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BUDGETING FOR SDG OUTCOMES ON FOOD SECURITY AND NUTRITION FOR CHILDREN : A case of Madhya Pradesh

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The Government of Madhya Pradesh has adopted an evidence-based outcome-oriented child budgeting approach. The key is to undertake macro-micro mapping of resource allocation for a more harmonized approach to public finance management. This report focuses on analysis of macro level (state) programmatic allocations for child nutrition and health interventions mapping them with micro level (need-based) requirements, to assess the adequacy and efficacy of the allocations.

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Abbreviations and Acronyms

AAY	Antyodaya Anna Yojana
ANM	Auxiliary Nurse Midwife
APL	Above Poverty Line
ASHA	Accredited Social Health Activist
AWC	Anganwadi centre
AWW	Anganwadi Worker
BMI	Body Mass Index
BPL	Below the poverty line
CBO	Community-based Organization
cm	Centimetre
CRP	Community Resource Person
FAO	Food and Agriculture Organization
FGD	Focus group discussion
FNS	Food and nutrition security
FPS	Fair Price Shop
FY	Financial year
gms	Gram
GoI	Government of India
ha	Hectare
HCR	Head count ratio
ICDS	Integrated Child Development Scheme
ICMR	Indian Council of Medical Research
IEC	Information, Education and Communication
IFA	Iron Folic Acid
IHD	Institute of Human Development
IYCF	infant and young child feeding
IYCN	Infant and Young Child Nutrition
JSY	Janani Suraksha Yojana
kg	Kilogram
MDM	Mid-Day Meal
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MMSSPSY	Mukhya Mantri Shramik Sewa Prasuti Sahayta Yojana
NDCC	Nutrition Day Care Centre
NFHS	National Family Health Survey
NFSA	National Food Security Act
NGO	Non-Governmental organization
NIN	National Institute of Nutrition
NMR	Neonatal mortality rate
NNMB	National Nutrition Monitoring Bureau
NRHM	National Rural Health Mission
NSSO	National Sample Survey Organization
OBC	Other Backward Class
ODF	Open Defecation Free
OR	Odds Ratio
PDS	Public Distribution System
PRI	Panchayat Raj Institution
PW/LMs	Pregnant Woman Lactating Mothers
PMMVY	Pradhan Mantri Matru Vandana Yojana
RDA	Recommended Dietary Allowance
SC	Scheduled Caste
SHG	Self-Help Group
SRLM	State Rural Livelihood Mission
ST	Scheduled Tribe
VHSND	Village Health Sanitation and Nutrition Day
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

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I. Study framework

Rationale

Budgeting for Children (BfC) is a strategy that can inform and advise governments to prioritize, invest and monitor budgetary allocations for children. To achieve better results, however, it is advisable to have more defined approach to BfC by linking it with achievement of outcomes. Ideally, this should be linked to child-focused Sustainable Development Goals (SDG) outcomes, thereby ensuring that the state is not only planning for the achievement of the SDGs but also have an organic link with the current SDG monitoring processes, so that results can be monitored. Adoption of outcome-oriented budgeting, however, requires a more systematic evidence-based approach. This study, by UNICEF, on budgeting for SDG outcomes on food security and nutrition for children, is an attempt to determine the methodology for undertaking the same.

Objectives and Scope

The purpose of the study is to generate evidence on the need and processes required for outcome-oriented child budgeting, especially to advocate for a convergent and need-based approach. The study also aims to help inform state government on the resource/ budget requirement for achieving the SDG targets on food security and nutrition for children. The study also advocates for a convergent approach both horizontally (between various line departments) and vertically (between centre, state, district and panchayat resources).

With this in mind, the key objective of the study is, ***“to understand the resource requirements of the state for achieving child-focused outcome targets related to SDG 1.3¹, 2.1² and 2.2³ specifically with the aim to enhance coverage effectiveness and address equity dimensions”***.

The scope of the assessment includes:

- ⇒ Mapping of the progress of the state on child and nutrition focused SDG indicators; immediate and underlying determinants;
- ⇒ Delineating required nutrition specific and nutrition sensitive provisions as per policy;
- ⇒ Assessment of existing budgetary allocations (FY 2021-22 and 2022-23) for food security and nutrition outcomes especially child-focused expenditure trends;
- ⇒ Analysis of gaps in budgetary allocation and utilization for achieving child nutrition targets;
- ⇒ Micro-assessment of resource requirements in line with actual entitlements as per policy; and
- ⇒ Suggestions for nutrition advocates/ line departments to use the results/evidence to inform budgetary decisions.

Conceptual framework

The state of Madhya Pradesh has demonstrated substantial improvement in terms of child nutritional outcomes. However, there is still a long way to go in achieving the desired SDG goals and state targets. Addressing this requires a more nuanced approach to planning and budgeting for the various determinants of child nutrition. To better understand this, the study has adopted the conceptual framework on the determinants of maternal and child nutrition, proposed by [UNICEF Nutrition Strategy 2020-2030](#) (figure 1).

¹ Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable.

² By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.

³ By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.

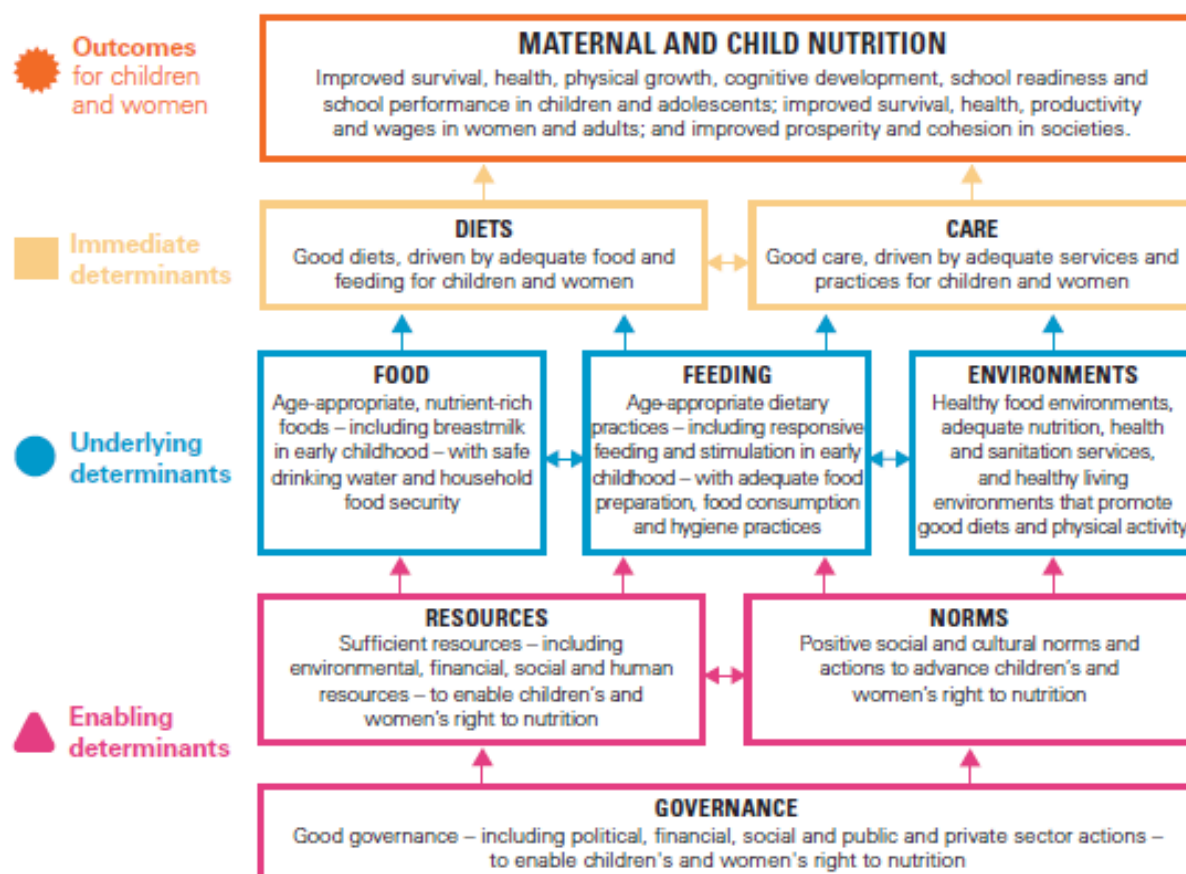


Figure 1: Conceptual Framework on Maternal and Child Nutrition, UNICEF, 2020

The framework broadly divides the determinants of malnutrition into three categories – immediate, underlying and enabling. While immediate determinants act at individual level and are related to dietary intake and diseases; the underlying causes act at family / household level pertaining to food security, feeding practices / behaviours, access to nutrition and health services and healthy environment. The enabling determinants are at community level- pertaining to socio-cultural practices and norms and governance level- including public policies and resource allocation. Building on this framework, indicators for immediate and underlying determinants of child nutrition have been developed for the study. These indicators can also serve as intermediate outcome indicators to mark the milestones that the state needs to reach in order to achieve the final outcomes (Annex 1).

Study Methodology

The study has thus adopted a comprehensive and convergent approach to macro-level analysis of resources allocated for:

a) Child Focused⁴ Nutrition Specific⁵ Interventions (Saksham Anganwadi and Poshan 2.0 (ICDS), PM Poshan (MDM), IFA supplementation, Atal Bal Arogya Mission, NRC, etc);

⁴ Defined by the Department of Finance, Government of Madhya Pradesh, as those that have a 100% focus on children.

⁵ Defined as those that address immediate determinants of nutrition- adequate food and nutrient intake, complementary feeding, caregiver and parenting practices, and low burden of infectious diseases.

- b) Child Responsive⁶-Nutrition Specific Interventions (Food fortification, Minimum Needs Programme, etc); and
- c) Child Focused/ Responsive Nutrition Sensitive⁷ Interventions (Construction of AWCs, Poshan Abhiyan, TPDS, AAY, PMMVY, MMSSPSY, Health Care, Child Care and WASH).

Allocations across national and state level by various line departments was undertaken to get a holistic macro picture of the resource allocation. At the micro-level, the flow of funds to the districts for the nutrition programmes and schemes of WCD Department was undertaken and matched with existing disparities in malnutrition parameters to understand the gaps in need vs actual allocation. The analysis was further strengthened through a district level case study.

The information thus collated provides an operational framework for harmonizing macro and micro-expenditure budget for achieving child nutrition outcomes. The ultimate aim is to create evidence for a greater convergence model, which would lead to accelerated results.

The study used secondary data for the analysis, although key informant interviews and field level assessments in select gram panchayats was also undertaken at the primary level. The key steps involved include:

Step 1: Mapping of State Goals and Baseline Status

- a) Mark the key SDG indicators related to child focused food security and nutrition along with the state's milestones and targets on each indicator.
- b) Review NFHS and Nutritional Survey data to develop a baseline on the status of SDG outcome indicators to identify on track and slow performing areas.

Step 2: Review of Policy and Programs to identify entitlements

- c) Review of key policy briefs and researches to map the recommended child nutrition and health interventions (CNHI) and existing government programs (central and state level) across all child nutrition determinants.
- d) Develop a matrix of child nutrition outcomes to intermediate outcomes, government programs and scheme/budget components. See Annex 2 for the outcome- scheme matrix on Child Food Security and Nutrition.

Step 3: Assessing Current Budgetary Allocations at macro (state) level

- e) Classify the existing schemes/budgetary allocations based on child and nutrition targeting. See Annex 3 for scheme classification matrix.
- f) Plot the budgetary allocations for CNHI to understand the overall resource size.
- g) Mark the priority budget intervention areas.
- h) Assess focus on child nutrition and understand the adequacy in terms of per child allocation.
- i) Mark the flow of funds to the districts for the nutrition programmes and schemes of WCD Department
- j) Match the allocations with disparities in malnutrition parameters at district level to understand gaps in needs and allocations.

Step 4: Estimate the requirements and adequacy of resource for child focused nutrition specific intervention at micro level

- k) Describe the child-focused nutrition specific interventions and assess current outreach and coverage gaps.

⁶ Defines by the Department of Finance, Government of Madhya Pradesh, as those that have less than 100% but more than 30% child coverage.

⁷ Defined as those that address underlying and enabling determinants of nutrition- food security; adequate caregiving resources at the maternal, household and community levels; access to health services; and a safe and hygienic environment.

- l) Define the target population for the interventions and the estimated size of the target population in 2021.
- m) Obtain approximate unit costs for the intervention described in “k” above from relevant government/non-government sources.
- n) Estimate the resource requirements for each intervention by multiplying the size of the target population identified in “m” above by the unit cost to arrive at the required annual budget for each intervention at full coverage.
- o) Map the resource requirement against current allocations to identify allocation gaps and reprioritization areas.

The study was undertaken in two phases- Phase 1 focused on steps 1 to 3 for macro (state) level analysis; while the Phase-2 focused on step 4 for micro (need-based) level budgetary assessment. The above analysis has been correlated using the framework presented in figure 2 to derive recommendations for the state government. The final output is a budget plan for achieving SDG outcomes on food security and nutrition to inform decisions of state and line departments.

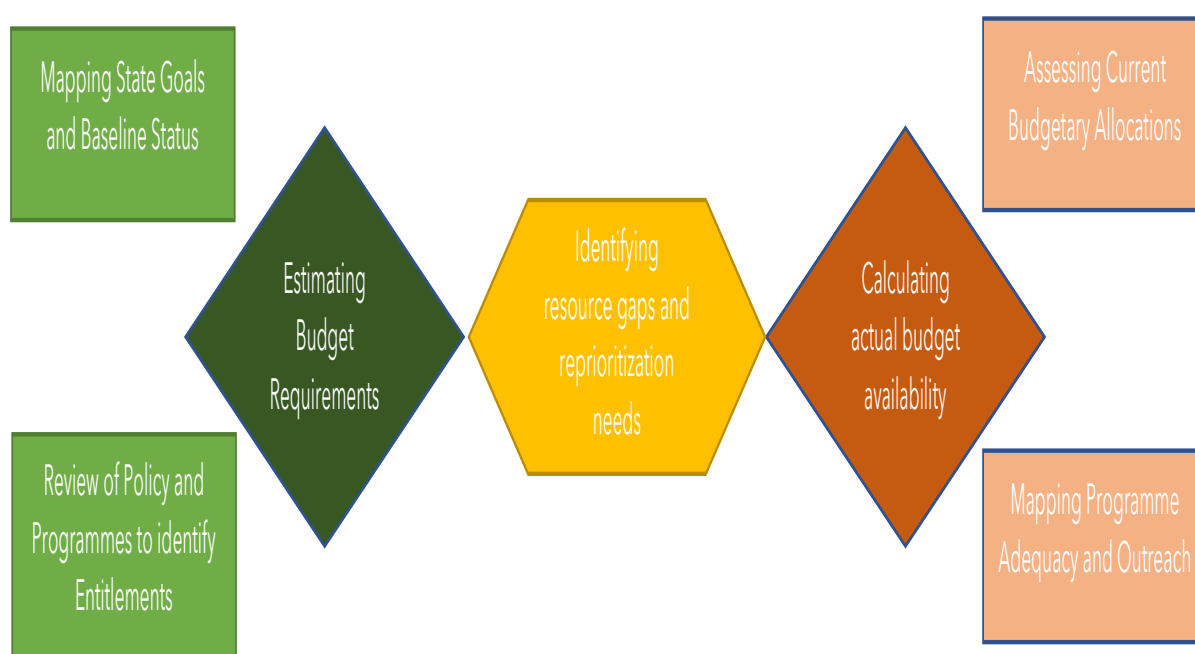


Figure 2: Framework for analysis

Limitations

The study has critical limitations. First, the study is aimed at enabling outcome-oriented child budgeting in the state. Thus, it builds on existing policy, looking at its translation into budgetary commitments. The study does not endorse or critique existing policy commitments.

The study was also majorly constrained a lot by unavailability of budget data in public domain. One key aspect which this study has initially proposed to analyse was whether the existing district-wise allocations are being made as per the local need and plan or through a standardised parameter. Unfortunately, this could not be done as district level allocations was not available for any program/scheme except for Special Poshan Aahar under Minimum Needs Programme.

II. Child Nutrition in Madhya Pradesh

1. Background

The United Nations Convention on the Rights of the Child (UNCRC) states that governments have a legal obligation to protect and fulfil the right to food and nutrition for all children. Over the last two decades, the world has made significant progress in addressing malnutrition in children under 5, reducing the prevalence of child stunting by one third and the number of children with stunted growth by 55 million ([UNICEF, 2021](#)). This formidable achievement indicates that positive change for child nutrition is possible and is happening at scale in many countries and regions.

Madhya Pradesh is no exception. The state has taken some major steps towards addressing malnutrition, results of which can be observed in the changes from NFHS-4 ([2015-16](#)) and NFHS-5 ([2019-20](#)). The state has shown higher improvement than national average in terms of both stunting and wasting parameters. However, much still needs to be done if the state needs to achieve the SDG 2 targets related to end all forms of hunger and malnutrition and making sure that all people, especially children, have sufficient and nutritious food, by 2030.

State Goals and Outcome Targets

The Government of Madhya Pradesh (GoMP) has already demonstrated its commitment to achievement of SDGs in the state. All line departments in the state have developed detailed action plans which are reflected in the State [SDG Action Plan documents](#). The action plans of Women and Child Development (WCD), Public Health and Family Welfare (HFW) and Food and Civil Supplies (FCS), especially cover SDG 2 targets related to food security and nutrition.

The adoption of the State Nutrition Policy (2020-2030), further demonstrates the commitment of the state. The policy envisages reducing all forms of child malnutrition complying with the SDG targets by 2030 as well as reducing anaemia as per World Health Assembly (WHA) targets.

Together these documents, outline the state's food security and nutrition outcome goals with measurable indicators and targets. Table 1 bring together the major outcome goals and indicators, related to children and adolescents, along with the baseline, mid-term and final targets as determined by the state.

As can be seen, the state has set very ambitious goals for child food security and nutrition to be achieved within a decade. A steep decline is being envisaged between 2024-25 and 2030 for stunting, wasting and underweight children. The targets for anaemia are even more challenging, especially in the context of the high baseline status. Nevertheless, the state is determined and committed to achieving the same.

Table 1: Madhya Pradesh Child Food Security and Nutrition Baseline and Goals

Sustainable Development Goal (SDG)	State Indicators adapted from National Indicator Framework	Baseline 2019-20	Target 2024-25	Target 2030
2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round	1. Percentage of children under 5 years who are underweight	33%	30%	20%
	2. Ratio of rural households covered under PDS to rural households where monthly income of highest earning member is less than Rs 5,000 ⁱ	0.84 ⁱⁱ	1.00	1.00
2.2 By 2030, end all forms of malnutrition, including	3. Percentage of children under age 5 years who are stunted	35.7%	33%	22%

achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons	4. Percentage of children under age 5 years who are wasted	18.9%	15%	10%
	5. Percentage of low-birth-weight babies	16%	15.30%	-
	6. Percentage of pregnant women aged 15-49 years who are anaemic	52.9%	38%	28%
	7. Percentage of children aged 6 to 59 months who are anaemic (Hb< 11.0g/dl)	72.7%	35%	25%
	8. Percentage of adolescent girls aged 15-19 years who are anaemic	58.1%	45%	26.6%

Source: Baseline- (1-9) National Family Health Survey NFHS-5 (2019-20)

(2) Department of Food, Civil Supplies and Consumer Protection (FCS and CP), 2017-18

Targets- (1,2, 3,4,6,7) Madhya Pradesh State SDG Action Plan, State Policy and Planning Commission (SPPC), GoMP, 2020

(5, 8) State Nutrition Policy, 2020

Progression Pathway

Much of this confidence comes from the progress made by the state in the previous decade and half. At the time of NFHS-3 (2005-06), the state fell under the extremely alarming category in terms of nutrition. The state moved to alarming category in the NFHS-4 (2015-16) survey. The state also demonstrated an ascend from severe to moderate category when compared using data from CNNS (2016-2018).ⁱⁱⁱ A review of past trends in child nutrition indicators (figure 3) shows vast improvements between 2005-06, 2015-16 and 2019-20, on all parameters except anaemia.

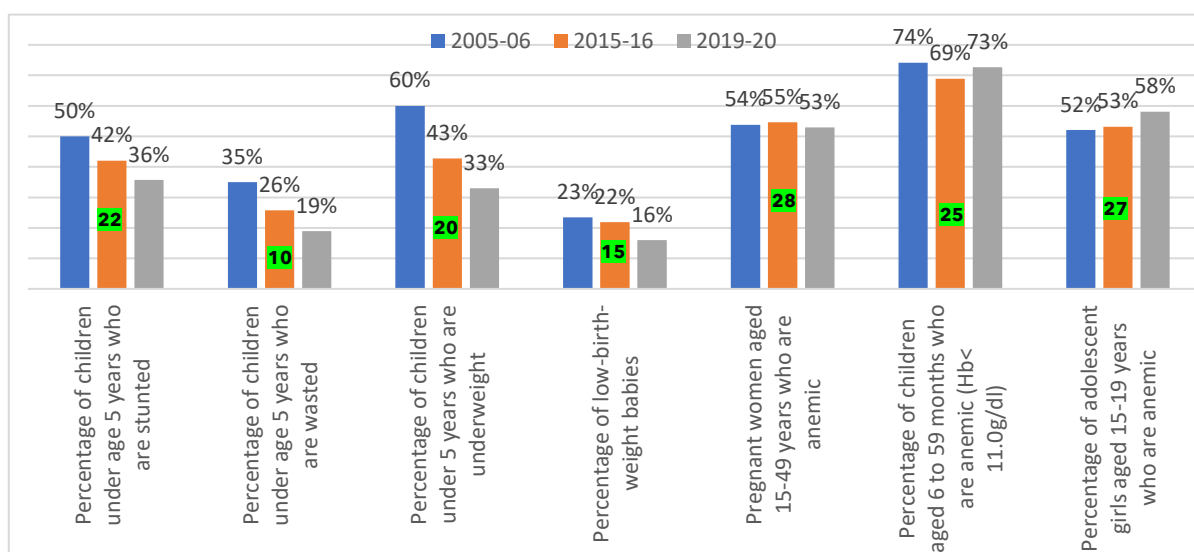


Figure 3: Progress on Child Nutrition Indicators in MP since 2005-06

XX State target for 2023

Stunting has declined by 14.3 percentage points, between 2005-06 and 2019-20, much of it coming in the last 5 years, with an average annual rate of decline after 2015-16 being 1.26%. At this rate the state is likely to meet the 2024-25 target for stunting. However, it will have to intensify its efforts towards an annual decline rate of 1.37% if it aims to meet the 2030 target.

Reduction in proportion of wasted children has also shown a similar progression pathway. There has been a decline of 16.1% between 2005-06 and 2019-20, with an average annual decline rate after 2015-16 being around 1.38%. If the annual decline continues at this rate, the state could achieve its wasting target by 2026. What would be critical here though is to eliminate the presence of severe acute malnourished (SAM) children. The current baseline as reflected in NFHS-5 shows a high 6.5% of SAM children in the state.

The state has also almost halved the proportion of children who are underweight, from 60% in 2005-06 to 33% in 2019-20. This has been achieved through consistence improvement with an average annual decline rate of 1.80% in the last 15 years. At this rate the state should be able to also achieve its target related to underweight children under-5 years.

Prevalence of anaemia among pregnant women, under-5 children and adolescent girls, however, are matters of concern. Anaemia among adolescent girls has in fact increased over the years. Given this situation, the state would have to strongly intensify its efforts to curb anaemia and achieve the desired targets.

Not undermining any of the above though, it needs to mentioned that these trends are based on the status before 2019-20 and do not take into account for the impact of Covid-19. Evidence points out that the pandemic has had significant impacts on food security and nutrition levels across the world. UNICEF (2021) reports that millions of families world over have struggled to feed their children nutritious and diverse diets during the pandemic and by 2022, globally there could be an increase in the number of children wasted by 13.6 million.

In India, Kapur (2020) has reported a potential decline of 9.5% in Gross Domestic Product (GDP) could result in 1.322 million moderately wasted and 2.08 million severely wasted children. And while state specific data is not available, Madhya Pradesh will be no exception to seeing an increase in malnourishment among children. The impacts of covid-19 will thus have to be taken into consideration by the state while planning its strategy to meet the 2030 targets on child nutrition. As a first step towards this, it would be important to assess the impact of covid-19 on child nutrition in the state and identify the age, social and regional groups which have been particularly vulnerable.

Box 1: Emerging Issue of Concern-Unhealthy Waist to Hip Ratio among Adolescents

A higher BMI is not a matter of concern currently with the proportion of children and adolescents with a BMI greater than 25 being very less in the state. However, the unhealthy waist to hip ratio reported in NFHS-5 is a matter of concern especially for adolescent girls and children in urban areas. Only 64.5% of the adolescent girls aged 15 to 19 years had a normal waist to hip ratio, while 35.4% had a ratio pointing to substantially increased risk of metabolic complications (≥ 0.85). For adolescent boys in the same age group 23.1% fell in the at-risk category. This points to the need for the state to strategize not only for provision of food and nutrition but much beyond on awareness related to nutrition so as to maintain a healthy adult population in the coming years.

5. Intra-district Disparities

The status on nutritional outcomes, however, is not similar across the state. The MANUSH district level analysis (figure 4) reported that pockets of districts falling under extremely alarming, alarming, serious and moderate range are mainly in the central India belt, a large proportion belonging to Madhya Pradesh (Jain and Agnihotri, 2020).

District-wide variations as per NFHS-5 data is also prominent in all three indicators of stunting, wasting and underweight children under 5 years. Bhopal and Sehore districts, for example, have very low stunting levels of 19.9% and 21.9% respectively, as compared to Jhabua (49.3%), Katni (49.5%) and Satna (49.4%). Similarly, Guna and Morena have around 10% of wasting levels

compared to Ujjain (29.8%) and Dhar (29.5%). Mandsaur has a low 22.9% of underweight children as compared to Burhanpur which has 47.2%.

Table 2 highlights the districts which have a much higher proportion of malnourished children compared to state average. It is very important to understand the reasons behind these variations and target interventions in those districts based on the local context assessment. A critical strategy towards this is developing District Nutritional Management Plans. Most districts have already developed strategic documents towards this in 2020. It is now important to target the state-level allocations to the districts in line with these plans.

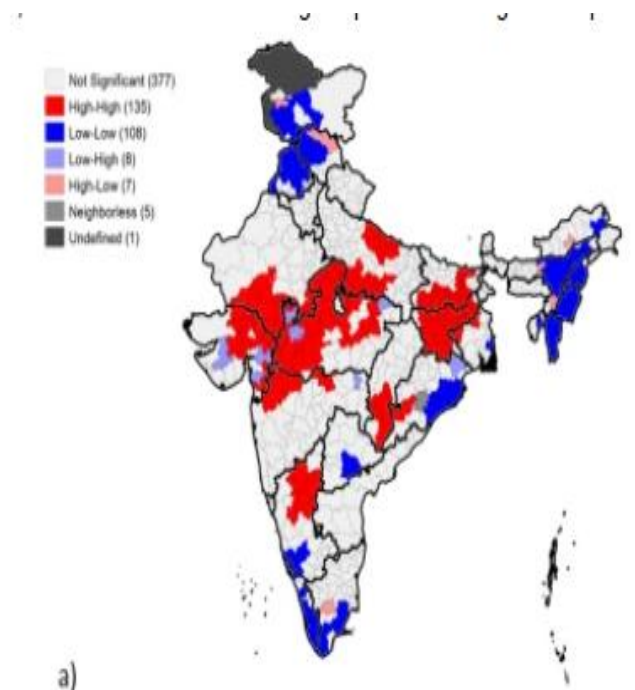


Figure 4: Univariate LISA cluster maps on India showing geographical clustering based on MANUSH scores across districts (2015-16)

Table 2: Districts with higher levels of malnutrition in MP (NFHS-5)

Parameter	Prevalence Rate	Districts falling in the range
Stunting	Greater than 40%	Agar Malwa, Balaghat, Barwani, Chhatarpur, Umaria, Damoh, Gwalior, Jhabua, Katni, Sheopur, Morena, Panna, Sagar, Satna, Shahdol
Wasting	Greater than 25%	Ujjain, Singrauli, West Nimar (Khargone), Harda, Dhar, Burhanpur
Under-weight	Greater than 40%	Balaghat, Barwani, Burhanpur, Jhabua, West Nimar (Khargone)

Of these, only Chhatarpur, Damoh, West Nimar (Khargone), Barwani, Singrauli, are aspirational districts already under specific focus. Most of the others - Agar Malwa, Burhanpur, Balaghat, Umaria, Dhar, Gwalior, Harda, Jhabua, Katni, Sheopur, Morena, Panna, Sagar, Satna, Shahdol, Ujjain, are non-aspirational districts and need additional focus on nutrition aspects.

