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Achieving Food and Nutritional Security in Jharkhand

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Preliminary Draft, Only for Discussion

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Swati Dutta and Sunil Kumar Mishra

Food and nutritional security exist when all individuals have access to sufficient, safe, and nutritionally adequate food that meets their dietary requirements, as well as access to clean water, sanitation, health services, and care (FAO, 2012). In Jharkhand, a substantial share of the population remains unable to meet even minimum nutrition standards (IHD, 2021). Deficiencies in calories, protein, and essential micronutrients adversely affect children's physical growth and cognitive development, and contribute to child morbidity and mortality. Over the long term, inadequate nutrition among women and children diminishes labour productivity and constrains human capital development, perpetuating a vicious cycle of poverty and deprivation.

Malnutrition, a term that encompasses both undernutrition and micronutrient deficiencies, results from inadequate, excessive, or imbalanced nutrient intake. Undernutrition contributes significantly to child mortality, responsible for nearly 45 percent of all deaths among children under five worldwide. This issue is particularly acute in India, where malnutrition in all its forms is associated with a staggering 68% of child mortality (Lancet, 2019; Osendarp et al., 2020). The nutritional status of individuals is shaped not only by food intake but also by nutrient absorption capacity, overall health, socio-economic status, access to WASH, and the ecological environment. Children under five and women of reproductive age are particularly affected, reflecting the cumulative effects of inadequate diets, poor health conditions, and socio-economic disadvantage.

Jharkhand represents a critical context for examining nutritional security. The state has one of the highest proportions of Scheduled Tribe populations in India, many of whom live in remote rural areas characterized by food insecurity, poor health infrastructure, and high poverty (Avula et al., 2017; Chaand et al., 2019). National survey data and subnational studies reveal persistently high levels of stunting and wasting among children in Jharkhand, with tribal districts disproportionately affected

(Khandelwal et al., 2022). Traditional beliefs around food habits, newborn feeding, delayed initiation of breastfeeding, and limited awareness of complementary food diversity further constrain optimal practices (Dhami et al., 2021; Sharma et al., 2024). These cultural factors, combined with geographical isolation and systemic inequities, exacerbate poor child and maternal nutrition outcomes.

Child and Maternal Nutritional Outcome

Stunting, wasting, and underweight are the three important indicators of the nutritional status of children. Stunting, or low height-for-age, is a sign of chronic malnutrition that reflects a failure to receive adequate nutrition over a long period. Stunting can also be affected by recurrent and chronic illnesses. Wasting, or low weight-for-height, is a measure of acute malnutrition and represents the failure to receive adequate nutrition in the period immediately before the survey. Wasting may result from inadequate food intake or a recent episode of illness-causing weight loss. Weight-for-age is a composite index that takes into account both acute and chronic malnutrition. Problems of stunting and being underweight are regarded as indicators of long-standing dietary inadequacy, while wasting is indicative of short-term malnutrition. Stunting is less sensitive to temporary food shortages and thus, is the most reliable indicator of long-term deprivation in childhood. Wasting is more useful for evaluating the short-term or immediate benefits of nutrition intervention programmes. Its determinants are difficult to interpret as it cannot distinguish between temporary and permanent malnutrition (Zere and McIntyre, 2003; Mishra and Retherford, 2000). On the other hand, anaemia can result from nutritional deficiency of iron and other essential minerals and vitamins, as well as infections such as malaria and sickle cell disease.

Children in Jharkhand are at substantially higher risk of chronic and current malnutrition. Child undernutrition is caused by inadequacies in food, health, and care for infants and young children, especially in the first two years of life. Nearly 40 per cent of children under the age of five in Jharkhand suffered from chronic malnutrition (stunting), approximately 39 per cent were underweight, and 22 per cent suffered from current malnutrition wasting, as in NFHS-5 (2019-2021) (Table 1). These numbers are significantly higher than the national averages. In Jharkhand, 45 per cent of the ST children and 41 per cent of SC children were found to be underweight in 2019-2021 (Figure 1).

Finally, children living in rural (42% stunted, 41% underweight and 22% wasted) areas are substantially more likely to be malnourished compared to those in urban

areas (26.8% stunted, 30.0% underweight and 23.0% wasted), and since rural areas fare poorly compared to urban areas, this is worrisome (Table 1). Further, according to CNN Factsheet 2017, 14.0 per cent of the under-five children in Jharkhand are severely stunted (height-for-age: below -3 SD), 6 per cent of them are severely wasted (height-for-height: below -3 SD) and 15.5 per cent of them are severely underweight (height-for-age: below -3 SD).

Table 1
Malnutrition among Children Aged Under-five in Jharkhand and India—NFHS-5

	Jharkhand			*India*		
	Urban	*Rural*	*Total*	*Urban*	*Rural*	*Total*
Stunting	26.8	42.3	39.6	30.1	37.3	35.5
Underweight	30.0	41.4	39.4	27.3	33.8	32.1
Wasted	23	22.3	22.4	18.5	19.5	19.3

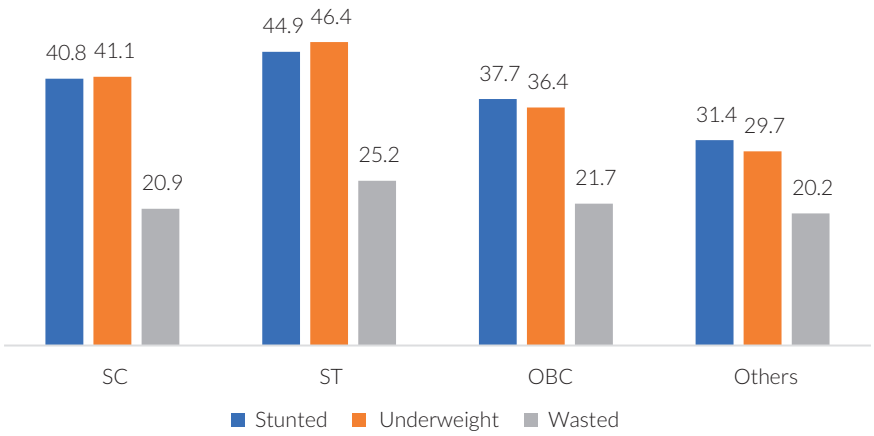
Source: NFHS 5

Anaemia among children and women is another serious issue in Jharkhand (Figure 2.2). The prevalence of anaemia among children aged 6-59 months was high at 69 percent in 2015-16, declining to 67.5 percent in 2019-2021. Further prevalence of anaemia among 1 to 4-year-old children in Jharkhand is 43.8 per cent in Jharkhand (CNN Factsheet, 2017). The prevalence of anaemia was also as high as 65.2 percent among women aged 15-49 years in 2015-16, as well as in 2019-2021 (65.3%) (Figure 2).

