



**FACILITATING ACTIONS TO IMPROVE NUTRITIONAL &
HEALTH STATUS OF CHILDREN AND WOMEN IN 3 BLOCKS
OF MALKANGIRI DISTRICT IN ODISHA (FARM-N)**

BASELINE STUDY REPORT- SUMMARY

**PUBLIC HEALTH RESOURCE SOCIETY
DD-08, Kalkaji Extension, Kalkaji, NEW DELHI, 110019**

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Abbreviations

ANC	Antenatal care
ASHA	Accredited Social Health Activist
AWW	Anganwadi Worker
AWC	Anganwadi Centre
ICDS	Integrated Child Development Services
IFA	Iron and Folic Acid
MDD	Minimum Dietary Diversity
NFHS	National Family Health Survey
NRC	Nutritional Rehabilitation Centre
PNC	Postnatal Care
PVTG	Particularly Vulnerable Tribal Groups
RBSK	Rashtriya Bal Swasthya Karyakram
RKSK	Rashtriya Kishore Swasthya Karyakram

1. About the project

Adequate and appropriate nutrition is imperative for the growth and development of a child, more so for children under three as this is a time of rapid growth where deficiencies can lead to long-term impact. Malnutrition is not a condition affecting young children alone. It can affect any person at any stage of life, particularly when a person is most vulnerable. As suggested by the lifecycle approach to nutrition, pregnancy, lactation, early childhood, and adolescence are periods of speedy growth when the body requires additional nutrients, creating a predisposing environment for malnutrition if this requirement is not met. Malnutrition can also create an intergenerational cycle – a malnourished mother gives birth to a malnourished baby girl, who grows up to be a malnourished adolescent and woman, later giving birth to another malnourished baby girl, and so on. Therefore, interventions are needed at every step of this cycle.

It is well known that malnutrition is a multifactorial issue. The challenges to achieving the required level of nutrition for children are many: food insecurity at the household level, the triple burden of workload on mothers, poor child feeding and care practices, malnutrition among women, and lack of quality health care services. While inadequate dietary intake is a common proximal cause, household food insecurity, inadequate and/or inappropriate knowledge of caregivers, and discriminatory attitudes are underlying determinants contributing to malnutrition. Distal causes such as the broader social, cultural, economic, and political context can influence household access to resources, such as land, income, and employment, thereby impacting the underlying causes. Therefore, to tackle malnutrition effectively, a multifaceted approach is needed that encompasses strengthening systems, empowering communities, strengthening local health governance and provide essential services

Thus, barriers to improved nutritional and health status can exist at the systems, community or household-level. Addressing the broader issue of malnutrition in the community requires a multipronged approach that targets different stages of the lifecycle, as well as the different community norms and limitations of the systems.

1.1 Objectives of the project

1. To build knowledge and awareness among community members (with special focus on young mothers and adolescent girls) on various themes of health and nutrition to improve practice and increase demands for services
2. To build the capacities of the Anganwadi workers and helpers for better case management and improvement of nutritional outcomes of children under six.
3. To work with the AWWs and ASHAs for the management of pregnancy and delivery in order to facilitate improved birth weights and lowering of maternal and child morbidity and mortality.
4. To work with local governance systems to improve village-level planning and monitoring of health and nutrition services for children, women, and adolescents.

1.2 Guiding principles

Focused Geography: A phased and systematic rollout of interventions in specific areas to ensure comprehensive coverage and impactful outcomes in tribal and PVTG areas of the proposed geography.

Gender Responsive Approach: The aim is to work with both men and women of all ages on the issues of malnutrition. Though the focus will remain on women as individuals and in groups, it proposes to include men at all stages to ensure their participation in achieving nutritional gains.

Comprehensive Approach: Utilizing a combination of nutrition-specific and nutrition-sensitive indicators to address the multifaceted nature of nutrition disparities. This approach involves not only direct interventions but also considers broader factors influencing nutrition, such as health, access to food, education, livelihoods, and sanitation.

Strategic focus on nutritionally vulnerable members: Targeting malnourished children under 6 years, pregnant and lactating women, and adolescent girls to address their unique nutritional needs. This focus ensures a tailored and impactful intervention for those most at risk.

1.3 Thematic focus

Theme 1 - Systems strengthening: To avoid duplication with existing public systems, our intervention seeks to provide support to ongoing schemes, programs, and systems. This includes capacity building, case management, and adherence to protocols, enhancing the efficiency and effectiveness of existing structures.

