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YOUTHINVEST FOUNDATION

Prevention of Malnutrition through Changing Feeding Practices of Children under 5 Years

Cascading Training of Anganwadi Workers

A Collaboration between Department of Woman & Child Development, Govt. of Assam and ITC Limited

INSIGHTS & LEARNING

PREVENTION OF MALNUTRITION THROUGH CHANGING FEEDING PRACTICES OF CHILDREN UNDER 5 YEARS

CASCADING TRAINING OF ANGANWADI WORKERS

A COLLABORATION BETWEEN DEPARTMENT OF WOMAN & CHILD DEVELOPMENT, GOVT. OF ASSAM & ITC LIMITED

INSIGHTS & LEARNING

PREPARED BY:
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Acknowledgement

We are thankful to YouthInvest Foundation and ITC for giving an opportunity to the School of Agro and Rural Technology, IIT Guwahati, to take up the Endline Evaluation study of the project entitled "Prevention of child Malnutrition through Changing & Feeding Practices at Home under Public Private Partnership with ITC Limited, Assam". We would like to extend our heartfelt gratitude to the officials of the Women & Child Development Department of the Government of Assam and the District Social Welfare Officers of the eight intervention and two control study districts for extending all support in conducting the study. We also extend our heartfelt thanks to the Child Development Project Officers, Anganwadi Supervisors and the Anganwadi Workers of the study districts for extending support in conducting the field survey and submitting their feedback online.

We hope that the report will be useful for the improvement of child nutrition and supportive supervision in that regard for the state of Assam.

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PREVENTION OF CHILD MALNUTRITION THROUGH CHANGING FOOD & FEEDING PRACTICES AT HOME UNDER PUBLIC-PRIVATE PARTNERSHIP BETWEEN DIRECTORATE OF WOMEN AND CHILD DEVELOPMENT, GOVT OF ASSAM AND ITC LIMITED

INSIGHTS AND LEARNING FROM PHASE I

EXECUTIVE SUMMARY

The Insights and Learning Study of the project titled "Prevention of Child Malnutrition through Changing Food & Feeding Practices at Home under Public-Private Partnership with ITC Limited, Assam: Phase I" was undertaken to assess the effectiveness of targeted home-based counselling interventions in improving child nutrition outcomes through ICDS systems strengthening, implemented by YouthInvest Foundation.The project focused on eight high-burden districts (7 Aspirational districts and Kamrup) through Anganwadi Workers (AWWs), supported by Anganwadi Supervisors (AWSs) and Child Development Project Officers (CDPOs), under the Integrated Child Development Services (ICDS).

In early 2023, a Training Need Assessment cum Baseline Study was conducted to assess the knowledge and practices of AWWs and AWSs, as well as household-level nutrition behaviours. Based on the findings, a hotspot-based intervention strategy was adopted. This included **cascade trainings**, the establishment of **Hub Sectors**, and the use of **digital counselling tools and IEC materials** to strengthen sector capacity and promote dietary improvements at scale. The program reached **over 11.27 lakh beneficiaries** through regular home visits, facilitated by trained AWWs and AWSs, and supported by CDPOs.

Eight high-malnutrition sectors across 8 districts were selected as demonstration "Hub Sectors" to showcase replicable models. The project trained AWWs and Supervisors using digital tools and counselling kits, reaching 11.27 lakh beneficiaries across 7 aspirational districts and Kamrup through home visits.

Key components of this project included:

- Cascade training on digital counselling tools
- Establishing Hub Sectors for Best Practice Demonstration
- Monitoring feeding practices and sector performance
- Documenting and sharing best practices

The intervention strategy assists AWSs and AWWs in managing severe and moderate malnutrition in children under 5 years, thereby preventing its progression to wasting and stunting and reducing the prevalence of malnutrition cases. Additionally, it aims to prevent new cases of malnutrition in children under 2 years, thus reducing incidence rates. This integrated model, utilising public systems and private support, is designed for a sustainable reduction in child malnutrition across Assam.

The study adopted a robust Knowledge, Attitudes, and Practices (KAP) survey methodology, complemented by data triangulation from field-level assessments and secondary sources, including the Poshan Tracker, to ensure accuracy and depth of findings.

Key findings:

Capacity and Practice Enhancement of AWS

Knowledge

- 100% of AWSs know the importance of exclusive breastfeeding till 6 months of age, 88.5% in the baseline.
- AWSs' knowledge of Minimum Dietary Diversity (MDD) for children increased from 45.3% (in baseline) to 100%.

Practice

- 95.8% of AWSs conducted capacity building of the AWWs during the sector meeting (63.8% in baseline)
- All the supervisors now prepare an action plan based on the MPR data and conduct monitoring visits to the AWCs (43.3% in baseline)
- 95.8% AWSs recognised best performing AWWs and appreciate them in the Sector meeting (36.7% in baseline)

Capacity and Practice Enhancement of AWWs

Knowledge

- Awareness about the first 1,000 days nutrition rose from 89% (in BL) to 100% in intervention areas; currently 71% in Control areas
- Knowledge on the importance of exclusive breastfeeding increased to 100% from 80.3% in baseline (87.1% in Control)
- AWWs' knowledge of Minimum Dietary Diversity (MDD) for children increased from 42.1% (in baseline) to 100% (74% in Control).

Practice

- 97.5% of AWWs in intervention areas regularly weighed children, in control areas 48.4%.
- About 99.5% of AWWs effectively used and explained growth charts to mothers (69% in BL); 71% in control areas.
- In 98.6% of cases, AWWs visit the household of the children whose weight has been stagnant for 2 months (50.8% in baseline & 74% in control).

Behavioural changes atthe Household level

- **Breastfeeding Practices:** 98.4% of children in intervention areas were exclusively breastfed (59.1% in BL), significantly higher than 85% in control areas.
- **Complementary Feeding:** 97% of mothers in intervention districts correctly initiated complementary feeding post 6 months (35% in BL)
- **Minimum Dietary Diversity (MDD):**91% achieved minimum dietary diversity (27% in BL) compared to 56% in control areas. IEC tools were effectively utilised by the Anganwadi workers.
- Interviews with mothers and primary caregivers highlighted the **effectiveness of IEC materials, such as the Child Feeding Diet Chart**—used during counselling sessions on child feeding practices.

CDPO's role – Hub to spoke rollout

- In 8 hub blocks, 97.9% of sectors are already implementing the intervention, where CDPOs are guiding and leading with the help of AWSs.
- In 8 districts, intervention scaled up by the CDPOs of 74% blocks out of 62 blocks
- Out of them, 93.6% of CDPOs review the progress at least once a month (sometimes twice)

Changes in Nutritional Status

- The percentage of Underweight dropped from 23.1% (in baseline) to 13.4%,
- Wasting decreased from 6% (Baseline) to 3.5%; SAM cases were halved during the intervention period.
- In control areas, currently 23.9% are underweight, and 9.7% are wasted.

Conclusion:

Learnings from Phase I demonstrate the effectiveness of a data-driven, hotspot-based approach in improving child feeding practices, especially during the critical weaning window of 7–9 months. Targeted counselling—backed by practical IEC tools such as the Diet Chart—enabled Anganwadi Workers (AWWs) to positively influence household behaviours. The strong leadership of CDPOs and the active involvement of AWSs in supervision and training at the sector level played a pivotal role in strengthening frontline capacity and ensuring consistent service delivery. Together, these efforts led to tangible improvements in nutrition-related behaviours and outcomes, presenting a scalable, sustainable model for addressing child malnutrition.

Looking ahead, the gains achieved can be further amplified by extending home-based counselling to children aged 3–6 years, a key transition phase in a child's development. Integrating early childhood care and education (ECCE) alongside nutrition is essential to foster the holistic growth and development of young children. This represents a necessary paradigm shift from a focus solely on nutrition to a more nurturing approach that addresses stimulation, learning, and responsive caregiving. AWWs can easily do this by conducting integrated home visits, combining age-appropriate early stimulation activities with nutrition counselling and engaging both parents and caregivers. By aligning counselling with the frameworks of *NavChetna*and *Palna,*Government of India, this approach ensures that children not only survive but thrive, laying the groundwork for long-term well-being and success.

INTRODUCTION

ITC's Social Investments Programme (CSR Programme), "Mission Sunehra Kal" aims to strengthen the livelihoods and wellbeing of the community in defined catchments, in over 200 districts across 20 states. Interventions are designed on Farmer Capacity Building, Natural Resource Management, Livelihood Diversification, Education & Skilling, Women Empowerment and Public Health. All interventions are aligned with the development priorities of the nation and focus on the creation of innovative models that can be replicated and scaled up sustainably. Programmes are implemented in a multi-partner approach by NGOs, ITC, and Government Departments, with knowledge support of the national and international technical agencies like IWMI, CGAIR, local Universities etc.

Under the Public Health Programme of ITC, Maternal & Child Health and Nutrition (MCHN) is a major intervention which aims to reduce child malnutrition during 1000 days of life as well as address anaemia among children, adolescent girls and women following the Life Cycle Approach by creating awareness and strengthening the government delivery system.

In December 2022, under the initiative, ITC collaborated with the Directorate of Women & Child Development, Govt of Assam to demonstrate the Prevention of Malnutrition in 8 Districts of Assam through working with Anganwadi workers on strengthening their capacity for home-based targeted counselling, especially during the first 1000 days through digital counselling tools and counselling aids. The association aimed to strengthen more than 16,644 Anganwadi Workers (AWW)through cascading training & supportive supervision by Anganwadi Supervisors. YouthInvest Foundation (YouthInvest), a reputed Indian not-for-profit organization, was the implementation partner of these interventions. YouthInvest has been associated with ITC since 2018 to create a healthy, educated and well-balanced community.

Overview of the Intervention

In early 2023, a Training Need Assessment Study cum Baseline was conducted to map the Knowledge & Practices of Anganwadi & Supervisors against desired capabilities as well as household-level nutritional behavioural practices.

After the baseline study, a hotspot-based approach was taken for rolling out the interventions. Based on the findings, cascade training programmes were designed for Anganwadi Supervisors (AWS) and Anganwadi Workers (AWS) to prevent childhood malnutrition through dietary modification and sector strengthening.

Eight Malnutrition Hotspot sectors from 8 districts were identified,where the prevalence of malnutrition was more and used to demonstrate the programme template that can be replicated elsewhere to reduce Child Malnutrition in 7 aspirational districts and Kamrup, covering 11.27 Lakh Beneficiaries through home-based counselling.

The focus of the project was to train AWWs and Supervisors through cascading training on digital tools and home visit counselling kits.

- Establish "Hub Sectors" in each district as demonstration sites for best practices in malnutrition prevention.
- Develop and implement monitoring frameworks to track feeding practices, growth monitoring, and sector-level performance.
- Document and disseminate best practices and impact stories

This comprehensive approach leverages government systems and private-sector support to enhance the impact of nutrition interventions in Assam. By targeting both service delivery and community behaviour change, the

initiative aims for a sustainable reduction in child malnutrition across the state.

In this regard, a third-party study was carried out to gather insights, learn and assess the effectiveness and impact of the intervention. An agreement was signed between the YouthInvest Foundation and the School of Agro and Rural Technology, IIT Guwahati, to conduct a holistic study.

Study Design:

Objectives of the Study

To understand the effectiveness of the intervention in changing the target population's knowledge, attitudes, and practices through a KAP survey.

1. **Assess the effectiveness of the case-specific counselling approach and its roll out in the hub sectors:**
    - **a.** To gain insights on changes in knowledge, attitude, and practices (KAP) among Anganwadi Supervisors and Workers, specifically focusing on their ability to implement targeted home visits and deliver effective nutritional counselling during the 1000-day window, using tools and IEC materials, compared to the baseline.
    - **b.** To examine the rollout and impact of home-based counselling on household-level child feeding practices, including the timely initiation of complementary feeding, dietary diversity, and meal frequency.
2. **Evaluate the effectiveness of the capacity-building approach in the non-hub or control sectors:**

    To understand knowledge, attitude and practices among Supervisors and the CDPOs in the spoke areas regarding the home-based counselling approach, data-driven planning, monitoring and rollout mechanisms in their respective areas of operations.

Methodology

The study utilised a KAP survey methodology, administered to Anganwadi workers, supervisors and CDPOs at two stages. Baseline (before the interventions) and current (after the intervention). The surveys were designed to focus:

- **Knowledge:** Understanding of nutritional practices, child feeding and case-specific counselling.
- **Attitude:** Perceptions towards the importance of timely initiation of complementary feeding, minimum dietary diversity and home-based counselling.
- **Practice:** Actual behaviour regarding home visits, child feeding practices, exclusive breastfeeding and application of the intervention tool.

Hub sectors were selected for the survey, which includes eight districts of Assam - Darrang, Udalguri, Dhubri, Goalpara, Hailakandi, Barpeta, Baksa and Kamrup. After the completion of data collection in these hub sectors, the survey was conducted in two control Districts of Assam, Nalbari and Morigaon.

Nalbari and Morigaon districts are similar to the intervention districts in terms of socio-economic and nutritional parameters, both districts are nearer to the intervention districts, and none of the components of the intervention were carried out.

