from https://phrsindia.org/wp-content/uploads/2022/11/ProcessDocumentation_printreadyversion-2-121.pdf
- Raghunathan, K., & Desai, S. (2021). Working with women's groups to improve nutrition in India. *Economic and Political Weekly*, 56, 17–21.
- Raghunathan, K., Kumar, N., Gupta, S., Chauhan, T., Kathuria, A. K., & Menon, P. (2023). Learning together: Experimental evidence on the impact of group-based nutrition interventions in rural Bihar. *World Development*, 168, 106112. <https://doi.org/10.1016/j.worlddev.2023.106112>
- Rukmani, R., Gopinath, R., Anuradha, G., Sanjeev, R., & Yadav, V. K. (2019). Women as drivers of change for nutrition-sensitive agriculture: Case study of a novel extension approach in Wardha, India. *Agricultural Research*, 8(4), 523–530. <https://doi.org/10.1007/s40003-018-0383-x>
- Saville, N. M., Shrestha, B. P., Style, S., Harris-Fry, H., Beard, B. J., Sengupta, A., Rai, A., Paudel, V., Pulkki-Brännström, A.-M., Copas, A., Skordis-Worrall, J., Bhandari, B., Neupane, R., Morrison, J., Gram, L., Sah, R., Basnet, M., Harthan, J., ... Costello, A. M. de L. (2016). Protocol of the Low Birth Weight South Asia Trial (LBWSAT), a cluster-randomised controlled trial testing impact on birth weight and infant nutrition of Participatory Learning and Action through women's groups, with and without unconditional transfers of fortified food or cash during pregnancy in Nepal. *BMC Pregnancy and Childbirth*, 16(1), 320. <https://doi.org/10.1186/s12978-016-0235-7>
- Saville, N. M., Shrestha, B. P., Style, S., Harris-Fry, H., Beard, B. J., Sen, A., Jha, S., Rai, A., Paudel, V., Sah, R., Paudel, P., Copas, A., Bhandari, B., Neupane, R., Morrison, J., Gram, L., Pulkki-Brännström, M., Skordis-Worrall, J., Basnet, M., ... Costello, A. (2018). Impact on birth weight and child growth of Participatory Learning and Action women's groups with and without transfers of food or cash during pregnancy: Findings of the low birth weight South Asia cluster-randomised controlled trial (LBWSAT) in Nepal. *PLOS One*, 13(5), e0194064. <https://doi.org/10.1371/journal.pone.0194064>

- Scott, S., Gupta, S., Menon, P., Raghunathan, K., Thai, G., Quisumbing, A. R., Kumar, N., Prasad, V., Hegde, A., Choudhury, A., Khetan, M., Nichols, C., & Kumar, N. (2022). A quasi-experimental evaluation of a nutrition behavior change intervention delivered through women's self-help groups in rural India: Impacts on maternal and young child diets, anthropometry and intermediate outcomes. *Current Developments in Nutrition*, 6(6), nzac079. <https://doi.org/10.1093/cdn/nzac079>
- Sight and Life. (2023). Gestational Weight Monitoring: Experience from Telangana. Retrieved from <https://cms.sightandlife.org/wp-content/uploads/2023/09/202309-Maternal-Nutrition-India-sightandlife.pdf>
- Transform Rural India Foundation. (2018). Health and Nutrition Perspective Building Part III, jointly developed by Public Health Resource Society, Child in Need Institute, CHETNA, Freedom from Hunger India Trust.
- Varghese, B., Roy, R., Saha, S., & Roalkvam, S. (2014). Fostering maternal and newborn care in India the yashoda way: Does this improve maternal and newborn care practices during institutional delivery? *PLOS One*, 9(1), e84145. <https://doi.org/10.1371/journal.pone.0084145>
- World Health Organization. (2014). *WHO recommendation on community mobilization through facilitated participatory learning and action cycles with women's groups for maternal and newborn health*. WHO. Retrieved from <https://www.who.int/publications/i/item/9789241507271>