Low Body Mass Index (BMI) remains a significant public health concern in Jharkhand, reflecting persistent nutritional deprivation among adolescents and adults. The prevalence is particularly high among adolescents: 40.64% of boys and 42.6% of girls aged 15–19 years are underweight, indicating widespread chronic undernutrition during a critical period of growth. Among adults, the burden continues, though at lower levels: 14.93% of men and 24.8% of women aged 15 years and above have low BMI (Figure 3). The consistently higher levels among adolescent girls and adult women highlight gendered nutritional disparities, driven by early marriage, inadequate diets, heavy work burdens, and limited access to healthcare and nutrition services.

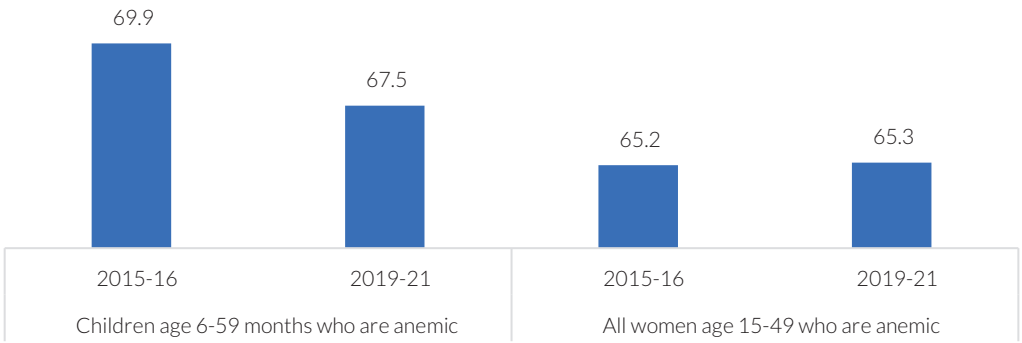
According to the CNN Factsheet, 2017 more than one-third of the children in the age group of 10-14 years have severely low BMI (BMI-for-age: below -3 SD). Also, one-fifth of the children in the age group of 15-19 years have severely low BMI.[1]

Figure 1
Malnutrition among Children Under Five in Jharkhand by Social Groups: 2019-2021



Source: NFHS-5.

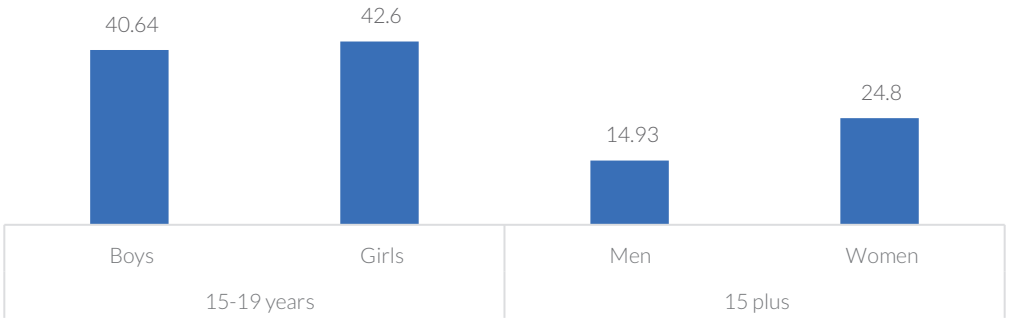
Figure 2
Prevalence of Anaemia among Children and Women in Jharkhand



Source: Calculation based on NFHS-4 and NFHS-5.

1 Body mass index (BMI), measured as kg/m2, is a commonly used as a screening tool to assess thinness, overweight and obesity among children and adolescents aged 5–19 years. If BMI is less than 18.5 it is considered as low BMI

Figure 3
Prevalence of Low BMI among Adolescents and Adults



Snapshot of the Districts in terms of Child Nutrition Indicators

Table 2 reports the bottom-most districts based on various nutrition-related indicators. It is seen that Paschim Singhbhum and Pakur are among the lowest-performing districts in terms of stunted children aged 0-5 years, and also with the highest proportion of underweight children. Saraikela Kharsawan and Simdega are the two districts with the highest incidence of anaemia among children.

Pakur is one of the districts that not only has the highest incidence of anaemic among women but also has a high incidence of Body Mass Index (BMI) among women. Among the districts, Jamtera and Giridih are the districts with a low prevalence of children under age 3 years breastfed within one hour of birth. Whereas Latehar and Dumka are the districts with the lowest proportion of children with exclusive breastfeeding.