A field surveyof the AWWs and Beneficiary Mothers, plus an online surveyof the Anganwadi supervisors and CDPO's response to the following research questions was conducted. The following tables indicate the geographical scope of the studyas well as the samples of AWWs and beneficiaries from the Hub andnon-Hubsectorsofthestudy.

It is to be noted that the intervention sectors received implementation support from the project, and the control areas in this study indicate that the natural change in the indicators has taken place.

Type of Study District	District	Block	Sector
Intervention	Baksa	Nagrijuli	Kochukata
	Barpeta	Ruposhi	Kalgachia
	Darrang	Dalgaon Sialmari	Sialmari
	Dhubri	Nayeralga	Mashlapara
	Goalpara	Joleswar	Katarihara
	Hailakandi	Lala	Borbond Sector-01
	Kamrup	Goroimari	Tukurapara
	Udalguri	Mazbat	Bahipukhuri
Control	Nalbari	Barkhetri	Ghoga
	Morigaon	Mayong	Gormari

The Sample

The sample has been selected from the intervention and control areas. In the case of intervention areas, the sample beneficiaries and AWWs have been selected from the 8 hub sectors (malnutrition hotspot sectors of 2022-23) from 8 districts and in the case of control areas, 2 worst-performing sectors of the same period from 2 districts (Nalbari and Morigaon) are selected. All the results are the findings from these 10 sectors. The details of the samples are given below -

The geographical scope and sample size of the Intervention districts

District	Block	Hub sector	No. of Hub AWW interviewed	No. of beneficiaries/ caregivers interviewed	No. of AWS interviewed	No. of CDPOs interviewed
Baksa	Nagrijuli	Kochukata	27	43	04	01
Barpeta	Rupsi	Kalgachia	24	42	04	02
Darrang	Dolgaon	Sialmari	21	35	01	01
Dhubri	Nayeralga	Mashlapara	34	14	03	02
Goalpara	Joleswar	Katarihara	25	28	02	01
Hailakandi	Lala	Borbond Sector 1	23	50	04	02
Kamrup	Goroimari	Tukurapara	22	42	03	02
Udalguri	Mazbat	Bahipukhuri	27	46	03	01
Total			**203**	**300**	**24**	**12**

District	Block	Sector	No. of Hub AWW interviewed	Randomly selected beneficiary
Morigaon	Mayong	Garmari	15	15
Nalbari	Borkhetri	Ghoga	16	25
Total			**31**	**40**

The Geographical scope and sample size of the Control Districts

The Focal Point of the Study

Sl.	Focus Area	Study Participants	Study Questions	Remarks

1	Capacity enhancement (knowledge, attitude and practice) of Supervisors and AWWs	Sample from Supervisors and AWWs of 8 districts	• Has there been a change in KAP among Supervisors and AWWs?
			• How did this change happen
			  • Role of training
			  • Role of IECs
			  • Role of tools
				• Comparison between Baseline/ current in the intervention area
				• Comparison between intervention and control

2	Household-level Child Feeding Behaviours and Practices	Sample HHs from hub sectors	• Has there been a change in child-feeding practices at the household level?
			• How did this change happen
			  – Role of AWW visit
			  – Home-based counselling
			  – Use of tools during counselling
				• Comparison between Baseline/ current in the Intervention area
				• Comparison between intervention and control

3	Effect of Hub & Spoke Model	AWS, AWW, CDPOs	Process evaluation
			  • Hub selection
			  • Hub implementation process
			Impact
			  • The ripple effect in block
			  • The ripple effect in the district
				• Comparison with high-performing & low-performing sectors of 8 districts

4	Impact of communication - Keeping normal children on a normal growth path	CDPOs, AWSs, AWWs, HHs	How the shifting towards the normal child took place in the system
			  • Among CDPOs
			  • Among AWSs
			  • Among AWWs	

Study Team

Lead:

Dr. Siddhartha Singha, Assistant Professor,

Life Member Association of Food Scientists & Technologists (INDIA), Member NetProFan, FSSAI (Responsible for overall supervision, data analysis, designing of the survey tool, carrying out the Beta testing, and report preparation)

Project Staff:

Ms. Sangita Mandal and Ms. Aditee Sarmah, Clinical Nutritionists (Responsible for data collection in four districts and secondary data analysis).

Mr. SauravMandal(FoodTechnologygraduatewithexperienceinfieldsurveys, Responsiblefor datacollectioninfour districtsandarranging interviews).

Agroup of graduate interns working ona task basis with the four-member core team is helping to conduct field surveys, focus group discussions (FGDs), and documentation.

SECTION 1: CAPACITY ENHANCEMENT (KNOWLEDGE, ATTITUDE & PRACTICE) AMONG ANGANWADI WORKERS AND ANGANWADI SUPERVISORS

The Integrated Child Development Services (ICDS) programme's organisational structure involves a hierarchical system, with Child Development Project Officers (CDPOs) at the project level, Supervisors (AWSs) at the sector level, and Anganwadi Workers (AWWs) and Anganwadi Helpers (AWHs) at the Anganwadi level.

Under this project, CDPOs and AWSs are trained in Cascade I.They further provided training to the AWWs in Cascade II. Apart from the training, AWWs also received various IECs and a counselling app to conduct home-level counselling and AWC-level various events.

The intervention strategy focused on building capacity of AWSs and AWWs to prevent and manage malnutrition in children under 5 years through home visitation and counselling during critical periods in the 1000 days from pregnancy to 2 years.

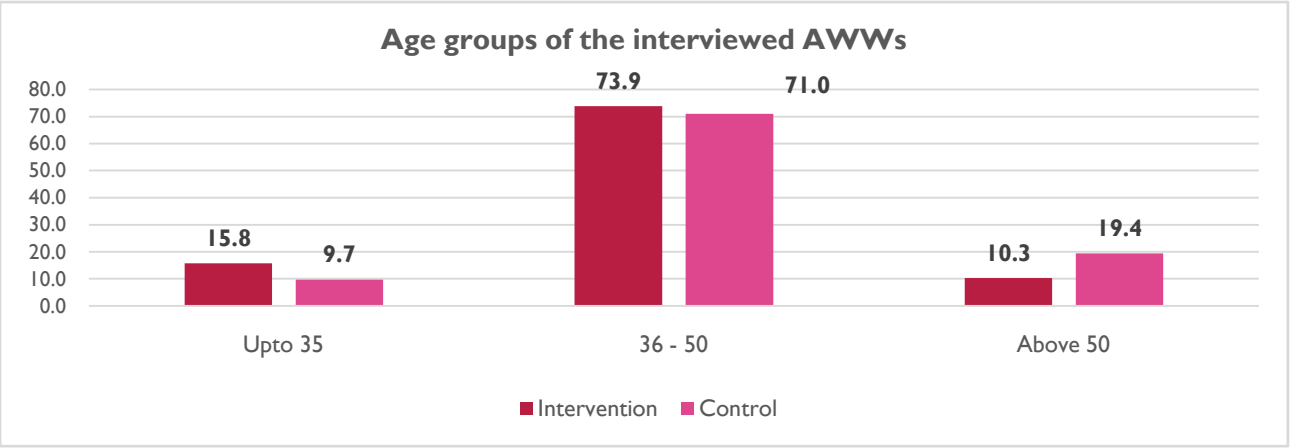
In order to understand the effect of the current intervention in improving output and the impact of the Scheme for the reduction of malnutrition, these three actors, CDPOs, AWWs and AWWs need to be assessed. This study attempted to interview the AWWs and carry out online surveys for the AWSs and CDPOs.

In this study, a total of 234 AWWs were surveyed and interviewed across the 10 districts. Out of 234 AWWs, 203 AWWs are from intervention 8 hub sectors of 8 districts and 31 are from 2 sectors of 2 control districts.

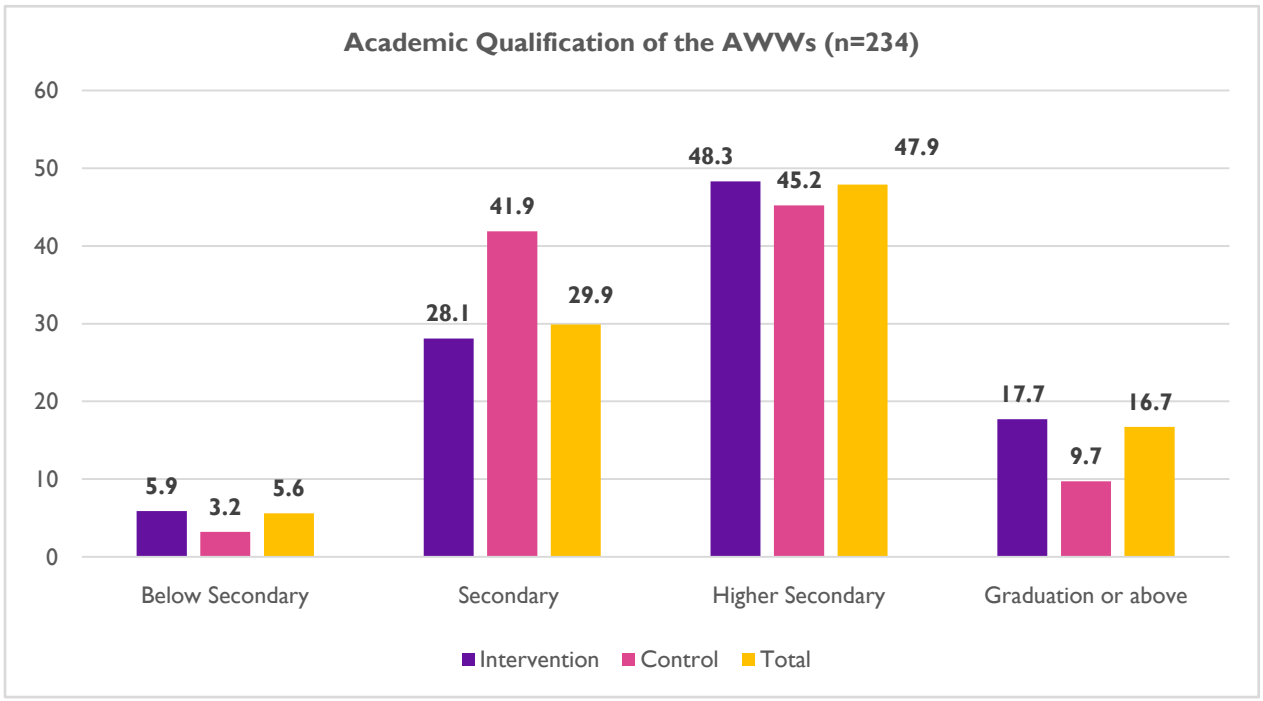
District	Intervention							Control			Total
	Baksa	Barpeta	Darrang	Dhubri	Goalpara	Hailakandi	Kamrup	Udalguri	Morigaon	Nalbari	
No. of AWWs Interviewed	27	24	21	34	25	23	22	27	15	16	**234**

1.1Demographic and Social Characteristics of Anganwadi Workers

The age of the AWWs interviewed ranged from 24 years to 59 years. In both intervention and control areas, the distribution of age is somewhat similar, with the majority of AWWs falling within the 36- to 50-year age group.



Out of 234 AWWs, a total of 74.% and 71% of AWWs are in the age group of 36 to 50 years in Intervention and Control, respectively. In the case of the lowest proportion of age groups of AWWs, in Intervention, it is above 50 years (10.3%) and in Control, it is AWWs under 35 years (9.7%).

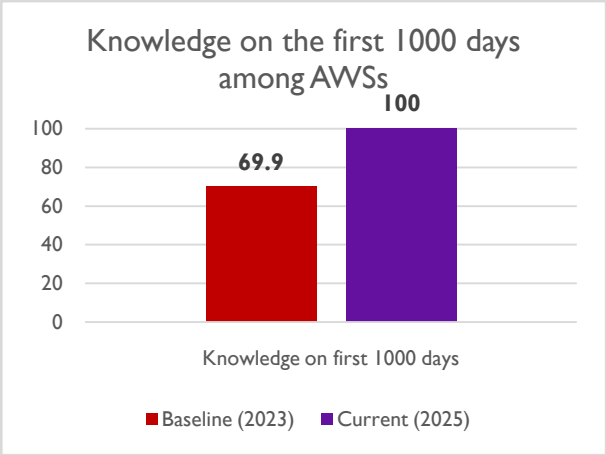


Regarding the academic qualifications of the AWWs, 47.9% had completed higher secondary education, while 5.6% did not reach the secondary education level.Apart from that, 16.7% are graduates, and 29.9% have completed secondary education.