6. Equity Dimensions

6.1 Age-wise Differences

Similar to district-level disparities, there are age-wise differences. Among the children aged 6 to 59 months who are anaemic, those less than 24 months especially between 18 to 23 months have the highest prevalence of anaemia. Figure 5 highlights the variation in levels of anaemia among children of different age-groups. This is

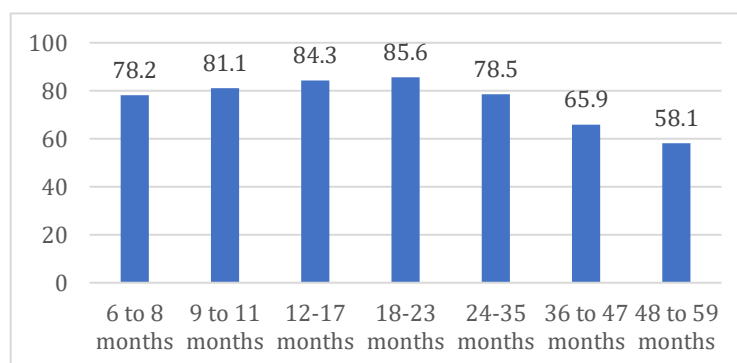


Figure 5: Age-wise variation in prevalence of Anaemia among children (NFHS-5)

another critical aspect which needs to be kept in mind while planning programmes and budget allocation. The age-group which is most vulnerable needs to be prioritized in resource allocation.

6.2 Gender Inequality

Gender inequality shows a decline with boys showing higher levels of malnourishment than girls on many parameters except anaemia levels in the NFHS-5 report (Table 3).

Table 3: Sex Disaggregated Data on Child and Adolescent Nutrition Parameter (NFHS-5)

Indicator	Male	Female	Gender Gap (Male minus Female)
Children under 5 years who are stunted	37.3	33.9	3.4
Children under 5 years who are wasted (MAM)	12.9	12.1	0.8
Children under 5 years who are severely wasted (SAM)	6.6	6.3	0.3
Children under 5 years who are underweight	34.4	31.6	2.8
Children aged 6-59 months who are anemic	72.1	73.2	(1.1)
Adolescents aged 15-19 years who are anemic	30.4	58.1	(27.7)

Some field studies ([V. Sangeetha, et al, 2018](#)) however, suggest that discrimination against the girl child might still persists in certain areas. The study conducted in Dhar and Datia districts of the state revealed a wide gender gap in the very severely and severely underweight categories- 6.67% and 13.3% for girls' vs zero and 6.67% for boys respectively. This once again highlights the importance of understanding of local context, especially in the context of gender, and ensuring targeted planning and resource allocation based on this.

It is but most critical to address the gender gap in anaemia both among children and adolescents. Anaemia levels across all age-groups of children is very high but the gender gap, especially among adolescents, is a matter of serious concern. This will not only have impact on the current health status of girls but also on the nutritional outcomes in future as these girls' become mothers. There is an established positive correlation of 0.48 and 0.52 between women's anaemia levels and wasting and underweight levels respectively ([WFP and MOSPI, 2019](#)).

There might also need to be a more in-depth analysis to understand the discrimination against the girl child in food security and nutrition. That it may still persist is also evident in the high gender gap in Neo-Natal, Infant and Under-5 Mortality Rates in the state reported in NFHS-5. Nevertheless, the efforts of the state to ensure gender parity in nutrition seems to be bearing results and needs to be commended.

6.3 Gaps within Social Groups

Other social dimensions, especially caste and tribe connections, seems to have a major impact on the nutritional outcomes. Children from Scheduled Castes (SC) and Scheduled Tribe (ST) communities lag most behind on all nutritional parameters than their counterparts (Table 4).

Table 4: Differentiation across social groups in child nutrition outcomes (NFHS-5)

Indicator	SC	ST	OBC
Children under 5 years who are stunted	40.5	40	33.8
Children under 5 years who are wasted (MAM)	12.8	14.2	12.1
Children under 5 years who are severely wasted (SAM)	6.3	7.2	6.3
Children under 5 years who are underweight	36	39.8	31.1
Children aged 6-59 months who are anemic	74.5	76.9	70

And while data on anaemia levels of adolescents across social groups is not available in NFHS-5 report, a review of the anaemia levels for the age-group 15-49 years across social groups shows

that STs are most vulnerable with a high 29.9% levels among ST men and 64.2% among ST women. It won't be incorrect to draw the inference that anaemia levels among ST children, especially among ST girls, would also be a matter of grave concern for the state.

III. Interventions for Addressing Child Nutrition

The state of Madhya Pradesh has been progressively advancing towards achieving its child nutrition goals. However, as discussed in the previous chapter there is still a long way to go to achieve the desired outcome goals of the state. This requires a holistic approach addressing both immediate and underlying determinants of child nutrition. Interventions need to be planned across all four dimensions of;

- a) Child food intake and dietary diversity;
- b) Dietary health care practices;
- c) Household food and feeding (awareness) practices; and
- d) Environment.

To further understand this, analysis of the various outcome parameters was undertaken, based on secondary literature review, for each these dimensions. The objective was to mark the intermediate outcomes and intervention strategies affecting the determinants. Recommended intervention strategies have further been mapped against existing government schemes/sub schemes and budget components (with specific context of Madhya Pradesh) to delineate the food security and child nutrition governance framework for the state (see Annex 2).

Immediate Determinants

1. Child food intake and dietary diversity

The most basic determinant of child nutrition is their diet, which comprises of both food intake-how much children eat and dietary diversity- what do they eat. These include access to optimum nutrition for pregnant women and lactating mothers (PW/LM); early initiation and exclusive breast feeding (EIBF and EBF); infant and young child feeding (IYCF); adequate food and nutrition for older children and adolescents aged 6 to 19 years.

Table 5 brings together existing status of the state on these intermediate outcomes of child nutrition.

Table 5: Status on intermediate outcomes of child food intake and dietary diversity

Intermediate Outcome	Intermediate Outcome Indicator	State Average	Source and Year
Improved access to Optimum nutrition for pregnant women and lactating mothers (PW/LM)	Pregnant women receiving more than 70% of recommended RDA for micro nutrients	20%	NMMS (2012)
	Women with low BMI	23%	NFHS-5 (2019-20)
Early Initiation and Exclusive Breastfeeding for children below 6 months (EIBF and EBF)	Children under 2 years breast fed within an hour of birth	41.3%	NFHS-5 (2019-20)
	Children under 6 months exclusively breastfed	74%	NFHS-5 (2019-20)
Adequate diet for all children aged 6 to 59 months	Minimum Dietary Diversity among children aged 6 to 23 months ^{iv}	18.8%	NFHS-5 (2019-20)
	Minimum Meal Frequency ^v among children aged 6 to 23 months	38.1%	NFHS-5 (2019-20)

	Minimum Acceptable Diet ^{vi} (All children aged 6 to 23 months receiving an adequate diet)	9.0%	NFHS-5 (2019-20)
Adequate diet for all young children and adolescents aged 6 to 19 years	All children aged 24 to 59 months receiving an adequate diet	-	No data available
	All children aged 5-19 years receiving an adequate diet	-	No data available

The data shows that children's diet (food intake and dietary diversity) is still an area of concern for the state. Except for EBF indicator, the state needs to improve the status on all other indicators- especially minimum acceptable diet for all children. There is also a specific need to focus on improving maternal nutrition. Factors affecting the above along with recommended intervention strategies have been discussed in detail in the coming section. A very critical gap area, however, is also the lack of data on maternal dietary diversity and diet adequacy for young children (2-10 years) and adolescents (10 to 19 years).

1.1 Improved Access to Optimum Nutrition for pregnant women and lactating mothers

Ensuring nutritious diets pregnant women and lactating mothers (PW/LMs) is critical not only for them but also for child nutrition. Study from Central India ([Sharma, et al. 2021](#)) shows that there were 20% lesser chances of a Low Birth Weight (LBW) child with increasing maternal dietary diversity scores (OR: 0.79). Nutritional vulnerability for women, however, is greatest during pregnancy and while breastfeeding ([Nguyen, P.H. et.al, 2021](#)).

The energy caloric intake needs to increase by approximately 300 kcal/day during pregnancy and the recommended protein intake needs to increase by around 14g/day ([Kominiarek and Ranjan, 2016](#)). And while state specific data is not available, the National Nutrition Monitoring Bureau ([NNMB, 2012](#)) surveys of 10 Indian states (including Madhya Pradesh), shows only about half of pregnant women consuming inadequate quantities of energy and 35% had inadequate protein.

Additionally, PW/LMs also need folic acid, iron and vitamin C supplements, as well as addressing of vitamin D and vitamin A deficiencies ([Kominiarek and Ranjan, 2016](#)). Intakes of iron, vitamin A, riboflavin, vitamin C, and folic acid were less than 50% of RDA levels for most pregnant women ([NNMB, 2012](#)).

Notwithstanding data gaps, suboptimal dietary intake among PW/LMs is a matter of critical concern for the state (figure 6). Typically characterised by supply side (food unavailability, poor economic situation) and demand side (cultural norms and taboos, with gaps in knowledge and low exposure to nutrition counselling) constraints, it needs priority attention ([Nguyen, P.H. et.al, 2021](#)).

Intervention strategies with potential to improve maternal diets include food-based programs and counselling of parents and parent-in-laws during pregnancy and lactation periods ([ibid](#)). The GoMP programmes enabling these include

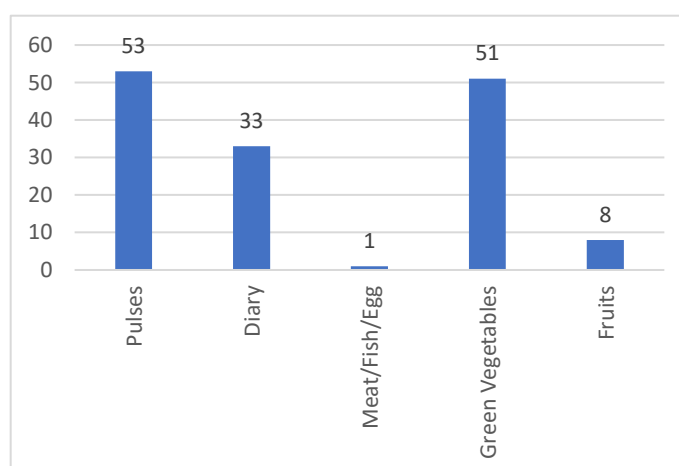


Figure 6: Percentage of pregnant women consuming the food groups in MP (Calculated by Nguyen, PH, et al 2021 from NFHS-4 data)

=> Provision of Take-Home Ration (THR) to all PW/LMs as part of the Supplementary Nutrition Programme (SNP) under Saksham Angawadi and Poshan 2.0 (earlier known as ICDS) programme of the Ministry of Women and Child Development (MWCD), Government of India (GoI).

=> Weight monitoring and diet counselling services provided as part of Ante- Natal Care (ANC) services provided by the Ministry of Health and Family Welfare (MoHFW), GoI, under the Pradhan Mantri Surakshit Matritva Abhiyan. The budget for the same is allocated under the National Health Mission (NHM).

1.2 Early initiation and exclusive breastfeeding for children under 6 months

Breastfeeding is one of the most cost-effective ways to ensure child health and nutrition. WHO and UNICEF recommend that children initiate breastfeeding within the first hour of birth and be exclusively breastfed for the first 6 months of life.

The State of Madhya Pradesh has witnessed increase in early initiation of breastfeeding (EIBF) over the past ten years from 15.9 % to 41.2% (figure 7).

The results, however, cannot be considered satisfactory as it shows that as many as 58.8% children remain deprived of essential colostrum feed.

Exclusive breast-feeding (EBF) up to 6 months from birth has more than tripled from 21.6 % to 74.0% (figure 7). This seems to have contributed most towards the state's performance on child nutrition outcomes. While a commendable achievement, the state now needs to strive towards closing the coverage gaps.

While educational attainment of mothers is a critical determinant to achieving EIBF, there are other factors also which have considerable influences. Studies ([Senanayake et al, 2019](#)) highlight the importance of frequent ANC visits and birthing in a health facility for EIBF. However, in spite of an increase in coverage of 4 ANC visits to 57.5% and institutional deliveries to 80.8% (NFHS-5); MP has not seen a similar rise in EIBF. Global experience ([Joseph NT, et al, 2020](#)) also shows that delivery of nutrition interventions (EIBF/EBF) consistently with the existing level of coverage (ANC/Institutional Delivery) could increase EIBF by up to 10 percentage points. The state thus needs to focus on closing this opportunity gap.

Critical intervention strategies recommended for this include support for EIBF at point of delivery along

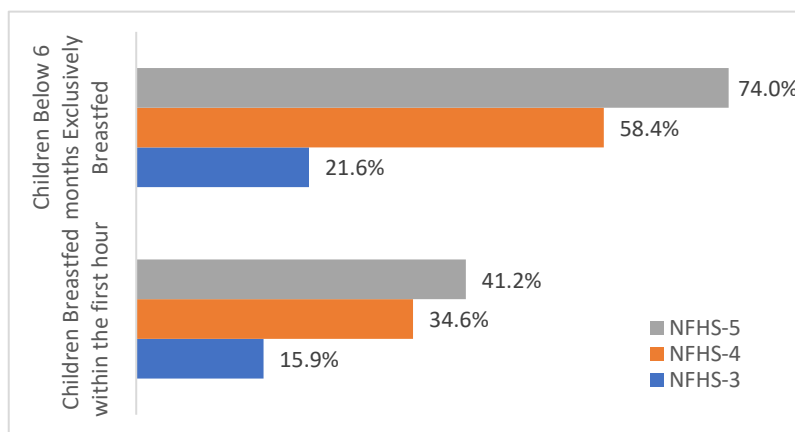


Figure 7: Progress on Breastfeeding indicators in MP

Box 2: Challenges and Initiatives to improve EIBF and EBF

Studies ([Ashoka University, n.d](#)) highlight the critical gaps in enabling EIBF and EBF. These include- insufficient availability of staff nurses at point of delivery; lack of specialised health support during specific medical conditions (caesarean, insufficient milk production); higher focus on training of frontline health workers (FLHWs) on technical aspects of breastfeeding than behaviours aspects, and clubbing of counselling with ANC and PNC visits diluting the messaging.

An important strategy to improve the same is thus to improve support for EIBF at point of delivery. Kaur et al ([2021](#)) reports that the rate of early initiation of breastfeeding improved from 52% at baseline to 97% in the immediate post-training phase. After an initial fall, due to the shortage of staff, the EIBF rate was sustained at 91% after six months. Other studies ([Ashoka University, n.d](#)) also highlighted that joint counselling of lactating mothers and grandmothers can have a significant impact.

with counselling and awareness building (Box 2). The GoMP focuses on providing these mainly through NHM initiatives including:

=> Capacity building up to delivery point on EIBF and EBF (Trainings on MAA and IYCF for MOs, SNs and ANMs).

=> Setting up of Comprehensive Lactation Management Units at district hospitals and medical colleges; Lactation Management Units at sub-district hospitals and FRUs; and Lactation Support Counsellors/Units at delivery points.

=> Nutrition Counselling by ASHAs under Home Based New-Borne Care (HBNC) and Home Based Care for Young Child (HBYC) and Group counselling and awareness under Mother's Absolute Affection (MAA) program.

=> EBF messaging and nutritional counselling by Anganwadi Worker (AWW) during THR distribution.

1.3 Adequate diet for all children aged 6 to 59 months

After 6 months, breastfeeding must continue well into and beyond 2 years, while the infants also receive complementary feeding. NFHS-5 data shows that the rate of continued breastfeeding was around 90% for children between 6 to 17 months but declines drastically after that (figure 8). The gap is particularly high between 20- 23 months with only 73.2% children being breastfed.

Further the initiation of

complementary food along with breastfeeding was still low with only 39.4% children between 6 to 8 months being breastfed and consuming complementary food. Although the rate of continued breastfeeding with complementary food improves after 9 months (figure 8). Nutritional counselling of primary caregivers on IYCF for the age group 6 to 23 months, thus, seems to be another critical area that requires focus.

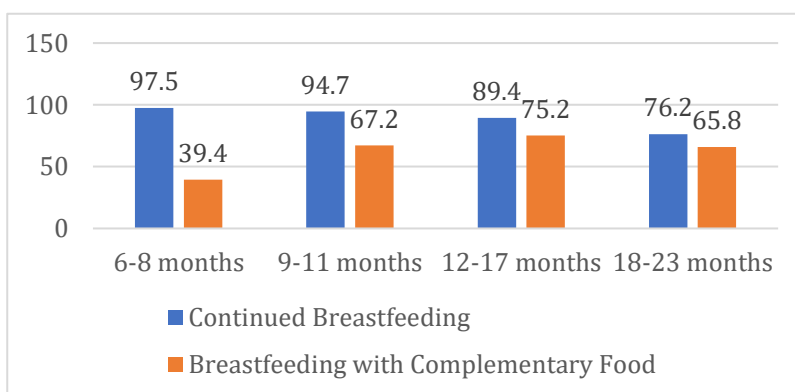


Figure 8: Breastfeeding and Complementary Feeding Practices among children aged 6 to 23 months in MP (NFHS-5)

NFHS-5 also measured the adequacy of dietary diversity and meal frequency for all children. Nearly, 38.1% children age 6-23 months are fed the recommended minimum number of times per day, but a fewer 18.8% are fed from the appropriate number of food groups. Only 9 % are fed according to all three recommended practices (adequate diet) which is a matter of grave concern. Further there is a gap in breast feeding (9.4%) and non-breastfeeding (7.7%) children receiving and adequate diet. What is even more concerning is that the rate has improved only marginally from 6.9% since NFHS-4 (2015-16). This shows that the state has a formidable task to bring about a sustained and positive improvement in ensuring that all children of 6-23 months duly receive adequate diet.

Also, while NFHS data does not particularly point to gaps in gender and social categorisations, other studies, Jain et al (2014) conducted in rural MP highlights the gender differences (MDD and MMF of 45.9% and 59.7% for girls vs 49.3% and 74.2% for boys respectively). Another study by Pillai and Kuchenbecker (2016) conducted in Sheopur and Chhatarpur districts pointed out that caste was the most negative influence on minimum dietary diversity.

It is vital to improve the dietary intake of children below 2 years by focusing on the “1000 days” opportunity window, wherein inadequate nutrition and diseases can lead to irreversible damage in regard to mental and/or motor skills as well as immune system development (V Sangeetha, et al, 2018). UNICEF’s Fed to Fail Report (2021) has also highlighted that child under 2 years are more likely to be affected by stunting and wasting if they eat their first solid foods too late, if they consume too few meals or if their diets are low in diversity or nutrient rich foods such as eggs, fish or meat.

However, while stakes are higher in the first two years, equally important, is to focus on the diet of children between 2 to 6 years. Unfortunately, NFHS or other researches do not provide information on the nutrition intake of children in this age group. It is important to understand the diets and intakes of children in this age group in the state.

The recommended interventions that enable adequacy of diets for children in the age group 6 to 59 months include: a) Counselling of care givers for promotion of continued breastfeeding from 6 to 23 months and initiation of complementary feeding from 6 months; b) General awareness and behaviour change communication (BCC) for increasing desirability and uptake of nutritious food; and c) Provision of supplementary nutritious food intake (take home rations and hot cooked meals) for children especially those from poor and vulnerable communities. GoMP provides these typically through:

=> Counselling by ASHA as part of HBYC visits from 6 to 15 months; and by AWW from 6 to 23 months during THR distribution.

=> Monthly Village Health and Nutrition days; and Campaigns as part of Poshan Abhiyan (Poshan Maah celebration, Poshan Panchayats, Poshan Matka, Video Shows, Television Advertisements, etc).

=> SNP provision for 300 days through Anganwadi Centres (AWCs)- THR for children aged 6 to 36 months and hot cooked meals (HCM) for children aged 3 to 6 years.

=> Milk provision for three days a week to children in AWCs through state Rural Development Department (RDD).

Kandpal (2011) that evaluated ICDS found that average HAZ scores increases by approximately 6% with bigger impacts in poorer areas.

Jain (2015) has also reported that girls aged 0- 2 years receiving supplementary feeding intensely are atleast 1 cm (0.4 Z-score) taller than those not receiving it in rural areas.

LiST (Lived Saved Tool) modelling undertaken by Niti Ayog in 2020 also indicated that complementary feeding alone would avert about 60% of the stunting cases.

1.4 Sufficient and balanced diet for all older children and adolescents

Although child nutrition policies emphasizes the importance of the first 1000 days (conception through 2 years), children's cognitive and physical development, including linear growth, extends well beyond this period ([Prentice et al. 2013](#)), necessitating an understanding of how food insecurity impacts health beyond the fetal and infant periods. Weaned children, no longer nutritionally buffered by breastfeeding, may be at increased risk associated with food insecurity because of their increased dependence on household food for their nutritional needs ([Schmeer and Piperata, 2017](#)).

The CNNS (2018) has also highlighted the high levels of malnutrition among older children (5 to 9 years) and adolescents (10 to 19 years) in the state. Data shows that among children 5 to 9 years 28.7% boys and 15.1% girls are wasted, while 24.4% boys and 18.3% girls are stunted. Among those aged 10 to 14 years 38.5% boys and 25.5% girls are wasted, while 41.1% boys and 29.7% girls are stunted. As per NFHS-5, around 43.8% of adolescent girls aged 15 to 19 years and 47.3% adolescent boys of the same age had a BMI below normal (less than 18.5). A significant of

them 19.4% girls and 20.6% boys have a BMI of less than 17 classified as moderately/severely thin. All the above, points to the need to have a specific focus on nutrition of boys in the age-group 5 to 19 years.

Further, the unhealthy waist to hip ratio reported in NFHS-5 is a matter of concern especially for adolescent girls and children in urban areas. Only 64.5% of the adolescent girls aged 15 to 19 years had a normal waist to hip ratio, while 35.4% had a ratio pointing to substantially increased risk of metabolic complications (≥ 0.85). For adolescent boys in the same age group 23.1% fell in the at-risk category. This points to the need for the state to strategize not only for provision of food and nutrition but much beyond on awareness related to nutrition so as to maintain a healthy adult population in the coming years.

There is a critical data gap in terms of diets (food intake and dietary diversity) in these age groups. The lack of research also inhibits the understanding on age-specific determinants of malnutrition in the state. For example, while adolescent boys have reported greater thinness than adolescent girls, it is not clear if this is due to limited food intake or due to a greater spurt in height for boys. It is important for the state to also monitor the adequacy and diversity of diets and undertake specific research to understand malnutrition among older children and adolescents.

Notwithstanding the data gaps, it is important to undertake interventions to address stunting, wasting and underweight concerns in these age-groups through supplementary food provision as well as target obesity concerns with focused education and counselling for children and primary care-givers. There are already specific schemes of the government for addressing these:

=> PM POSHAN (earlier Mid-Day Meal or MDM) for school children aged 6 to 14 years, which includes HCM during all school days. GoI norms specify that every child should be allotted 100 grams of rice and wheat for primary schools (Grades 1-5) and 150 grams for upper primary schools (Grades 6-8). GoI provides foodgrains free of cost through the Food Corporation of India (FCI). Additionally, Cooking Cost for ingredients such as pulses, vegetables, cooking oil, salt, and condiments are provided on a per-child, per-day basis; along with cooks' honorarium, kitchen shed/devices and transportation costs.

A recent study by International Food Policy Research Institute (2021) shows that the scheme was associated with 13-32% of India's improvement in height-for-age z-scores (HAZ) between 2006

=> Additional nutrition for children in areas of high malnourishment is also provided under PM Poshan. In 2020 and 2021, THR during summer months as a special case under MDM. GoMP is also providing milk for three days a week to all children as part of MDM.

=> There is no provision for school going adolescent boys or girls. For out-of-school adolescent girls aged 14 to 18 years, there is the SAG- Scheme for Adolescent Girls (now part of POSHAN 2.0), which aims to provide supplementary nutrition. Additionally, the FCS Department of the state provides food grains at subsidized rates to students.

=> The Poshan Abhiyan (now Poshan 2.0) had an objective of general nutrition awareness, however, no specific programmes or targeted IEC/BCC activities are being undertaken for education and counselling of primary care-givers on nutrition of older children and adolescents. The focus of Rastriya Kishore Swasthya Karyakram (RKSK) on nutrition counselling other than anaemia control is not very clear.

2. Dietary health care practices

The health status of children also directly impacts child nutrition. Prevalence of anaemia or iron deficiency among women and children is a critical determinant. Similarly, other micronutrient

deficiencies (Vitamin A, B12, iodine, etc) are also commonly linked to stunted linear growth as also for contributing to wasting through the malnutrition-infection cycle^{vii}. Management of acute malnutrition is necessary to achieve a larger decline in wasting ([Niti Ayog, 2020](#)). Disease management strategies, particularly related to diarrhoea and repeated respiratory infections, are also important in breaking the infection-malnutrition cycle ([Lenters L, et al, 2016](#)). An integrated approach to optimizing healthy growth in infants and children can have an important impact on reducing rates of stunting and wasting. Table 6 brings together existing status of the state on these intermediate outcomes of child nutrition.

Table 6: Status on intermediate outcomes for dietary health care practices

Intermediate Outcome	Intermediate Outcome Indicator	State Average	Source and Year
Increased proportion of children and PW/LM have access to IFA and other micronutrient supplements	Mothers who consumed iron folic acid for 180 days or more when pregnant	31.8%	NFHS-5 (2019-20)
	Mothers who consumed iron folic acid for 100 days or more when pregnant	51.4%	NFHS-5 (2019-20)
	Children aged 6 to 23 months given iron supplements in last 7 days	48.5%	NFHS-5 (2019-20)
	Children aged 6 to 23 months given deworming medication in last 6 months	46.2%	NFHS-5 (2019-20)
	Children aged 9 to 35 months received Vit A supplementation in last 6 months	78.1%	NFHS-5 (2019-20)
	Percentage HHs using iodised salt	95.3%	NFHS-5 (2019-20)
Increased access to care and treatment for severely and moderately malnourished children and those suffering from diarrhoea	Proportion of SAM and MAM children receiving adequate treatment	-	No data available
	Prevalence of Diarrhoea among children	6.4%	NFHS-5 (2019-20)
	Children with Diarrhoea receiving ORS and Zinc	29.1%	NFHS-5 (2019-20)
	Children with ARI	2.6%	NFHS-5 (2019-20)
	Children with ARI receiving treatment	47.0%	NFHS-5 (2019-20)

2.1 Effective anaemia control and adequate micro-nutrient supplementation coverage

High prevalence of anaemia or iron deficiency among women and children is the most critical parameter of malnutrition that the state needs to address. Not only has the state not been able to progress on improving the status of anaemia but it has in fact worsened between NFHS-4 and NFHS-5 for children and adolescent girls (figure 9). Prevalence is especially high among those

from ST communities. Maternal anaemia is also high with 52.9% of mother reporting the same in NFHS-5 survey.