Table 2
Poorest Performing District in terms of Malnutrition-related Indicators

Stunted (>40 %)	*Underweight (> 40%)*	*Anaemic Children (>70%)*	*Anaemic Women (>70%)*	*BMI women >30*	*Early Initiation of breastfeeding <20*	*Exclusive breastfeeding <70*
1	2	3	4	5	6	7
Latehar	Garhwa	Pakur	Deoghar	Jamtara	Dhanbad	Bokaro
Gumla	Ranchi	Sahibganj	Saraikela-Kharsawan	Latehar	Kodarma	Giridih
Lohardaga	Godda	Jamtara	Simdega	Chatra	Latehar	Kodarma

Stunted (>40 %)	*Underweight (> 40%)*	*Anaemic Children (>70%)*	*Anaemic Women (>70%)*	*BMI women >30*	*Early Initiation of breastfeeding <20*	*Exclusive breastfeeding <70*
1	2	3	4	5	6	7
Deoghar	Purbi Singh-bhum	Pashchimi Singhbhum	Sahibganj	Deoghar	Saraikela-kharsawan	Latehar
Jamtara	Lohardaga	Deoghar	Pashchimi Singhbhum	Pashchimi Singhbhum	Bokaro	Dumka
Chatra	Khunti	Dumka	Dumka	Pakur	Hazaribagh	
Simdega	Sahibganj	Godda	Jamtara		Khunti	
Palamu	Dumka	Simdega	Pakur		Simdega	
Garhwa	Jamtara	Saraikela-kharsawan			Godda	
Sahibganj	Saraike-la-kharsawan				Dumka	
Pakur	Pakur				Giridih	
Pashchimi Singhbhum	Pashchimi Singhbhum				Jamtara	

Source: Fact Sheet, NFHS-5.

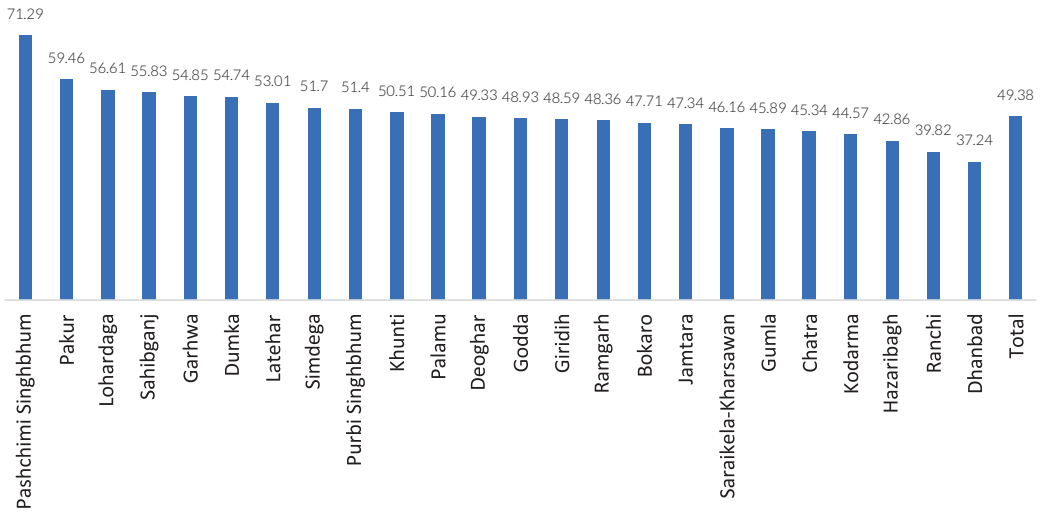
Anthropometric Failure

Anthropometric failure, which encompasses stunting, wasting, and underweight, serves as a critical indicator of chronic and acute undernutrition in children. It reflects not only insufficient dietary intake but also poor health status and adverse socio-economic conditions that limit a child's growth and development. High levels of anthropometric failure indicate a significant public health concern, as they are closely associated with impaired cognitive development, increased susceptibility to infections, and long-term reductions in physical and economic productivity.

In Jharkhand, the prevalence of anthropometric failure varies markedly across districts. Pashchimi Singhbhum records the highest level at 71.3 percent, followed by Pakur at 59.5 percent, Lohardaga at 56.6 percent, and Sahibganj at 55.8 percent. The relatively better-performing districts include Hazaribagh (42.9%), Ranchi (39.8%), and Dhanbad (37.2%). These variations highlight the uneven distribution of

nutritional deprivation across the state, with tribal-dominated and remote districts exhibiting significantly higher levels of child undernutrition.

Figure 4
District-wise Anthropometric Failure (%)



Nutrition Status and SDG-2

SDG-2 aims to achieve zero hunger, improve nutrition, promote sustainable agriculture, and ensure food security for all. India has made significant efforts to address malnutrition and improve food security. However, some of the challenges persist, particularly at the state level, where disparities in nutritional outcomes are evident. Analyzing key indicators can provide insights into Jharkhand's progress in achieving SDG-2 and help identify areas that require targeted interventions. Table 3 presents the current annual average rate of reduction (AARR) or the current annual average rate of increase (AARI)[2] based on NFHS-4 and NFHS-5 indicators. Further, based on the targeted value for Vision 2030,[3] the study has also calculated the required average rate of reduction or increase to reach the targeted value by 2030. Children in Jharkhand are at substantially higher risk of chronic and current malnutrition. Child under/malnutrition is caused by inadequacies in food, health and care for infants and young children, especially in the first two years of life. Between

2 AARI=

3 Provided in the Jharkhand Vision & Action Plan 2021 document of the Government of Jharkhand and indicators provided by NITI Aayog

2015-16 and 2019-2021, the rate of reduction of underweight was only 3.8 per cent. However, to reach the underweight figure below 10.0 per cent, the required rate of reduction should be approximately 14.0 per cent annually. In the last 5 years, the annual rate of reduction of anaemia among children was only 0.07 per cent. However, a reduction rate of 20.0 per cent is needed to reach an anaemia level below 10.0 per cent.