1.2 Changes in Knowledgeon key MCHN issues among the AWWs & AWSs

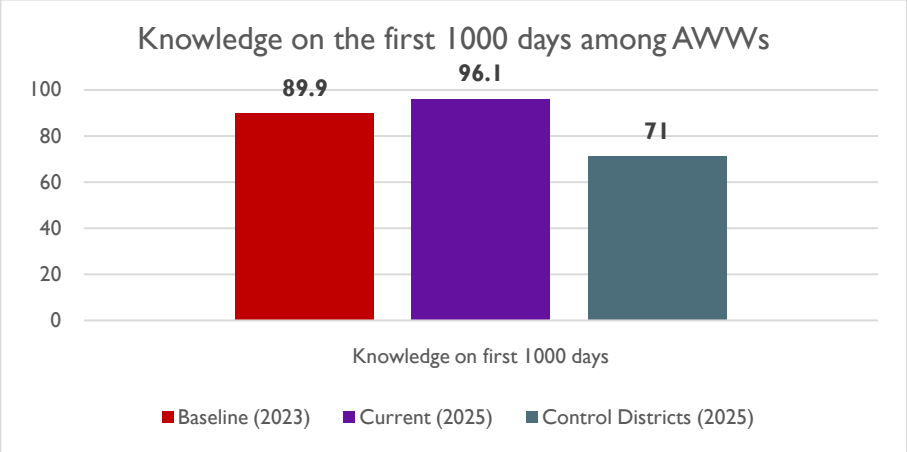
1.2.1 Understanding of the concept of the First 1000 days

The first 1000 days of life include three stages: pregnancy (270 days), year 1 after birth (365 days), and year 2 after birth (365 days). The scientific basis of the first 1000 days plays a pivotal role in performing effective counselling to the mothers, family members and as well as would-be mothers.



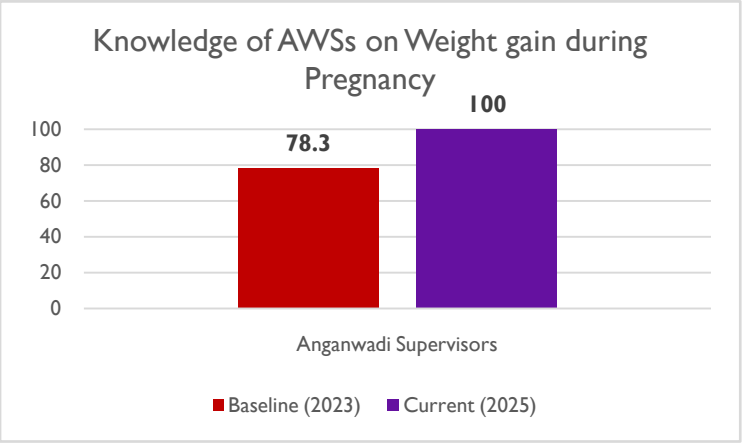
The current study data shows that the knowledge regarding the first 1000 days increased among the Anganwadi Supervisors (AWSs). All the surveyed AWS responds correctly (in baseline 69.9%).

The increased knowledge further translated to the AWWs. The survey data reveals that, amongst the AWWs, the knowledge has increased than the baseline in the intervention areas. Currently, in the intervention districts, 96.1% of AWWs know on the first 1000 days (in baseline, it was 89.9%), its stages and its importance; in contrast, in the control, 71% of AWWs have that knowledge.



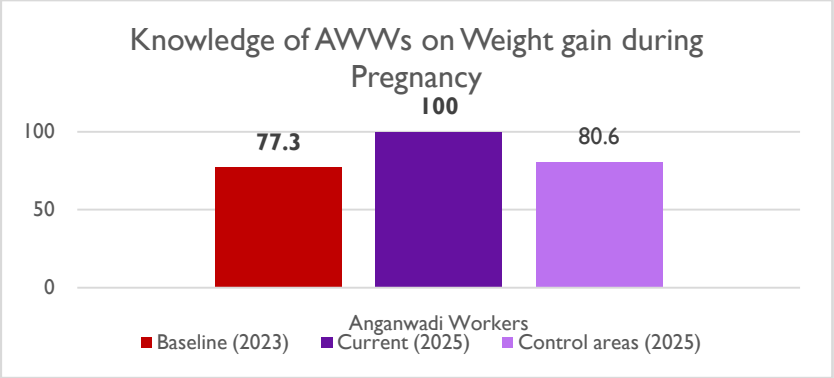
1.2.2 Weight gain during pregnancy

In the entire pregnancy period, pregnant women gain the maximum weight during the third trimester. Due to the maximum weight gain and restricted mobility, FLWs are advised to visit their households for counselling on increasing the proportion of food intake and dietary diversity, along with the rest.



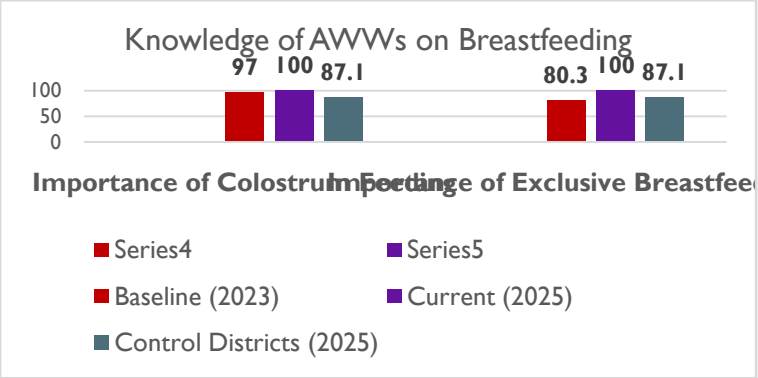
Among the AWSs, all of them correctly pointed out that, during the third trimester, a pregnant woman gains maximum weight, which means the foetus also grows most during that period. However, at baseline, only 78.3% were able to answer it properly.

Among the AWWs of control areas, 80.6% reported knowing during the third trimester that a pregnant woman gains maximum weight. All the AWWs (100%) of intervention areas know it well and they came to know from the training provided by their supervisors (in baseline, only 77.3% knew it).



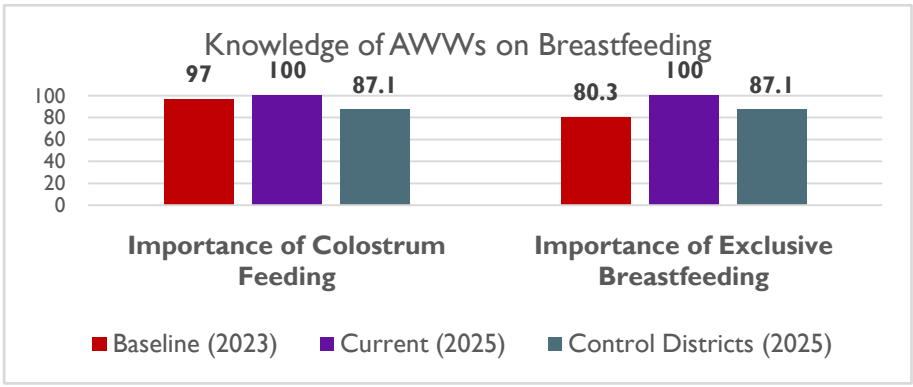
1.2.3 Colostrum Feeding and Exclusive Breastfeeding

In the last two years, due to several trainings by the current project received by the AWSs and AWWs of the intervention districts, all of them know about the importance of colostrum feeding and exclusive breastfeeding.



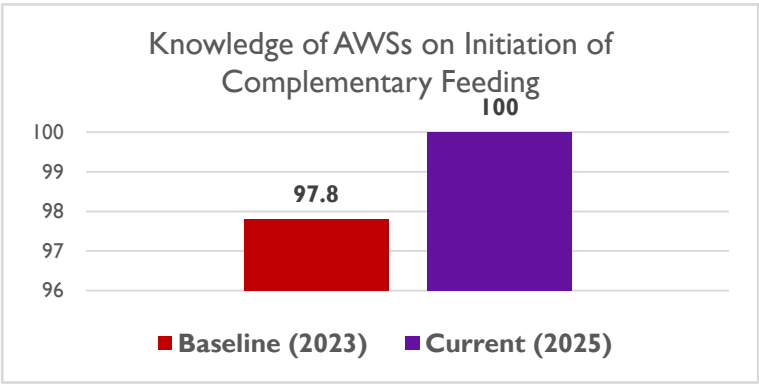
Amongst the AWSs, all of them were able to answer the importance of colostrum and feeding it within one hour of birth properly (in baseline 97.7%). On the other hand, regarding exclusive breastfeeding, 100% of the surveyed AWSs know the importance of exclusive breastfeeding.

In the case of the Control district, 87.1% of AWWs know the importance of colostrum feeding and the side effects of pre-lacteal food for the newborn child, as well as the importance of exclusive breastfeeding. In the intervention, it is 100% (baseline 97%). In intervention areas, 100% of AWWs know the importance of exclusive breastfeeding (baseline 80.3%).

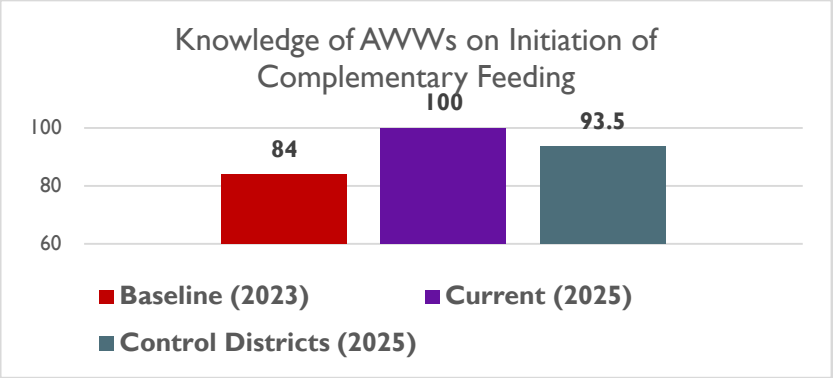


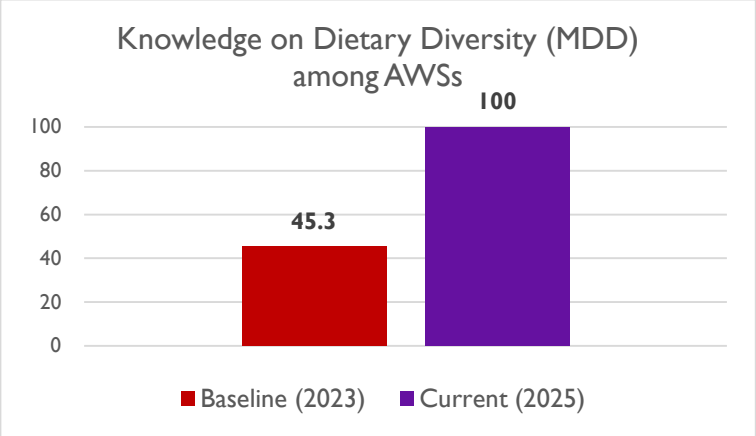
1.2.4 Initiation of Complementary Feeding

The current study data shows that all the Anganwadi Supervisors know that complementary feeding needs to start after a child is 6 months old (180 days). During the baseline, 97.8% of AWSs knewthe initiation of complementary feeding.



In the case of AWWs, about 93.5% of AWWs in control areas know that complementary feeding needs to be initiated six months after birth. However, in the intervention, 100% knew the importance of the timely initiation of complementary feeding (84% in baseline).



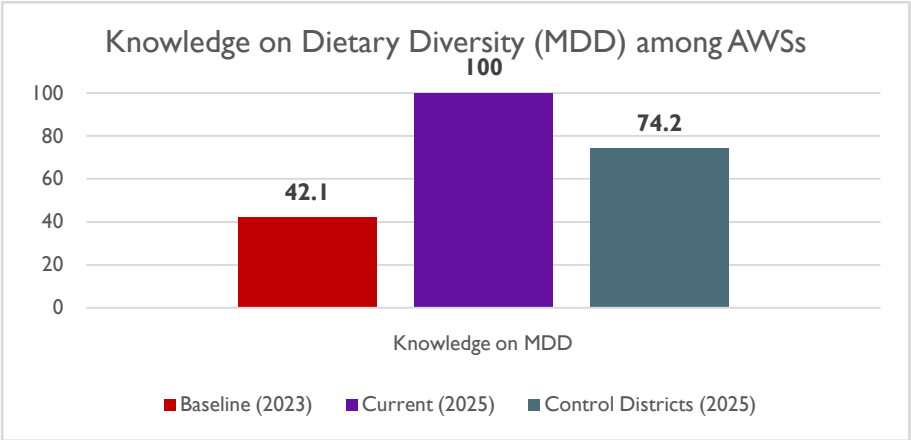


1.2.5 Dietary Diversity

As part of the study, the knowledge of AWWs on Minimum Dietary Diversity (MDD) for pregnant and lactating women and children was assessed. The respondents who could mention at least five food groups out of the eight broad food groups (for Children) and 5 out of 10 food groups (for Pregnant & Lactating mothers) were considered to have correct knowledge of MDD.

Out of the interviewed AWSs, all of them were able to answer 5 food groups out of 8 need to provide a child regularly and for pregnant women, 5 out of 10 food groups. During baseline (2023), only 45.3% of AWSs were able to answer it.

Amongst the AWWs of intervention areas, all of them (100%) were able to answer at least 5 food groups for Pregnant and lactating mothers and children (in baseline, 42.1%). On the other hand, in the control areas, 74.2% of AWWs were correctly able to respond to MDD.