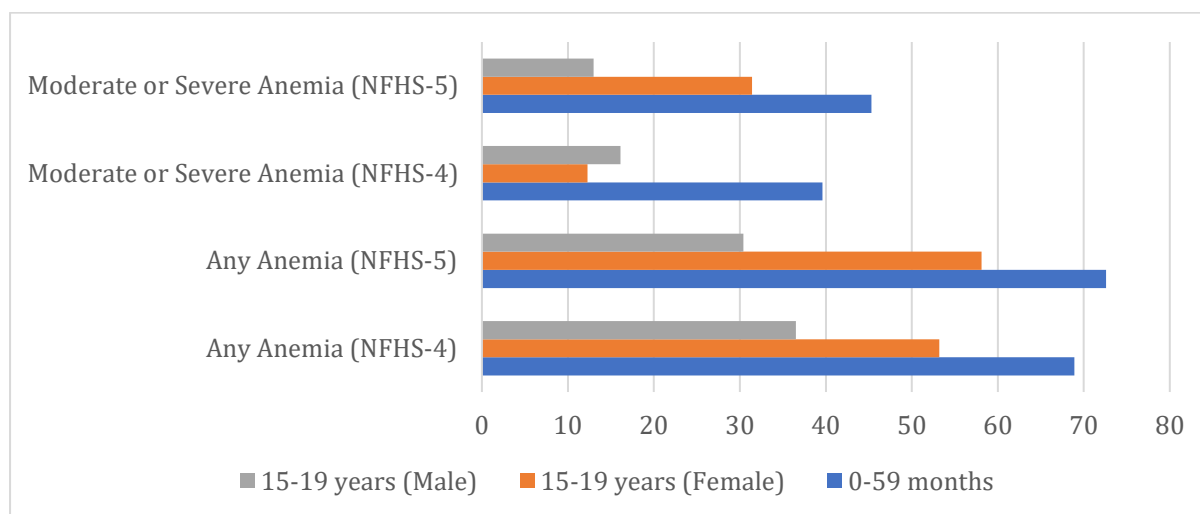


Figure 9: Anaemia level in the state

CNNS (2018) also identified other micro nutrient deficiencies especially among adolescents. The data showed children aged 1 to 4 years, 5 to 9 years and adolescents aged 10 to 19 years having prevalence of vitamin B12 deficiency at 11.6%, 22.6% and 42% respectively. Vit D deficiency was 7.7%, 19.7% and 23% respectively; while Vit A deficiency was 13.4% and 13.2% in the last two age groups. NNMB (2016) also showed that intakes of iron, vitamins A and C, and folic acid were less than 50% of recommended levels for most pregnant women.

Micronutrients are crucial for infants and children, who are most vulnerable to micronutrient deficiency, given the high vitamin and mineral intake they need to support their rapid growth and adequate development. Vitamin and mineral deficiencies, particularly of vitamin A, iron, and zinc contribute significantly to morbidity and mortality in children under 5 years of age.

Addressing these micro-nutrient deficiencies is a key area of concern that needs to be taken up with utmost priority. Consumption of iron and mineral-rich diets, micro nutrient supplementation and fortification are the three main ways to deal with these deficiencies at a large scale. Regular consumption of iron rich food is very low in the state- 11.9% for children aged 6-23 months (NFHS-5). Also, as can be seen in table 6 except for use of iodised salt the coverage of all other micro-nutrients is less than half. Furthermore, there are opportunity gaps, while coverage of Vit A supplementation has reached 78.1%, less than half of children in the target group have received iron supplementation and/or deworming medication. Similarly, while mother who consumed iron folic acid for 100 days or more when pregnant is 51.4%, the coverage of the same for recommended 180 days is less than a third of the target group. These point to the need to move beyond provision of supplements to greater mobilization and awareness building for consumption.

The GOI has already undertaken several initiatives to address these including the Anaemia Mukht Bharat and celebration of National Deworming Day as part of NHM. GoMP interventions towards these include:

=> Provision of IFA supplements (IFA and Folic Acid tablets) to PW/LMs, IFA syrup to children aged 6 to 60 months and weekly IFA tableted for children aged 5 to 10 years and adolescents aged 11 to 19 years.

=> Provision of albendazole (for deworming) tablets, calcium supplements and Vit A syrup.

- => Provision of calcium tablets to PW/LMs.
- => Orientation and mobilizing of mothers and children by ASHAs for consumption of supplements.
- => The NHM also provides for screening of PW, testing for Hb and treatment of moderate and severe anaemia among them through IVIS provision.
- => ASHAs are incentivised for identification and referral of children and adolescents with pallor and there is provision for testing of the referred children and adolescents for Hb at health centre.
- => Provision of fortified rice and double fortified iodised salt as part of PDS and all child related food provision programmes- SNP and MDM.

2.2 Effective acute malnutrition and disease management

The state of MP has demonstrated a strong reduction in wasting in the last 15 years. However, to achieve a larger decline in wasting, it now needs to focus strongly on identification and treatment of severely acute malnourished (SAM) children.

Management of Severely Acute Malnourished (SAM) Children

The key interventions recommended for this include effective growth monitoring, targeted treatment of MAM and SAM children through ready to use or locally prepared therapeutic foods, training and capacity building of mothers and care givers on IYCF and facility-based care of SAM children (Lenters L, et al, 2016). Nutrition Rehabilitation Centre (NRCs)- facility-based management centres which provide clinical management of SAM and build the capacity of mothers and other caregivers on appropriate IYCF practices has been specifically proposed in India ([Tandon, et al, 2019](#)). WHO (2012) suggests that an energy intake of 25 kcal/kg/d in addition to the standard nutrient requirements of a non-malnourished child would support a reasonable rate of weight gain without promoting obesity. Niti Ayog's LiST modelling (2020) has also suggested expansion of facility-based treatment of SAM as well as more effective implementation of ICDS programs to address MAM to achieve larger decline in wasting.

Management of acute malnutrition in MP is through a convergence model between WCD and Health departments. This includes:

- => Training and incentivizing AWWs and ASHAs for identification of SAM children using MUAC tape and referring them to NRCs.
- => Setting up of NRCs, by the health department under NHM, at all district hospitals and Community Health Centres with a ward of bed strength of 20 or 10, a kitchen with proper cooking and feed demonstration space and attached toilets/bathrooms.
- => Admission and clinical treatment of SAM children at NRC for 14-21 days.
- => Four follow ups of the children discharged from NRC at an interval of 15 days by ASHA workers.
- => Additional supplementary nutrition (THR) is provided for SAM children under ICDS.
- => The GoMP also provides a community-based care and third meal for SAM children as part of Atal Bal Arogya Mission.

Diarrhoea Management

Diarrhoea is also among the leading determinants of child nutrition as it leads to loss of nutrients as well as absorption capacities. While overall prevalence of diarrhoea among children in the state is low, it is high among those below 23 months. Effective management of diarrhoea is another critical intervention recommended as part of health interventions for child nutrition. As part of NHM, oral rehydration salt solution (ORS) and zinc supplementation (10 mg of elemental zinc for 14 days for children aged 2-6 months and 20 mg/day for older children) are being promoted for effective diarrhoea management. However, while the 65.2% of the children under -5 with diarrhoea were given ORS and 35.6% provided with zinc, a lesser number received both which is

very important for maintaining nutrient loss. Further, while it is recommended that children should be given more liquids to drink during diarrhoea and food should not be reduced- only 6.0% and 24.9% of the children received this.

The interventions by the government towards this include:

=> Free distribution of ORS packets and Zinc tablets to all families with children under 5 years.

=> Incentivizing ASHA for visiting the households of under five children, conduct community level awareness generation activities and distribute ORS packets to the families with children under five years of age under the Intensified Diarrhoea Control Fortnight (IDCF) observed during pre-monsoon/ monsoon season.

Underlying Determinants

Household Food and feeding (awareness) practices

Along with immediate determinants it is equally important to focus on underlying determinants. These enablers have a high influence on child nutritional levels. The most important among these is household food security and access to social protection measures, which have critical impact on both maternal and children's diet. Increased access to nutrition services and higher knowledge levels among community on balanced diet and nutrition, also have a profound impact. Table 7 brings together key indicators required to map the existing status Household Food and feeding (awareness) practices in the state.

Table 7: Status on Household Food and feeding (awareness) practices

Intermediate Outcome	Intermediate Outcome Indicator	State Average	Source and Year
Improved social protection coverage (Maternal benefits)	Proportion of women receiving maternity benefits as per Maternity Benefit Act	NA	
	Proportion of eligible population receiving maternal cash transfers for social protection	90%	PMMVY CAS March 2019
	Girls aged 15-19 years who have begun childbearing	5.1%	NFHS-5 (2019-20)
	Women with 10 or more years of schooling	29.3%	NFHS-5 (2019-20)
Improved social protection coverage (Food security)	Food insecurity levels (measured using FAO's standardised 'Household Food Insecurity Experience Scale')	49.9%	Pillai, et al (2016)
	Proportion of eligible population receiving food subsidy	84%	Dept of FCS and CP (2017-18)
Increased access to nutrition services	Anganwadi services received by children under 6 years	80%	NFHS-5 (2019-20)
	Percentage of mother received health and nutrition education from an AWC during pregnancy/ breast feeding	80.3% 77.5%	NFHS-5 (2019-20)
	Proportion of men having low knowledge of nutrition		V.Sangeetha, et al (2018)
	Proportion of women having low knowledge of nutrition	70%	V.Sangeetha, et al (2018)

7.1 Improved social protection coverage (Maternal benefits)

Maternal work pressures, social protection, health and education are also crucial determinants of child nutrition. UNICEF (2021) reports that globally 2 in 3 mothers are constrained by insufficient time, influencing their child feeding decisions. Women, especially poor women, have a high burden of unpaid care and domestic work leaving them with little time for timely breastfeeding required for the child. It is thus important to create awareness among fathers and other family members for sharing of domestic work to provide women with necessary rest and time for EBF.

Similar, family-friendly workplace benefits and child care support are also required for working women to provide adequate time for the nutrition of children. Maternity benefits including paid leaves, flexi-work arrangements and institutional child care facilities are required by working mothers through-out all social groups. Maternal cash transfers are also reported to reduce household food insecurity (OR=0.84) and can increase dietary diversity and micronutrient adequacy during pregnancy (Harris-Fry, H.A. et al, 2018; Raghunathan, et al, 2017).

Legal maternity benefit, however, is only available for women in the formal sector. Most poor women are informal sector workers and work in fields and far off places and lack support to either pump or store breastmilk in advance or bring child to work. The government should also consider extending paid maternity leave benefits to informal sector workers especially in rural areas through MGNREGS.

Critical recent interventions by the government towards extension of maternity benefits include:
=> The Maternity Benefit (Amendment) Act, 2017 which extend the period of maternity leave for women up to 6 months.

=> Cash transfers for partial wage compensation to get women to take time off work through PMMVY and MMSSPSY schemes (Box 3).

Additionally, there are two more critical determinants of conducive maternal environment. The age of first pregnancy and education of women. While the state is showing some improvement on both these parameters, it still lags behind with a high rate of pregnancy among adolescent girls and less than one-third of women in reproductive age having had 10 or more years of schooling. While it is important to address these aspects also, they have not been dealt in detail as part of current study, as it requires a more elaborate analysis beyond budgeting which is the core focus of this report.

Box 3: Maternal benefit schemes in the state

Cash transfers are part of the national Pradhan Mantri Matru Vandana Yojana (PMMVY) since 2017. PMMVY provides a cash transfer of INR 5000 as partial wage compensation/maternity benefit. However, this is only 11% minimum wages for unskilled labour in the state (Rs 250 as of Oct 2020) for a 6-month (180 days) period. This is clearly not enough to incentivize women to withdraw from work. Further Niti Ayog (2019) report on PMMVY shows that although 83.5% of the registered beneficiaries received the first instalment, only 22% received it within 150 days of the Last Menstrual Period (LMP), with the average time taken being 293 days. As of March 2020, in Madhya Pradesh, 15.29 lakh women had received a cash benefit of 644 crores.

At the state level, the Mukhya Mantri Shramik Seva (Prasuti Sahayata) Yojana is being implemented since 2018. The scheme is for women over 18 years of age from the unorganized sector who are registered as Shramik with the state government or are wives of registered male Shramiks. It is a conditional cash transfer (CCT) scheme aimed at promoting improved health seeking behavior amongst pregnant women and lactating mothers and to encourage them to take rest prior to and after child birth. A cash incentive of INR 16, 000 is provided to cover partial wage loss is provided under the scheme for the first two children. This amount providing a wage compensation of around 35% for 6 months is much better than the national entitlement.

7.2 Improved social protection coverage (food security)

Food insecurity, the lack of consistent access to sufficient quality and quantity of food, has a major impact on child nutrition. Studies at global level have found significant associations between household food insecurity and child malnutrition ([Drammeh, et al, 2019](#)), anaemia ([Campbell, et al, 2011](#)), stunting ([Cuevas-Nasu, et al, 2014](#)) and underweight status ([Hackett, et al, 2009](#)) in infants and children under 5 years. Although MP specific studies are not available, studies elsewhere in India have also shown similar correlation of household food insecurity with increased risk of maternal and child underweight ([Maitra, et al, 2019](#)) and stunting, wasting and underweight ([Pathak, et al, 2020](#)).

As can be seen from table 7, household food insecurity levels in the state are still a matter of concern for the state with only half of the population qualifying as secure. Pillai et al (2016) further highlights that 11.7% are moderately and 3.9% are severely insecure in the state. This is in spite of the fact that the proportion of eligible population receiving food subsidy transfers is high. Government efforts to reduce food insecurity include:

- => Providing of subsidised food grains as part of Targeted Public Distribution System (TPDS), Antyodaya Anna Yojana (AAY) and Annapurna Yojana;
- => Cash transfers for food through the food subsidy scheme for Primitive and Vulnerable Tribal Groups (PVTG);
- => Provision of subsidised food grains to students; and
- => Provision of subsidised cooked food to the poor in urban areas under the Deendayal Antyodaya Rasoi Yojana.

7.3 Nutrition Services

Sarkar, et al ([2020](#)) in their analysis from a study in Sheopur and Chattarpur districts of MP highlights that suggests that access to food and nutrition services (OR=1.5) can be instrumental in improving dietary diversity and food security among children irrespective of prevailing inequalities. Anganwadi centres (AWC) continue to be at the core of nutrition service provision in the state. Pillai and Kuchenbecker (2016) reports that 91.6% of women identify AWC as the main source of nutritional counselling. NFHS-5 also reports that around 80% of the children in the state receive services from AWCs.

The Government's efforts to operationalise and improve outreach of AWCs in the state thus become critical in achieving child nutrition outcomes. The state focus on providing nutrition services through AWCs includes interventions like:

- => Construction of new AWCs and maintenance of existing buildings; including provision of drinking water and toilet facilities, electricity connections and kitchen gardens at the AWC.
- => Recruitment of adequate number of anganwadi workers (AWWs) and helpers; providing honorarium and training to AWWs and helpers.
- => Setting up a system of monitoring of AWCs and service delivery through Supervisors and CDPOs.

Other than AWCs, putting infrastructure and staff in place for efficient running for PM Poshan (MDM) programme is also a focus area. This includes:

- => Construction of kitchen sheds and dining halls in schools; and provision of cooking and eating equipment;
- => Provision for transportation of MDM material to schools; and
- => Honorarium to cook cum helpers associated with MDM programme.

7.4 Knowledge and Awareness Building

Awareness and knowledge play a critical role in improving nutrition status of children. Goliat and Pradhan (2006) state that malnutrition occurs not only due to poverty but also because of information asymmetries- people do not know what are the best food or feeding practices. Sarkar, et al (2020) also reports that exposure to nutrition counselling was strongly associated with higher dietary diversity (OR= 1.3). Nguyun. P.H., et al. (2021) points out that six studies across the country have reported a positive impact of behaviour change communication on dietary intake, including increased quantity frequency (from 2-3 to 3-4 meals), and quality of diets (increased intake of Vit A rich fruits, other vegetables and higher protein intake). The Alive & Thrive maternal nutrition study (2016) also includes evidence on need for integrating multiple strategies as part of BCC interventions in existing antenatal care for improving maternal and child nutrition.

A study by V Sangeeta, et al (2018) in Dhar and Datia districts of MP, however, showed that a majority of people -68% men and 70% women had low level of knowledge on nutrition. More such state specific studies are required to have a better understanding of the knowledge levels of the community in MP.

The nutrition policies of both central and state governments, puts awareness and knowledge improvement at the centre of all nutrition programmes. Use of multiple channels, including digital media, to reach care-givers with factual information and advice on young feeding and increase the desirability of nutritious and safe food, being promoted. The POSHAN Abhiyan (now POSHAN 2.0) launched in 2017 laid specific focus on awareness building, community-based events and Jan Andolan (people' campaign).

A review of the same by Niti Ayog (IDinsight, 2019) in four states including MP, shows that home visits and television had both the highest reach as well as the highest recall rates (see box). The report, however, points that the knowledge level and behaviour practice around complementary feeding and child diet diversity was still found to be low.

Evidence from social and behaviour change communication undertaken as part of POSHAN Abhiyan was generated from four states including MP by Niti Ayog (IDinsight, 2019). Accordingly, of the multiple platforms used for media campaigns and awareness generation, highest reach was attained by home visit (81%), television (69%), VHSND (66%), Community-Based events (60%) and posters, hoardings or wall paintings (59%). Platforms such as community radio, street plays and social media has limited reach. The recall rates of messages varied according to the platform used and was highest for home-visits (66%) and television (57%).

Conducive Environment

Improved environment especially availability and access to health, child care and WASH services also have a profound impact of child nutrition. Table 8 brings together select key indicators on the underlying determinants of nutrition related to conducive environment.

Table 8: Status on underlying determinants related to conducive environment

Intermediate Outcome	Intermediate Outcome Indicator	State Average	Source and Year
Access to health services	Mothers who received ANC in 1 st trimester itself	75.4%	NFHS-5 (2019-20)
	Mothers who received at least 4 ANC check ups	57.5%	NFHS-5 (2019-20)
	Institutional births	90.7%	NFHS-5 (2019-20)

	Children aged 12 to 23 months who are fully vaccinated	77.1%	NFHS-5 (2019-20)
Access to water and sanitation services	Drinking Water on premises/delivered to dwelling	57%	NFHS-5 (2019-20)
	Population living in HHs that use an improved sanitation facility	65.1%	NFHS-5 (2019-20)

8.1 Health Care Facilities

The Food and Nutrition Security Analysis for India report (WFP and MOSPI, 2019) reported a high correlation between full Ante-Natal Care (ANC) services and stunting (-0.63) as well as on underweight (-0.42). Other studies ([Rammohan, A., et al, 2019](#)) also report that dietary diversity was low among women who had no prior contact with a health professional or doctor (OR = 0.6), and those with parity of two or more (OR = 1.2). Powell-Jackson, et al (2015) has reported that Janani Suraksha Yojana (JSY) has had an impact on both uptake of institutional deliveries and breastfeeding.

As can be seen in terms of access to health, while the state has progressed quite well in terms on institutional births, there are still gaps in full ANC coverage and immunization, which are important determinants of child health and nutrition. NHM has been specifically focused on this as part of the RMNCAH+N interventions. The focused interventions towards this include:

=> Focus on maternal health through strengthening of ANC and PNC coverage and support for institutional deliveries especially through JSY support.

=> Improved immunization through community mobilization, tracking of children and ASHA incentives.

=> Early Detection and Disease Management Programme for children.

8.2 Water, Sanitation and Hygiene (WASH)

WFP and MOSPI (2019) reports a strong negative correlation between improved sanitation and stunting (-0.70) as well as wasting (-0.50). Sarkar, et al (2020) also points that hygiene practices (OR =1.8) is a key determinant. Sarkar et al (2020) reports that hygiene practices is also associated with higher dietary diversity and food security (OR=1.8). Niti Ayog (2020) points that improved water, sanitation and handwashing with soap and hygienic disposal of children's stools are effective interventions which could avert about a quarter of stunting cases.

The state has progressed quite well on most of these parameters, with almost 60% of the population having access to these services. Although the coverage on drinking water still needs to be improved a lot. Also there still exists a gap in coverage of urban and rural areas for toilet facilities. NFHS-5 reported a higher accessibility to toilets in urban areas (94%) than in rural areas (70%).

The key state programmes/schemes which address WASH include:

=> Swachh Bharat Abhiyan and Jal Jeevan Mission (National Rural Drinking Water Mission) supported by the GoI;

=> AMRUT (Atal Mission for Rejuvenation and Urban Transformation) and Urban Water Supply Schemes for provision of drinking water in urban areas;

=> Externally Aided projects like MP Urban Sanitation and Environment Sector Programme (KFW); MP Urban Service Improvement Programme (ADB Phase 2); MP Urban Service Improvement Programme (ADB); and MP Urban Development Project (World Bank).

IV. Budgetary Priorities and Allocations (Macro perspective)

In the previous chapter, we identified the numerous interventions – nutrition-specific and nutrition-sensitive, that are in place to accelerate progress on food security and nutrition outcomes in the state of MP. Key nutrition-specific interventions include food and micro-nutrient supplementation, food fortification, education and counselling on IYCF practices and anaemia control, and facility-based treatment of SAM children. Most of these specifically target children as a policy objective. Budgetary allocations, however, as not so specific.

1. Understanding the budgetary allocations

The budget for most of the nutrition-specific interventions comes from four initiatives:

- a) Saksham Anganwadi and Poshan 2.0 (earlier ICDS and Poshan Abhiyan) implemented by WCD;
- b) PM Poshan (earlier MDM) implemented in the state by RDD;
- c) Food fortification programme of the FCS department; and
- d) National Health Mission (NHM) implemented by health department.

While the former two (a and b) are clearly child focused allocations (100% for children); the third (c) has mixed targeting at household and children and can thus only be considered as child responsive (30% or more for children).

NHM, on the other hand, is a much larger health programme, with a significant component for Reproductive, Maternal, Newborn, Child, Adolescent Health Plus Nutrition (RMNCAH+N), an important nutrition sensitive allocation. Within these, there are sub-line items which cover nutrition specific interventions like promoting IYCF, treatment of SAM children, IFA supplementation, etc. Thus, a very small component of NHM budget is actually child focused nutrition specific allocation⁸.

Among the nutrition sensitive interventions, maternity cash transfers strengthening of anganwadi services and child care, are the major child focused allocations; while the rest, including provision of subsidised food grains, access to general health, water, sanitation and hygiene services are all child responsive allocations. A matrix classifying the programme and schemes with budget codes across the four sections has been placed at Annex 3.

Given these complexities, it is important to understand how the policy and programmatic commitments of the state to child nutrition actually translate to budgetary commitments. We try to understand this by mapping the overall size of the child budget, provisions for child nutrition and health interventions (CNHI), and within this the actual size of child focused-nutrition related allocations. The trends in budget have been analysed for the last four-year period to understand the pre-covid status along with the current allocations.

Child Budget in Madhya Pradesh and provisions for CNHI

The GoMP introduced the Child Budget Statement (CBS) as part of the state budget for the first time in 2022-23. It includes child focused (100%) and child responsive (30 to 99%) allocations across five child rights domain areas- child health and survival, nutrition and child care, education and skill development, child protection and child participation. A review of the CBS ([2022-23](#)), shows that the state allocates a high 5% of the GDP and 23% of the state's annual budget for children (Table 9). This indicates towards the high priority for children in budgetary allocations.

⁸ For example, the nutrition specific allocations as per State NHM Framework of Implementation, Record of Proceedings (RoP), 2020-21 amounted to only 0.66% of the total NHM budget.

Table 9: Child Budget Allocations in MP

(INR Crores)

Madhya Pradesh State Total	Actual Expenditure (2019-20)	Actual Expenditure (2020-21)	Revised Estimate (2021-22)	Budget Estimate (2022-23)
Gross Domestic Product (at current prices)	962430	949103	1132000	1151000
Annual Budgetary Allocation	180672	196319	217813	247715
Child Budget (CB) Allocation	41192	42676	49434	57803
CB as %age of GDP	4.28	4.50	4.37	5.02
CB as %age of Annual Budget	22.80	21.74	22.70	23.33

Source: Budget Documents, GoMP (multiple years) <https://finance.mp.gov.in/budget>

The per child allocations has grown from INR 13,203/- in 2019-20 to INR 18,527/- (based on projected population 2021). A high share of this 100% targeted at children- the per child focused allocation in 2022-23 was also a high INR 12,411/-. These are good signs as it shows that the state continued to prioritize children's needs through the pandemic period.

Given that children are a priority group for state budget allocations, it is interesting to understand the focus on child nutrition and health interventions (CNHI) within this budget. A review of the CBS (2022-23) shows that only 31% of the total child budget was allocated for CHNI (figure 10). This amounts to only 7.25% of the annual state budget and a meagre 1.56% of the state GDP.

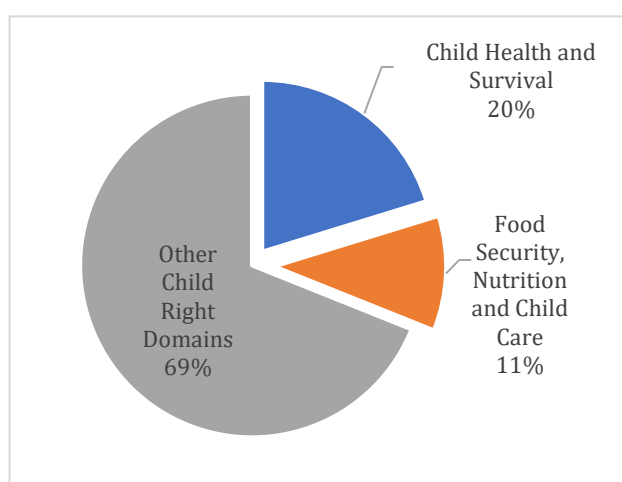


Figure 10: Allocations for Child Health and Nutrition Interventions in MP State Budget (BE 2022-23)

The CNHI allocation at INR 5,859/- per child (0 to 18 years)^{viii}, is significantly lower than the proposed thumb rule of INR 9,336/- per child (0-24 months) for just nutrition specific interventions (Chakrabarty, et al. 2017). Another study (Kapur, et al. 2020) using an updated but similar methodology, however, has estimated an amount of only INR 867.86 per child for a set of core direct nutrition interventions at scale^{ix}. The state is investing much higher than this amount. These contradictions point to the need for decoding of the allocations for CNHI within the state, to understand the trends, priority, and adequacy of the budgets.

Unpacking the Allocations for Child Nutrition and Health Interventions (CNHI)

Overall, there are 44 schemes numbers (budget codes) which can be considered as CNHI⁹. The total allocations for these CNHI have been increasing over the years. However, the focus is more on child health and survival interventions which are nutrition sensitive rather than food security

⁹ It needs to be mentioned here that the CBS (2022-23) reports on 42 schemes. It did not report INR 325 crores of PMMVY (BE 2022-23)- a very crucial CNHI allocation. Allocations for another important scheme Lalima Yojana was also not included as the scheme is no longer operational post 2019-20. However, the allocations (as applicable) for both these schemes have been included in the analysis here for a more holistic picture.

and nutrition specific interventions¹⁰ (figure 11). In the last 4 years, while the former more than doubled at a rate of 226%, the latter only grew by 165%.