Table 3
Present Annual Rate of Reduction/Increase and Required Annual Rate of Reduction/Increase for Achieving Vision 2030

Targets for ensuring nutrition indicators	*NFHS-5 (2019-2021)*	*NFHS-4 (2015-16)*	*Target 2030*	*Present AAAR*	*Required AAAR*
Children under five years who are underweight (weight for age) (%)	39.4	47.8	10	3.8	14.1
Children under five years who are stunted (height-for-age) (%)	40	45.3	10	2.5	14.3
Children age 6– 59 months who are anaemic (< 11 g/dl) (%)	67.5	69.9	10	0.7	19.1
Women of 15–49 years of age with low BMI (%)	26.2	31.5	10	3.6	10.1
Women age 15–49 years who are anaemic< 11g/dl (%)	65.3	65.2	20	0.0	12.3
Girls aged 15–18 with BMI less than 18.5 (%)	42.6	43.3	5	0.3	21.2
Children on exclusive breastfeeding (up to 5 months) (%)	76.1	64.8	95	3.3	2.5
Early initiation of breastfeeding (within 1 hour of birth) (%)	21.5	33.1	95	-8.3	18.0
Children aged 6–8 months who were fed complementary foods (%)	38.8	47.2	95	-3.8	10.5

Note: AAAR: Annual average rate of reduction. Source: Author's own calculation

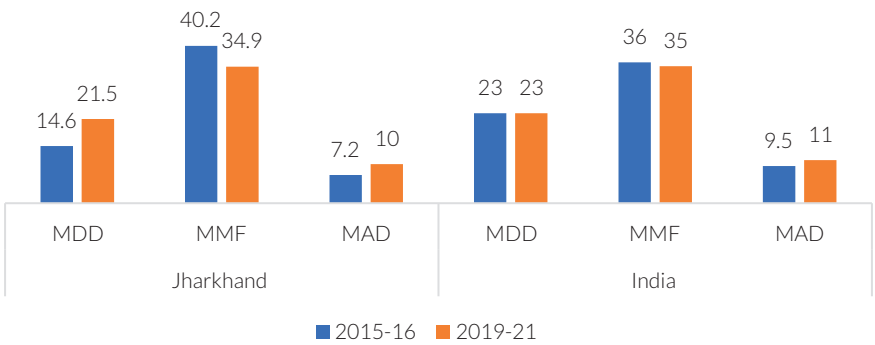
Dietary Diversity among Infant and Young Children

Improvements in nutrition levels could be achieved through dietary diversity and the availability of safe drinking water/sanitation. Dietary diversity scores of children reflect nutrient adequacy. In 2019-2021, only 22 per cent of the children had achieved Minimum Dietary Diversity (MDD) in Jharkhand as against 23 per cent at all Indian levels. Further, between 2015-16 and 2019-2021, there was almost a seven-percentage point increase in the proportion of children who achieved MDD among 6-23 months. In the case of Minimum Meal Frequency (MMF), 35 per cent of the children have achieved MMF in 2019-2021, and there is a 5.3 percentage point decline in the proportion of children who achieved MMF between 2015-16 and

2019-2021. There was a 2.8 percentage point increase in the proportion of children who have achieved Minimum Acceptable Diet (MAD) from 7.2 per cent in 2015-16 to 10 per cent in 2019-2021 (Figure 4).

According to the CNN Factsheet, 2017 also, 17.6 per cent of children in the age group of 1 to 4 years have a vitamin B12 deficiency, 42.7 per cent of them have vitamin A deficiency, and 28.5 per cent of them have a zinc deficiency in Jharkhand. And the deficiency in terms of vitamin B12 (22 %), vitamin A (29.8 %), and zinc (49.8 %) is also severe among 10-19-year-old children.

Figure 4
Age-Appropriate Feeding Practice among Children 6 to 23 Months in Jharkhand and India



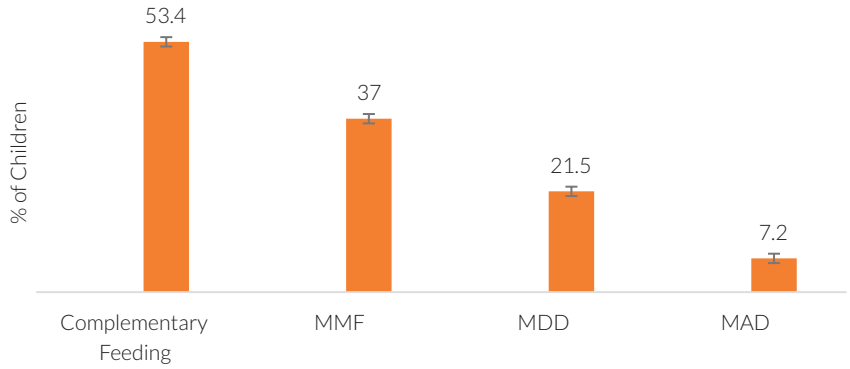
Source: Calculation based on NFHS-4 and NFHS-5

Complementary Feeding Initiation and Dietary Practices: Evidence from the Field

Among tribal children aged 6–8 months, 53.4% (95% CI: 47.6–59.2) were introduced to complementary foods at the recommended age (Figure 5). This highlights significant gaps in adherence to optimal feeding practices within tribal households.

The analysis of complementary feeding indicators also highlights substantial deficiencies. Only 37.0% (95% CI: 31.5–42.5) of children met the minimum meal frequency (MMF). Dietary diversity was particularly low, with 21.5% (95% CI: 16.8–26.2) achieving the minimum dietary diversity (MDD). The minimum acceptable diet (MAD), which combines MMF and MDD, was met by only 7.2% (95% CI: 4.3–10.1) of children. These figures reflect limited access to and consumption of nutrient-rich complementary foods, underscoring the inadequacy of current feeding practices among tribal households.

Figure 5
Percentage of Children Achieved Key Complementary Feeding Indicators

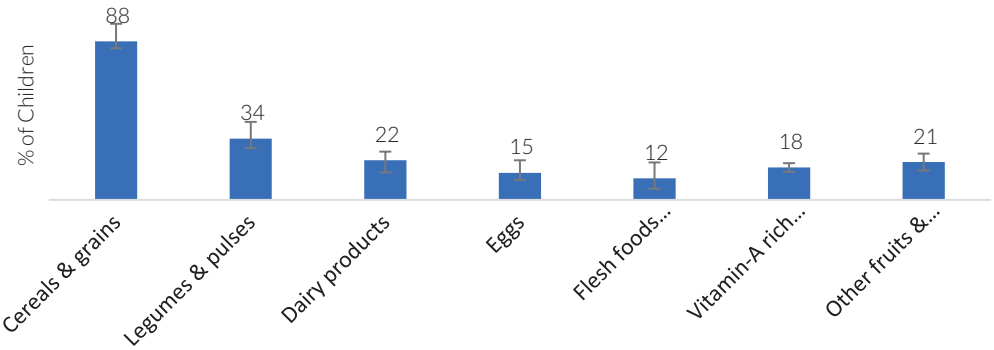


Source: IHD Primary Survey in Jharkhand, 2021.