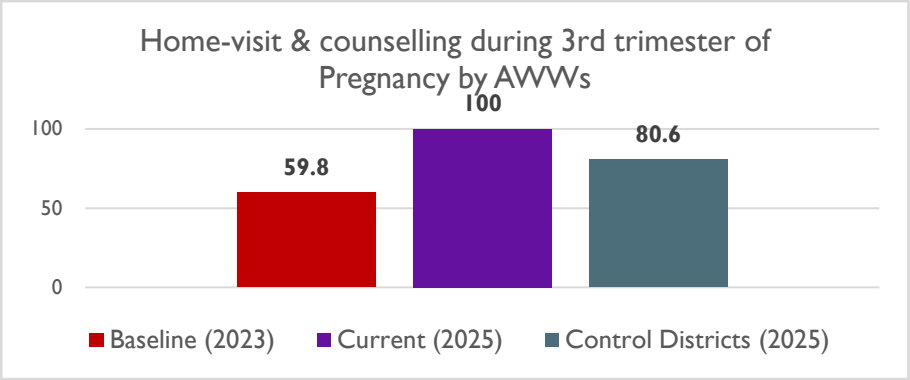


1.3 Changes in Practice among the AWWs

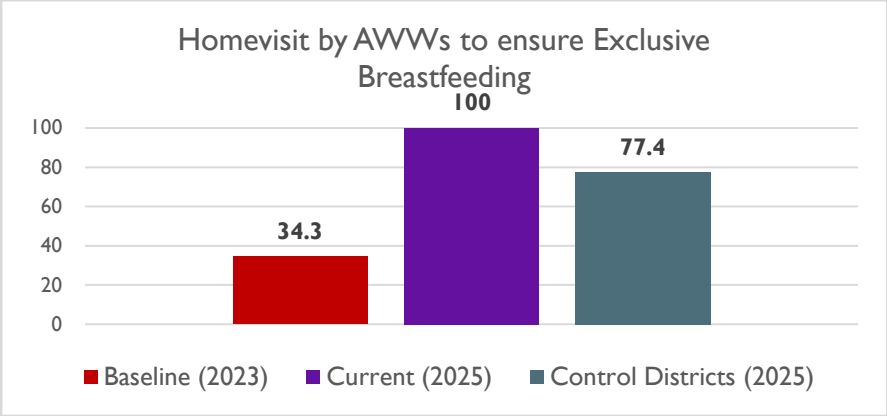
1.3.1 Home visit and Counselling during the Pregnancy period

Pregnant women gain the most weight in the third trimester, which limits mobility. AWWsneed to visit their homes to counsel them on increasing food intake, dietary diversity, and rest. AWWsmust also guidebirth and breastfeeding preparation.

Amongst the AWWs of control areas, 80.6% of them reported that they visited third-trimester pregnant women and counselled on increasing diet proportion with maintaining diet diversity and breastfeeding, whilst all the AWWs (100%) of intervention areas did the same to achieve a healthy pregnancy period (in baseline, it was 59.8%).



1.3.2 Home visit and counselling to ensure breastfeeding



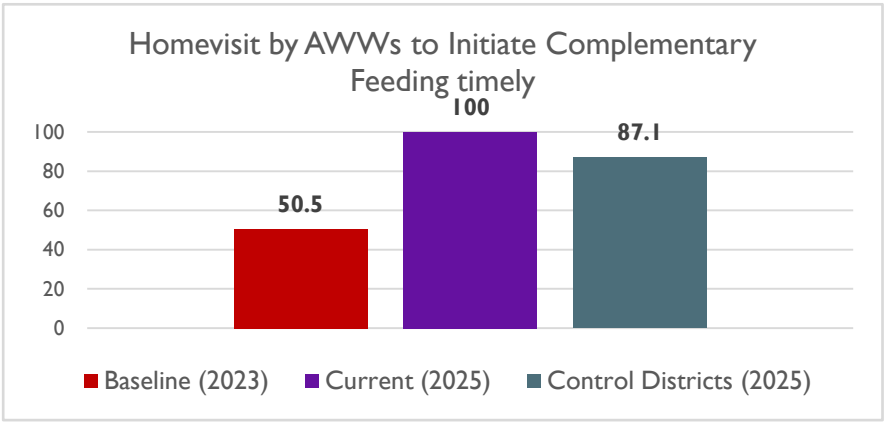
In intervention areas, 100% of AWWs reported that they visit the households of the newborns and counsel the mother and family members to ensure exclusive breastfeeding (baseline 34.3%).

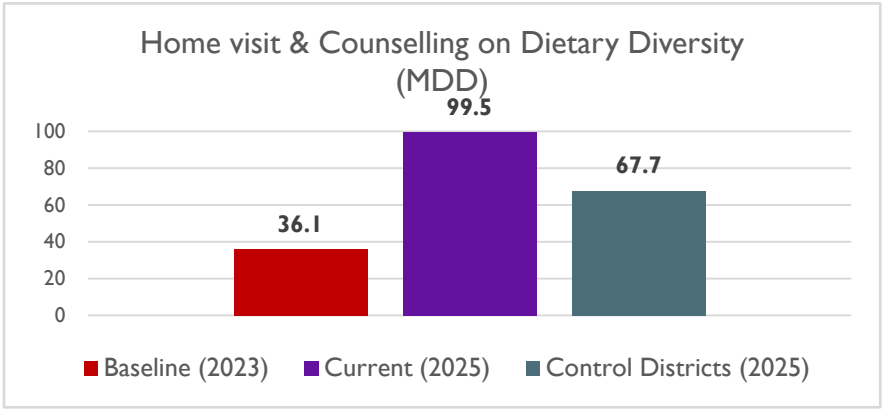
While in control, 77.4% reported that they counsel the mother and the family members to ensure exclusive breastfeeding.

1.3.3 Initiation of Complementary Feeding

The current study data shows that 87.1% of AWWs in control areas counselled the mothers on the initiation of complementary feeding, just the completion of 6 months of age of the child.

However, in the intervention, 100% of the AWWs reported the same (50.5% in the baseline).





1.3.4 Dietary Diversity

Amongst the AWWs of intervention areas, all of them (100%) were able to answer at least 5 food groups for Pregnant and lactating mothers and children; however, 99.5% of AWWs conveyed this information during the visit and to the mothers/ family

members (in baseline 36.1%).

In the control areas, 67.7% of AWWs conductedhome visits and counselled mothers on maintaining the dietary diversity of their child's diet.

1.3.5 Growth Monitoring and Promotion

Growth Monitoring and Promotion (GMP) is a vital component of child health and nutrition programs, especially for children under the age of two, a period often referred to as the "first 1,000 days." This phase is critical for a child's physical and cognitive development, and proper monitoring can help early detectionof growth faltering and undernutrition.

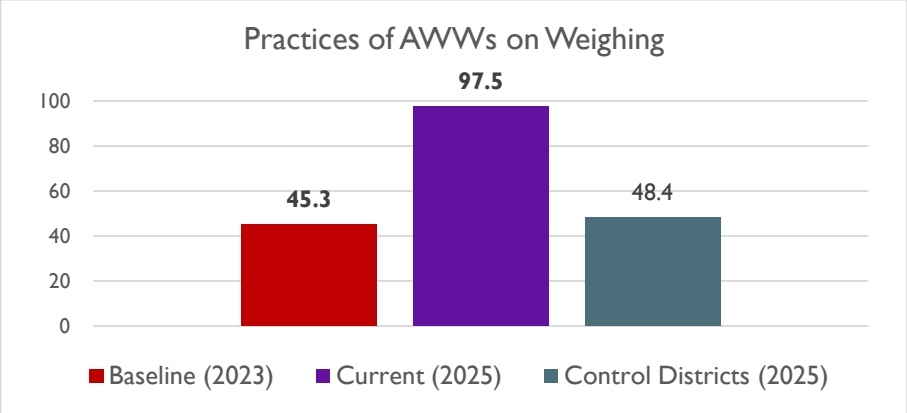
GMP involves the regular measurement of a child's weight, length/height, and head circumference, which are plotted on standardized growth charts to assess the child's growth pattern. These assessments are typically done monthly and are accompanied by tailored counselling sessions for mothers/ caregivers to promote optimal infant and young child feeding practices, hygiene, and care.

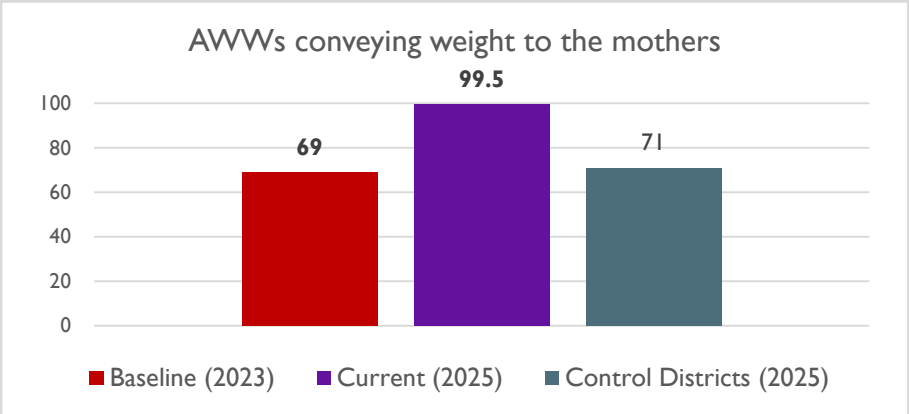
The weighing, plotting and counselling of the mothers by showing the growth chart are the key components of the GMP. Early detection of growth issues enables timely interventions, reducing the risk of stunting, wasting, and other forms of malnutrition.

*1.3.5.*a Weighing

Weighing during the first 2 years is very crucial to prevent childhood malnutrition.

Amongst the AWWs in the intervention areas, 97.5% reported that they weigh children every month (45.3% in the baseline). In the control areas, 48.4% of AWWs weigh the children regularly.





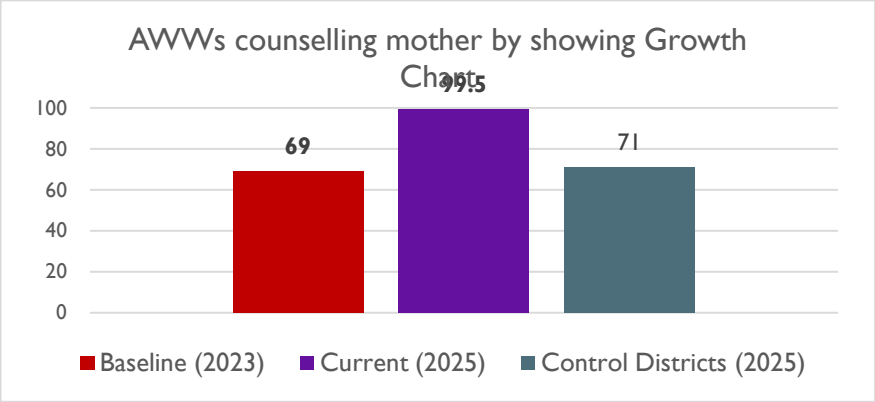
1.3.5.b Conveying Weight and Plotting in Front of Mother

The survey data revealed the practice of AWWs concerning growth chart plotting in front of the mother, where 99.5% of AWWs of intervention areas plot the growth chart of the child in front of the mother/ caregivers and convey to them the weight and the growth of the child (69% in baseline). On the other hand, in control areas, it is 71%.

1.3.5.c Counselling of mothers and caregivers using the growth chart

After plotting the weight in the growth chart, a mother needs to convey the status and be counselled for further steps to continue or improve nutritional behaviour.

In the intervention areas, 99.5% of AWWs reported that they conveyed the growth status of the child and counselled the mother/ caregivers by showing the growth chart of the child (in baseline, 69%). On the other hand, in control areas, it is currently 71%.



1.3.6 Use of Communication Materials

1.3.6a. Use of Community Growth Chart

The **community growth chart** serves as an essential instrument for monitoring malnutrition in children aged 0-5 years. It provides a systematic approach to track growth and identify at-risk children within the Anganwadi catchment area.

The chart is prominently displayed in the Anganwadi Centre (AWC), enabling mothers and caregivers to observe the nutritional status of their children. Each month, a child's weight is accurately updated on the chart using a "bindi" marker.

In the intervention areas, 98.7% of AWWs use it after weighing and use it as one of the communication tools during the mother's meeting.

1.3.6b. Use of home-visitation flipchart

This **home-visitation flipchart** is designed as a professional tool for Anganwadi Workers (AWW), detailing seven essential home visits within the first 1000 days of life. Its primary objective is to provide clear guidance to AWWs on delivering key messages to beneficiaries, ensuring effective counselling during these visits. About 97% of AWWs reported that they are using it regularly in the field to conduct targeted counselling focusing on the first 1000 days. Further, they stated that the tool was very useful to them to keep the children in normal growth.

1.3.6c. Use of the Swasthya Poshan Alaap digital app

The **Swasthya Poshan Alaap** application is designed to deliver essential information and offer counselling on maternal, child, and adolescent health matters. The self-learning and counselling materials within this app adhere to guidelines issued by the Government of India and the World Health Organisation (WHO).

Amongst the AWWs, 90.1% of them use the app during counselling and community-based/AWC-based events.

1.3.6c. Use of the Diet Chart on child feeding practice

The Diet Chart that was provided to families in the hub sector proved to be an effective IEC tool for mothers and caregivers to understand and remind them on age-appropriate feeding, especially weaning period onwards. It's simple, visual format helped mothers to understand key messages on food type, quantity, and frequency using local ingredients. Mothers and family members found it easy to understand and apply, leading to better practices in complementary feeding, dietary diversity, and meal planning. Regular use of the chart strengthened behaviour change at the household level and enhanced the impact of counselling.