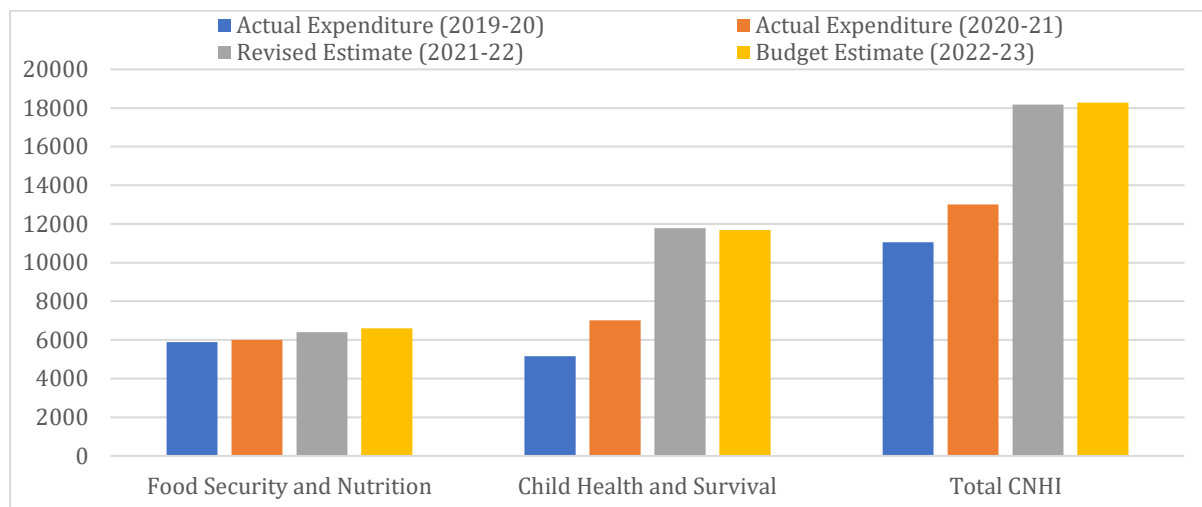


Figure 11: Trends in CNHI Budget in last four years

This means that a very high proportion of the total CNHI allocations is nutrition sensitive (87.86%) rather than nutrition specific (12.14%). When analysed further in terms of child focus, the share of child focused nutrition specific allocations further reduces to only 4.84% (figure 12).

The per child allocations for nutrition specific allocations is about INR 711/-, of which only INR 283/- is child focused and INR 428/- is under responsive category. These figures when assessed against recommended benchmarks like INR 627/- per child for similar interventions (Kapur, 2020) point out to the fact that the overall allocations for nutrition specific interventions is in line with the requirement.

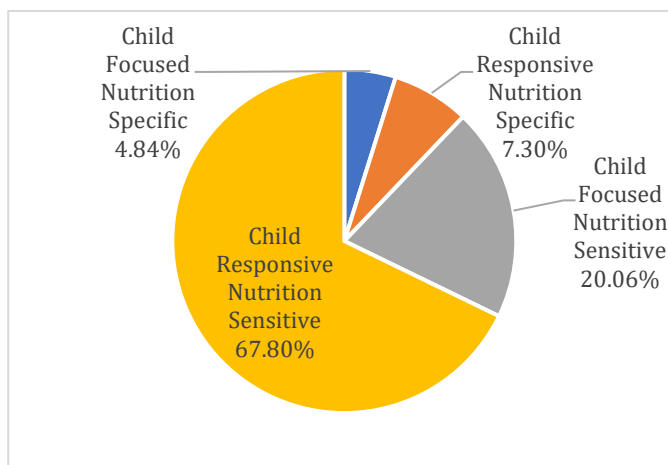


Figure 12: Proportion of CNHI budget (2022-23) based on child and nutrition targeting

Another important aspect is the prioritization trend emerging across these four categorizations (figure 13). While there has been an increase in allocations by 137% and 207% for child responsive nutrition specific and nutrition sensitive allocations respectively between 2019-20 to 2022-23, the child focused and responsive nutrition specific allocations in the same period have reduced to 76.5% and 89% respectively.

¹⁰ To get a more realistic perspective, NHM allocations have been divided into two parts; Nutrition Specific Allocation, Other RCMCH+A and General Health (rest of NHM) Allocation. The nutrition specific allocations have been calculated based on the approved budget as per State NHM Framework of Implementation, Record of Proceedings (RoP), 2020-21 and amounts to only 0.66% of the NHM budget.

The utilization rates of 2020-21 budget further highlights the focus gap in expenditure on child nutrition. As can be seen from table 10, while overall utilization is good (above 95%), the utilization rate for child-responsive nutrition specific allocations is below 90%. This points to the need to review the implementation

status of these schemes as well as track the timeliness of fund flows that impact the utilization.

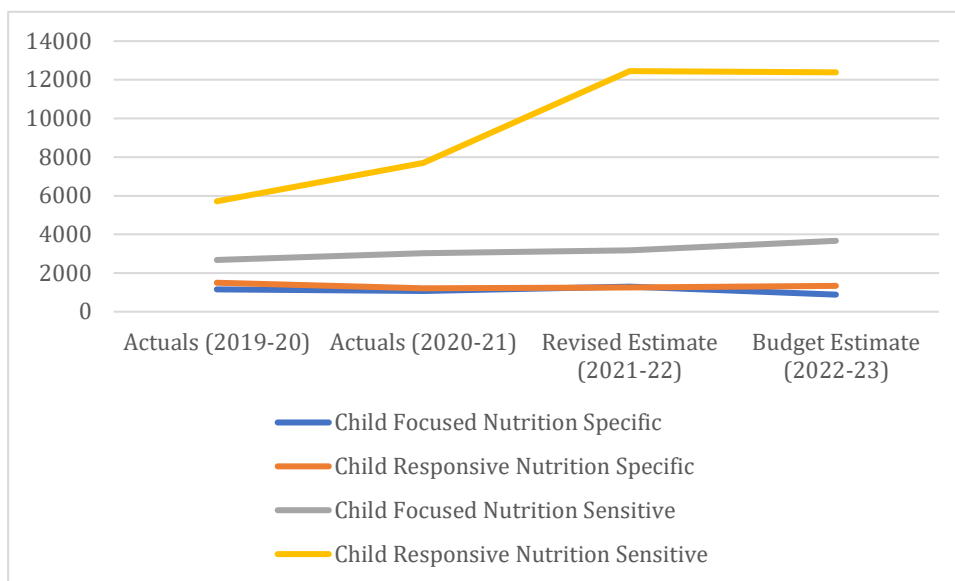


Figure 13: Trends in Child and Nutrition Targeting Allocations

Table 10: Budget Allocation vs Utilization in 2020-21

(INR Crores)				
Budget Categorization	Budget Estimate (2020-21)	Revised Estimate (2020-21)	Actual Expenditure (2020-21)	Percentage Utilization (2020-21)
Child Focused Nutrition Specific	1111	1108	1072	96.5
Child Responsive Nutrition Specific	1510	1510	1212	80.3
Child Focused Nutrition Sensitive	2987	2052	3025	101.3
Child Responsive Nutrition Sensitive	6942	6391	7705	111.0
TOTAL	1111	1108	1072	96.5

One visible constraint seems to be the delayed fund transfer from central to state for nutrition specific interventions (e.g. *Special Poshan Aahar- Minimum Needs Programme*) compared to nutrition sensitive interventions (e.g. National Health Mission). As can be clearly seen from figure 14, for 2020-21, while almost all of the expected funds under NHM were received by the state by 31st July 2021; it was nil or very low for most nutrition specific interventions except National Nutrition Mission.

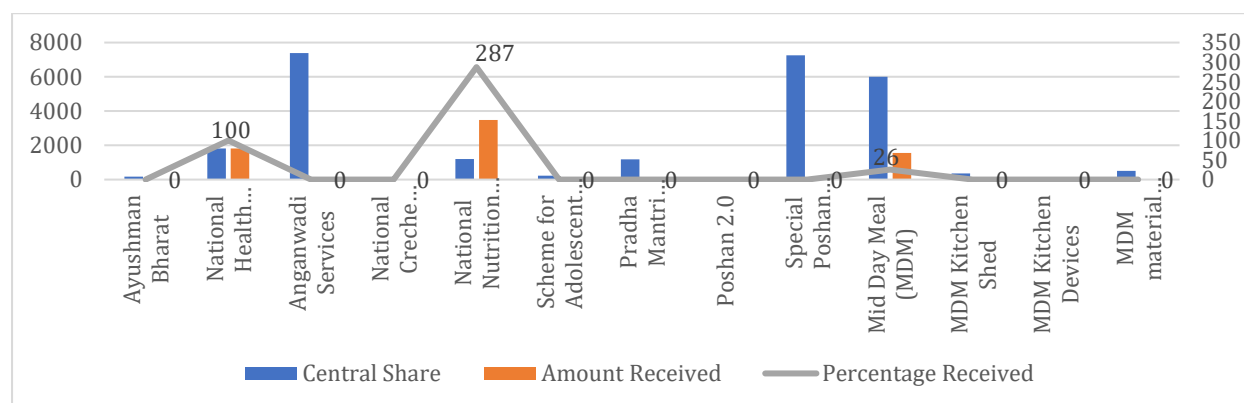


Figure 14: Funds received from central to State for budget 2020-21 by 31st July 2021

The state also has a high dependence on central for nutrition specific interventions, as compared to nutrition responsive interventions, which makes its interventions vulnerable to such fund delays. As can be seen in figure 15, while the average state share of allocations for nutrition sensitive budget has been around 25%, for nutrition specific interventions it is only 5%.

Linking Allocations to Outcomes

The GoMP adopted outcome-oriented child budgeting in 2022. Given this, it is also important to understand the linkage of the schematic allocations to desired state outcomes. As shared in Annex 2, six priority outcomes for child nutrition have been identified for the state. These include three key nutrition specific outcomes (addressing immediate determinants) and three nutrition sensitive outcomes (addressing underlying determinants).

A review of the budget (BE 2022-23) based on these outcomes also shows that most of the budget around 63.91% is for improved environment for nutrition outcomes. The allocations for the most important outcome- reduced proportion of children under-5 years, who are stunted, wasted and/or underweight, is only 7.04%. The most important concern area is the share of allocations for anaemia related outcome, which is less than half of a percent (figure 16).

And this is when the state has actually increased its focus on anaemia, with allocation for this outcome increasing at the rate of 110%. This, however, is no match for the 156% and 226% increases for social protection and improved environment outcomes (figure 17).

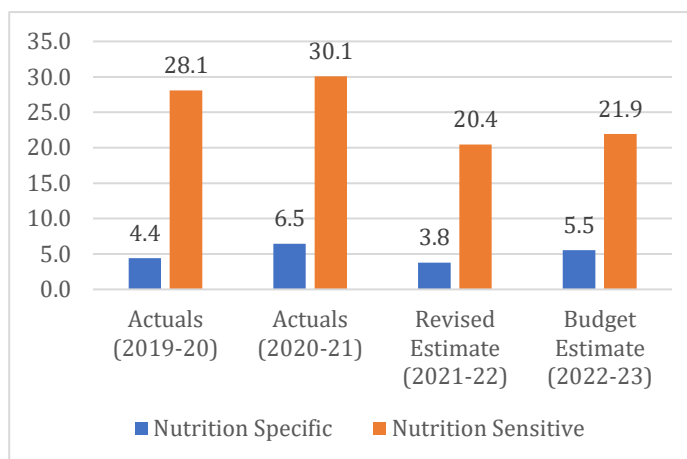


Figure 15: State Share in Allocations for Nutrition specific and nutrition sensitive allocations

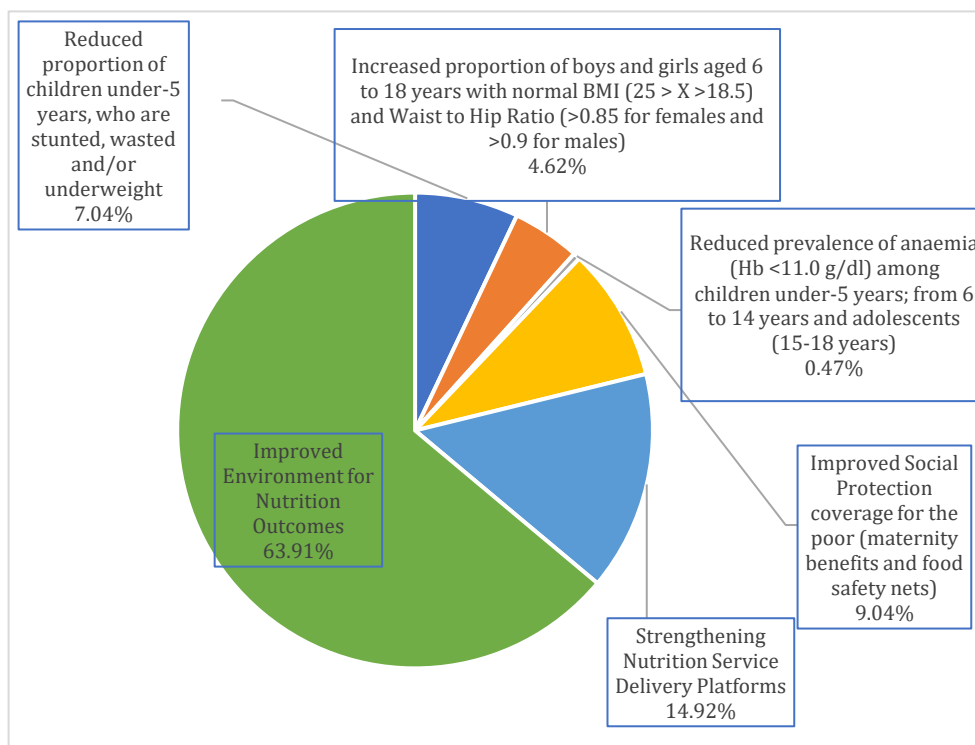


Figure 16: Outcome-wise allocations of CNHI budget in 2022-23

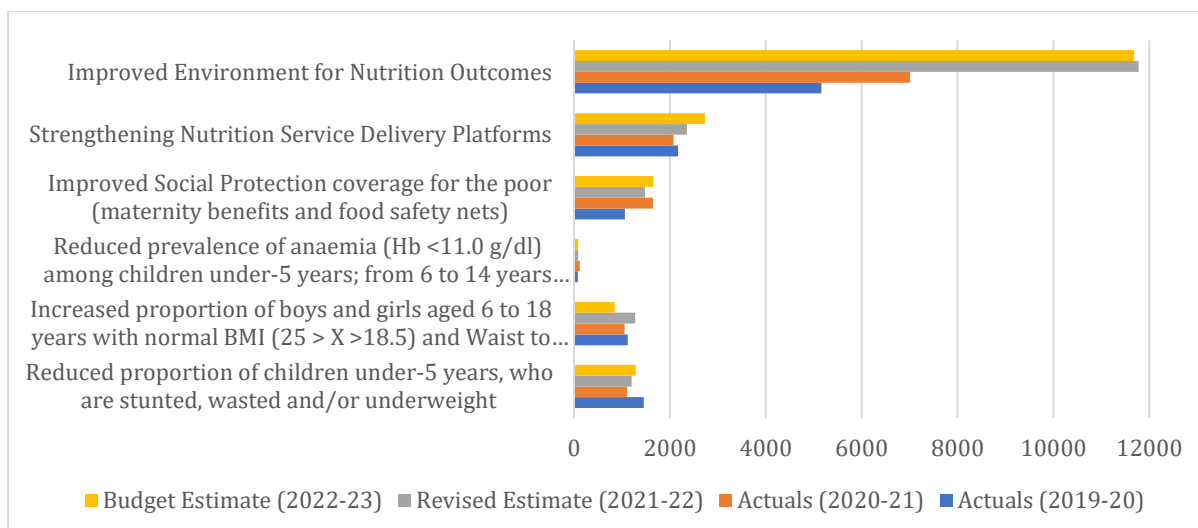
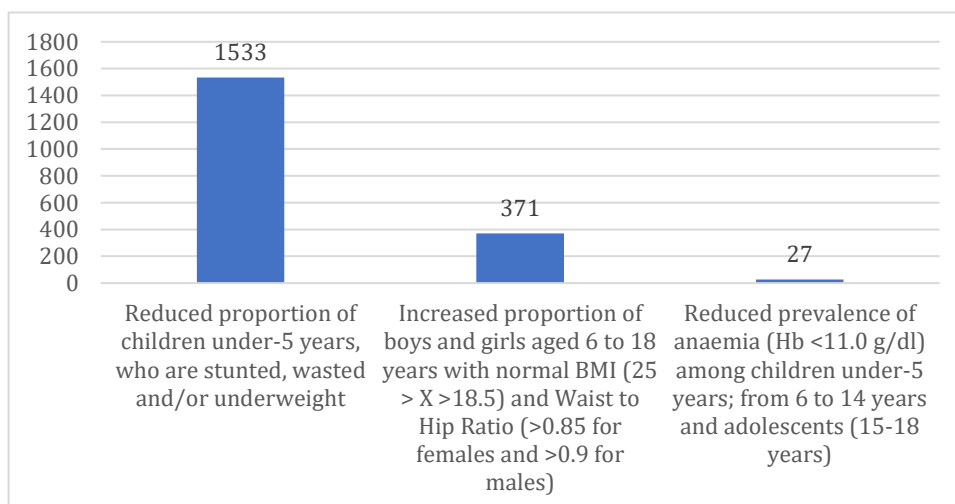


Figure 17: Trends in Allocations for various nutrition outcomes

Declining allocations for outcomes related to nutrition levels of children under-5 years by 88.6% as well as for children aged 6 to 18 years by 75.2% are a matter of concern. The state achieved results in reducing malnutrition between 2015-16 and 2019-20, through policy focus and higher budgetary allocations. The shift in this trend towards social protection and health, probably due to covid-19 is understandable, but needs to be tracked for return back to the pre-pandemic levels. Currently, the same can be observed in outcomes related to children under-5 but not for those in the age group 6 to 18 years.

4.1 Nutrition Specific Outcomes (Immediate Determinants)

To further understand the adequacy of these, it is important to assess the per child allocations (figure 18). We tried to measure the per child allocations using age-group wise projected population 2021.



The analysis shows that nutrition specific allocations for children under- 5 years (0.84 crores) declined from INR 1731/- in 2019-20 to INR 11321/- in 2020-21, it again increased to INR 1430/- in 2021-22 and INR 1533/- in 2022-23. Around 98% of the allocations is for supplementary nutrition- *Special Poshan Aahar* under the Minimum Needs Programme; and 1.2% under the Atal Bal Arogya Mission. Both these programmes are run by WCD Department.

The allocations for children aged 6 to 18 years (2.28 crores), however, is not only very less at INR 371 in 2022-23; but it has also significantly declined from INR 493/-, 462/- and 599/- in 2019-

2020, 2020-21 and 2021-22 respectively.

20, 2020-21 and 2021-22 respectively. These includes allocations for three programmes PM Poshan or MDM which is almost 95% of the allocations; the state scheme on milk distribution under MDM which is 5%, and the Kishori Balika Yojana (KBY) which is almost negligible. The decline in the allocations have come from the decline in MDM allocations by 77% and reduction of KBY allocations to a token INR 19,000/- in BE 2022-23.

Again, the allocations for anaemia while increasing are still substantially low at INR 27 per child (BE 2022-23).^x Almost 70% of the allocations are for distribution of double fortified iodised salt, which is at the household level and hence the actual reach to children is limited. Allocations have also been made for the rice fortification scheme of the GoI from 2022-23, but it is limited to pilot in one district only. The state also had a focused Lalima Yojana for targeting anaemia among girl children, however, the scheme has no allocations post 2019-20.

A critical aspect of analysis is the utilization of the budget. As can be seen from table 11, the percentage utilization in 2020-21 for allocations related to outcomes for children under-5 was low at only 76.5%. This reasons for this needs to be analysed further and rectified as the state generally has a good track record for utilization. One reason for this could be the lack of transfers under Minimum Needs Programme from the central. As shown earlier in figure 14, for 2020-21, no allocation was received under this head by 31st July 2021. For programmes like PM Poshan (MDM) where fund has been received as well as State schemes the utilization seems to be on track.

Table 11: Budget Allocation vs Utilization in 2020-21

(INR Crores)				
Outcomes	Budget Estimate (2020-21)	Revised Estimate (2020-21)	Actual Expenditure (2020-21)	Percentage Utilization (2020-21)
Reduced proportion of children under-5 years, who are stunted, wasted and/or underweight	1450	1450	1110	76.5
Increased proportion of boys and girls aged 6 to 19 years with normal BMI ($25 > X > 18.5$) and Waist to Hip Ratio (>0.85 for females and >0.9 for males)	1091	1090	1052	96.5
Reduced prevalence of anaemia (Hb <11.0 g/dl) among children under-5 years; from 6 to 14 years and adolescents (15-19 years)	80	78	122	152.8
TOTAL	2621	2618	2284	87.2

4.2 Nutrition Sensitive Outcomes (Underlying Determinants)

As is clear from earlier analysis a huge proportion of the child nutrition allocations is for underlying determinants or nutrition sensitive outcomes. In Budget 2022-23, this was around INR 16,062 crore. Of this, however only INR 3668 crore (22.8%) was all child focused, rest was allocations for household or community-based services which also have a significant impact on children (responsive).

In terms of outcomes- INR 1653 crores (10.29%) were allocated for social protection; INR 2727 crores (16.98%) for nutrition services; and INR 11683 crores (72.73%) for improved environment. It is interesting to further analyse these allocations in terms of intermediate outcomes/ programme objectives (figure 19).

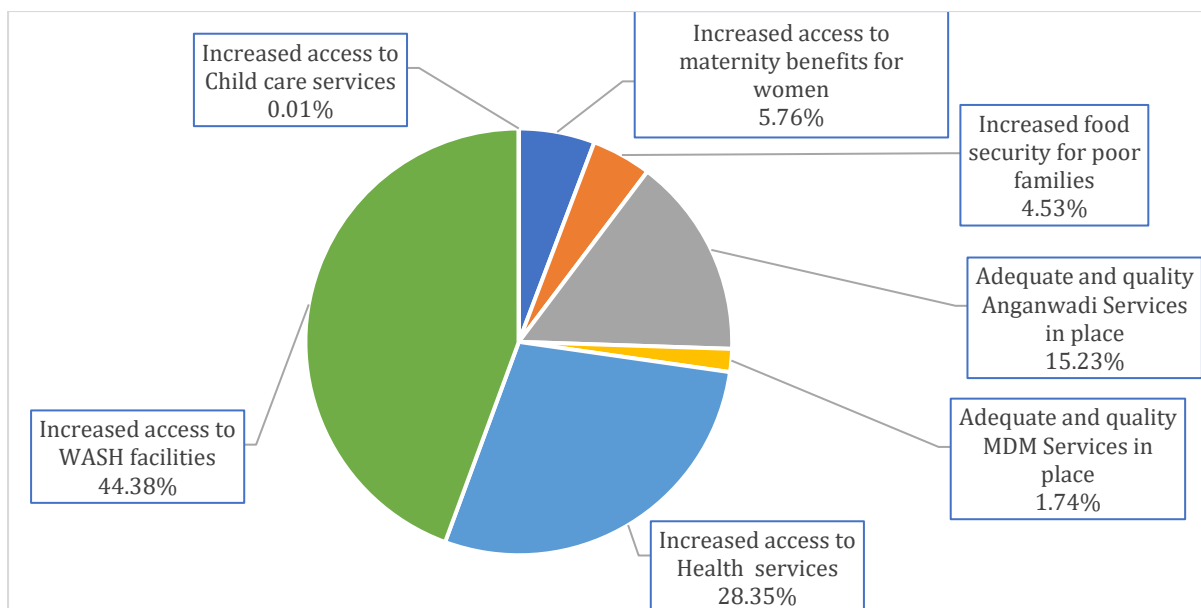


Figure 19: Proportion of different intermediate outcomes in allocations for nutrition sensitive services (BE 2022-23)

As can be seen, the allocations for social protection are divided between provision of food security for poor and maternity benefits for women. Between 2019-20 and 2022-23, there has also been an increase in allocations for these outcomes at the rate of 127% and 190% respectively. The provisions for food security are mainly household oriented including schemes like Annapurna Yojana, PVTG Food Subsidy Scheme or Community based like the Deendayal Antyodaya Rasoi Yojana of the Urban Development and Housing Department (UDHD). Only one scheme of the FCS Department- provision of subsidised foodgrains to students, is targeted at children.

Maternity benefits, on the other hand, are very child focused, and an increase in allocations for the same is commendable. It is also important to note here that the allocations for the same are not limited to GoI's PMMVY but the state has its own maternity benefit scheme named "*Mukhya Mantri Shramik Seva Prasuti Sahayata Yojana (MMSSPSY)*". While allocations for this scheme have been stagnant, the actual expenditures have been higher, showing an improving trend (figure 20).

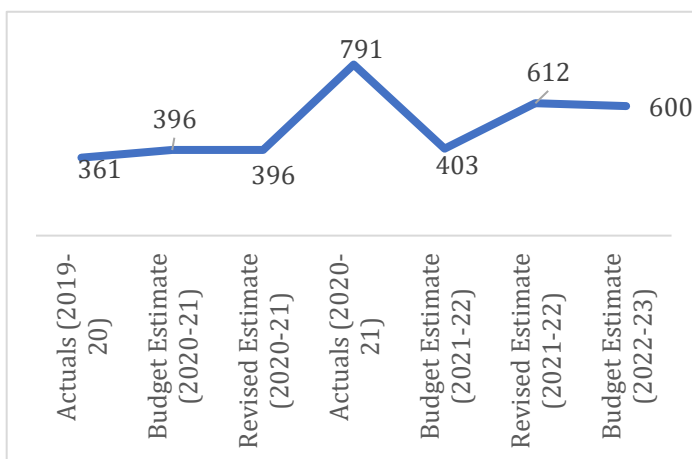


Figure 20: Trends in allocations and expenditure in MMSSPSY

Another important child focused outcome is adequate and quality anganwadi services in place. There has been a steady flow of allocations for this outcome (figure 21). A major share of the allocations under this is for Anganwadi Services^{xi} (48.7% in BE 2022-23); followed by the state scheme for Additional Honorarium to Anganwadi Workers and Helpers (35.6%); National Nutrition Mission^{xii} (7.6%); Building Construction for Anganwadi (4.6%); Maintenance of Departmental Assets (3.4%); and Electricity Connections in Anganwadi (0.2%). Earlier the state also had a budget head under PHED for provision of drinking water facilities at AWCs, however, there are no allocations reported in the same in 2022-23.