Dietary Diversity by Food Group Consumption by Infant Children

Disaggregated data on dietary diversity (Figure 6) revealed a heavy reliance on staple cereals and grains, consumed by 88.0% (95% CI: 84.2–91.8) of children. Consumption of pulses was reported for 34.0% (95% CI: 28.7–39.3), dairy products by 22.0% (95% CI: 17.2–26.8), and animal-source foods were rarely consumed: eggs by 15.0% (95% CI: 11.0–19.0) and flesh foods by 12.0% (95% CI: 8.2–15.8). Intake of vitamin A–rich fruits and vegetables was 18.0% (95% CI: 13.6–22.4), and other fruits/vegetables 21.0% (95% CI: 16.3–25.7), highlighting inadequate inclusion of protein- and micronutrient-rich foods in children's diets.

Figure 6
Percentage of Children who Consumed Different Food Groups

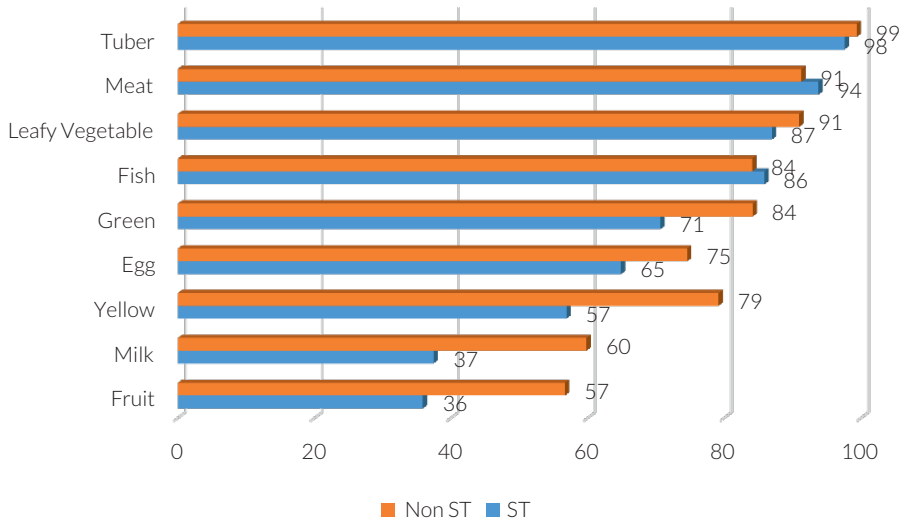


Source: IHD Primary Survey in Jharkhand, 2021.

Dietary Pattern of the Adults in the Households

As seen from Figure 7, only two of the food items – tubers and meat are consumed by almost all the households at least once a month. Both tubers and meat are more likely to be consumed out of self-produce, collection from wildly-grown varieties, or reared at home. However, in the case of fruits and milk, less than 40 per cent of the households reported the consumption of these items at least once a month. Further, only 57 per cent of the households reported the consumption of yellow vegetables, and 71 per cent of the households reported the consumption of green vegetables. Consumption of eggs is also reported by only two-thirds of the households. Furthermore, the study has also compared the proportion of reported consumption of different food items by ST households and non-ST households and found that, irrespective of the food items, consumption of food items is much higher among non-ST households than ST households (Figure 7).

Figure 7
Percentage of Different Food Items Consumed Once in a Month by ST Households and Non-ST Households



Note: Tubers include potato, sweet-potato, radish; Yellow vegetables include carrot & pumpkin; Leafy vegetables include spinach (palak) and other such vegetables (sag); Fruits include banana, mango, guava and other seasonal fruits.

Source: IHD Primary Survey in Jharkhand, 2021.

Dietary Pattern in Jharkhand: Findings from HCES

Jharkhand's dietary patterns reflect a shift away from cereals toward greater consumption of animal-source foods and vegetables. Per capita cereal intake has declined sharply, indicating reduced reliance on staple grains. While pulses intake in the state has increased slightly over time, it still remains 9 percent below the All-India average in 2022–23. A major change is the significant rise in meat consumption, which has grown by 66.7 percent between the two rounds, and Jharkhand's per capita meat intake is now 1.28 times the national average. Fish and prawn consumption has also increased by 47.1 percent over 2011–23, though the per capita intake remains 52 percent lower than the All-India figure in 2022–23. Egg consumption has risen as well, yet the per capita number of eggs consumed in Jharkhand continues to be 62 percent below the national level. Milk intake has grown modestly by around 9 percent, similar to the national trend, but the absolute consumption in Jharkhand is still very low—84 percent below the All-India average. In contrast, potato consumption in the state is higher than the national average, while consumption of other vegetables shows mixed trends.

Table 3
Per Capita Monthly Consumption of Major Food Items (in Kg)

Item	*Jharkhand*		*India*		*% of Jharkhand to All-India*	
	2011–12	*2023-24*	*2011–12*	*2023–24*	*2011–12*	*2023-24*
Cereal	11.77	9.78	10.69	9.37	110.1	104.4
Pulses	0.66	0.68	0.82	0.74	80.5	91.9
Meat	0.21	0.58	0.21	0.48	100.0	120.8
Fish/Prawn	0.09	0.17	0.19	0.27	47.4	63.0
Egg (no.)	0.75	2.46	1.38	3.5	54.3	70.3
Milk (lt.)	2.55	2.99	4.7	5.21	54.3	57.4
Brinjal	0.23	0.45	0.34	0.43	67.6	104.7
Cauliflower	0.95	0.41	0.24	0.37	395.8	110.8
Tomato	0.4	0.69	0.44	0.74	90.9	93.2
Potato	2.42	2.59	1.42	1.80	170.4	143.9
Onion	0.65	0.94	0.64	1.04	101.6	90.4

Source: NSS HCES, 2023-24

Jharkhand's food consumption pattern points to limited dietary diversity compared to the All-India picture. Key recommendations from this analysis include strengthening

the dairy sector and improving milk availability—given its importance for protein and calcium intake—and promoting horticulture supply chains. Additionally, scaling up livestock, poultry, and fisheries through targeted government programmes will be crucial for improving dietary diversity and nutritional outcomes in the state.