Impact of The Diet Chart:

Initially, we were unsure about child feeding, but the diet chart clarified what and how much to give them. It included foods the family already had, so no extra purchases were necessary. As mothers followed the chart, we observed significant improvements in the children's health; they became more active & gained weight. Now, we feel confident in guiding proper feeding practices.

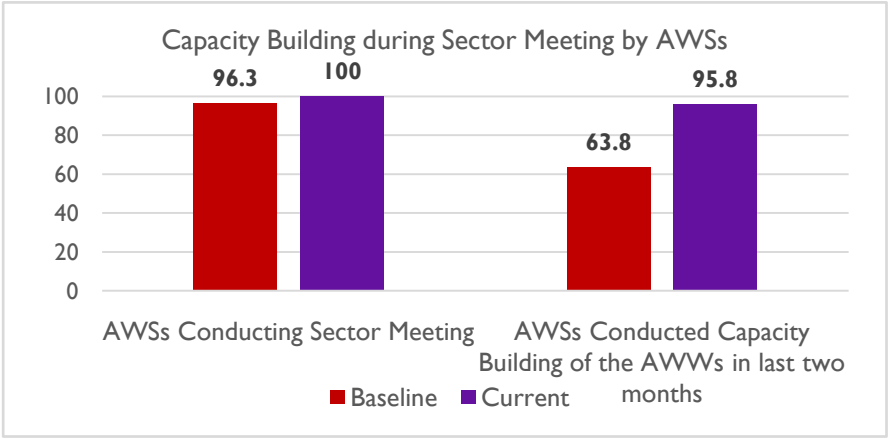
- ***Anzu Monowara Begum*** *(AWW), Darrang, Assam*

1.4 Changes in Practice among the Anganwadi Supervisors regarding Data-driven Monitoring and hotspot-based Supportive Supervision

1.4.1 Capacity Building of AWWs by AWSs in Sector Meetings

AWSs organise monthly meetings with AWWs in a structured manner, which involves selecting the date of the meeting and informing the AWWs in advance, setting up a formal agenda, improving the quality of minutes of the meeting, and using the minutes to track actions during subsequent meetings. Along with this, need-based capacity building on the nutrition of the AWWs was also conducted during the sector meeting.

All the AWSs reported that they conducted sector meetings at least once a month (in baseline, 96.3%). In some cases, twice a month. Amongst them, 95.8% of AWSs reported they conducted capacity building of the AWWs in the last two meetings (63.8% in Baseline). The findings were further supported by the surveyed AWWs.

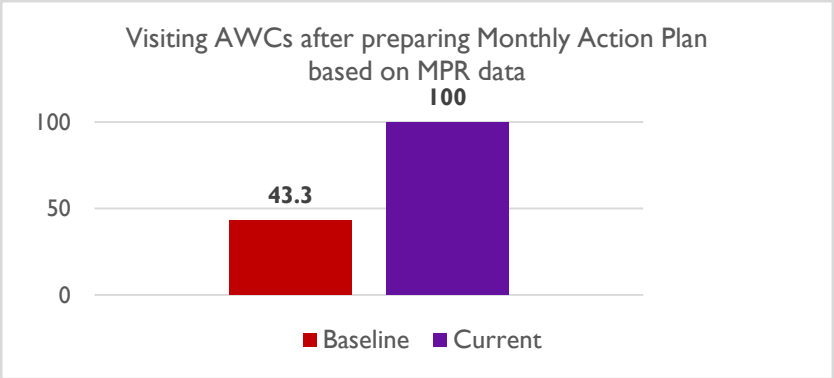


On the other hand, in the control areas, 58.3% of AWWs reported

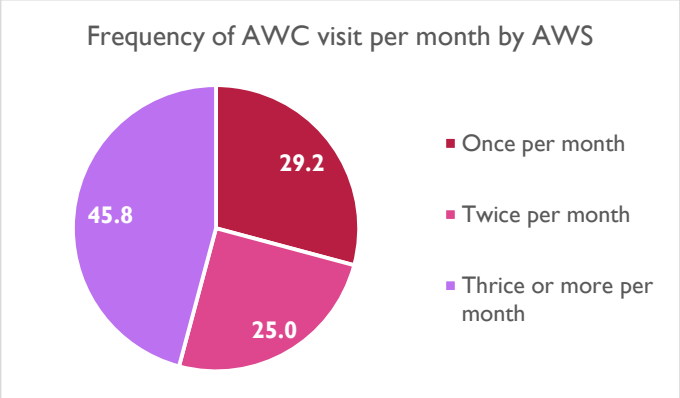
that they had capacity-building training in the sector meetings. The major purpose of the sector meeting at the control areas is to collect the MPR data.

1.4.2 Monthly Action Plan and Field Visit by AWSs

All the supervisors of intervention areas reported that they prepare a monthly action plan based on the MPR data submitted by the AWWs (in baseline, it is 43.3%).



After preparing the action plan, they visit AWCs as well as households in regular intervals. The frequency of these visits is different, based on the findings from MPR data and needs.



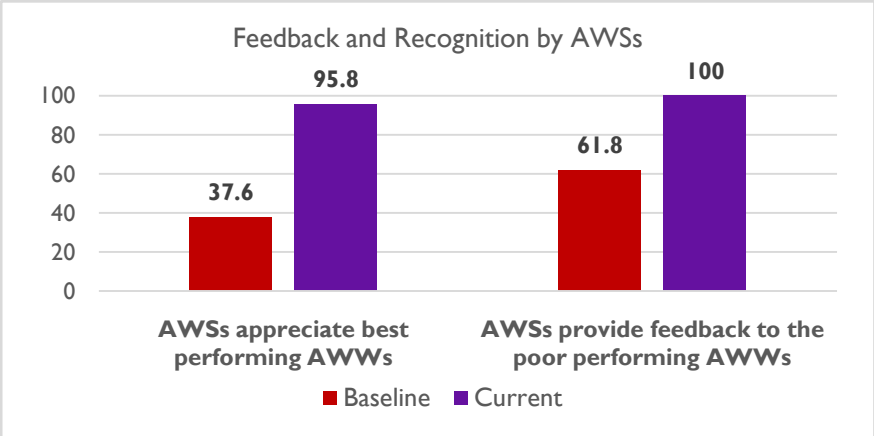
Out of the 24 interviewed AWSs, the majority of them reported that they visit AWCs and households more than thrice a month (45.8%).

On the other hand, 25% of AWSs visit twice a month and the remaining 29.2% visit once a month. During baseline, only around 45% of AWSs visited the households of the beneficiaries.

In the case of control areas, a negligible proportion of AWSs visit the households of the beneficiaries.

1.4.3 Feedback and Recognition by AWSs

Timely appreciation and recognition of good performance at all forums can improve the attitude of poor-performing AWWs and Supervisors. In this context, CDPOs and AWSs influence, motivate, encourage and provide feedback to AWWs, engage in problem-solving, and on-the-job mentoring, and recognise good performance.



Out of the interviewed AWSs, 95.8% reported that they appreciate/acknowledge AWWs who are working better during the sector meeting every month (37.6% in the baseline).

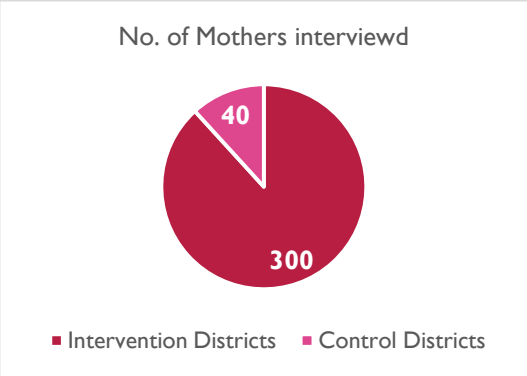
On the other hand, all of them provide feedback, and encourage AWWs during sector meetings as well as during the joint field visits with the AWWs (in baseline, it is 61.8%).

The AWSs further mentioned that both the appreciation and feedback are based on the MPR data analysis and field verification.

SECTION 2: HOUSEHOLD-LEVEL CHILD FEEDING BEHAVIOURS AND PRACTICES

Following the cascade training, Anganwadi Workers (AWWs) commenced the on-ground implementation of various interventions. They utilised the knowledge acquired from the training and employed tools such as dialogue cards, home-visit flipcharts, growth charts, home-visit planners, and the Swasthya Poshan Alaap app. The information and skills obtained through the training were conveyed to beneficiaries via counselling sessions and awareness events. This section will highlight the alterations in feeding behaviours and the resultant impact due to the interventions by the AWWs.

A total of 340 households with children under 2 years old or pregnant women have been surveyed from 8 intervention sectors of 8 districts and 2 control sectors of 2 districts in Assam.



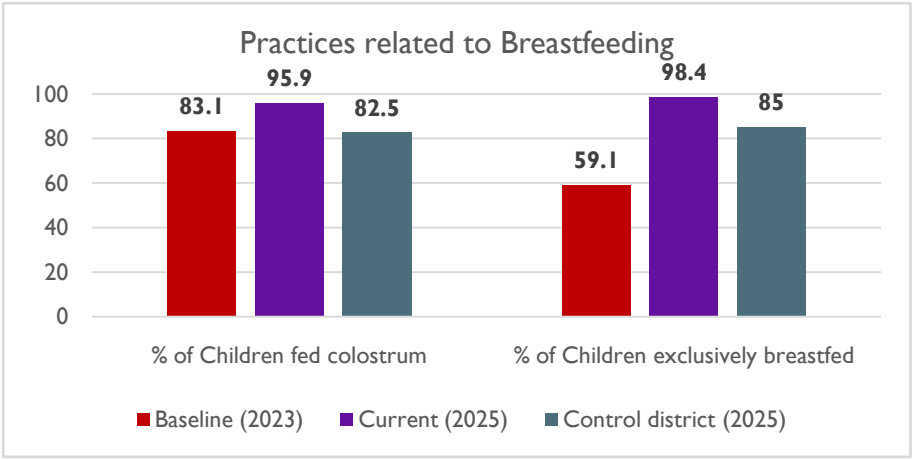
Out of 340 households,300were from the 8interventiondistricts and 40 from the 2 control districts. Target beneficiaries are would-be mothers, mothers/ caregivers, ageranges from 19 years to 40 years.

A few pregnant women were also considered as a sample to understand the feeding practices and knowledge on breastfeeding preparedness.

2.1. Breastfeeding Practices

2.1.1 Colostrum Feeding

Among mothers and caregivers, 91.4% know the importance of colostrum feeding within 1 hour of birth, and 95.9% of mothers fed colostrum to their child (83.1% in baseline). In Goalpara, it isthe lowest, 75% (however, higher than NFHS V),and in Hailakandi and Baksa, it is 100%. In the control districts, Morigaon and Nalbari, 82.5% of mothers reported that they fed colostrum to their children after the birth.



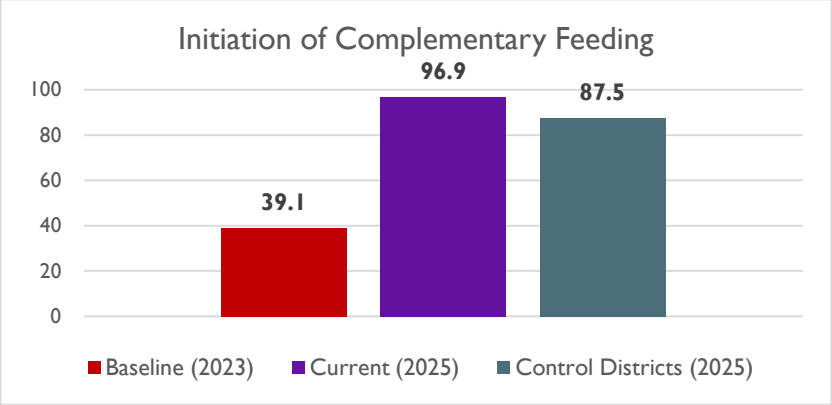
2.1.2 Exclusive Breastfeeding

On the other hand, 98.4% of children in the intervention areas are exclusively breastfed (59.1% in baseline). In Baksa, it is lowest, where 95% of children are exclusively breastfed, and in Barpeta, Darrang, Dhubri and Kamrup, all the interviewed mothers responded that they exclusively breastfed their child till six months of age. In the control districts, 85% of children have been exclusively breastfed.

In intervention districts, 85% of mothers reported that they have been counselled on breastfeeding and its importance from the AWWs (77% in the baseline); on the other hand, in control areas, 67% reported the same of getting this information from AWWs along with other sources.