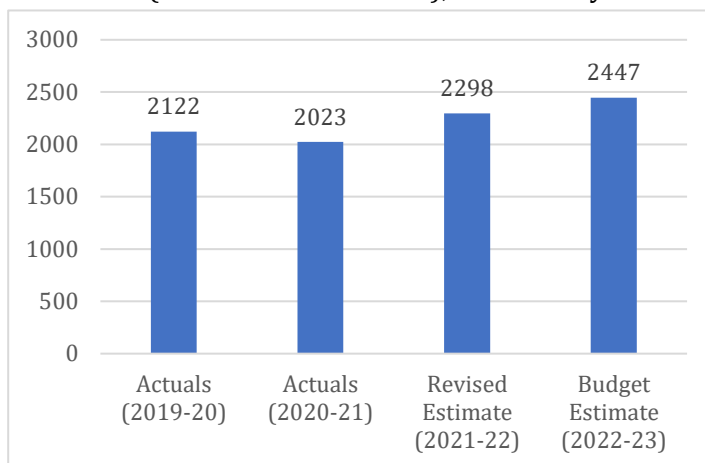


Figure 21: Trends in allocations for adequate and quality anganwadi services in place

The state has also seen a huge jump in allocations for health interventions as part of NHM and Ayushman Bharat, in the last four years, understandably as it dealt with the covid-19 pandemic. However, the proportion of allocations for RMNCAH+N interventions, which is critical for child health and thereby nutrition, remains limited. A review of the Framework of Implementation of Record of Proceedings, NHM (2021-22) shows that around 30.57% of the total NHM budget is allocated to RMNCAH+N interventions. It is important to undertake a more detailed analysis of the NHM budget from a child health perspective to understand the trends and adequacy of the budget.

Further, while WASH is an important underlying determinant of child nutrition, a high focus on the same without corresponding increase in addressing immediate determinants will not achieve the desired results.

5. Budget Coverage and Implementation (District Level)

One of the major critiques of approaches to addressing malnourishment in India has been the uniformity in allocations within states at the national level and within districts at the state level. To better understand the status of this within MP, it is important to map the variation and adequacy of district-wise allocations.

Towards this the study had proposed to collate district-wise fund allocation for the 5 nutrition sensitive programmes/schemes with the highest allocations at state level. Unfortunately, district-wise data for only one programme- Special Poshan Aahar (budget code 9050), was available. Considering that the scheme does have a major allocation, it was considered as a proxy for mapping the district-wise variation in allocation.

Another important aspect to map was the targeting of the allocations at district-level as against the status of malnutrition. To better understand this, a district malnutrition index developed for the state using NFHS-5 data (Box 4).

Box 4: District-wise Malnutrition Index

As part of the study a district-wise malnutrition index was developed for the state using NFHS-5 data for stunting, wasting and underweight. The state average was 0.48, with a high standard deviation of 0.16, highlighting district level disparities.

The bottom 10 districts reporting high malnourishment were Shahdol, Harda, Ujjain, Barwani, Jhabua, West Nimar, Balghat, Panna, Katni and Burhanpur which had the highest score of 0.85. Guna district reported the lowest malnutrition with a score of 0.17, followed by Mandsaur, Bhind, Neemuch, Sehore, Bhopal, Ratlam, Anuppur, Morena and Indore, among the top 10 (figure 22).

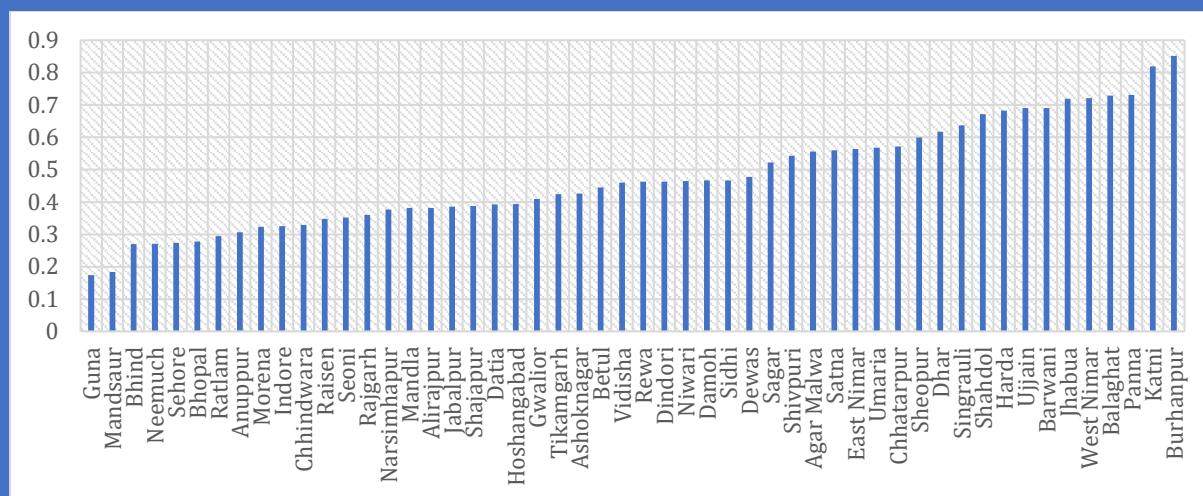


Figure 22: District score on child malnutrition index (NFHS-5)

This was considered as a proxy for mapping the district level disparity in malnutrition. The district wise allocations of funds were then matched against the level of malnutrition to understand the adequacy in geographical targeting of allocation.

The study also attempted to understand the convergence and contribution of Panchayats in strengthening nutrition interventions at local level. A case study for Sehore district was thus undertaken to gain deeper insights into the adequacy and flow of funds at Gram Panchayat level.

5.1 District-wise allocation and expenditure of funds

The district-wise allocations and expenditure of funds under the Special Poshan Aahar programme was analysed to map the variation in financial inputs. A review of status in 2020-21 show that the allocation and expenditure of funds was highest in Shivpuri district (2464.19 crores), and lowest in Harda district (310.9 crores). In terms of spending efficiency, the districts of Alirajpur, Ashoknagar, Chhatarpur, Dhar, East Nimar, Guna, Indore, Katni, Mandsaur, Rewa, Shahdol, Shajapur, Sidhi and Umaria had more than 99% expenditure in 2020-21. The districts of Barwani, Neemuch and Seoni had low expenditures at the rate of 80.7%, 76.5% and 59% respectively.

To get a more realistic estimation of the adequacy and uniformity of the fund allocation, district-wise per child allocations were analysed. This was estimated using district population and proportion of child population in the age group 6 to 72 months (since this was the core target beneficiary group for the programme). The review shows that the state average was INR 694.50 per child with a high district-wide variation (figure 23).

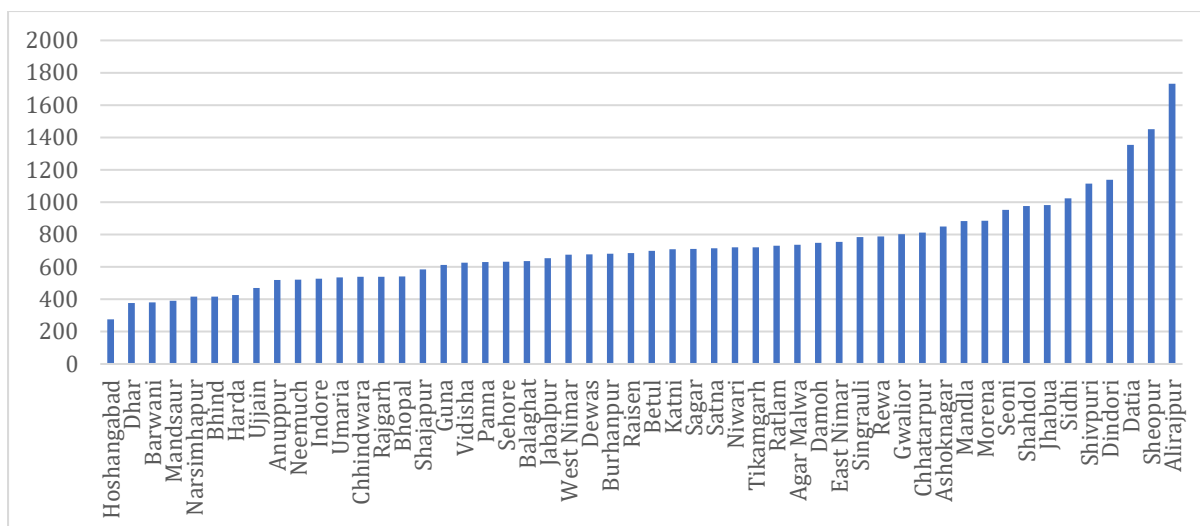


Figure 23: District wise Per Child Allocations under Special Poshan Aahar 2021-22

As can be seen from the figure the districts of Alirajpur, Sheopur, Datia, Dindori, Shivpuri, Sidhi, Jhabua, Shahdol, Seoni and Morena fall among the top 10 districts in terms of per child allocation with allocations ranging from INR 1731 to 884 per child, much higher than the state average. The bottom ten districts include Hoshangabad, Dhar, Barwani, Mandsaur, Narsimhapur, Bhind, Harda, Ujjain, Anuppur and Neemuch with allocations ranging from INR 275 to 521 per child, much lower than the state average.

5.2 Correlation of allocation with malnutrition status

Given the disparities in the per child allocations within the various districts, it is important to assess the targeting of allocations against the malnutrition status. For this the district-wise per child allocation in the state was compared with the district malnutrition index. A review of the data shows a complete lack of any correlation between budgetary allocations and malnutrition status, with a Pearson correlation of 0.076. There is in fact a high level of anomaly with districts like Harda, Ujjain and Barwani which rank high on malnutrition falling among the bottom ten districts in terms of per child allocations, on one hand, while on the other a district like Morena which ranks low on the malnutrition index ranks among the top 10 districts in terms of per child allocation (figure 24).

		Budget	
		Low	High
Malnutrition	High	Harda Ujjain Barwani	Shahdol Jhabua
	Low	Mandsaur	Morena

Figure 24: Matrix comparing Malnutrition Status with Budgetary Allocation across districts

V. Budgetary Adequacy and Efficacy (Micro perspective)

Unpacking the child and nutrition budget allocations at the state level, highlights that while the overall budget allocations is adequate, there are gaps in prioritization. Budget allocation is more tilted towards improving the environment for nutrition outcomes, than for the more direct child nutrition outcomes. With the aim to better understand the adequacy of allocations towards these thus, a coverage assessment and budgeting exercise was undertaken for the outcomes targeting immediate determinants of child nutrition.

Towards this, we first describe the interventions and assess current outreach and coverage gaps. Based on this the target population for the interventions and the estimated size of the target population in 2021 was defined. We then obtained approximate unit costs for the intervention from relevant government/non-government sources. All assumptions and sources of data are summarized at Annex 4. The unit costs were then multiplied it with the proposed target population to arrive at the required annual budget for each intervention. This was mapped with existing budget to identify allocation gaps and reprioritisation areas. See Annex 5 for intervention level mapping of required vs existing allocations.

1. Reduced proportion of malnourished children under-5 years

1.1 One-on-One Interpersonal Counselling

Intensified interpersonal counselling on nutrition during ANC check-ups and home visits for mothers and care givers has been emphasised as a critical and essential intervention for addressing infant malnutrition. The key focus is on optimum nutrition for PW/LMs, EIBF, EBF up to 6 months and continued breastfeeding along with complementary feeding from 6 to 24 months.

As per POSHAN Abhiyan [home visit scheduler](#):

- ⇒ Dietary counselling for pregnant women is provided through four home visits by AWW starting second trimester.
- ⇒ EIBF/EBF awareness and dietary counselling for lactating mothers is to be provided by AWW through nine home visits up to 6 months of birth.
- ⇒ Nutrition counselling is also to be provided by AWW through nine home visits from 6 to 24 months.

The health department also provides for:

- ⇒ Weight gain monitoring, and dietary counselling to pregnant women as part of ANC services under PMSMA.
- ⇒ Four minimum quality contacts by ASHAs through home visits during pregnancy to promote ANC check-ups.
- ⇒ Six home visits by ASHA for health monitoring and EBF in first 3 months as part of HBNC programme.
- ⇒ Five home visits, under HBYC programme, by ASHAs for nutrition counselling from 3 to 15 months.

In terms of outreach, although POSHAN tracker collates data on home visits by AWW, data on actual coverage is not available in public domain. Jain, et al ([2020](#)) however, shows that at an average an AWW in MP only spends 9% of her time on home visits. This indicates towards a key limitation for AWWs in undertaking home visits. The same is true for ASHA. State HMIS (2021) also shows only 50.27% of children receiving 100% visits under HBNC. Unfortunately, data on coverage of HBYC is not available in public domain. It is important to track the coverage of children receiving all 5 HBYC visits in order to ensure sustained breastfeeding and complementary feeding practices.

A review of Poshan Abhiyan by Niti Ayog ([IDinsight, 2020](#)) in four states, including MP, shows that home visits had the highest reach to 65% of women. Out of these, around 84.2% were visited on multiple occasions (24% had more than 3 visits). Moreover, most of these visits lasted 10 minutes or more. Receiving multiple home visits of substantial length may enhance retention of messages since most mothers point to the frequency with which they have heard a message as key to remembering it. It is not surprising thus that home visits also had the highest recall rates of 70%.

It is thus important to strengthen the quality and outreach of home visits. Equally critical is to estimate and track the actual percentage of children reached through any /all visits. An easy way to enable this would be through incentivizing the visits through dedicated budget allocation.

As per State HMIS (2020-21), there were 19.12 lakh pregnant women^{xiii} registered for ANC services and 13.69 Lakh live births registered. We have assumed a target of 80% coverage for pregnant women and 80% coverage for children. Based on the existing incentive cost of 50 per visit (for HBYC), it would amount to INR 400 per pregnant women and INR 1450 per child for the recommended number of visits.

This would mean a total budgetary allocation of around INR 220 crores for one-on-one interpersonal nutrition counselling. This can be easily met.

- ⇒ If the current allocations for ASHA incentive (20% of routine incentives, HBNC and HBYC under NHM) along with 20% of AWW honorarium (under Saksham Anganwadi and Poshan 2.0) are channelised specifically for home visits, then around INR 212.7 crores can be managed from existing interventions itself.
- ⇒ The state would then be required to budget for HBNC and HBYC programmes based on the target population -13.69 live births (as per state HMIS 2021), to reach INR 60.2 crores as against the current INR 37.5 crores, so that the gap in allocations is met (figure 25).

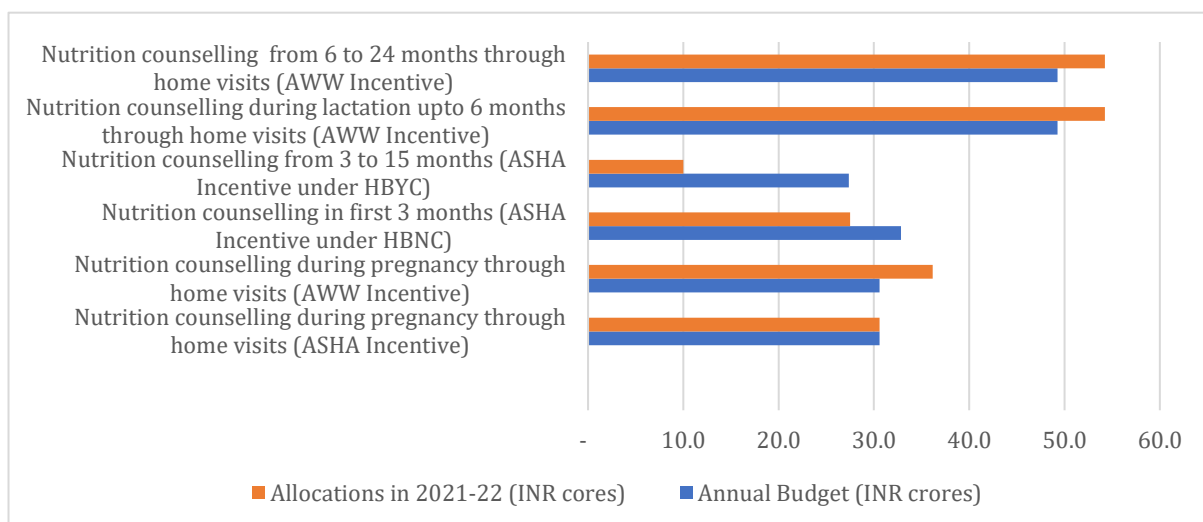


Figure 25: Required vs Available Budgetary Allocations for Interpersonal Nutrition Counselling (Home visits)

Also important is to strengthening counselling skills of ASHA and AWWs. Niti Ayog (Alok Kumar, et al, 2020) reports that while counselling is happening a major gap is the translation of the counselling into action. The focus of the counsellors currently is only on dissemination of information on the IYCF practices and not on the rationale behind the IYCF practices. Although the state has developed a HBYC Kit, it will good to review the usefulness of the kit and its utility by ASHAs and other FLWs. The report also points to the need for strengthening of nutrition interventions into the existing health platforms such as HBNC and HBYC as well as home visits under ICDS.

1.2 Growth Monitoring and Nutrition Surveillance

Growth monitoring and nutrition surveillance are two important activities that are undertaken at the AWC. Weight-for-age growth cards are maintained for all children below six years. This helps to detect faltering growth and assess their nutritional status.

NFHS-5 has reported that 77.8% children aged 0 to 59 months have been weighed at the AWC. However, there are gaps in regular participation at the AWC and thereby regular growth monitoring. Pillai and Kuchenbecker (2016) reports that the mean number of times a child enrolled was taken to the AWC was only 3.4. The lower attendance at AWCs regularly as also on THR distribution days was also revealed during the field visits undertaken for this study in Sehore district. Children need to be taken to the AWC in order to take part in regular growth monitoring sessions. Importance of visits to AWC needs to be emphasized as part of IEC/BCC measures. Furthermore, there are gaps in recording of information. Field visits organised as part of this study showed that the actual weight of children was lower than the record in some of the AWCs.

The POSHAN Abhiyan specifically focused on use of technology for real-time growth monitoring and tracking of convergence, and quality outreach of children. By end December 2019, however, less than 35% districts in MP and fewer than 30% of the AWCs had rolled out the ICDS-CAS (Alok Kumar, et al, 2020). This is inspite of the fact that there has been an established link between using ICDS-CAS and functioning of AWCs (Box 5).

A critical gap here seems to be the lack of allocation of budgets for the growth monitoring. The new Saksham Anganwadi and Poshan 2.0 Guidelines (2022) provides for extension of Growth Monitoring Devices (GMDs) across all AWCs. As per DWCD MIS (March 2022) of the 97135 functional AWCs, around 90% had GMDs, but less than 60% had all GMDs in usable condition (figure 26). Field visits showed that the in many AWCs the stadiometer had lost the markings making it difficult for the AWW to measure height and thereby identify stunted children.

Box 5: Anganwadi for nutrition awareness building

The Niti Ayog (Alok Kumar, et al, 2020) report showed that for 81.6% AWWs home visit planning and growth monitoring had become easier, and more than 80% reported using videos during home visits. Nearly half of the AWWs (48.9%) felt that access to data has become easier, and nearly 47% perceived an improvement in their relationship with the beneficiaries. Of the 50 AWWs in the intervention areas, more than half (58%) reported changes to the planning and organization of the VHND since the introduction of the ICDS-CAS app.

There is also evidence from the state (Bajaj, et al, 2018) that ICDS-CAS has a positive impact on service delivery and utilization of services. More than 70% women in intervention and comparison areas reported that their children were weighed and nearly 60% reported receiving information on their child's growth. More than 90% of women reported receiving THR in both intervention and comparison areas. Approximately, only one in two women were aware of VHNDs and only 50% of women attended VHND.

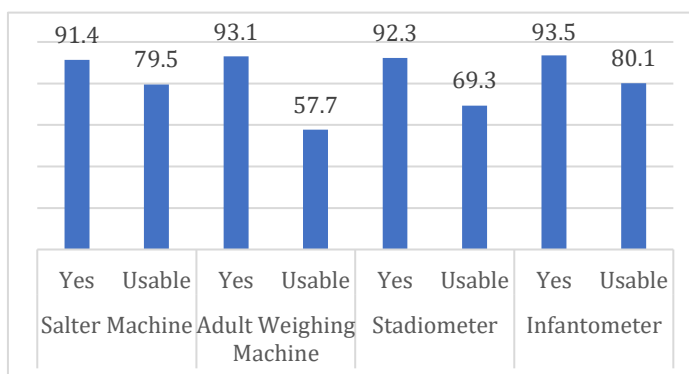


Figure 26: Status of Growth Monitoring Devices at AWCs (percentage of total AWCs)

The state thus needs to budget for an average 40% AWCs which not have usable GMDs. For this the state will need around INR 93.2 crores. Furthermore, the state will also need to budget for INR 58.3 crores for data charges (@2000 per AWW per month) for ensuring better reporting.

The Niti Ayog report also points that it is important to strengthen the nutrition surveillance system especially through community involvements and social audits. The GoMP has already issued an order for the appointment of committees led by mothers to ensure better monitoring of services delivered at anganwadi care centres across the State. Called '*Matru Sahyogini Samiti*' or Mothers' Cooperation Committees, these will comprise 10 mothers at each anganwadi representing the concerns of different sets of beneficiaries. There is no data however, related to the number of such committees formed, number of members trained or activities undertaken by these committees.

1.3 Group level Interpersonal Communication

Along with interpersonal counselling at home and growth monitoring, it is also important to focus on group/community level BCC activities. These typically involve more face-to-face interaction between health workers and beneficiaries. As per Niti Ayog (IDinsight, 2020) the top such platforms reaching women were VHSND (65%), Meeting frontline health workers elsewhere (54%), ASHA Mothers' Meetings (50%) and Community-Based events (47%). With the focused approach under Poshan Abhiyan, these also saw increased participation of fathers and mother-in-laws. The recall rates of these platforms also increased over the previous year. For instance, the recall rate of ASHA Mothers' Meetings increased dramatically from 19 to 50 percentage points; while that of VHSND increased from 10 to 32 percentage points (ibid).

The AWC, however, continues to be at the core of nutrition education in the state. NFHS-5 shows 80.3% of mothers reporting having received the same from AWC while pregnant, and 77.5% report receiving the same during lactation period. There were 83.4% children aged 0 to 59 months, whose mothers reported receiving counselling from an AWC after the child was weighed. Pillai and Kuchenbecker (2016), also reports that 91.6% of women identify AWC as the main source of nutritional counselling. Although a lesser 57.6% report having receiving the same.

Unfortunately, inspite of the policy focus and provisions for undertaking these initiatives, the actual budgetary allocations are less. A review of the approved budget in the state for ICDS (APIP 2021-22) and NHM (State RoP 2021-22) shows that although the guidelines permit, the state has allocated only 2.5% of the required INR 109.7 crores for such activities (table 12).

Table 12: Gaps in Allocations for Group-Based IPC activities

				INR (CRORES)
Intervention	Required Budget	Allocations in 2021-22	Percentage Allocation	Reasons for low allocation
Mother's Group Counselling (@ INR 400 ASHA Incentive for quarterly meetings under MAA for 66000 ASHAs)	2.6	2.6	100.00	NA
Monthly Village Health and Nutrition Days (@ INR 10,000 for 97135 Operational AWCs)	97.1	0.1	0.10	Expected to be met through funds for HWC
IEC at Anganwadi Center (@ INR 1000 for 97135 Operational AWCs)	9.7	-	-	Not proposed by State
IEC/BCC under MAA (@ INR 50,000 per district for 51 districts)	0.3	-	-	Not proposed by State
TOTAL	109.7	2.7	2.5	

It is important to have sustained budget allocations for these IPC platforms strengthening of the monthly village health and nutrition days, mother's group meetings, IEC at AWC (combining THR

provision with messaging) for awareness promotion among both mothers as well as for fathers, grandmothers and other caregivers.

1.4 Supplementary Nutrition for PW/LM and Children

There is a provision of take-home rations (THR) and hot cooked meals (HCM), for PW/LM and children aged 6 to 72 months, as part of the supplementary nutrition programme under POSHAN 2.0 (earlier ICDS). In Madhya Pradesh, THR is the adopted form of food supplementation. The state has revised and updated their THR recipe, improving formulation and composition, in consultation with the National Institute of Nutrition. The state also provides fortified THR and differentiated packets for PW/LM.

Supplementary nutrition (THR) for PW/LM

As per NFHS-5 (2019-20) report, the coverage of PW/LM for THR (supplementary nutrition through Anganwadi) was 83.8% for pregnant women and 82.3% for lactating mothers. There has been a difference in coverage across geographies with urban areas having slightly lower coverage than rural areas, but coverage of SCs and STs has been at par with state average.

This data, however, does not provide the complete picture. It is important to map the actual coverage and undertake a more realistic estimation of the target beneficiary size for THR in the state. In absence of actual and real time data, proxy data was used to understand this.

As per the state HMIS reports there could be approximately 18.52 lakhs pregnant women and lactating mothers annually in the state. As per the state DWCD MIS (2020-21), around 14.25 lakh PW/LM were enrolled at the anganwadi, indicating an enrolment rate of 76.9%. Although THR is a universal entitlement, this enrolment rate could be considered good considering that PW/LM from better-off households might not choose to enrol at the anganwadi.

However, the number of SNP beneficiaries reported in the state is only 10.47 lakhs ([MWCD dashboard, June 2021](#)), indicating a coverage of 73.5% among the enrolled beneficiaries. The Third Monitoring Report on Poshan Abhiyan ([Niti Ayog, 2020](#)) also reported that almost 77% of the total number of PW/LM enrolled for Anganwadi services, were provided THR. In order for the THR intervention to support the state in achievement of its nutrition goals, it is important to address this coverage gap and plan for strategies and investments to ensure 100% coverage of enrolled beneficiaries.

Equally important is to ensure that all reported SNP beneficiaries received the required quantity of THR. As per Niti Ayog ([ibid](#)), the 77% receiving the THR, have received it for at least 21 days during the survey. However, a review of the MPR of March 2022, shows only 2.05 lakh PW/LM being provided THR (DWCD MIS, 2021-22). This points to a very low coverage of 19.6% among SNP beneficiaries and 14.4% coverage among enrolled beneficiaries. Field level review undertaken for this report, in twelve-gram panchayats of Sehore block of MP, also revealed that there are lapses in receiving THR especially due to failure to be present at the anganwadi centre on the specified day of the distribution (Tuesday).

Consumption of THR is another issue of concern, as it is commonly shared with other family members ([IGC, 2019](#)). There needs to be more research and data availability to track the actual consumption of THR by the intended beneficiaries- PW/LM, in the state.

Box 6: Consumption of THR

Addressing THR sharing is a matter of intra-household decision and difficult to address. State like Andhra Pradesh, Karnataka and Telangana have attempted to deal with it through provision of HCM (or wet) meals. Studies (Sethi, V et al, 2019; ICMR, 2016; IIPH, 2020) show that HCMs

significantly improve the proportion of women consuming diverse diets post-intervention (~60%), consumption of specific food groups (eggs and milk—74% to 96%), and energy and protein intake among pregnant women. However, there are limitations to HCMs in terms of access as poor women often work into late pregnancy and return to work soon after childbirth, being unable to take time off for meals (Parasar and Bhavani, 2018). Tamil Nadu shifted back from HCM to THR due to this concern. There is more research needed on the issue and if THR sharing is found to be prominent, the state might consider having a combination of THR and HCM provision as done in Odisha.

Supplementary Nutrition for Children

As per NFHS-5, the coverage of SNP interventions under ICDS for children aged 6 to 59 months has been high in the state (figure 27) although still away from universal coverage. NFHS-5 also highlights the elimination of coverage gaps within social groups- boys (75.5%) and girls (76.3%), scheduled castes (75.8%) and scheduled tribes (82.6%). The only coverage gap reported was within residences with rural children (77.1%) having a higher access than urban children (71.9%).