Table 4
Requirement to Actual Consumption of Food Items

Items	*Requirement* (gram/person)*	*Actual Consumption (gram/person)*		*% consumption to requirement*	
		Jharkhand	*India*	*Jharkhand*	*India*
		Year 2011-12			
Cereals (incl. Nutri-cereals)	240	392	356	163	148
Pulses, Meat/fish/Egg	090	022	027	36	47
Milk/ Curd (ml)	300	011	015	28	53
Vegetables green leafy vegetable (GLV)	350	085	158	31	30
Fruits #	150	109	106	5	8
Nuts & Seeds	030	008	012	1	7
Fats & Oils	027	000	002	62	82
		Year 2023-24			
Cereals (incl. Nutri-cereals)	240	326	299	136	125
Pulses, Meat/fish/Egg	090	030	038	34	42
Milk/ Curd (ml)	300	100	181	33	60
Vegetables green leafy vegetable (GLV)	350	277	303	79	87
Fruits	150	026	041	18	27
Nuts & Seeds	030	003	007	11	23
Fats & Oils	027	028	030	103	111

Note: *My plate recommendation of Foods to be Consumed (g) / day is given in 'ICMR-NIN My Plate'[4]

Source: NSS CES, 2011-12 and HCES, 2023-24

The comparison of recommended and actual food consumption shows that diets in Jharkhand remain nutritionally inadequate despite some improvements over time. In both 2011–12 and 2023-24, cereal intake far exceeded the recommended requirement, though it declined slightly, indicating a gradual reduction in cereal dependency. Consumption of pulses and animal-source foods improved significantly yet still remains below adequate levels. Milk intake, while increasing, continues

4 https://www.nin.res.in/nutrition2020/what_india_eats.pdf

to be very low, meeting only one-third of the requirement in Jharkhand. Intake of micronutrient-rich foods such as green leafy vegetables, fruits, and nuts remains critically low; Vegetables green leafy vegetable consumption and fruits and nuts continue to meet only a fraction of recommended levels. In contrast, fats and oils consumption rose sharply, with Jharkhand reaching 79% of the requirement in 2023-24. Overall, the diet remains cereal-heavy and deficient in nutrient-rich foods, highlighting persistent gaps in dietary diversity and nutrition adequacy.

Nutrient Intake Trends in Jharkhand (2009–10 to 2023–24)

The analysis reveals persistent nutritional deficits in Jharkhand relative to all-India averages across calorie, protein, and fat intake in 2023-24. Although there are minor improvements over time in some indicators, Jharkhand continues to lag behind the national level, with the rural–urban gap remaining significant.

Table 5
Per Capita Protein Intake of Calorie, Protein and Fat, 2023-24

	Rural				*Urban*			
	2009-10	*2011-12*	*2022-23*	*2023-24*	*2009-10*	*2011-12*	*2022-23*	*2023-24*
	Per capita calorie intake (Kcal) per day							
Jharkhand	2051	2138	2087	2056	2226	2175	2227	2165
All-India	2147	2233	2233	2212	2123	2206	2250	2240
	Per capita protein intake (gm) per day							
Jharkhand	53.6	54.7	56.6	54.9	61.7	60.3	62.9	60.4
All-India	59.3	60.7	61.9	61.8	58.8	60.3	63.2	63.4
					Per capita fat intake (gm) per day			
Jharkhand	30.4	30.8	43.3	44.9	44.5	44.2	60.0	58.6
All-India	43.1	46.1	59.7	60.4	53.0	58.0	70.5	69.8

Source: NSS HCES, 2023-24

Per Capita Calorie Intake: Rural Jharkhand's calorie intake fluctuates modestly but remains consistently below the national average throughout the period in contrast, the all-India rural intake is higher throughout. This persistent gap highlights continued energy inadequacy in rural Jharkhand. Urban Jharkhand exhibits similar fluctuations.

Per Capita Protein Intake: Rural protein intake in Jharkhand shows modest fluctuations whereas all-India intake is consistently higher across all years. This reflects Jharkhand's continued dependence on cereal-based diets and limited access to high-quality protein foods such as milk, eggs, and pulses. Urban Jharkhand performs better than rural areas but still lags behind national averages.

Per Capita Fat Intake: Fat intake in rural Jharkhand increases over time, but still remains far below the national average. The large gap indicates lower consumption of milk, oils, meat, eggs, and other fat-rich foods—pointing to poorer dietary quality and limited affordability. Urban Jharkhand shows substantial improvement

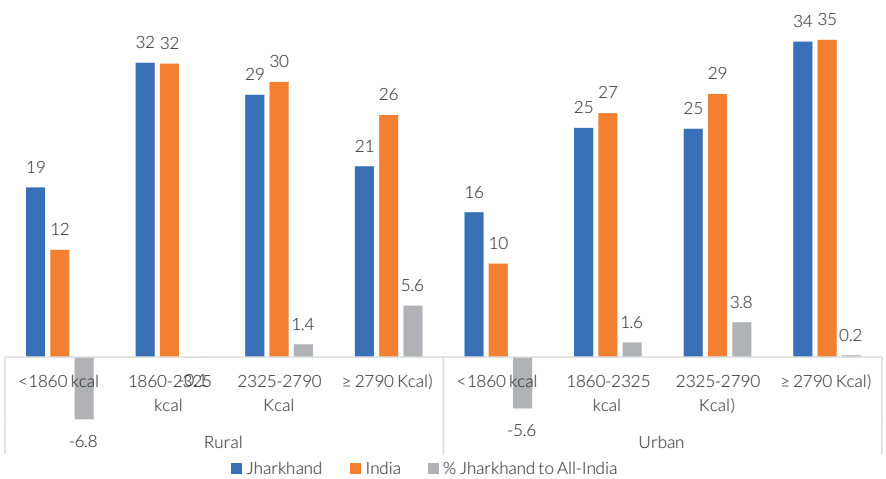
Across all nutrients—calories, protein, and fats—Jharkhand consistently falls below the all-India average.