2.2. Complementary Feeding

2.2.1 Initiation of Complementary Feeding

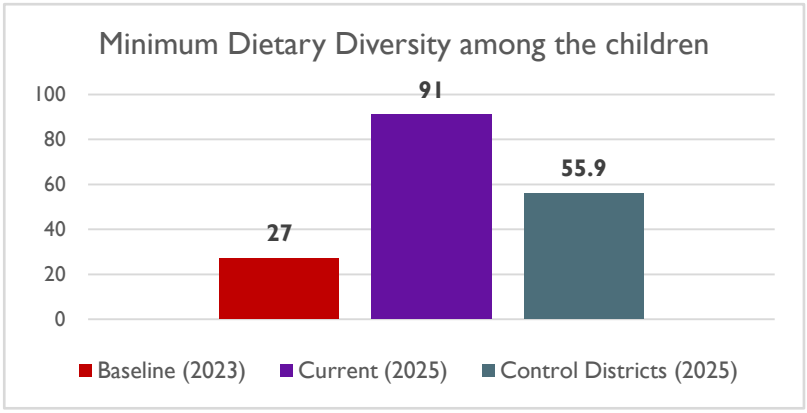


In the intervention areas, 97% of Mothers have the knowledge that the child needs to be fed complementary food just after the completion of 6 months (180 days) of the age of the child (49.8% in the baseline). Moreover, these mothers (97%) translate their knowledge into practice (39.1% in baseline). On the other hand, 87.5% of mothers of control districts have reported that they initiated complementary feeding on time.

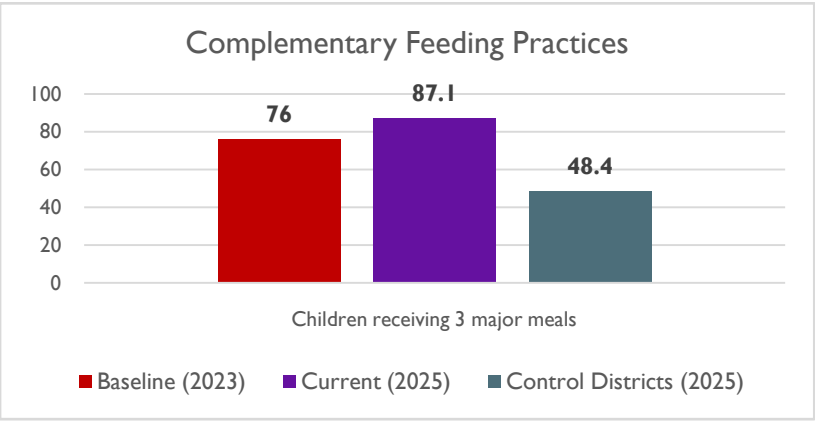
2.2.2 Minimum Dietary Diversity (MDD)1

To understand the status of minimum dietary diversity, the 24-hour recall method was used.

The study results reveal that 91% of children are receiving 5 or more food groups in a day in intervention areas (27% in baseline) and 55.9% in control districts.



2.2.3 Minimum Meal Frequency (MMF)2



Minimum meal frequency refers to the number of times a child should be fed solid, semi-solid, or soft foods in addition to breastfeeding each day to meet their nutritional needs. It is a key indicator of adequate child feeding practices, particularly for children aged 6–23 months.

Through 24-hour recall methods, out of the interviewed mothers/ caregivers, in

[1]**Minimum Dietary Diversity (MDD)**: Percentage of children 6–23 months of age who consumed foods and beverages from at least five out of eight defined food groups during the previous day.

[2]**Minimum Meal Frequency (MMF)**: Percentage of children 6–23 months of age who consumed solid, semi-solid or soft foods (but also including milk feeds for non-breastfed children) the minimum number of times or more during the previous day for non-breastfed children) the minimum number of times or more during the previous day.

intervention areas, 87% reported that children are getting at least 3 major meals (76% in the baseline), whereas in control districts, it is 48%.

Timely Intervention Sets Muzamel Back on the Road to Recovery

Muzamel Hoque, born in July 2023 in Darrang district, initially had normal birth weight but soon experienced a sharp decline due to poor complementary feeding practices, worsened by his mother Majeda's poor health and past pregnancy losses.

Through focused home-based counselling by Anganwadi Worker (AWW) Anzu Monowara Begum under the ITC-Mission Sunehra Kal, Majeda learned proper complementary feeding practices, including the inclusion of five food groups and responsive feeding.

The use of a diet chart and accessible local foods like flattened rice, puffed rice, eggs, and fish significantly improved Muzamel's nutrition. Thanks to Anzu Monowara Begum for regular home visits, growth monitoring, and behavioural changes in feeding, Muzamel's health steadily improved. From a severely underweight 3.5 kg at 3 months, he reached a normal weight of 7.8 kg at 11 months, and 9.7 kg at 21 months.

This case underscores the importance of early interventions, caregiver education, and targeted family counselling in reversing child undernutrition and securing long-term health outcomes.

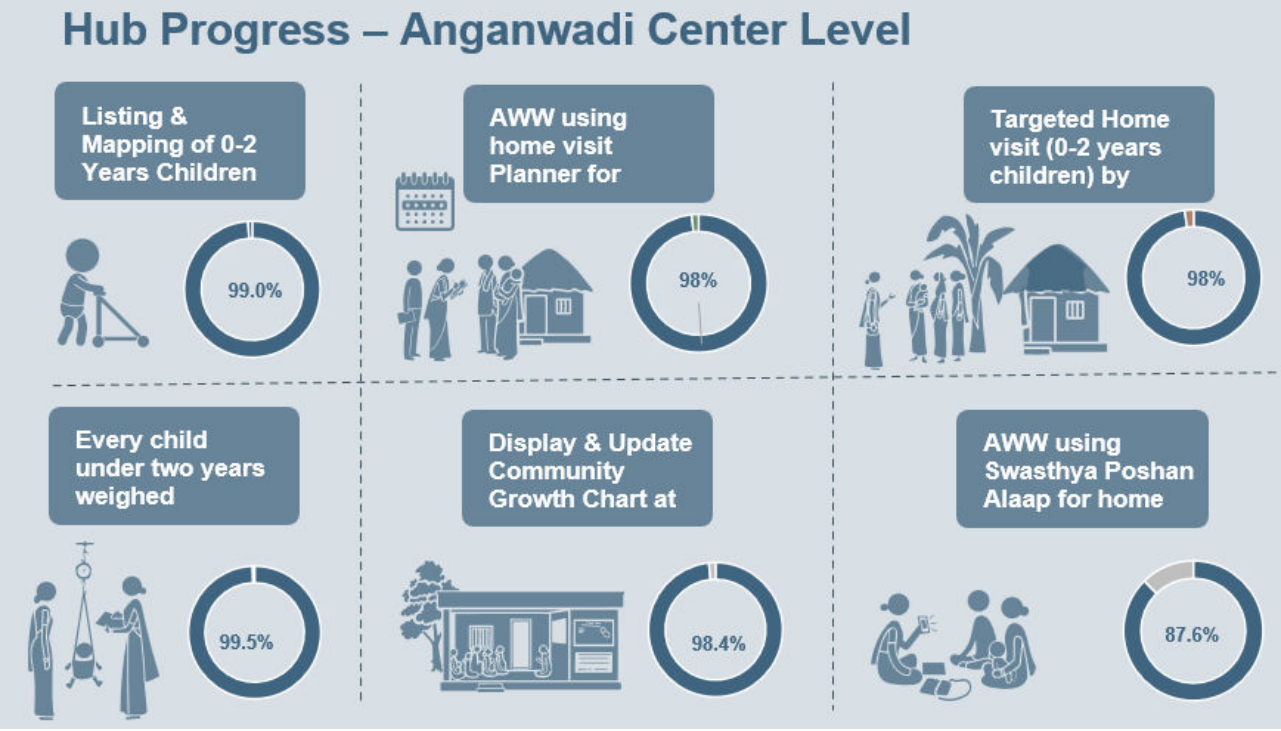
SECTION 3: EFFECT OF HUB & SPOKE MODEL – THE ROLE OF CDPOS IN THE AMPLIFICATION OF LEARNINGS FROM HUB SECTOR TO OTHER SECTORS

This section outlines the process through which the lessons learned from the hub sectors were implemented in the spoke sectors by the AWSs and CDPOs and subsequently adopted by other blocks within the intervention districts.

The project strengthened the capacity of CDPOs as leadersof the intervention in their respective blocksso that they can identify malnutrition hotspots, establish HUBsin these hotspots, and subsequently amplify the intervention in the entire blocks.

3.1. Intervention in the HUBs

The success of the entire intervention is implementing best practices through a hub and spoke model where CDPOs play a stewardship role and act as a guide for taking this initiative across the block for the prevention of malnutrition (Figure below).



At the beginning of the interventions, the CDPOs of eight hub blocks identified one malnutrition hotspot sector in the block from the list of poor-performing sectors and demonstrated the process of malnutrition prevention through targeted counselling.The Anganwadi supervisor (AWS), under the guidance of the CDPO, set sector goals and facilitated hub establishment processes by building the capacity of Anganwadi Workers (AWWs).

3.1.1 Hub Selection

The selection of Hubs is the primary task of the intervention. In the first phase, in each district, one hub block,and under the hub block, one hub sector were identified based on the prevalence of malnourished children reported in Poshan Tracker.

After the project's inception, eight hub sectors were identified in the eight poor-performing blocks based on the prevalence of malnutrition.In 8 hub sectors, all 229 AWCs were identified as hub AWCs. The entire process is facilitated by the ITC MSK and its partner YouthInvest.

- The ICDS block with the highest proportion of malnutrition in the district is termed as the **Hub Block**

- From each ICDS block, sectors with the highest cases of malnutrition are selected. These sectors are termed as **Hub Sectors.**

- Within these hub sectors, sector supervisors identify Anganwadi Centres (AWCs) with the highest cases of malnutrition using Poshan Tracker/MPR data.

3.1.2 Hub Implementation Process

The CDPO, as the leader of this intervention, after selecting the Hub sector, implements, monitors and tracks the progress of the Hub sector. On the other hand, AWSs as the leader and AWWs as the key field-level functionary constituted the unit of action for hub establishment.

The hub implementation process involves two steps: firstly, enabling AWWs to follow some practices to prevent and detect early growth failure and malnutrition and secondly, regular follow-up, monitoring, data-driven action planning and supportive supervision by the AWSs.

The following table demonstrates the status (As of January 2025) of the hub implementation process in the earlier identified malnutrition hotspot 8 Hubs.

District	Blocks	Hub Sectorsidentified	%
Kamrup	14	9	64.3
Goalpara	7	6	85.7
Dhubri	8	6	75.0
Darrang	6	5	83.3
Hailakandi	5	4	80.0
Barpeta	9	6	66.7
Baksa	8	6	75.0
Udalguri	5	4	80.0
Total	**62**	**46**	**74.2**

3.1.3 Hub Focus: Keeping a Normal Child in the Normal Growth Path

By implementing home-based targeted counselling, growth monitoring, and promotion of appropriate feeding practices, the Hub Anganwadi Centres aim to contribute to a reduction in the prevalence of malnutrition by following up malnourished children and also giving a special focus to "*Keeping the Normal Children In Normal Growth Path*".

The approach changes the mindset of the key players like AWWs, AWSs and CDPOs in improving malnourished cases as well as preventing new cases of malnutrition.

In addition to addressing SAM and MAM cases (which was the previous focus in the system), the importance of preventing new cases is emphasised to the AWWs through regular sector meetings, data-driven action planning, home visits, counselling with various IEC materials developed under the project, and recognising AWWs who perform well in achieving this objective.

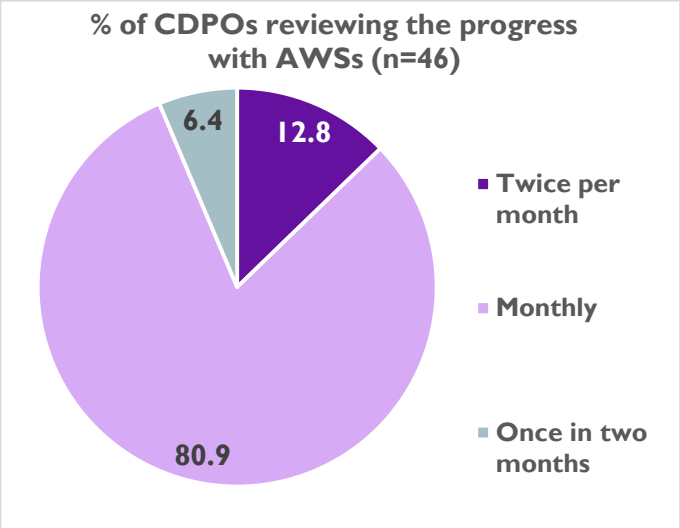
3.2. Replication in Spoke sectors/ blocks

Insights and experiences from the Hub Sector are leveraged to inspire, motivate, and empower others, particularly CDPOs and AWSs, to adopt and implement the tools and processes associated with the interventions.

The CDPO created a platform for the hub sector's AWS to share herlearning, practice and its outcome while implementing it during the meeting at the block level. The leadership of the CDPOs motivated AWSs, which further translated into action. Currently, in 8 hub blocks, out of 47sectors,46 (97.9%) are now implementing the interventions under the project.

On the other hand, through the review meetings at the districts, these CDPOs share their learning/ experiences and the effectiveness of the interventions, which motivates the remaining CDPOs to adopt the process. So far, out of 62 blocks of 8 intervention districts, 46 CDPOs (74.2%) have identified hub-sectors of their block and started implementing the intervention through capacity building of the AWSs and AWWs so that, the status of the entire block can be improved, and the benefits can reach to the children and other beneficiaries of the AWCs.