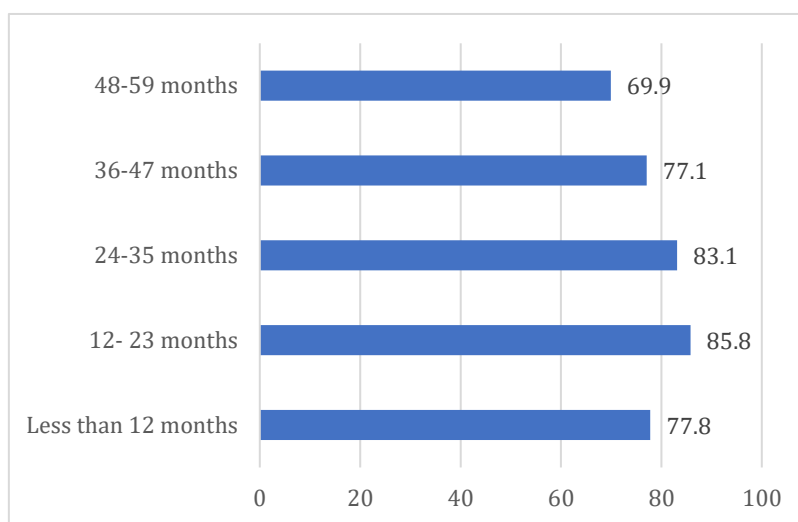


Figure 27: Coverage of Supplementary Food Provision under ICDS for Children aged 6 to 59 months in the State (NFHS-5)

Here again, the NFHS-5 data, however, does not reveal the complete picture. The number of SNP beneficiaries in the state has actually been declining over the years (figure 28). This may be due to both demand and supply side constraints. Given the importance of ICDS in addressing the needs of the poor and girls, however, it is important to focus on increasing coverage of the programme. Equally important is to monitor the coverage of children across different age-groups.

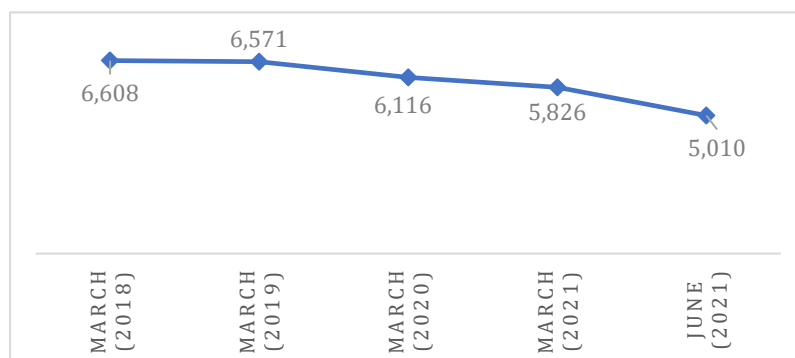


Figure 28: SNP Beneficiaries (6 to 59 months) under ICDS in MP ([Press Information Bureau](#))

Take Home Ration (THR) for children aged 6 to 35 months

The coverage of children aged 6 to 35 months is mainly through provision of THR through AWCs. Niti Ayog (2019) reports that in the state of the total 6-36 months children enrolled for Anganwadi services, the 77.01% were provided THR for at least 21 days. Another study in three tribal districts Alirajpur, Khandwa and Barwani ([Mishra, 2017](#)) also showed a high coverage of THR at 92.9%. However, the DWCD-MIS Data for March 2022 shows only 15.07% coverage of THR- covering around 4.69 lakh children against the enrolled 29.89 lakhs SNP beneficiaries in that age-group. It is important for the state to plan and move towards universal coverage of THR, while also focus on accurate and real-time tracking of coverage data.

Another common issue with THR is that it is commonly shared with other family members. This is a problem across states- with Gujarat reporting 19% consumption (Talati et al, 2016); Karnataka reporting 26% consumption (SJRI, Bangalore, nd) and Telangana (Leyvare, et al, 2016) reporting 57.2% consumption. MP would be no exception, although specific studies to understand the actual status of required. However, inspite of this, as the Telangana study (Leyvare, et al, 2016) points, the THR is estimated to provide the target children with significant proportions of the daily requirements of macro and micro nutrients. There is thus a vital need to focus on strengthening the THR program for effective distribution and consumption. The state could consider involvement of Panchayats and SHGs in the promotion of THR usage.

Hot Cooked Meals (HCM) to children aged 3 to 6 years

For children aged 3 to 6 years, there is a focus on provision of breakfast and lunch (HCM) at the AWC. HCM in the state is being prepared by SHGs under the Sanjha Chulha programme. Sanjha Chulha is combined kitchen preparing food for ICDS as well as MDM for school children. Apart from the regular provision of food as per the SNP guidelines, from July 2015 onwards, the state is also providing 100 ml milk (prepared from 10 gms of milk powder) thrice a week to all AWCs as part of the state's own initiative. Additional THR is also provided for SAM/MAM children under SNP and the Atal Bal Arogya Mission.

The coverage of hot-cooked meal, including breakfast and lunch, was found to be higher at 89.2% than the THR as per the state DWCD-MIS Data (March 2022). A total 27.47 lakh children aged 3 to 6 years were reported to have been provided HCM as against the enrolled 30.81 lakhs (ibid). Mishra (2017), however, reports a much lower coverage of HCM in tribal areas. Accordingly, the coverage of breakfast was 55.4 % while that of lunch was 60.7%. Here again while the data discrepancy is brought to light, with the need for the state to focus on the same, it is also important to verify if there are specific issues related to provision of HCM in tribal districts. Unfortunately, data on provision of milk and additional THR was not available for further analysis.

A crucial issue here, however, is to understand the adequacy of the resources allocated for the SNP program. The increase in unit costs for SNP for children to INR 8 per day per child and recommendation for annual indexing to inflation by GoI, in 2017, has been a major positive reform to strengthen SNP. However, in terms of budgetary allocation, there seems to be a major gap in the existing allocation (INR 1306 lakhs) compared to the required allocations as per the potential population groups (figure 29).

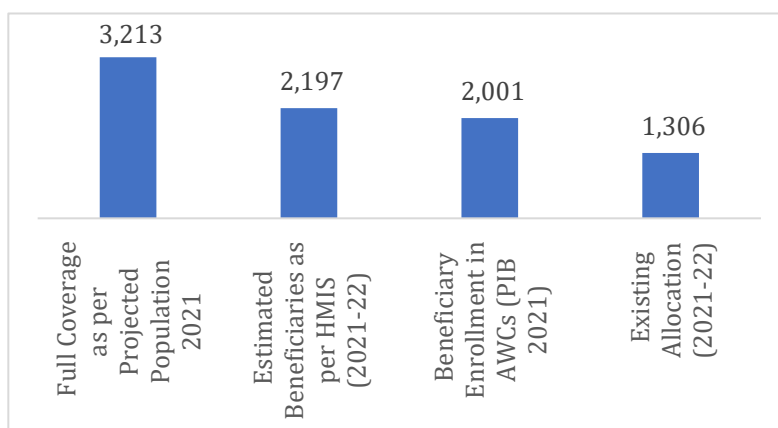


Figure 29: Estimated SNP supplementation allocations based on various population estimations

Box 6: Anganwadi infrastructure and frontline workers

Evidence also suggests that insufficient numbers, trainings, supportive supervision and motivation of FLHWs impedes the coverage and quality of counselling provided to caregivers on IYCF. The state has all the sanctioned 97135 AWCs operational. Of these, around 74% were running in government or community owned buildings. And while quality of the infrastructure is questionable in many places- around 2140 AWCs were running in kutcha buildings which needs

urgent attention. Around 89% had drinking water facilities, while only 70% had toilet facilities (PIB Aug 2021).

The proportion of in-position ASHA workers in the state at 97% ([Press Information Bureau, August 2021](#)) is good. In fact in terms of ASHA workers, as of March 2022, there were 67167 rural and 4500 urban ASHAs in position ([HMIS reports, 2021-22](#)) in the state. Based on the projected population for the state in 2022, this converts to an average of one ASHA for every 1194 people in the state which is much in line with the guidelines of one ASHA per 1000 rural population and 1000-2500 urban population. Even more commendable is that 95% of the ASHAs have received updated trainings of the 6th and 7th modules (as per NHM mandate).

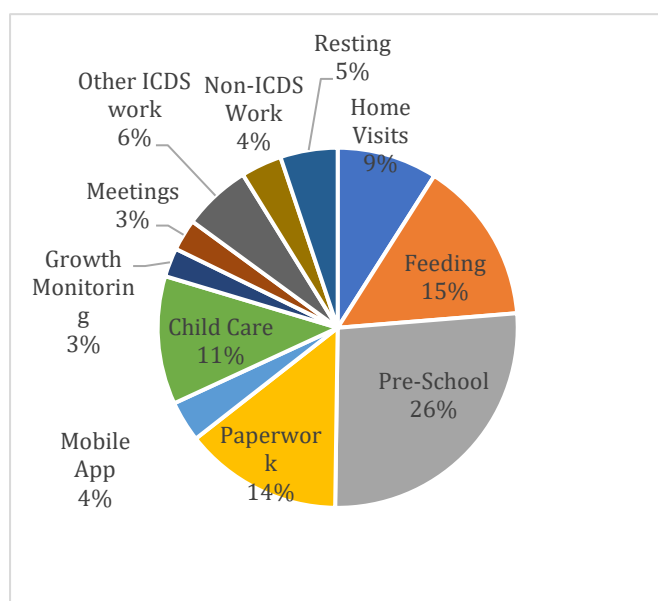


Figure 30: Time Use Pattern of AWW in MP (Jain et al, 2020)

The proportion of in-position AWW at 98.5% ([Press Information Bureau, August 2021](#)) is also good. However, as per TUS in the state, only 27% of the time of an AWW is dedicated to nutrition related activities like home-visits, feeding and growth monitoring. One of the main challenges to service delivery through ICDS platform is the time of the anganwadi worker (IEG, 2019). Data from a Time Use Survey of anganwadi workers in MP ([Jain et al, 2020](#)) shows that on an average an AWW spends 360 min (6 h) working per day. However, only 27% of her time is dedicated to nutrition related activities like home-visits, feeding and growth monitoring (figure 30). AWWs reported spending an average of 32 min conducting home visits, which is 28 min less than the expected daily time specified by the government; and an average of 52 min on feeding, which is 22 min more than the expected daily time. An average of 51 min was reported to be spent on filling out their paper registers, which is 21 min more than the expected daily time. The majority (83%) of the AWWs reported this, pointing out to the fact that it's a systemic concern.

Another critique related to the positions of both AWWs and ASHAs, is that they are both honorarium/ incentive-based positions and in spite of the criticality of their work in delivering nutrition interventions, they are not paid a minimum wage at par with other skilled workers. The state of MP, however, has topped up the honorarium for AWWs from its own budget, which has helped in increase their overall payments.

1.5 Nutrition Rehabilitation Centres (NRCs)

The state government has initiated Nutrition Rehabilitation Centres (NRCs) under the Bal Sanjeevni drive, in collaboration with UNICEF. There were 318 active NRCs in the state as of the second quarter of 2021-22 ([Loksabha unstarred question no 3741](#)). As per state reports, there

are around 40 to 50 thousand children who are admitted and treated at NRCs every year (figure 31). This is not only a decline from the earlier figures but almost half of the estimated 97,863 children (20% of the 6.5 % SAM prevalence) estimated to be covered. A possible explanation for this would be the increased focus on community-based programmes being piloted under the Atal Atal Bal Arogya Mission.

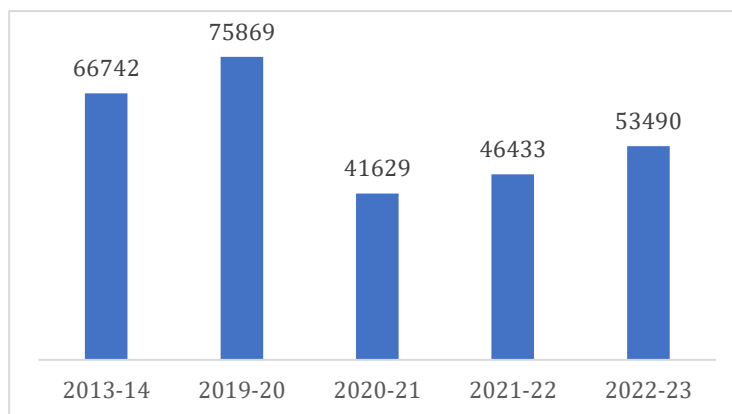


Figure 31: NRC admissions in the state over the years

The budgetary allocations for NRCs seem to be adequate at this stage, considering that the operating costs are planned based on a target of 65,000 SAM children, which although less than the estimated children is a still a higher target to be reached. A critical gap area, however, seems the adequacy of the interventions (and consequently the unit cost of INR 2760 per child) given that only around half of the children are being discharged with weight gains from NRCs in the state (figure 32).

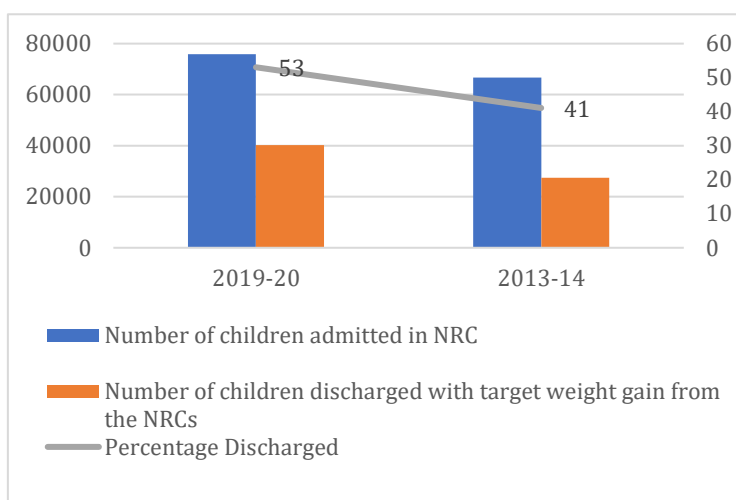


Figure 32: NRC discharge status in the state

2. Increased proportion of young children and adolescents receiving adequate nutrition

2.1 PM POSHAN (Mid-Day Meal)

Madhya Pradesh was among the first states to pilot MDM way back in 1995, but the scheme gained relevance in the state only in 2004. Implemented by the Department of Rural Development and Panchayati Raj, today it is one of the most prominent child-sensitive intervention in the state. Under the scheme, all children in primary and upper primary government schools are eligible for hot cooked mid-day meals (MDM). The food is supplied through Women Self Help Groups (SHGs) in rural areas and centralized kitchen arrangement managed by NGO's and SHG's in urban areas. The scheme is known for its impacts on food security and nutrition of poor. The cooked food is prepared with 100 grams of food grains provided per child for students in primary school (aged between 6 - 12 years) and 150 grams for students in upper primary (aged 13-16 years) (State AWP, 2019-20). The Central Government provides these food grains to the States at subsidized rates. Additionally, funding for cooking cost which includes the cost of vegetables, pulses, oil, condiments and fuel is shared with the states in the ratio of 60:40. The per child cost as per the 2020 revision was Rs 4.97 per child per day in primary classes (class I-V), and Rs 7.45 (class VI-VIII) in upper primary classes. This has been recently hiked in 2022-23 to Rs 5.45 and Rs 8.17 respectively. A commendable aspect of the MDM scheme in fact

has been the regular cost revisions since 2010 (figure 33).

However, while the food grain provision has been able to meet the nutritional requirement of school children in the age group of 6-9 years based on their BMI, it is insufficient to meet their nutritional requirement of children of higher age group between 10-13 years (Sahoo, 2018). The same point is also echoed in the Annual Work Plan (AWP) submitted by the state department in 2019-20 (table 14).

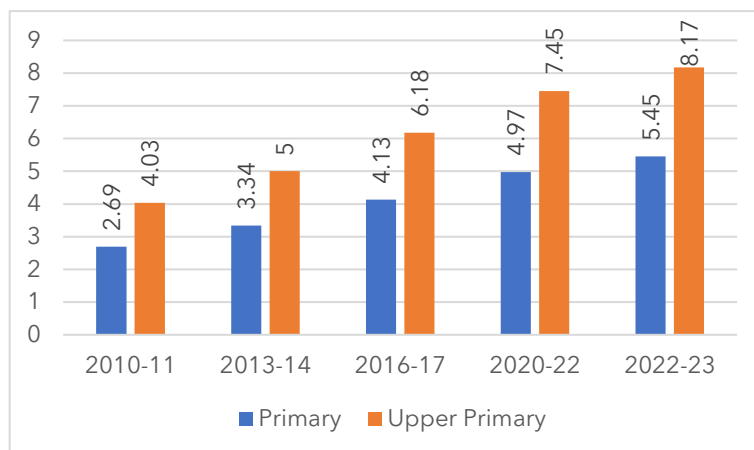


Figure 33: Mid-day meal Cooking Costs per Child over the years

To bridge the gap, from July 2015 onwards, the state is also providing 100 ml milk (prepared from 10 gms of milk powder) thrice a week to all primary school students from state budget. This should provide an additional 45 calories, along with protein and calcium.

Recently, GoI has also been promoting the concept of School Nutrition (Kitchen) Gardens. By 2021, the state has developed School Nutrition Gardens in 40,194 (36%) schools out of 1,11,757 schools (PAB-PM POSHAN, 2022-23). There is no specific fund allocation for this under the scheme, but funds available under MNREGS for certain eligible components are utilized in convergence with resources Agriculture and Horticulture Department. Maintenance is undertaken by School Teachers, Students and SHG's, while the produce viz., Vegetables and Fruits is utilized in school kitchens.

An important achievement of the scheme in MP is its high coverage. As per UDISE (2021) the state has enrolment of 41.45 lakh children in primary and 24.78 lakh children in upper primary. Out of these on an average basis 41.25 lakh children (99.5%) in primary and 24.58 lakh children (99.1%) in upper primary have been covered under MDM during the year 2021-22 (PAB-PM POSHAN, 2022-23). However, there has been a drastic drop of around 20% in the proposed number of students for 2022-23 to 33 lakhs and 19.67 lakhs children respectively in primary and upper primary. This is a matter of concern and reasons for this needs to be probed further.

PAB-PM POSHAN has approved 2,16,737 cook-cum-helpers to be engaged during 2021-22 in the State. The State has engaged 2,08,225 (96%) cook-cum-helpers. State is providing additional honorarium of Rs. 1000 to Cook-Cum-Helpers per month from its own resources. State Government's good practices/initiatives viz. provision of additional contribution of Rs. 1000 per

Particular	Value (Cal)
Primary Students	
Total required Caloric Value	1800
Food intake at Home (assumed)	1200
MDM supplementation required	600
MDM supplementation provided	450
Gap for primary section	150
Upper primary	
Total required Caloric Value	2200
Food intake at Home (assumed)	1300
MDM supplementation required	900
MDM supplementation provided	700
Gap for Upper primary	200
Source: State AWP 2019-20	

month to Cook-cum-Helpers from State's own resources, and 100% data entry in MIS (annual and monthly). He also praised State's efforts in initiating social audit in all districts etc.

Central assistance of Rs. 66148.11 lakh has been released for construction of 103401 Kitchen-cum-Stores. As on 31.12.2021, construction has been completed for 98,583 Kitchen-cum-stores. construction of 4324 kitchen-cum-stores sanctioned in 2008-09 However, State Government has not started construction work for 4,324 kitchen-cum-stores. Central assistance of Rs. 5963.60 lakh has been released towards procurement of 1,19,272 units of kitchen devices during 2006-07 to 2021-22. The State has reported that all 1,19,272 units of kitchen devices have been procured. Further, central assistance of Rs. 4425.15 lakh has been released towards replacement of 88,503 units of kitchen devices by GOI. The State has reported that all units of kitchen devices have been procured.

2.2 SNP Component under Scheme for Adolescent Girls (SAG)

Until March 2022, the GoI was supporting the Scheme for Adolescent Girls (SAG), which along with non-nutritional activities, provided supplementary nutrition containing 600 calories, 18-20 grams of protein and micro-nutrients for 300 days in a year to out of school adolescent girls in the age group of 11-14 years.

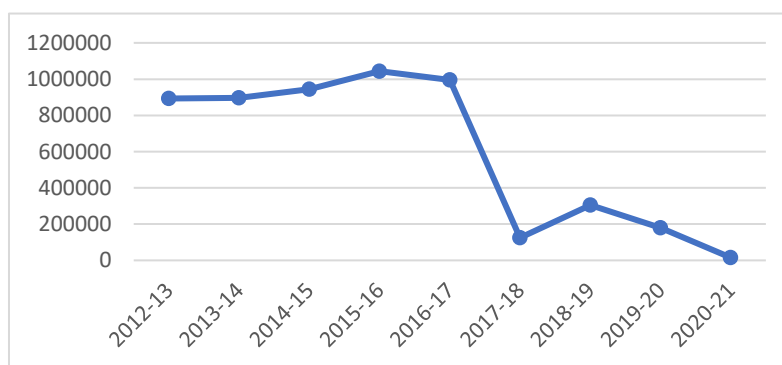


Figure 34: Beneficiaries of SAG ([Press Information Bureau, 2022](#))

Recently the SAG has been subsumed under Saksham Anganwadi and Mission Poshan 2.0, with the targeted beneficiaries under the revised scheme being adolescent girls in the age group of 14+ to 18 years in Aspirational Districts and North Eastern States. As a result, there has been a huge drop in the number of beneficiaries (figure 34) to only 15252 during 2020-21 ([Press Information Bureau, March 2022](#)). More over these figures still cover hardly 8% of the 1.18 lakh out-of-school girls aged 14 to 18 years in the state. The gap is also reflected in the budgetary allocations. As against the approved SAG Entitlement as per APIP 2021-22 of INR 517 crore only 88 crores have been actually allocated in the state budget.

Box 7: Addressing Malnutrition in High Burden Districts

Recognising the importance of economic, geographic and social factors and the inter-district variation in poverty and nutrition status, the GoI also supports Minimum Needs Programme-Special Poshan Aahar Scheme. Allocations as part of this is used for SNP and MDM programme in backward districts. The PM POSHAN also provides for supplementary nutrition, especially in aspirational districts and districts having high prevalence of malnutrition, under flexi fund component. Although the state's proposal in 2021-22 for the same was approved, the state did not provide any supplementary nutrition in that year. In 2022-23, the state has again proposed to provide supplementary nutrition items i.e. Moringa and Soya peanuts bars to 11.78 lakh children for 78 days in 75 blocks, identified in the NFHS as having high concentration of malnourishment. It is important to support the provisions like these as well as monitor the implementation status in order to mitigate the nutritional challenges in these districts especially those posed by the COVID pandemic.

3. Reduced prevalence of anaemia and other micro nutrient deficiencies

3.1 Micro-nutrient supplementation

Distribution of nutrient supplements have improved greatly in the state with 95.3% pregnant women being provided the full course of 180 IFA tables, 86.4% being provided full course of 360 calcium tablets and 70.5% being given one albendazole tablet after the first trimester (HMIS, 2020-21). However, consumption remain suboptimal with only 51.4% pregnant women having consumed IFA for 100 days or more and a lesser 31.8% having consumed the full course of 180 days (NFHS-5).

Research shows that IFA consumption among pregnant women is strongly associated with counselling during ANC visits, maternal knowledge and beliefs and support from family members. Given that pre-natal care facilities are improving, with HMIS (2020-21) data reporting provision of 4 antenatal care (ANC) services for 80% pregnant women, there seems to be an opportunity gap which can be easily covered with more training and follow up. There needs to be more focus on this in the overall BCC activities too.

The GoI recommends that children under 5 years of age receive vitamin A supplements every six months, starting at age 9 months. As per NFHS-5 data, 78% children aged 9 to 35 months, in the state, had received Vit A supplements in the last 6 months. It is important to ensure universal coverage of Vit A supplementation in the state. The state has also been focusing on the same through trainings of health workers on Vit A supplementation.

A major gap area, here is however, the invisibility of nutrition related allocations under the overall NHM budget. Analysis of 2020-21 state RoP shows that hardly 0.66% of NHM allocations are allocated for nutrition activities mainly micro-nutrient supplementation. This is significantly lower than the required allocations for the same as per the estimated beneficiary population (figure 35). UNICEF studies have further shown that in 2019-20, the state proposed only 62% of what should have been budgeted as per the AMB 2018 guidelines. But more importantly, what was approved was even lesser-only

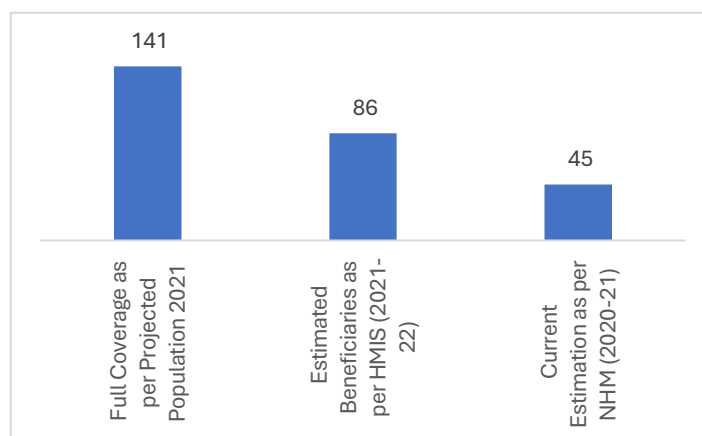


Figure 35: Gap in required and actual allocations (in INR crores) for micro nutrient supplementation based on various population estimations

55.6% of the eligibility. It is important that NHM PIPs revise the beneficiary targets and ensure allocation of higher amounts for micro nutrient supplementation programmes.

3.2 Food Fortification

For addressing iodine deficiency, the state focuses on promotion of salt fortification (iodised salt) at the household level. As per NFHS-5 data, 95% of the households with children less than 5 years of age were consuming iodised salt. This is a really good achievement. In August, 2021, GoI also announced the supply of Fortified Rice in every scheme of Government of India throughout the country by 2024 in a phased manner (Press Information Bureau, Aug 2022). Phase-I covering ICDS and PM POSHAN had been implemented during 2021-22 and nearly 17.51 LMT had been distributed in the States/UTs. Pertinently, Phase-II includes Phase I above plus all Aspirational Districts and High Burden districts (total 291 districts) under Targeted Public Distribution

System and Other Welfare Schemes in all the States/UTs by March, 2023 with a total quantity of about 175 LMT of fortified rice has to be distributed.

Box 8: Mandatory provision of fortified food under Govt funded programmes

The GoI has also mandated the use of fortified salt, wheat flour and oil in foods served under Integrated Child Development Services (ICDS) and Mid-day Meal (MDM) schemes to address micronutrient deficiencies. In addition, all health facility-based programmes where food is being provided are mandated to provide fortified wheat, rice (with iron, folic acid and vitamin B12), and double fortified salt (with iodine and iron), and oil (with vitamin A and D) as per standards for fortification of staple foods (salt, wheat, rice, milk and oil) prescribed and notified by the Food Safety and Standard Authority of India (FSSAI, 2016).

Currently, the ICDS stipulates that THR, which is a fortified premix, should include 50% of the ICMR-recommended RDA for nine micronutrients – iron, calcium, folic acid, zinc, and Vitamins A, B1, B2, B3, and C. Madhya Pradesh has revised and updated their THR recipe, improving formulation and composition, in consultation with the National Institute of Nutrition.

VII. Conclusion and Recommendations

Madhya Pradesh has reported a higher improvement than national average both in terms of stunting and wasting parameters between NFHS-4 (2015-16) and NFHS- 5 (2019-20). The state has also set very ambitious goals for child food security and nutrition to be achieved within a decade and a steep decline is being envisaged between 2024-25 and 2030 on child nutrition targets. If the focus on nutrition continues, the state will be on track to achieve its targets for reducing the proportion of children who are stunted, wasted and/or underweight. However, it is crucial to focus on elimination of severe acute malnourished (SAM) children- a high 6.5% and disparities across districts and social groups but especially among scheduled tribe population.