The data on average per capita calorie intake for 2023–24 shows that Jharkhand lags behind the all-India average in both rural and urban areas. In rural Jharkhand, the daily per capita intake is ***2056 kcal***, which is lower than the national rural average of ***2212 kcal***. This means rural Jharkhand achieves only ***92.9%*** of the all-India calorie level, indicating a significant deficit in energy consumption.

A similar pattern appears in urban areas: urban Jharkhand records ***2165 kcal*** per person per day compared with ***2240 kcal*** at the national level. Urban Jharkhand therefore attains ***96.7%*** of the all-India calorie intake.

Overall, both rural and urban Jharkhand consume fewer calories than the national average, with the ***gap being wider in rural areas***. This reflects differences in economic access, food diversity, and dietary patterns within the state relative to the national situation.

Figure 8
Percentage Distribution of Households by Level of Calorie Intake Per Consumer Unit Per Day 2023-24



Source: NSS HCES, 2023-24

The calorie intake pattern of households in Jharkhand during 2023–24 shows a

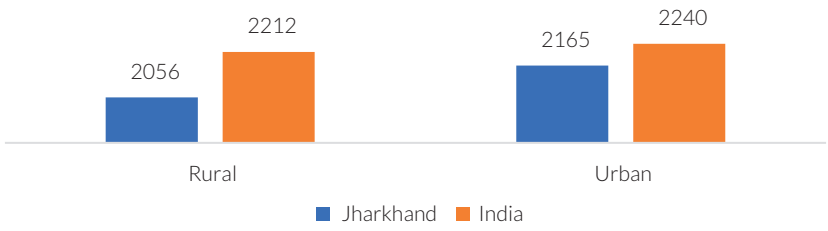
clear divergence from the all-India distribution, especially at the lower end of the calorie spectrum. In rural areas, Jharkhand has a significantly higher proportion of households consuming less than 1860 kcal per consumer unit per day, highlighting greater nutritional vulnerability. The shares in the middle calorie ranges are almost identical to the all-India pattern, but the proportion of households in the highest calorie group (≥2790 kcal) lower in Jharkhand. This indicates that fewer rural households in the state achieve higher levels of calorie adequacy.

A similar pattern is observed in urban Jharkhand. The share of households with very low-calorie intake is much higher than the all-India urban average. Unlike rural areas, the share of urban households consuming 2790 kcal or more is almost equal to the national average.

The distribution indicates that Jharkhand—both rural and urban—has a larger concentration of households at the lower end of calorie consumption and fewer in the higher intake categories than the all-India average. This reflects continuing nutritional challenges in the state

The 2023–24 HCES reveals that the share of calorie intake coming from cereals is around 7 percentage points higher in rural Jharkhand, while in urban Jharkhand the difference increases to roughly 10 percentage points compared to All-India figure.

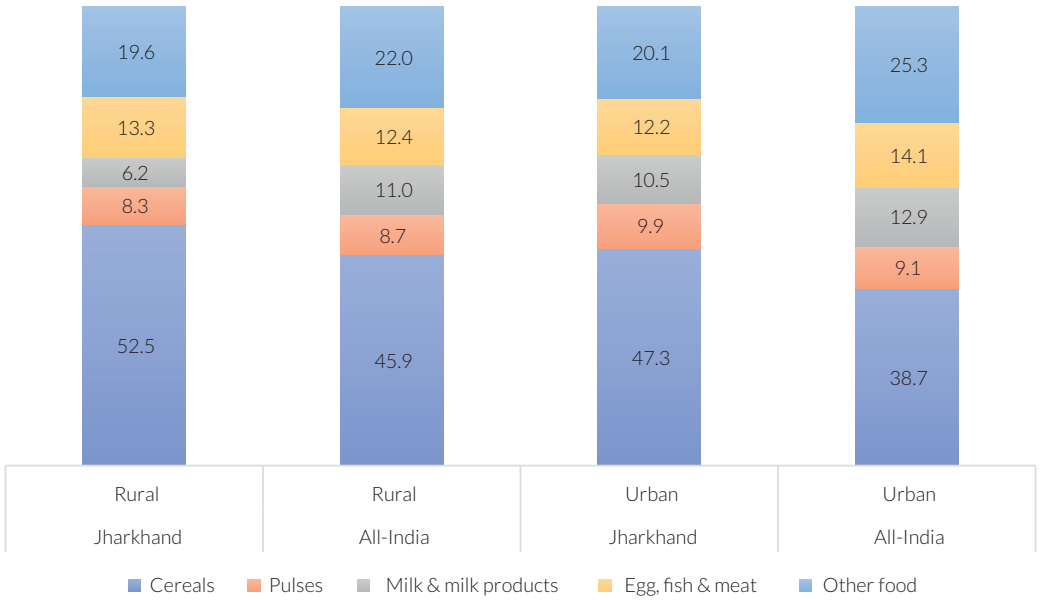
Figure 9
Average Calorie Intake Per Capita 2023-24



Source: NSS HCES, 2023-24

The average per capita calorie intake for 2023–24 shows that Jharkhand falls below the all-India average in both rural and urban areas. In rural Jharkhand, the average daily calorie intake is substantially lower than the national rural average. This implies rural Jharkhand achieves only ***92.9%*** of the all-India calorie level. Urban Jharkhand performs comparatively better, but this too is lower than the all-India urban average. The analysis underscores a persistent shortfall in calorie consumption across Jharkhand.