About 69.4% of CDPOs started the pre-sector meeting planning and monitoring with the AWSs at the block level.



Out of the 46 CDPOs, 12.8% reported that they conducted meetings with the supervisors twice a month, and 80.9% once a month. On the other hand, 6.4% are currently able to conduct these meetings once in a couple of months.

Pre-sector Meeting at Block

After the MPR data analysis, hotspot identification, and ranking, CDPOs arrange meetings with the supervisors on a regular basis. The meeting is focused on the implementation of the intervention, its need-based progress, capacity building, and guiding the AWSs way forward.

Implementation process: Hub to Spoke to the District

8 Hub sectors identified & established in 8 blocks under 8 intervention districts → Sharing of learning and process from Hub sectors in Monthly Project level meeting chaired by CDPOs → Visit by CDPOs and Supervisors from Spoke Areas to Hub Sector to understand best practices and processes → Sharing of learnings and achievements in District Monitoring Committeee in presence of ADM and DSW → Amplification and implementation of the home-based prevention pro approach in Spoke Areas across 8 blocks in a phased manner

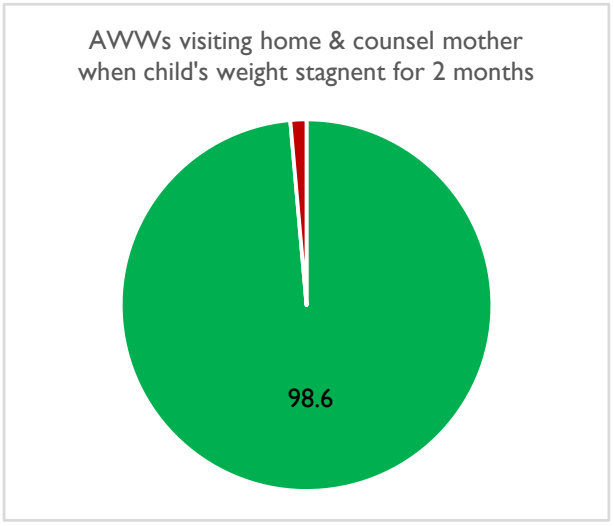
"The ITC MSK project piloted a hub sector intervention in Bahipukhuri, a malnutrition hotspot. Pleased with the results, we are now expanding this model to all sectors in the block. With support from block coordinators, we introduced a ranking system and are focusing on improving weaker sectors. We also developed a block-level pre-sector meeting agenda and initiated recognition for sectors with no SAM, MAM, or underweight children. Most importantly, the "keeping a normal child in normal growth path" concept was new to us, as we were previously running to track only malnourished children. After the training, we were adamant not to allow any child to become malnourished. Therefore, a very small no. of children added to the pool of malnourished children. I think this concept needs to be introduced in the whole state."

- *Ms. Anjana Brahma, CDPO, Majbat, Udalguri district*

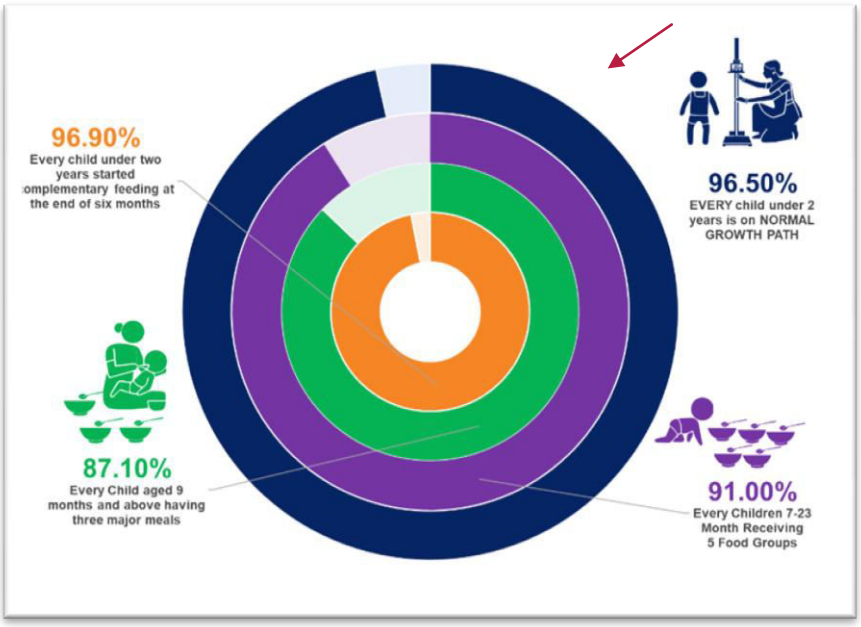
3.3 Impact of the HUBs for demonstration & learning to accelerate malnutrition prevention

3.3.1. Adoption of the processes

The hub-and-spoke model in malnutrition prevention has emerged as a strategic approach to accelerate learning, implementation, and scalability of effective nutrition interventions. A hub sector, selected based on high burden and vulnerability, serves as a focused site for intensive demonstration, capacity building, convergence, and innovation testing. Within this hub, Anganwadi Workers, Supervisors, caregivers, and community members are regularly engaged through hands-on sessions, practical demonstrations, and reinforced follow-ups to adopt improved nutritional and caregiving practices. The extended support and handholding increase targeted home visits by AWW to reduce malnutrition. In 98.6% of cases, AWWs visit the household of the children whose weight has been stagnant for 2 months (50.8% in baseline &74% in control).



The hub's impact is visible through enhanced capacities of AWWs, improved maternal and child feeding practices, increased mothers' participation, and strengthened service delivery mechanisms. The improved feeding practices advised by the AWWs reduce the likelihood of child malnutrition. The progress within the hub demonstrates the effectiveness of contextualised, evidence-based, and participatory strategies.



Following the success of the hub, the spoke sectors—geographically connected and demographically similar areas—become the natural extension points for replicating the learnings. With trained personnel (CDPOs, AWS & AWWs), tested tools, and demonstrated success, the replication in spokes becomes faster, contextually adaptive, and cost-

effective. This also encourages horizontal learning between sectors, building a wider ecosystem of change.

In essence, the hub-and-spoke model promotes scalable, sustainable, and localised solutions for malnutrition prevention by leveraging demonstration-led learning and strategically guided replication.

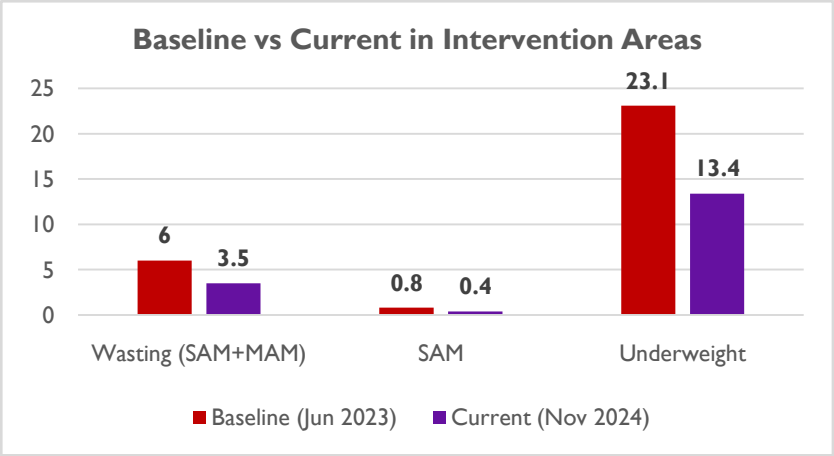
3.3.2. Changes in Nutritional Status

Before embarking on the field survey, a desk analysis was done to check if there was any significant change in the malnutrition status, i.e. fraction of the children who are underweight and suffering from SAM (Severe Acute Malnutrition), MAM (Moderate Acute Malnutrition) and wasting in the hub sector during the intervention period. In the context of malnutrition, "underweight" refers to low weight for age, while "wasting" (also known as acute malnutrition) means being thin for height, with "SAM" (Severe Acute Malnutrition) and "MAM" (Moderate Acute Malnutrition) being classifications based on the severity of wasting.

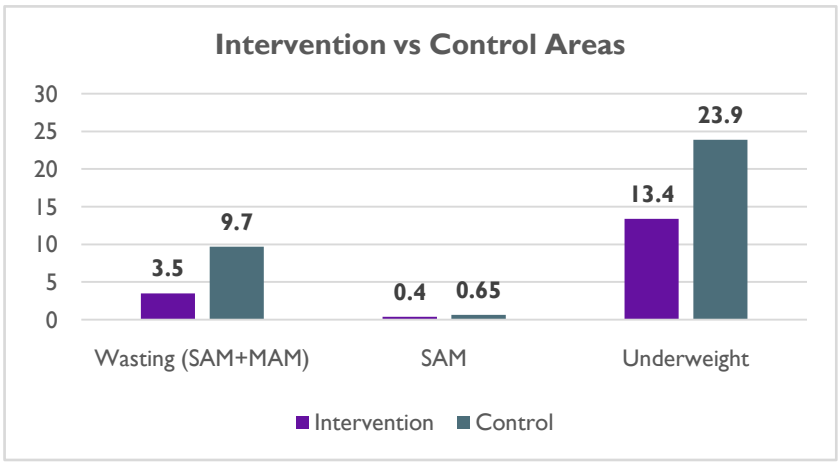
To find out these indices of malnutrition, the data submitted to the Poshan Tracker was used. Poshan Tracker is a mobile application developed by the Ministry of Women and Child Development, Government of India, for real-time monitoring and tracking of Anganwadi Centres (AWCs), Anganwadi Workers (AWWs), and beneficiaries, including pregnant women, lactating mothers, and children.

Baseline vs Current (Intervention Areas)

The data have been compared between June 2023, when the intervention started at the field level and November 2024 (current data during the initiation of the study).



The increasing home visits by the trained AWWs and their targeted counselling reduced the number as well as the proportion of malnourished children. The number as well as the prevalence of Underweight children has been reduced to 13.4% from 23.1%. Prevalence of wasting in children reduced to 3.5% from 6%. In the case of the most vulnerable, SAM children, the prevalence was reduced by half.



Intervention vs Control

The data from a similar period was used to analyse changes in the nutritional status of the intervention and control areas.

During these two years, the nutritional situation of the intervention areas has improved a lot; on the other hand, mere changes have been found in the control areas.

3.4 Other observations

The capacity-building could positively influence the KAP of the AWWs, AWSs and CDPOs in the hub sector, and that is reflected in the lower incidence of malnutrition cases in these sectors. The success of the hub sector can be very well replicated in the non-hub sector. Additionally, the learning of the hub sector can further ensure a mechanism to keep all the healthy children healthy in every AWC.

A top-down approach from the district level is necessary to adopt the KAP of all three actors in the non-hub sectors. The major actors should be Child Development Project Officers, commonly referred to as CDPOs. CDPOs play a crucial role in the implementation and supervision of the ICDS program at the project level. Coordinating with other CDPOs to create an environment for peer learning and motivation for AWS and AWW is required.

Some of the AWC infrastructure was in a poor state, which reduced the motivation for the AWWs, and AWHs to work better for the community, as well as the trust of the beneficiaries/mothers in the AWCs. Some of the AWCs did not have pucca buildings and basic amenities like drinking water supply and washrooms. There was an inadequate storage facility for the IEC materials and other tools, like growth measurement devices. Some of the AWCs did not have all the Growth Monitoring devices like the infantometer, stadiometer, and weighing scale. Regular maintenance and calibration of the weighing scales need to be checked by the AWSs and the CDPOs.

CONCLUSION AND RECOMMENDATIONS

The current study indicates that the knowledge, attitudes, and practices among AWWs and AWSs have significantly improved from the baseline findings. These enhancements have also extended to mothers and caregivers, who have acquired knowledge that has positively influenced their practices, particularly around child feeding. As a result, these improvements have contributed to better nutritional outcomes for children, especially in some of the worst-performing AWCs within the least effective sectors.

The Insight and Learning Study of Phase I of the project "*Prevention of Child Malnutrition through Changing Feeding Practices at Home*" in Assam has generated valuable evidence for scaling and strengthening child nutrition interventions through ICDS systems.

1. **Nutrition Counselling in the First 1,000 Days and Beyond (3–6 Years)**

   The study reaffirmed that the first two years of life are critical for a child's growth and development. While awareness of this window is rising, deeper integration into day-to-day ICDS practice is essential. Furthermore, the 3–6-year age group also requires focused attention, as children transition to the family diet—highlighting the need to extend counselling efforts into this second stage of early childhood.

2. **Building Knowledge and Confidence Among Service Providers**

   Before the intervention, AWWs and AWSs often lacked the confidence and knowledge to guide caregivers on feeding practices. Targeted cascade training, digital counselling tools, and the introduction of demonstration hubs improved their technical competence and communication skills, empowering them to guide families more effectively.

   While the ICDS framework and support structures are robust, the study showed that focused, home-based counselling by AWWs is crucial for translating knowledge into practice at the household level. Personalised engagement with mothers and caregivers, especially of children under two, was a key driver of improved outcomes.