Prevalence of anaemia among pregnant women, under-5 children and adolescent girls, however, is a matter of concern. Anaemia among adolescent girls has in fact increased over the years. Given this situation, the state would have to strongly intensify its efforts to curb anaemia and achieve the desired targets.

The state has put forth a very comprehensive nutrition policy covering all aspects of immediate and underlying determinants of child nutrition. The focus on the “1000 days” opportunity window is desirable and commendable. However, it has largely overshadowed the focus with almost a business-as-usual approach prescribed for young children and adolescents.

Another emerging area, which also needs attention is the substantially increased risk of metabolic complications (≥ 0.85) for adolescent boys and girls. This points to the need for the state to strategize not only for provision of food and nutrition but much beyond on awareness related to nutrition so as to maintain a healthy adult population in the coming years.

Nutrition should continue to be the top priority of the government agenda. However, there is the need to accelerate the pace and focus for realising the vision of State Nutrition Policy 2020-2030. The state needs to adopt a more holistic and comprehensive approach for implementation of the policy. It is important to ensure that at least 2% of the state GDP is allocated towards this.

Already, the state is investing around 1.56% of its budget on Child Nutrition and Health Interventions (CNHI). At INR 5,859/- per child, this is a very positive step. However, higher proportion of these allocations should be targeted for nutrition specific interventions. Currently only 12.14% is for the same, while the rest is mainly for nutrition sensitive interventions. It is important to note here that at INR 3,289 crores the allocated nutrition specific allocations fall only slightly short of the required INR 5,448 crores. There is thus a need to consider reprioritization of CNHI allocations. Further, there is a high dependency on central schemes for

nutrition specific interventions, which further impacts implementation due to delayed transfer of funds.

Allocations for nutrition specific interventions should be prioritized. The state should increase the allocations through efficient budgeting practices to at least INR 4,445 crores in the coming budget with a gradual focus to bring it up to INR 5,448 crores. Equally important is to ensure that 80% of the allocations are child focused (100% reaching only children). Dependency on central schemes for these schemes should be reduced and state share be increased by introduction of new state schemes for improving nutrition status of children and adolescents.

Analysis shows that current budget allocations to nutrition fall short of financial requirements. Overall, it is required for the state to earmark at least 5,448 crores annually for nutrition-specific interventions to meet full coverage as per HMIS data. This would mean a focused investment of around INR 1747 per child. Much to this needs to be targeted at nutrition specific interventions. Unfortunately, the current per child allocations for nutrition specific allocations is about INR 711/-, less than the recommended INR 867.86 per child for a set of core direct nutrition interventions. Further, the state is also seeing a decline in per child allocations for reduced undernutrition for children under-5 at INR 1533/- in 2021-22. The changing budget priority focus for child focused nutrition specific allocations is a matter of concern.

Another aspect to consider in terms of equity is the gaps in age-group wise allocations. While lack of data again prevents a more accurate estimation, analysing the allocations for the two major malnourishment outcomes (other than anaemia) for the two age groups children under 5 years and children aged 6 to 18 years shows a marked difference. At INR 371/- for the 2.28 crore children aged 6 to 18 years, only INR 845 crores is allocated- 95% of which is for PM Poshan (MDM), Milk Distribution under MDM and Kishori Balika Yojana. This is not only less but has declined from INR 599/- in 2021-22. While addressing under-5 malnourishment is important, equally important is to focus on young children and adolescents between 6 to 18 years. It is important to bring back per child allocations for under-5 children to 2019-20 levels of INR 1,731/, while at least doubling the per child allocations for children aged 6 to 18 years

Box 9: Required resources for major nutrition specific interventions

- INR 274.94 crore for Intensified interpersonal counselling on nutrition as against the current allocation of INR 212.69 crores.
- A high increase in allocations is required for Group-level Interpersonal Communication from the current INR 2.74 crores to INR 109.74 crores.
- INR 151.53 crores to be allocated for replenishing growth monitoring devices.
- SNP allocations need to be doubled from INR 1,306.08 crores to INR 2,197 crores.
- PM Poshan allocations need to be sustained based on the revised unit costs.
- Allocations for Nutrition Interventions for Older Children (other than PM POSHAN) needs to be increased from INR 237.5 crores to INR 462.0 crores.

Allocations for anaemia control while increasing@110% annually are still substantially low at INR 27 per child (BE 2022-23). Almost 70% of the allocations are for distribution of double fortified iodised salt, which is at the household level and hence the actual reach to children is limited. The state needs to improve planning and budget allocation for Anemia Mukh Bharat (AMB) within National Health Mission (NHM). Further it is important to advocate with national government for higher approvals. The state should also consider launching a dedicated programme for adolescent girls, especially from Scheduled Tribe (ST) community.

While there is the need for more resources to be allocated for nutrition of the state has to achieve its desired nutrition targets. This could be achieved in the coming budget itself by ensuring efficient budgeting practices- department data-based target estimations and approved unit costs. Gradually, the line departments will need to work towards improving adequacy of the budget heads for more accurate evidence based budgeting and improved unit cost approvals. Efficient and adequate planning of nutrition budgets, however, requires availability of more accurate and reliable data in public domain. Currently, there are huge data gaps and discrepancies for estimating the target populations.

The state needs to improve CNHI data availability through harmonising of the HMIS and Poshan tracker databases for uniformity and ensure data-led budget planning. The state has already developed District Nutritional Management Plans. These need to be effectively pursued. Ensure adequate financial backing and implement the plans through a strong convergence approach at Gram Panchayat and Block Panchayat levels.

Micro-level analysis also brings to light the challenges of aligning planning and setting of accurate targets. To cite a few instances;

- As per the state HMIS reports there could be approximately 18.52 lakhs pregnant women and lactating mothers annually in the state. However, as per the state DWCD MIS (2020-21), only around 14.25 lakh PW/LM were enrolled with anganwadi centres, indicating an enrolment rate of 76.9%.
- The number of SNP beneficiaries reported in the state is only 10.47 lakhs indicating a coverage of only 73.5% among the enrolled beneficiaries. A review of the MPR of March 2022, shows only 2.05 lakh PW/LM being provided THR regularly pointing to a very low coverage of 19.6% among SNP beneficiaries and 14.4% coverage among enrolled beneficiaries.
- Coverage of SNP interventions under ICDS for children aged 6 to 59 months has been high in the state as per NFHS-5 report. However, the number of SNP beneficiaries has been declining over the years. Also, the DWCD-MIS Data for March 2022 shows only 15.07% coverage of THR- covering only around 4.69 lakh children against the enrolled 29.89 lakhs SNP beneficiaries in that age-group.
- The subsuming of SAG into Saksham Angawadi has resulted in a huge drop in the number of beneficiaries to only 15252 during 2020-21. This cover hardly 8% of the estimated 1.18 lakh out-of-school girls aged 14 to 18 years in the state.

There are also gaps in unit cost of schemes, which need to be revised. PMMVY, for example, with a cash transfer of INR 5000 provides. only 11% minimum wages for unskilled labour in the state (Rs 250 as of Oct 2020) for a 6-month (180 days) period. A similar state-level scheme, the Mukhya Mantri Shramik Seva (Prasuti Sahayata) Yojana, with a cash incentive of INR 16,000 providing a slightly better wage compensation of around 35% for 6 months.

Addressing gender and social equity dimensions within budgets is also important. Currently there are only three targeted budget lines addressing the needs of girl child- the Kishori Balika Yojana, Lalima Yojana and Project Urita. Of this project Urita is focused more on menstrual hygiene and has limited implications on nutrition. Kishori Balika Yojana is an important scheme but the allocations have declined drastically as it is being subsumed in Poshan 2.0. Lalima Scheme run by WCD is no longer operational. Thus in 2022-23, only around INR two crores were allocated specifically for girl child nutrition.

Similarly, there are no specific allocations for SC and ST children in spite of the criticality of caste and ethnicity on child nutrition in the state. There is only one PVTG Food Subsidy Scheme, with an allocation of 300 crores, run by the Tribal Affairs Department, which provided targeted food grain allocation for primitive tribe families. While much required this is still a household level programme, highlighting the need for child focused allocations.

The role of Gram Panchayats in Anganwadi running was also found to be very less. Other than undertaking construction (where funds have been channelised under MGNREGA) there is very less formal engagement. Furthermore, there is less clarity on maintenance of such structures created. This was also found true for some of the older structures constructed by NABARD, which have now depilated. The need of the day is to harmonise the macro level budgets with micro level requirements building on evidence-based planning and field realities.

ANNEXURES

Annex 1: Indicator Framework for Child Nutrition Planning and Monitoring

Outcomes for Children	1. Reduced proportion of children under-5 years, who are stunted, wasted and/or underweight 2. Increased proportion of boys and girls aged 6 to 18 years with normal BMI (25 > X >18.5) and Waist to Hip Ratio (>0.85 for females and >0.9 for males) 3. Reduced prevalence of anaemia (Hb <11.0 g/dl) among children under-5 years; from 6 to 13 years and adolescents (14-18 years)					
Immediate Determinants	1. Improved access to optimum nutrition for pregnant women and lactating mothers (PW/LM) 2. Early initiation and exclusive breastfeeding for children under 6 months 3. All children receive adequate diet			1. Increased proportion of children, adolescents and PW/LM have access to IFA and other micro nutrient supplements 2. Increased access to care and treatment for severely and moderately malnourished children 3. Increased access to care and treatment for children suffering from diarrhoea		
Underlying Determinants	1. Increased social protection coverage (access to maternity benefits) 2. Increased food security and social protection (food safety nets)		1. Increased access to nutrition services (infrastructure and staff) 2. Improved community knowledge, behaviour and practices on balanced diet and nutrition		1. Increased access to health and child care services 2. Improved access to water, sanitation and hygiene (WASH)	
Enabling Determinants	1. Prioritized allocations for Child Focused/ 2. Adequate allocations for other child and nutrition programmes			1. Child nutrition policy in place 2. Appropriate dietary allowances and nutrition recommendations 3. Decline in societal (mis) conceptions		
	1. Child nutrition is placed on high priority in the development agenda 2. Evidence based child nutrition planning and monitoring processes in place					

Annex 2: Outcome- Scheme Mapping for Child Food Security and Nutrition

OUTCOME	INTERMEDIATE OUTCOME	INTERVENTIONS/SCHEME OBJECTIVE	SCHEME / SUB-SCHEME	BUDGET COMPONENT
Reduced proportion of children under-5 years, who are stunted, wasted and/or underweight	Improved access to optimum nutrition for pregnant women and lactating mothers	Counselling for parents/ parent-in laws during pregnancy and lactation periods	National Health Mission (RMNCH+A)/ PMSMA	Ante-Natal Care (ANC) Visits (ASHA incentive)
			Saksham Anganwadi and Poshan 2.0	Home Visits by AWW from 2nd Trimester to 6 months
		Supplementary food (take home) rations to pregnant women and lactating mothers	Saksham Anganwadi and Poshan 2.0	Supplementary Nutrition Programme (SNP)
	Early initiation and exclusive breastfeeding for children under 6 months	Promoting early initiation of breast feeding (within an hour)	National Health Mission (RMNCAH+N)/MAA	Comprehensive Lactation Management Units at district hospitals and medical colleges
				Lactation Management Units at sub-district hospitals and FRUs
				Lactation Support Counsellors/Units at delivery points
		Counselling for optimal and exclusive breastfeeding to mothers and care givers of children (0 to 6 months)	National Health Mission (RMNCAH+N)/HBNC	Nutrition counselling in first 3 months (ASHA Incentive under HBNC)
			National Health Mission (RMNCAH+N)/HBYC	Nutrition counselling from 3 to 6 months (ASHA Incentive under HBYC)
			National Health Mission (RMNCAH+N)/MAA	Mother's Group Counselling (ASHA Incentive for quaterly meetings under MAA)
				Awareness and counselling for EIBF and EBF (IEC/BCC under MAA)
			Saksham Anganwadi and Poshan 2.0	Home Visits by AWW upto 6 months
				EBF Messaging and Counselling by AWW during THR distribution
	All children aged 6 to 72 months receive adequate diet	Counselling for better IYCF practices to mothers and care givers of children (3-24 months)	National Health Mission (RMNCAH+N)/ HBYC	Nutrition counselling from 6 to 15 months (ASHA Incentive under HBYC)
				Monthly Village Health and Nutrition Days
			Saksham Anganwadi and Poshan 2.0	Home Visits by AWW from 16 to 24 months
		Growth monitoring of children aged 6 to 59 months for identification of SAM/MAM	Saksham Anganwadi and Poshan 2.0 (Poshan Abhiyan)	Nutrition Counselling by AWW during THR distribution
				Growth Monitoring Devices
				ICDS-CAS and Poshan Tracker
Increased proportion of boys and girls aged 6 to 18 years with normal BMI (25 > X > 18.5) and Waist to Hip Ratio (>0.85 for females and >0.9 for males)	Sufficient and balanced diet for older children and adolescents	Supplementary food rations for school going children aged 6- 14 years	Saksham Anganwadi and Poshan 2.0 (ICDS)	Take Home Rations (SNP)
			Saksham Anganwadi and Poshan 2.0 (ICDS)	Hot Cooked Meals (SNP)
			PM POSHAN (MDM)	Milk Distribution Scheme (MDM)
			PM POSHAN (MDM)	Hot Cooked Meals (MDM)
				Milk Distribution Scheme (MDM)
				Additional nutrition for children in high malnourishmeant areas

OUTCOME	INTERMEDIATE OUTCOME	INTERVENTIONS/SCHEME OBJECTIVE	SCHEME/ SUB-SCHEME	BUDGET COMPONENT
				MDM during summer months
		Supplementary food rations for out of school children aged 14-18 years	Saksham Anganwadi and Poshan 2.0 (ICDS)	SNP for OOS Adolescent Girls
				SNP for OOS Adolescent Boys
		Supplementary food rations for school going adolescents aged 14- 18 years with BMI less than 17		
		Adolescent education and counselling on nutrition and healthy eating practices		
Reduced prevalence of anaemia (Hb <11.0 g/dl) among children under-5 years; from 6 to 14 years and adolescents (15-18 years)	Increased proportion of PW/LM, Children and Adolescents taking IFA/ Other Micro nutrient Supplementation and deworming medication	Bi-weekly IFA supplementation for children aged 6 to 59 months	National Health Mission (RMNCAH+N)/ AMB-NIPI	Procurement of IFA syrup and dispenser
				Incentive to ASHA under NIPI for mobilizing children (6-59 months)
		Weekly IFA supplementation for children aged 5 to 19 years	National Health Mission (RMNCAH+N)/ AMB-NIPI	Procurement of IFA Junior (pink) tablets
				Procurement of IFA (blue) tablets
		Albendazole for children aged 6 to 60 months	National Health Mission (RMNCAH+N)	Procurement of Albendazole
		Albendazole for children aged 5 to 19 years	National Health Mission (RMNCAH+N)	Procurement of Albendazole
		Vitamin A supplementation for children (6-59 months)	National Health Mission (RMNCAH+N)	Procurement of Vit A Syrup and dispenser for pregnant/lactating mothers
		Micro-Nutrient Supplementation (IFA, Folic Acid, Calcium) for pregnant women and lactating mothers	National Health Mission (RMNCAH+N)/PMSMA	Procurement of IFA Tablets for pregnant/lactating mothers
				Procurement of Folic Acid Tablets for pregnant/lactating mothers
				Procurement of Calcium Tablets for pregnant/lactating mothers
		Education Counselling for Anaemia Prevention and Micro-nutrient supplementation	National Health Mission (RMNCAH+N)/ CH	Trainings for Anemia Mukht Bharat
				Trainings for NDD
				Trainings for Vit A supplementation
				Orientation for IDCF
				IEC/BCC for Anemia Mukht Bharat
				IEC/BCC for NDD
				Incentive to ASHA for NDD
		Food fortification for children and poor	Distribution of double fortified iodised salt	Distribution of double fortified iodised salt
			Provision of fortified Rice	Provision of fortified Rice

OUTCOME	INTERMEDIATE OUTCOME	INTERVENTIONS/SCHEME OBJECTIVE	SCHEME/ SUB-SCHEME	BUDGET COMPONENT
Increased access to care and treatment for severely and moderately malnourished children and those suffering from diarrhoea	Improved screening and treatment of anemic children and pregnant women	Pregnant women tested for Hb during ANC	National Health Mission (RMNCAH+N)/PMSMA	Hb Testing
		Pregnant women treated for anaemia	National Health Mission (RMNCAH+N)/PMSMA	IVIS ampoules (3 units) for management of moderate and severely anemic pregnant women
				Inj FCM for management of post partum severe anemic
		Identification and referral of children and adolescents with pallor	National Health Mission (RMNCAH+N)/AMB	
	Increased access to care and treatment for severely and moderately malnourished children	Testing of children and adolescents for Hb at health facility	National Health Mission (RMNCAH+N)/AMB	Digital hemoglobinometer and consumables
		Facility based treatments for SAM children	National Health Mission (RMNCAH+N)	Nutrition Rehabilitation Centre (NRC)- Construction
				Nutrition Rehabilitation Centre (NRC)- Operating Expenses
				Nutrition Rehabilitation Centre (NRC)- Staff
				Incentive to ASHA for SAM Referral and Follow up
		Additional food rations (third meal/THR) for SAM/ MAM children	Atal Bal Arogya Mission	Trainings on SAM Management
				Subsidiary Grant
				Supplementary Nutrition Programme (SNP)
				Procurement of ORS
		ORS and Zinc supplements provided to children with diarrhoea	National Health Mission (RMNCAH+N)	Procurement of Zinc
				IDCF (ASHA Incentive)
Improved Social Protection coverage for the poor (maternity benefits and food safety nets)	Increased access to maternity benefits for women	Cash transfers to women for first 6 months after delivery	Pradhan Mantri Matru Vandana Yojana	Cash Transfer
			Chief Ministers Maternity Assistance Scheme for Labourers	Cash Transfer
	Increased food security for poor families	Targetted Provision of subsidised/free food grains to poorest	Targetted Public Distribution Scheme (TPDS)	Allocation of food grains to the States/UTs
			Antyodaya Anna Yojana (AAY)	Allocation of food grains to the States/UTs
			PVTG Food Subsidy Scheme	Food subsidy
			Deendayal Antyodaya Rasoi Yojana	Subsidised cooked food in urban areas
			Annapurna Yojana	Subsidised food grains to non BPL Blue card holders
			Provision of subsidised food grain to students	Allocation of food grains to the States/UTs
		Promotion of Nutrition (Kitchen) Gardens	Saksham Anganwadi and Poshan 2.0	Poshan Vatikas

OUTCOME	INTERMEDIATE OUTCOME	INTERVENTIONS/SCHEME OBJECTIVE	SCHEME/ SUB-SCHEME	BUDGET COMPONENT
		Targetted provision of subsidised/free food rations to children in need of care and protection		
Increased access to nutrition services	Adequate and quality Anganwadi Services in place	Functional Anganwadi Centres at local level	Saksham Anganwadi and Poshan 2.0 (ICDS)	Anganwadi Services (other than SNP)
			Anganwadi Centres	Building Construction of Anganwadi Centres
				Electricity Connection
			Additional Honararium to AWWs and Helpers	Additional Honararium to AWWs and Helpers
			Saksham Anganwadi and Poshan 2.0 (ICDS)	ILA Trainings
			National Health Mission (RMNCAH+N)	ASHA Trainings on 6th and 7th Modules
				Trainings and Capacity Building on IYCF
				Trainings and Capacity Building on AMB, NDD and IDCF
	Adequate and quality MDM Services in place	MDM support services at school level	PM POSHAN (MDM)	Kitchen Shed Construction for MDM
				Kitchen Shed Devices for MDM
				Transportation of MDM Material
				Honararium to cook under MDM
	Improved general awareness on balanced diet and nutrition	Education and awareness of primary care givers (Parents, Teachers, etc) and community leaders (SHGs, PRIs members, etc) on balanced diet and nutrition	National Health Mission (RMNCAH+N)	IEC/BCC on IYCF, AMB, NDD and IDCF
				IEC/BCC Multiple activities
			Saksham Anganwadi and Poshan 2.0	POSHAN Panchayat
				POSHAN Abhiyan
Improved Environment for Nutrition Outcomes	Increased access to Health services	ANC, PNC, Institutional Deliveries, Immunization and Early Detection and Disease Management	National Health Mission (RMNCAH+N)	See Annex 2 (a)
		Promoting treatment of children at private health facility/provider	Ayushman Bharat	See Annex 2 (a)
			Other Schemes for Health Services	See Annex 2 (a)
	Increased access to Child Care services	Access to early childhood care	National Creche Scheme	Subsidiary Grant
	Increased access to WASH facilities	Sanitation facilities (toilets and sewage management)	Swachh Bharat Abhiyan and other state schemes for sanitation	
		Access to safe (preferably piped) water	Jal Mission and other state schemes for Water Supply	
		Access to menstrual hygiene facilities	Project Udit	Sanitary Napkins

Annex 3: Matrix for Child and Nutrition Targeting programmes/schemes

		NUTRITION TARGETING	
		SPECIFIC	SENSITIVE
CHILD TARGETING (INCLUDING PW/LM)	FOCUSED	Atal Bal Arogya Mission	Provision of subsidised foodgrains to students
		Milk Distribution Scheme for MDM	Anganwadi services
		Pradhan Mantri Poshan Shakti Nirman (Mid Day Meal) Scheme	Building Construction for Anganwadi Centres
		Kishori Balika Yojana	Electricity Connection in Anganwadis
		Lalima Yojana	Maintenance of Departmental Assets
		National Health Mission (Nutrition Components like	Saksham Anganwadi Poshan 2.0
		IFA supplementation, T3 camps, Deworming,	Kitchen Shed Devices for Mid Day Meal
		Vitamin A supplementation, DFS etc)	Kitchen Shed Construction for Mid Day Meal
			Transportation of MDM Material
			National Nutrition Mission (NNM)
			Additional Honararium to Anganwadi Workers and Helpers
			State scheme for honararium to cook under PM POSHAN
	RESPONSIVE		Poshan Abhiyan-2.0
			Chief Minister's Maternity Assistance Scheme for Labourers
			Pradhan Mantri Matru Vandana Yojana (PMMVY)
			Health Services
			Project Udit
			Pre-primary Education
			National Creche Scheme
		Minimum Requirements Programme (Special Poshan Aahar)	Annapurna Yojana
		Provision of fortified rice	PVTG Food Subsidy Scheme
		Distribution of double fortified iodised Salt	Deendayal Antoday Rasoi Yojana
			National Health Mission
			Strengthening of Nursing Infrastructure
			Ayushman Bharat
			Multipurpose Worker Scheme
			State Health Management Institute and Training Centre
			Ayushman Bharat (Non SECC Beneficiaries)
			State Hemoglobinopathy (Sickle Cell) Mission
			Jal Jeevan Mission (National Rural Drinking Water Mission)
			AMRUT (Atal Mission for Rejuvenation and Urban Transformation)
			MP Urban Sanitation and Environment Sector Programme (KFW)
			Urban Water Supply Schemes
			MP Urban Service Improvement Programme (ADB Phase 2)
			MP Urban Service Improvement Programme (ADB)
			MP Urban Development Project (World Bank)

Annex 4: Estimation of projected population under various data sources

Sr No.	Criteria	Estimation formulas	Population in Crore
1	Pregnant women registered for ANC as per HMIS (2020-21)	NA	19.12
2	Total deliveries as per HMIS (2020-21)	NA	13.74
3	Live births as per HMIS (2020-21)	NA	13.69
4	Projected Population 2021	NA	845.16
5	SRS Birth Rate	NA	0.00
6	Projected Population (0-1) 2021	NA	17.38
7	Projected Population (0-4) 2021	NA	84.29
8	Projected Population (5-9) 2021	NA	85.94
9	Projected Population (10-14) 2021	NA	77.44
10	Projected Population (15-18) 2021	NA	64.14
11	Projected Population (15-19) 2021	NA	80.23
12	Projected Population (0-18) 2021	NA	311.81
13	Projected Population (0-6) 2021	(6) divided by 2	8.69
14	Projected Population (1-4) 2021	(7)-(6)	66.91
15	Projected Population (0-4) 2021 Annual	(7) divided by 5	16.86
16	Projected 6 to 72 months (2021)	(13) plus (14) plus (15)	92.46
17	Projected Population and Birth Rate	(5) * (4)/1000	20.37
18	Estimated pregnant women and lactating mothers	(1) *0.33 plus (2)	20.05
19	Estimated children (0 to 6 months) as per HMIS (2020-21)	(3) divided by 2	6.84
20	Estimated children (6 months to 3 years) as per HMIS (2020-21)	(19) plus (3) * (2)	34.22
21	Estimated children (3 to 6 years) as per HMIS (2020-21)	(3) *3	41.06
22	Total Porjected Population 2021	NA	845.16

Annex 5: Estimation of potential beneficiary population and unit costs for nutrition specific intervention in Madhya Pradesh

Intervention	Estimated Number of Beneficiaries		Unit Cost	
	Numbers	Data Basis	INR	Cost Basis
Nutrition counselling during pregnancy through home visits (ASHA Incentive)	19,12,018	No. of pregnant women registered for ANC as per HMIS (2020-21)	200	4 visits @ Rs 50 per visit per women for facilitating ANC visits
Nutrition counselling during pregnancy through home visits (AWW Incentive)	19,12,018	No. of pregnant women registered for ANC as per HMIS (2020-21)	200	4 visits @ Rs 50 per visit per women based on HBYC guidelines
Nutrition counselling in first 3 months (ASHA Incentive under HBNC)	13,68,719	No. of live births as per HMIS (2020-21)	300	6 visits @ Rs 50 per visit per child based on HBYC guidelines
Nutrition counselling from 3 to 15 months (ASHA Incentive under HBYC)	13,68,719	No. of live births as per HMIS (2020-21)	250	5 visits @ Rs 50 per visit per child based on HBYC guidelines
Nutrition counselling during lactation upto 6 months through home visits (AWW Incentive)	13,68,719	No. of live births as per HMIS (2020-21)	450	9 visits @ Rs 50 per visit per women based on HBYC guidelines
Nutrition counselling from 6 to 24 months through home visits (AWW Incentive)	13,68,719	No. of live births as per HMIS (2020-21)	450	9 visits @ Rs 50 per visit per women based on HBYC guidelines
Growth Monitoring Devices at Anganwadi centres (infantometer, stadiometer, child weighing machines and mother and child weighing machines)	38,854	40% (average usable GMD availability as per WCD MIS March 2021) of functional AWCs as per PIB (June 2021)	8000	Per set (4 GMDs) as per Saksham Anganwadi and Poshan 2.0 Guidelines
POSHAN Tracker/ ICDS-CAS (Data package charges)	97135	No. of Operational AWCs as per PIB (June 2021)	2000	Per AWC per annum as per Saksham Anganwadi and Poshan 2.0 Guidelines
Mother's Group Counselling (ASHA Incentive for quarterly meetings under MAA)	66000	No. of Rural and Urban ASHAs	400	Per ASHA per quarter as per NHM State RoP 2021-22
Monthly Village Health and Nutrition Days	97135	No. of Operational AWCs as per PIB (June 2021)	10000	Annual Untied funds of VHSC as per VHND Guidelines
IEC at Anganwadi Center	97135	No. of Operational AWCs as per PIB (June 2021)	1000	Unit cost norms of IEC/BCC per AWC GoI (APIP 2021-22)
Education and awareness for EIBF and EBF (IEC/BCC under MAA)	51	Number of Districts	50000	Per district as per MAA National Operational guidelines
THR for PW/LM for 300 days	20,05,214	Estimated pregnant women and lactating mothers as per HMIS (2020-21)	9.5	Per beneficiary/ Per Day SNP unit cost norms of GoI (APIP 2021-22)
THR for children aged 6 to 36 months for 300 days	27,75,078	2.5 times the livebirths as per HMIS (2020-21) minus 18.9% Wasted Children	8	Per beneficiary/ Per Day SNP unit cost norms of GoI (APIP 2021-22)
HCM for children aged 3 to 6 years for 300 days	33,30,093	3 times the livebirths as per HMIS (2020-21) minus 18.9% Wasted Children	8	Per beneficiary/ Per Day SNP unit cost norms of GoI (APIP 2021-22)
Milk provision to children aged 3 to 6 years for 3 days a week	41,06,157	Estimated number of children based on figure of livebirths as per HMIS (2020-21)	2.41	Per student / Per Day unit cost norms of GoMP