Figure 10
Percentage Share of Protein Intake Coming from Different Food Groups, 2023-24



Source: NSS HCES, 2023-24

The distribution of protein coming from different food groups in Jharkhand reveals a strong dependence on cereals, especially in rural areas, and a comparatively lower contribution from nutrient-rich foods such as milk, milk products, and animal-source foods.

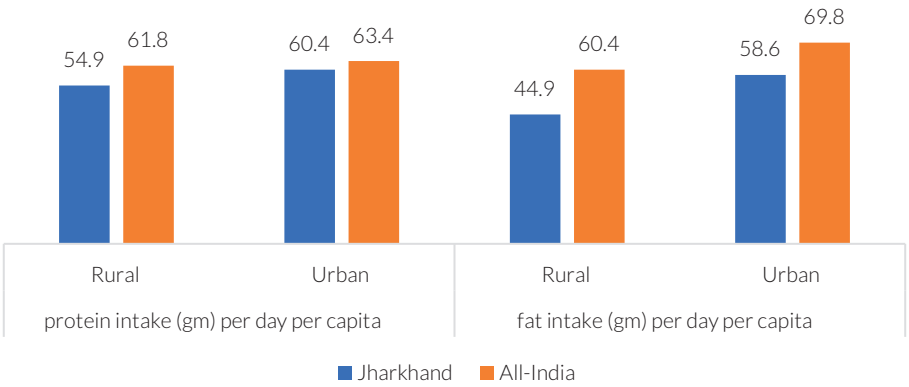
Rural households in Jharkhand obtain ***52.5%*** of their protein from cereals—substantially higher than the all-India rural average of ***45.9%***. This indicates a heavy reliance on cereal-based diets with limited diversification. Protein from pulses (8.3%) is slightly below the national average (8.7%), while contributions from milk and milk products are much lower (6.2% in Jharkhand vs 11% for India).

Interestingly, the share from animal-source foods (egg, fish, and meat) is slightly higher in Jharkhand (13.3%) compared to the national rural average (12.4%). The lower shares from milk and "other foods" show gaps in overall dietary quality. Urban areas show a somewhat improved profile but still lag behind national averages

Across both rural and urban settings, Jharkhand relies more heavily on cereals for protein than the rest of India, suggesting limited access to diversified protein sources.

These patterns point to ***protein inadequacy risks*** and a need for improving dietary diversity through better affordability, accessibility, and awareness regarding high-quality protein sources.

Figure 11
Protein and Fat Intake (gm) per day per capita, 2023-24 (in gm)



Source: NSS HCES, 2023-24

The per capita daily protein intake highlights a clear deficit in Jharkhand compared to the all-India average, both in rural and urban areas. This gap of nearly 7 grams per day reflects the state's continued dependence on cereal-based diets and limited access to diversified, high-quality protein sources such as milk, pulses, and animal products. Urban Jharkhand performs slightly better, yet it still falls short of the all-India urban level.

The per capita daily fat intake shows that Jharkhand lags significantly behind the all-India average in both rural and urban areas. A substantial gap of over 15 grams per day highlights limited consumption of fats and oil-rich foods, likely reflecting lower intake of milk, milk products, meat, eggs, edible oils, and nuts—foods that are typically associated with higher dietary quality and better energy density. Urban Jharkhand performs comparatively better but still remains below the all-India urban average.

Way Forward and Policy Recommendations

Promotion of horticulture, particularly fruits and micronutrient-rich vegetables, through improved irrigation, seed access, and farmer-extension support is essential to increase availability.

Improving food and nutritional security in Jharkhand requires a coordinated, multisectoral strategy that addresses the structural, socio-economic, and behavioural determinants of malnutrition. Jharkhand's dietary patterns highlight persistent nutritional inadequacies, driven by low consumption of pulses, milk, fruits, nuts, and green leafy vegetables, alongside a heavy dependence on cereals. While intake of meat, fish, and eggs has increased over time, protein and calorie levels in both rural and urban areas continue to remain below national averages. Addressing these deficits requires a multi-pronged strategy that strengthens production systems, enhances affordability, and improves food access and awareness.

First, targeted interventions must focus on the worst-performing districts, such as Pashchimi Singhbhum, Pakur, Sahibganj, and Lohardaga, through district-specific action plans, strengthened ICDS services, and community-based monitoring. Ensuring timely growth monitoring, expanding THR quality audits, and improving supply chain efficiency will enhance the reach and reliability of existing schemes.

Second, maternal and adolescent nutrition must be prioritised. This includes weekly IFA supplementation, deworming, menstrual hygiene support, and expanding counselling on diet diversity and delayed age of marriage. School-based nutrition programmes should be strengthened by integrating hot cooked meals for adolescents in secondary schools, especially in tribal areas.

Third, improving WASH infrastructure—safe drinking water, sanitation, and hygiene practices—is essential to reduce infections and improve nutrient absorption. Convergence with Jal Jeevan Mission and Swachh Bharat Mission is critical.

Fourth, household food security should be enhanced through diversified agriculture, millet promotion, kitchen gardens, and social protection measures such as universalising PDS for vulnerable groups.

Fifth, A key priority is to expand dairy development, including support for smallholder milk producers, improving cold-chain infrastructure, and strengthening cooperative supply networks to make milk and milk products more accessible and affordable.

Sixth, Interventions must also prioritize enhancing household awareness of balanced diets through sustained behaviour change communication. In this regard, the Jharkhand State Livelihood Promotion Society (JSLPS), as the nodal agency for livelihood promotion in the state, can play a pivotal role in driving nutrition awareness and fostering positive dietary behaviours. The efforts of the Behavioural Change Unit at UNICEF–IHD–ERC are noteworthy and provide a strong model that can be

replicated to promote balanced diet practices among rural communities, particularly within tribal households.

Finally, behavioural change communication must be scaled up to address feeding practices, breastfeeding, and maternal care, supported by trained FLWs and community collectives. Continuous data use through real-time dashboards can guide responsive policy action.

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