3. **Embedding Dietary Diversity and Adequacy**

   The project highlighted that promoting dietary diversity and food adequacy must be an ongoing effort. Systematic reinforcement of these concepts, both through training and practical demonstration, is essential to sustain behaviour change among caregivers. Behaviour change was most effective when AWWs used clear, locally adapted IEC materials. The **Diet Chart** emerged as a powerful visual tool to communicate meal frequency, composition, and local food options.

4. **Targeted, At-Risk Approach is Effective**

   The hotspot-based strategy helped channel resources and attention to high-burden areas. With a clear goal of "Keeping the Normal Child on the Normal Growth Path," efforts focused on both preventing new malnutrition cases and addressing moderate/severe malnutrition. This approach enabled measurable reductions in under nutrition indicators.

5. Systemic Support and Multi-Level Engagement

Active involvement and guidance from state, district and block-level officials provided the necessary impetus for effective implementation. This multi-tiered support ensured accountability and facilitated problem-solving at the grassroots. Moreover, recognition and positive feedback to the AWSs and AWWs play a pivotal role in the success on the ground.

Recognition boosts morale and motivation, leading to improved service delivery and greater commitment. When AWWs feel valued, they are more likely to take initiative, stay engaged, and build trust with the communities they serve. Positive feedback also reinforces good practices, encourages accountability, and sets a standard of excellence for others to follow.

6. Measurable Improvements in Feeding Practices and Nutrition Outcomes

Significant gains were observed in exclusive breastfeeding rates, timely initiation of complementary feeding, dietary diversity, and growth monitoring practices. The prevalence of underweight, wasting, and severe acute malnutrition (SAM) all declined during the intervention period.

7. From Nutrition to Nurturing: A Paradigm Shift Towards Integrating ECCE and Nutrition for Holistic Development During the First 1,000 Days and Beyond (3–6 Years)

Looking ahead, the impact of the intervention can be further amplified by **i**ntegrating early childhood care and education (ECCE)with nutrition counselling to promote the holistic development of young children. Anganwadi Workers (AWWs) can deliver this in an integrated manner during the same home visits**,** focusing onage-appropriate early stimulation activities alongside nutritional guidance. Actively engaging parents and caregivers in this process will help create a supportive home environment, ensuring optimal developmental outcomes for children. By aligning counselling with the national frameworks of *NavChetna* and *Palna*, this approach ensures that children not only survive but **thrive**, laying the groundwork for long-term well-being and success.

Conclusion and Next Steps

The project has demonstrated that structured, home-based counselling interventions, delivered through a strengthened Anganwadi system and supported by digital tools, can lead to meaningful improvements in child feeding practices and nutrition outcomes. The learnings from this phase will inform the expansion of the program to additional districts, with a continued focus on:

- Enhancing the capacity and confidence of frontline workers, extending to the critical period of 3-6 years as the child transition into family diet.
- Embedding dietary diversity and adequacy into all nutrition messaging.
- Strengthening Home-Based Counselling by AWWs integrating ECCE and Nutrition for Holistic Development of Children
- Maintaining a targeted, at-risk approach for operational planning.
- Ensuring strong systemic support from the district to the community level for prioritising last-mile, home-based engagement with caregivers.

With these strategies, the system is well-positioned to scale up its impact and further reduce child malnutrition across Assam.

ANNEXURE I: NOTE ON SELECTION OF AREAS

Selection of Intervention Areas:

The comparative study to understand the impact of the intervention is based on the findings from the intervention and control areas. The intervention areas were selected, which were identified during the baseline study as malnutrition hotspot sectors in 2023.

Selection of Control Areas:

Malnutrition hotspot sectors of the 2 control districts were selected by following the same process used during the baseline study. Using ICDS MIS data for November 2022 to January 2023, based on the average scores, blocks with the highest value of the composite index of malnourishment were chosen from each district. Similarly, based on the average scores, sectors with the highest value of the composite index of malnourishment were chosen from each block.

Computation of the composite index of malnutrition

As per the objectives of the study, malnutrition in the under-five children was measured based on the underweight, Severe Acute Malnutrition (SAM) and Moderate Acute Malnutrition (MAM). Underweight in children refers to low-weight-for-age, which is weight-for-age ≤-2 standard deviations (SD) of the WHO Child Growth Standards median. Severe underweight refers to weight-for-age ≤-3 standard deviations (SD) of the WHO Child Growth Standards median. Severe acute malnutrition (SAM) is defined by very low weight for height (below -3z scores of the median WHO growth standards), by visible severe wasting, or by the presence of nutritional oedema. Moderate Acute Malnutrition (MAM) is defined by very low weight for height (below -2z scores of the median WHO growth standards), by visible severe wasting, or by the presence of nutritional oedema.

By following the methodology used in the baseline, a composite index based on the following was devised based on the Alkire Foster methodology. The indicators are i. % under-five children who are SAM, ii. % under-five children who are MAM, iii. % under-five children who are moderately underweight and iv. % of under-five children who are severely underweight. Following the methodology, all the indicators were assigned equal weight.

Control District	Identified Block		Identified Hotspot Sector	
	Block	**Composite Index**	**Sector**	**Composite Index**
Morigaon	Bhurbandha	7		
	Kapili	6.757		
	Laharighat	8.613		
	Moiraari	8.035		
	Mayong	**8.699**	**Gormari**	**12.000**
Nalbari	Barbhag	5.6		
	Barkhetri	**8.975**	**Ghoga**	**11.848**
	Borigog Banbhag	4.798		
	Madhupur	6.068		
	Nalbari	3.935		
	Paschim Nalbari	5.545		
	Tihu	4.898		

ANNEXURE II: DISTRICT-WISE INDICATOR STATUS (BASELINE VS CURRENT)

Supervisor Level

Indicators	Baksa		Barpeta		Darrang		Dhubri		Goalpara		Hailakandi		Kamrup		Udalguri		Total Intervention	
	BL	EL	BL	EL	BL	EL	BL	EL	BL	EL	BL	EL	BL	EL	BL	EL	BL	EL
Supervisors who make monthly action plans based on the Monthly Progress Report	45	100	43.5	100	72.3	100	30.5	100	30.1	100	22.9	100	58.5	100	50	100	45	100
Supervisors who provide feedback to AWWs based on the respective Monthly Progress Report	58.8	100	56.5	100	74.5	100	55.9	100	60.3	100	82.9	100	64.2	100	46.2	100	61.8	100
Supervisors who recognise better-performing AWWs	37.5	100	29.3	100	46.8	100	45.8	100	26	100	48.6	100	41.5	100	34.6	100	37.6	100

AWW Level

Indicators	Baksa		Barpeta		Darrang		Dhubri		Goalpara		Hailakandi		Kamrup		Udalguri		Total Intervention	
	BL	EL	BL	EL	BL	EL	BL	EL	BL	EL	BL	EL	BL	EL	BL	EL	BL	EL
Knowledge of Exclusive breastfeeding	73.2	100	83.8	100	68.9	100	79.7	100	85.4	100	78.8	100	89	100	72.1	100	80.3	100
Knowledge of Minimum dietary diversity (MDD)	28	100	48	100	54	100	49	100	45	100	48	100	31	100	33	100	42	100
Knowledge on Child feeding as per IYCF recommendation	35	100	40	100	10	100	30	79.5	30	92	10	100	30	95.5	25	96.3	29	94.6
Knowledge of Pregnant women's weight gain is maximum in 3rd trimester	75	100	74	100	84	100	72	100	84	100	74	100	80	100	70	100	77	100
Home visitation of 3rd-trimester pregnant women for breastfeeding preparedness	50	100	31	100	63	100	63	100	61	100	57	100	67	100	46	100	59	100
Home visitation of 2-3 months old children to prevent breastfeeding faltering	34	100	44	100	45	100	38	97.1	24	100	43	100	29	100	22	100	34	99.5
Home visitation of children completed 6 months for timely initiation of complementary feeding	36	100	53	100	61	100	57	100	57	100	54	100	43	100	40	100	51	100
Home visitation of 7-8 months old children for diet diversity	27	100	41	100	49	100	41	97.1	33	100	41	100	31	100	30	100	36	99.5
AWWs who counsel the mother if the child's weight is stagnant for 2 months or more	57	100	48	95.9	60	100	45	97.1	44	100	56	95.7	49	100	52	100	50	98.6
AWWs who counsel the mother by showing a growth chart	76	100	73	91.7	54	100	68	94.2	62	100	77	100	76	95.5	66	96.3	69	97.1

Household Level

Indicators	Baksa		Barpeta		Darrang		Dhubri		Goalpara		Hailakandi		Kamrup		Udalguri		Total Intervention	
	BL	EL	BL	EL	BL	EL	BL	EL	BL	EL	BL	EL	BL	EL	BL	EL	BL	EL
% Mothers who fed colostrum to their child	40	100	28	95	33	94	33	79	38	75	28	100	30	91	35	98	33	94
% Mothers with correct knowledge of exclusive breastfeeding	95	100	80	98	93	94	98	98	98	96	88	100	95	98	88	100	92	98
% Children exclusively breastfed	72	95	56	100	44	100	63	100	59	96	61	98	77	100	68	98	63	98
% Mothers with correct knowledge of the time of initiation of complementary feeding	47	100	36	95	48	94	63	93	64	93	82	100	33	100	52	100	53	98
% Children timely initiate complementary feeding among mothers with 6-23 months of children	39	100	52	95	19	94	42	93	32	93	6	100	63	100	52	100	37	98
% Mothers who know Minimum Dietary Diversity (at least 5 food groups)	72	86	64	74	74	69	58	72	59	64	52	88	60	71	56	80	62	77
% Children 6-23 months who received food with minimum dietary diversity	27	93	39	86	21	83	25	100	17	86	23	100	24	81	42	98	27	91
% of Children 6-23 months who received 3 major meals	72	81	56	74	67	74	71	72	64	75	30	66	77	83	88	87	65	77
% of Mothers who reported trying different food combinations	0	95	19	81	10	66	14	43	0	61	23	88	15	83	4	74	11	78

ANNEXURE III: DISTRIBUTION OF MALNUTRITION (SAM & MAM) – BASELINE VS CURRENT

Using the number of SAM & MAM children from ICDS MIS data (POSHAN Tracker) for November 2024, the distribution of malnutrition was computed and compared with the average scores of SAM & MAM during the baseline.

Blocks of Baksa	SAM & MAM	
	Baseline	Current
Gobardhana	7.103	1.975
Nagirijuli	7.191	2.133
Jalah	4.134	2.428
Dhamdhama	4.542	2.542
Tamulpur	6.383	2.866
Baksa	5.229	3.052
Tihu Barama	3.301	3.399
Goreswar	5.162	4.549

Blocks of Dhubri	SAM & MAM	
	Baseline	Current
Birshing Jarua	7.882	0.676
Gauripur	7.444	0.917
Chapar Salkocha	9.718	1.316
Agomoni	8.039	1.735
Jamadarhat	6.554	1.823
Golakganj	6.418	2.089
Nayeralga	10.493	2.313
Bilasipara	10.24	3.753

Blocks of Barpeta	SAM & MAM	
	Baseline	Current
Chakchaka	6.869	1.205
Sarukhetri	7.521	2.802
Chenga	8.819	3.021
Gomafulbari	11.604	3.226
Bhawanipur	7.687	3.894
Pakabetbari	10.174	4.711
Mandia	11.253	4.798
Barpeta	7.513	4.954
Ruposhi	12.185	8.769

Blocks of Darrang	SAM & MAM	
	Baseline	Current
Pub Mangaldai	8.954	3.255
Pachim Mangaldai	5.992	3.734
Bechimari	6.655	3.744
Sipajhar	5.412	3.782
Dalgaon Sialmari	9.68	6.371

Blocks of Goalpara	SAM & MAM	
	Baseline	Current
Dudhnoi	4.128	2.38
Kharmuza	4.542	2.635
Matia	7.594	4.358
Kuchdhowa	5.7	4.955
Jaleswar	8.53	5.197
Krishnai Balijana	6.504	5.338
Lakhipur	6.585	6.545

Blocks of Hailakandi	SAM & MAM	
	Baseline	Current
Hailakandi	4.14	0.946
Algapur	4.09	1.474
Lala	7.07	1.695
Katlicherra	4.89	2.038
South Hailakandi	6.73	2.563

Blocks of Kamrup	SAM & MAM	
	Baseline	Current
Bongaon	4.96	0.821
Chayani Barduar	4.91	0.998
Bihdia Jajikona	4.01	1.825
Chandrapur Karara	5.19	1.998
Chamaria	7.34	2.599
Hajo	4.9	2.823
Chhaygaon	4.83	2.866
Boko Bongaon	4.71	3.098
Kamalpur Rangia	4.79	3.286
Rampur	4.02	3.332
Rani	4.44	3.848
Bezera	5.16	3.933
Goroimari	7.72	4.441
Sualkuchi	5.21	4.601

Blocks of Udalguri	SAM & MAM	
	Baseline	Current
Khoirabari	6.003	1.45
Udalguri	4.506	2.033
Bhergaon	5.609	2.048
Rowta	7.457	3.189
Mazbat	8.956	4.468

Enduring Value

सत्यमेव जयते
DIRECTORATE OF
WOMEN & CHILD DEVELOPMENT, ASSAM

POSHAN Abhiyaan
PM's Overarching Scheme for Holistic Nourishment
सही पोषण - देश रोशन

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