Intervention	Estimated Number of Beneficiaries		Unit Cost	
	Numbers	Data Basis	INR	Cost Basis
Additional THR for SAM/MAM children	14,22,783	18.9 % (Wasting prevalence) among children estimated to be covered under SNP interventions	12	Additional Per beneficiary/ Per Day SNP unit cost norms of GoI (APIP 2021-22)
Construction of NRCs	13	No. of (new) NRCs (10 bedded) as per NHM State RoP 2021-22	1800000	Per (new) NRC as per NHM State RoP 2020-21
Upgradation of NRCs	4	No. of (proposed) NRCs (20 bedded) as per NHM State RoP 2021-22	1800000	Per (upgraded) NRC as per NHM State RoP 2020-21
Treatment Cost of SAM Children at NRCs	97,863	20% of the 6.5 % (SAM prevalence) among children estimated to be covered under SNP	2760	Per SAM Child as per NHM State RoP 2019-20
	65,000	No. of SAM children as per NHM State RoP 2021-22	2760	Per SAM Child as per NHM State RoP 2019-20
<i>Operating Expenses of NRCs</i>	<i>255</i>	<i>No. of Functional NRCs (10 bedded)</i>	<i>650000</i>	<i>Per NRC as per NHM State RoP 2021-22</i>
<i>Operating Expenses of NRCs</i>	<i>63</i>	<i>No. of Functional NRCs (20 bedded)</i>	<i>950000</i>	<i>Per NRC as per NHM State RoP 2021-22</i>
<i>Printing for NRC</i>	<i>318</i>	<i>No. of Functional NRCs</i>	<i>7000</i>	<i>Per NRC estimated based on proposed cost in NHM State RoP 2021-22</i>
Training of NRC staff on facility-based management of SAM	28	4 trainings per division for 7 divisions	64975	Cost per batch of 40 participants as per NHM State RoP 2021-22
Trainings on IYCF for feeding demonstrators at NRC	8	Number of batches of feeding demonstrators as per NHM State RoP 2021-22	308000	Cost per batch of 40 participants (for 4 days) as per NHM State RoP 2021-22
ASHA Incentive for SAM referral and four follow ups after NRC discharge	4,89,317	6.5 % (SAM prevalence) among children estimated to be covered under SNP interventions	150	Per SAM child as per NHM State RoP 2021-22
Comprehensive Lactation Management Units at district hospitals and medical colleges	10	20% of District Hospitals without CLMUs as per NHM State RoP 2021-22	3311400	One time cost as per NHM National Guidelines for Lactation Management Centres (LMCs)
Comprehensive Lactation Management Units at district hospitals and medical colleges	2	No. of Functional CLMUs	1476000	Annual recurring cost as per NHM National Guidelines for LMCs
Lactation Management Units at sub-district hospitals and FRUs	19	20% of FRUs without LMUs as per NHM State RoP 2021-22	975000	One time cost as per NHM National Guidelines for LMCs

Intervention	Estimated Number of Beneficiaries		Unit Cost	
	Numbers	Data Basis	INR	Cost Basis
Lactation Management Units at sub-district hospitals and FRUs	-	No. of Functional LMUs	465000	Annual recurring cost as per NHM National Guidelines for LMCs
Lactation Support Units/ Counsellors at delivery points	148	No. of FRUs as per NHM State RoP 2021-22	72000	6000 per month
Provision of ORS for Children Under-5 (1.25 per family)	91,70,597	No. of families of Under-5 children as per NHM State RoP 2021-22	2	Per ORS Packet as per NHM State RoP 2021-22
Provision of Zinc for Children Under-5 (1.62 per family)	91,70,597	No. of families of Under-5 children as per NHM State RoP 2021-22	0.13	Per tablet as per NHM State RoP 2021-22
ASHA Incentive for IDCF for prophylactic distribution of ORS to Under-5 children	91,70,597	No. of families of Under-5 children as per NHM State RoP 2021-22	1	Per ASHA as per ORS Packet as per NHM State RoP 2021-22
Orientation of health staff and FLWs for IDCF	313	No. of blocks	19550	Per block as per NHM State RoP 2021-22
Printing for IDCF	51	Number of Districts	114000	Per district as per NHM State RoP 2021-22
HCM for children aged 6 to 10 years for 247 days	41,25,000	No. of primary school students covered in the state as per MDM PAB (2021-22)	5.45	Revised Per student/ Per Day unit cost norms of GoI
HCM for children aged 11-13 years for 247 days	25,58,000	No. of upper primary students covered in the state as per MDM PAB (2021-22)	8.17	Revised Per student/ Per Day unit cost norms of GoI
Milk provision to children aged 6-12 years for 3 days a week	41,25,000	No. of primary school students covered in the state as per MDM PAB (2021-22)	2.41	Per student / Per Day unit cost norms of GoMP
Additional nutrition (for 78 days) to children aged 6 to 14 years in areas of high malnourishment	11,78,384	No. of students proposed by the state as per MDM PAB (2022-23)	7	Average cost per student calculated based on approved budget
Provision of MDM during summer vacations (30 days) to children aged 6 to 14 years	66,83,000	No. of students covered in the state as per MDM PAB (2021-22)	7	Average cost per student calculated based on approved budget for supplementary nutrition
Supplementary nutrition for severely thin (BMI<17) school-going adolescents	2,92,191	20% (low BMI) of children enrolled in government secondary schools as per UDISE	7	Average cost per student calculated based on approved budget for supplementary nutrition
THR Provision for OOS Adolescent Girls (14 plus to 18 years) for 300 days	1,81,602	31% (OOS as per GER in secondary edu) of the 5,85,812 girls in the age group 14- 18 years in aspirational districts as per Census 2011	9.5	Per beneficiary/ Per Day SNP unit cost norms of GoI (APIP 2021-22)
Adolescent education and counselling on nutrition and healthy eating practices	51	Number of districts	50000	10% of per district IEC budget as per Saksham Anganwadi and Poshan 2.0 Guidelines

Intervention	Estimated Number of Beneficiaries		Unit Cost	
	Numbers	Data Basis	INR	Cost Basis
Provision of 360 IFA tablets per PW/LM	11,47,211	60% of pregnant women registered for ANC as per HMIS (2020-21)	0.13	Per tablet cost as per NHM State RoP 2021-22
	7,64,807	40% of pregnant women registered for ANC as per HMIS (2020-21)	0.91	Per tablet cost as per NHM State RoP 2021-22
Folic Acid tablets for 60 days per PW	19,12,018	60% of pregnant women registered for ANC as per HMIS (2020-21)	0.18	Per tablet cost as per NHM State RoP 2021-22
Provision of calcium tablets for 360 days per PW	19,12,018	No. of pregnant women registered for ANC as per HMIS (2020-21)	197	Cost per PW as per NHM State RoP 2021-22
Provision of albendazole per PW	19,12,018	No. of pregnant women registered for ANC as per HMIS (2020-21)	1.51	Per tablet cost as per NHM State RoP 2021-22
Bi-weekly provision of IFA Syrups (with auto dispenser) for children (6 to 59 months)	41,06,253	No. of children aged 6 to 59 months estimated based on live births as per HMIS (2020-21)	11	Per bottle as per NHM State RoP 2021-22
Provision of IFA (WIFS Junior pink) tablets for children (5 to 10 years)	68,43,595	No. of children aged 5 to 10 years estimated based on live births as per HMIS (2020-21)	0.15	Per tablet as per NHM State RoP 2021-22
Provision of IFA (WIFS blue) tablets for adolescents (10-19 years)	1,09,49,752	No. of adolescents aged 10-19 years estimated based on live births as per HMIS (2020-21)	0.15	Per tablet as per NHM State RoP 2021-22
Follow up for IFA consumption among children aged 6 to 59 months (ASHA Incentive under NIPi)	66,000	No. of Rural and Urban ASHAs	1200	Per ASHA per month as per NHM State RoP 2021-22
Provision of albendazole for children (6 to 59 months) every year	41,06,253	No. of children aged 6 to 59 months estimated based on live births as per HMIS (2020-21)	1.75	Per tablet as per NHM State RoP 2021-22
Provision of albendazole for children (5 to 10 years) every year	68,43,595	No. of children aged 5 to 10 years estimated based on live births as per HMIS (2020-21)	1.75	Per tablet as per NHM State RoP 2021-22
Provision of albendazole for adolescents (10-19 years) every year	1,09,49,752	No. of adolescents aged 10-19 years estimated based on live births as per HMIS (2020-21)	1.75	Per tablet as per NHM State RoP 2021-22
Deworming compliance for Out of School Children (ASHA Incentive for NDD)	66,000	No. of Rural and Urban ASHAs	100	Per ASHA as per NHM State RoP 2021-22
Vit A Syrup for children aged 6 to 59 months	41,06,253	No. of children aged 6 to 59 months estimated based on live births as per HMIS (2020-21)	115	Per 100 ml bottle as per NHM State RoP 2021-22
Orientation activities on Vit A supplementation and AMB for ANM/LHV/MPW	353	No. of trainings proposed as per NHM State RoP 2021-22	35650	Cost per batch of 40 participant as per NHM State RoP 2021-22
Orientation on NDD/NIPi/WIFS for teachers and ANMs	3,31,743	No. of target trainees as per NHM State RoP 2021-22	100	Cost participant as per NHM State RoP 2021-22

Intervention	Estimated Number of Beneficiaries		Unit Cost	
	Numbers	Data Basis	INR	Cost Basis
Printing for Micro-Nutrient Supplementation (Vit A and AMB)	51	Number of Districts	320000	Per district as per NHM State RoP 2021-22 for NDD
Printing for NIPI (6 to 59 months and 5 to 10 years)	66,000	No. of Rural and Urban ASHAs	250	Per booklet as per NHM State RoP 2021-22
Printing for NDD	51	Number of Districts	320000	Per district as per NHM State RoP 2021-22
Distribution of double fortified iodised salt (2 kgs per family per month)	4,70,46,000	No. of families/persons identified under NFSA upto April 2021	2	Per kg additional cost as per Nutrition International Policy Brief
Provision of fortified rice	7,78,30,000	Offtake of Rice for 2020-21 under NFSA	0.6	60 paise per kg of rice as per Operational guidelines of pilot scheme
Testing of pregnant women for Hb during ANC	15,29,614	80% of pregnant women registered for ANC as per HMIS (2020-21)	20	Per unit cost as per NHM State RoP 2021-22
IVIS ampoules (3 units) for management of moderate and severely anemic pregnant women	5,16,245	No. of moderate (25%) and severely anaemic (2%) among pregnant women registered for ANC as per HMIS (2020-21)	13.41	Per unit cost as per NHM State RoP 2021-22
Inj FCM for management of post partum severe anemic	38,240	No. of severely anaemic (2%) among pregnant women registered for ANC as per HMIS (2020-21)	3360	Per unit cost as per NHM State RoP 2021-22
ASHA Incentive for identification and referral of children and adolescents with paller	6,10,000	Number of severely anemic (2%) children in the state	150	Per child as per NHM State RoP 2021-22
Testing of children and adolescents for Hb at health centre (Digital hemoglobinometer)	630	No. of (proposed) devices as per NHM State RoP 2021-22	5000	Per device cost as per NHM State RoP 2021-22
Testing of children and adolescents for Hb at health centre (Hemoglobinometer consumables)	2,16,63,099	No. of (proposed) devices as per NHM State RoP 2021-23	20	Per unit cost as per NHM State RoP 2021-22

Annex 6: Required vs actual budget allocations for nutrition specific intervention in Madhya Pradesh

Intervention	Source of Budget/ Data	Required Annual Budget (INR 000)	Required State Share (INR 000)	Allocations in 2021-22 (INR 000)
Nutrition counselling during pregnancy through home visits (ASHA Incentive)	20% of Approved budget for ASHA Incentive for Routine Activities as per NHM State RoP 2021-22	3,82,404	1,52,961	3,05,880
Nutrition counselling during pregnancy through home visits (AWW Incentive)	5% of Approved budget for AWW Honararium as per APIP 2021-22	3,82,404	1,52,961	3,61,506
Nutrition counselling in first 3 months (ASHA Incentive under HBNC)	Approved budget for ASHA Incentive under HBNC as per NHM State RoP 2021-22	4,10,616	1,64,246	2,75,000
Nutrition counselling from 3 to 15 months (ASHA Incentive under HBYC)	Approved budget for ASHA Incentive under HBYC as per NHM State RoP 2021-22	3,42,180	1,36,872	1,00,000
Nutrition counselling during lactation upto 6 months through home visits (AWW Incentive)	7.5% of Approved budget for AWW Honararium as per APIP 2021-22	6,15,924	2,46,369	5,42,258
Nutrition counselling from 6 to 24 months through home visits (AWW Incentive)	7.5% of Approved budget for AWW Honararium as per APIP 2021-22	6,15,924	2,46,369	5,42,258
Growth Monitoring Devices at Anganwadi centres (infantometer, stadiometer, child weighing machines and mother and child weighing machines)	Approved budget for GMDs in APIP 2020-21	9,32,496	3,72,998	-
POSHAN Tracker/ ICDS-CAS (Data package charges)	Approved budget for Data charges in APIP 2021-22	5,82,810	2,33,124	-
Mother's Group Counselling (ASHA Incentive for quaterly meetings under MAA)	Approved budget for ASHA Incentive for quaterly meetings under MAA as per NHM State RoP 2021-22	26,400	10,560	26,400
Monthly Village Health and Nutrition Days	Approved budget for VHSND as per NHM State RoP 2021-22	9,71,350	3,88,540	1,000
IEC at Anganwadi Center	Approved budget for IEC/BCC at AWC as per APIP 2021-22	97,135	38,854	-
Education and awareness for EIBF and EBF (IEC/BCC under MAA)	Approved budget for IEC/BCC under MAA as per NHM State RoP 2021-22	2,550	1,020	-

Intervention	Source of Budget/ Data	Required Annual Budget (INR 000)	Required State Share (INR 000)	Allocations in 2021-22 (INR 000)
Trainings on IYCF for feeding demonstrators at NRC	Approved budget for IYCF training at NRC as per NHM State RoP 2021-22	2,449	979	3,388
ASHA Incentive for SAM referral and four follow ups after NRC discharge	Approved budget for SAM referral as per NHM State RoP 2021-22	73,398	29,359	9,750
Comprehensive Lactation Management Units at district hospitals and medical colleges	Approved budget as per NHM State RoP 2021-22		-	-
Comprehensive Lactation Management Units at district hospitals and medical colleges	Approved budget as per NHM State RoP 2021-22	2,952	1,181	498
Lactation Management Units at sub-district hospitals and FRUs	Approved budget as per NHM State RoP 2021-22		-	-
Lactation Management Units at sub-district hospitals and FRUs	Approved budget as per NHM State RoP 2021-22			-
Lactation Support Units/ Counsellors at delivery points	Approved budget as per NHM State RoP 2021-22		-	-
Provision of ORS for Children Under-5 (1.25 per family)	Approved budget for ORS packets as per NHM State RoP 2021-22	22,926	9,171	22,926
Provision of Zinc for Children Under-5 (1.62 per family)	Approved budget for Zinc tablets as per NHM State RoP 2021-22	1,931	773	1,925
ASHA Incentive for IDCF for prophylactic distribution of ORS to Under-5 children	Approved budget for ASHA incentive for IDCF as per NHM State RoP 2021-22	9,171	3,668	9,171
Orientation of health staff and FLWs for IDCF	Approved budget for IDCF trainings as per NHM State RoP 2021-22	6,119	2,448	6,119
Printing for IDCF	Approved budget for IDCF printing as per NHM State RoP 2021-22	5,814	2,326	5,814

Intervention	Source of Budget/ Data	Required Annual Budget (INR 000)	Required State Share (INR 000)	Allocations in 2021-22 (INR 000)
THR for PW/LM for 300 days	20% of total SNP cost approved as per APIP 2021-22	57,14,860	22,85,944	24,80,190
THR for children aged 6 to 36 months for 300 days	33% of total SNP cost approved as per APIP 2021-22	66,60,187	26,64,075	40,92,314
HCM for children aged 3 to 6 years for 300 days	32% of total SNP cost approved as per APIP 2021-22	79,92,224	31,96,890	39,68,304
Milk provision to children aged 3 to 6 years for 3 days a week	37% R.E. 2021-22 reported in Child Budget Statement of State Budget for Milk Distribution under MDM (1329)	15,43,751	15,43,751	1,34,903
Additional THR for SAM/MAM children	15% of total SNP cost approved as per APIP 2021-22 (allocated under MNP/SPA- 9050)	51,22,020	20,48,808	18,60,143
	R.E. 2021-22 reported in Child Budget Statement of State Budget under Atal Bal Arogya Mission (6442)			5,24,900
Construction of NRCs	Approved budget as per NHM State RoP 2021-22	23,400	9,360	23,400
Upgradation of NRCs	Approved budget as per NHM State RoP 2021-22	7,200	2,880	7,200
Treatment Cost of SAM Children at NRCs	Approved budget as per NHM State RoP 2021-	270103	1,08,041	
	Approved budget as per NHM State RoP 2021-22		-	
<i>Operating Expenses of NRCs</i>	<i>Approved budget as per NHM State RoP 2021-22</i>			<i>1,65,750</i>
<i>Operating Expenses of NRCs</i>	<i>Approved budget as per NHM State RoP 2021-22</i>			<i>59,850</i>
<i>Printing for NRC</i>	<i>Approved budget as per NHM State RoP 2021-22</i>			<i>2,125</i>
Training of NRC staff on facility-based management of SAM	Approved budget for NRC staff training as per NHM State RoP 2021-22	1,819	728	1,819

Intervention	Source of Budget/ Data	Required Annual Budget (INR 000)	Required State Share (INR 000)	Allocations in 2021-22 (INR 000)
HCM for children aged 6 to 10 years for 247 days	50% Approved budget as per MDM PAB (2021-22)	55,52,869	22,21,148	64,24,044
HCM for children aged 11-13 years for 247 days	50% Approved budget as per MDM PAB (2021-22)	51,62,018	20,64,807	64,24,044
Milk provision to children aged 6-12 years for 3 days a week	63% R.E. 2021-22 reported in Child Budget Statement of State Budget	15,50,835	15,50,835	2,29,699
Additional nutrition (for 78 days) to children aged 6 to 14 years in areas of high malnourishment	In principle Approved budget as per MDM PAB (2021-22)	6,43,398	2,57,359	6,42,405
Provision of MDM during summer vacations (30 days) to children aged 6 to 14 years	Approved budget as per MDM PAB (2021-22) as a one time special welfare measure	14,03,430	5,61,372	14,14,489
Supplementary nutrition for severely thin (BMI<17) school-going adolescents	No provision in budget	5,05,199	2,02,079	-
THR Provision for OOS Adolescent Girls (14 plus to 18 years) for 300 days	Approved SAG Entitlement as per APIP 2021-22	5,17,565	2,07,026	88,832
Adolescent education and counselling on nutrition and healthy eating practices	10% Approved budget for IEC activities at district level APIP 2021-22	2,550	1,020	-
Provision of 360 IFA tablets per PW/LM	Approved budget as per NHM State RoP 2021-22	53,689	21,476	37,375
	Approved budget as per NHM State RoP 2021-22	2,50,551	1,00,220	1,94,594
Folic Acid tablets for 60 days per PW	Approved budget as per NHM State RoP 2021-22	20,650	8,260	11,890
Provision of calcium tablets for 360 days per PW	Approved budget as per NHM State RoP 2021-22	3,76,668	1,50,667	2,16,700
Provision of albendazole per PW	Approved budget as per NHM State RoP 2021-22	2,887	1,155	1,661

Intervention	Source of Budget/ Data	Required Annual Budget (INR 000)	Required State Share (INR 000)	Allocations in 2021-22 (INR 000)
Bi-weekly provision of IFA Syrups (with auto dispenser) for children (6 to 59 months)	Approved budget as per NHM State RoP 2021-22	90,338	36,135	1,68,275
Provision of IFA (WIFS Junior pink) tablets for children (5 to 10 years)	Approved budget as per NHM State RoP 2021-22	53,380	21,352	32,694
Provision of IFA (WIFS blue) tablets for adolescents (10-19 years)	Approved budget as per NHM State RoP 2021-22	85,408	34,163	72,279
Follow up for IFA consumption among children aged 6 to 59 months (ASHA Incentive under NIPI)	Approved budget as per NHM State RoP 2021-22	79,200	31,680	79,200
Provision of albendazole for children (6 to 59 months) every year	Approved budget as per NHM State RoP 2021-22	14,372	5,749	13,902
Provision of albendazole for children (5 to 10 years) every year	Approved budget as per NHM State RoP 2021-22	23,953	9,581	16,284
Provision of albendazole for adolescents (10-19 years) every year	Approved budget as per NHM State RoP 2021-22	38,324	15,330	24,665
Deworming compliance for Out of School Children (ASHA Incentive for NDD)	Approved budget as per NHM State RoP 2021-22	6,600	2,640	6,600
Vit A Syrup for children aged 6 to 59 months	Approved budget as per NHM State RoP 2021-22	4,72,219	1,88,888	38,657
Orientation activities on Vit A supplementation and AMB for ANM/LHV/MPW	Approved budget as per NHM State RoP 2021-22	12,584	5,034	12,584
Orientation on NDD/NIPI/WIFS for teachers and ANMs	Approved budget as per NHM State RoP 2021-22	33,174	13,270	33,174
Printing for Micro-Nutrient Supplementation (Vit A and AMB)	Approved budget as per NHM State RoP 2021-22	16,320	6,528	6,163
Printing for NIPI (6 to 59 months and 5 to 10 years)	Approved budget as per NHM State RoP 2021-22	16,500	6,600	16,250
Printing for NDD	Approved budget as per NHM State RoP 2021-22	16,320	6,528	16,320

Intervention	Source of Budget/ Data	Required Annual Budget (INR 000)	Required State Share (INR 000)	Allocations in 2021-22 (INR 000)
Distribution of double fortified iodised salt (2 kgs per family per month)	R.E. 2021-22 reported in Child Budget Statement of State Budget	22,58,208	9,03,283	6
Provision of fortified rice	R.E. 2021-22 reported in Child Budget Statement of State Budget	28,01,880	7,00,470	6,00,000
Testing of pregnant women for Hb during ANC	Approved budget as per NHM State RoP 2021-22	91,777	36,711	-
IVIS ampoules (3 units) for management of moderate and severely anemic pregnant women	Approved budget as per NHM State RoP 2021-22	20,769	8,307	12,069
Inj FCM for management of post partum severe anemic	Approved budget as per NHM State RoP 2021-22	1,28,488	51,395	84,000
ASHA Incentive for identification and referral of children and adolescents with pallor	Approved budget for Anaemia referral as per NHM State RoP 2021-22	91,500	36,600	
Testing of children and adolescents for Hb at health centre (Digital hemoglobinometer)	Approved budget as per NHM State RoP 2021-22	3,150	1,260	3,150
Testing of children and adolescents for Hb at health centre (Hemoglobinometer consumables)	Approved budget as per NHM State RoP 2021-22	4,33,262	1,73,305	4,33,262

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END NOTES

ⁱ Corresponding national indicator is “Proportion of beneficiaries covered under National Food Security Act 2013”

ⁱⁱ As per Socio Economic Caste Census (SECC,2011) it is projected that by the year 2020, 93 lakhs households shall be covered under PDS which have a monthly income of highest earning member less than Rs.5000. This is 84% of such households.

ⁱⁱⁱ As per MANUSH (Monotonicity, Anonymity, Normalization, Uniformity, Shortfall Sensitivity and Hiatus Sensitivity) Scores calculated by Jain and Agnihotri (2020). The scores categorise greater than 0.65 as extremely alarming, between 0.50 to 0.65 as alarming and less than 0.50 as moderate. The scores for MP over the period was 0.73 (NFHS 3), 0.59 (NFHS-2) and 0.49 (CNNS 2016-2018).

^{iv} Minimum dietary diversity is receiving foods from 5 or more of the following 8 food groups: a. breast milk b. infant formula, milk other than breast milk, cheese or yogurt or other milk products; c. foods made from grains or roots, including porridge or gruel, fortified baby food made from grains; d. vitamin A-rich fruits and vegetables; e. other fruits and vegetables; f. eggs; g. meat, poultry, fish, shellfish, or organ meats; h. beans, peas, lentils, or nuts.

^v For breastfed children, minimum meal frequency is receiving solid or semi-solid food at least twice a day for infants 6-8 months and at least three times a day for children 9-23 months. For non-breastfed children age 6-23 months, minimum meal frequency is receiving solid or semi-solid food or milk feeds at least four times a day. At least one of the feeds must be a solid or semi-solid food.

^{vi} Children age 6-23 months are considered to be fed a minimum acceptable diet if they receive breast milk, other milk or milk products (receiving two or more feedings of commercial infant formula, fresh, tinned, and powdered animal milk, and yogurt), are fed the minimum dietary diversity as described in endnote iv, and are fed the minimum meal frequency as described in endnote v.

^{vii} An example of malnutrition-infection cycle is when undernourished children tend to be more susceptible to infection, which can contribute to weight loss through increased metabolism, as well as reduced nutrient intake and absorption.

^{viii} It needs to be mentioned here that the CBS (2022-23) did not report INR 325 crores of PMMVY (BE 2022-23)- a very crucial CNHI allocation. If we deduct that the amount per child reduces further to INR 5774/-.

^{ix} INR 2647 crores annually with 98 crores for counselling, 1475 crores for food supplementation, 67 crores for micro-nutrients, 317 crores for health interventions and 690 crores for maternity benefits. Further food fortification programmes of FCS Department are not child focused but child responsive covering the entire household.

^x It needs to be mentioned here that the actual allocation may be even lower than the calculation, as it includes all of NHM nutrition allocations a substantial proportion of which is also for promotion of IYCF and facility-based management of SAM (Nutrition Rehabilitation Centres-NRCs)

^{xi} As per the WCD budget book 2022-23- Anganwadi services includes code 11- Salaries and Perks; code 12 -Wages; code 22- Office expenses; code 24- Exams and training; code 34- material and supplies; code -35- publicity and advertising; and code 42- subsidies.

^{xii} As per the WCD budget book 2022-23- National Nutrition Mission (1291) includes code 11- Salaries and Perks; code 12 -Wages; code 22- Office expenses; code 23- vehicle cots; code 24- Exams and training; code 26- seminar and workshops; code 31- professional expenses; code 34- material and supplies; code -35- publicity and advertising; and code 51- others.

^{xiii} It is important to note here that the number of pregnant women as per NHM State RoP (2021-22) is only 11 lakhs while the number of PW/LM is 13.92 lakhs. The number of PW/LMs enrolled at AWCs in the state as per PIB (June 2021) was 12.62 lakhs. We have taken the higher figures of 19.12 Lakhs as per HMIS (2021-22) as also the estimated number of PW/LMs at 20.05 lakhs (calculated based on 33% PWs registered for ANC plus total number of home-based and institutional deliveries reported).