Theme 2 - Community health: Engaging with communities and groups to stimulate discussions on health and nutrition. This involves participatory learning and action, community mobilization, and awareness-building to encourage positive health practices at the grassroots level.

Theme 3 - Governance: Building local accountability systems by orienting Panchayati Raj members on various health and nutrition themes. This includes empowering local leaders to champion health initiatives, ensuring community representation in decision-making processes.

1.4 Project location

The project will be implemented in three blocks namely- Malkangiri, Khairput and Mathili in Malkangiri district in Odisha. Malkangiri, situated in Odisha, is characterized by sparse population distribution. In 2011, Malkangiri had a population of 613,192. The district maintains a moderate level of literacy, although the number of literate males notably surpasses that of literate females. On comparing the data from National Family Health Survey (NFHS) – with NFHS-4, the nutritional situation of children in the district is a matter of great concern. Although there was a slight reduction in stunting among children under five from 45.7% to 44.3%, this remains alarmingly high. On the other hand, wasting showed a significant reduction, dropping from 32.5% to 19.3%, marking a 13.2 percentage point decrease. Anaemia was another pressing issue in Malkangiri. Among children under five, anaemia increased from 72.2% to 78.7%. Pregnant women also saw an increase, from 71.9% to 74.3%, while anaemia among women of reproductive age remained high at 71.9%. Although there was a slight decrease in anaemia among adolescent girls from 69.1% to 67.4%, the problem persists.

1.5 Reach and coverage

Sl. No.	Target participants	Projected number			
		Total	Khairput	Malkangiri	Mathili
1.	No. of household	55336	12450	21482	21404
2.	Anganwadi centre	645	180	250	215
3.	Children under six	32697	6880	14520	11297
4.	Adolescent girls	4669	719	2732	1218
5.	AWWs	645	180	250	215
6.	ASHAs	258	60	101	97
7.	Lady supervisor	23	5	10	8
8.	ASHA supervisors	67	16	22	29

9.	Pregnant women and lactating mothers	3135	580	1426	1147
10.	Women in the reproductive age group	8855	1804	2890	4161

1.6 Expected Outcomes

1. Increase in IYCF knowledge and practice amongst community members, including adolescents.
2. Increase in general nutrition literacy amongst community members, including adolescents.
3. Increased capacities of AWWs, AW helpers, and ASHA on relevant issues of nutrition and health.
4. Increased referrals to NRCs, RBSK, and Sickle Cell Anaemia Programmes.
5. Identification, referral, and follow-up of high-risk pregnancies.
6. Follow up of Low-Birth-Weight neonates.
7. Lowered child malnutrition rates as compared to state and district averages.
8. Increased dietary diversity.

2. Introduction to the baseline study

In the overall project design one of the most important activities is to conduct a baseline survey to establish a reference point/assess the current situation of the indicators listed above. The baseline data will help measure changes, formulate interventions, assess progress, and evaluate the output/outcome of the interventions that will be implemented over a period of 30 months. The focus of the study will be to understand the knowledge and practice of individuals, systemic issues and challenges in attaining positive health and nutrition outcomes.

2.1 Specific objectives of the baseline study

1. Assess the current nutritional status of children under six years of age (including stunting, wasting, and underweight) using anthropometric data available at the AWCs.
2. To understand and assess the knowledge of the community (with a special focus on young mothers) on various health and nutrition themes.
3. Understand the local governance system including participation of community and PRI members in health planning and promotion.
4. Identify barriers to accessing and utilising health and nutrition services.

2.2 Methodology

Study Design: A cross-sectional mixed methods study design was employed to understand the knowledge and practices among community members related to IYCF, food and nutrition and sexual and reproductive health. The study also focused on assessing the availability and accessibility health and nutritional services in the project area.

Study setting: The study was conducted in the three intervention blocks namely Malkangiri, Khairput, and Mathaili in Malkangiri district, Odisha

Sampling and sample size distribution

The study area was distributed across 23 sectors based on the Integrated Child Development Services (ICDS) administrative structure. A combination of sampling methods was used in the study.

Stage 1: Selection of ICDS sector

Purposive sampling was applied to select the ICDS sectors for the study based on distance criteria from the block headquarters. Accordingly, each sector was categorised into one of three categories namely nearest, mid, and farthest, based on factors such as distance from the block/district headquarters, road connectivity, and transportation availability. Sectors within a distance of 0-5 kms from block headquarters were excluded, considering that these sectors were more accessible and the availability of services were optimal.

Initially, three sectors from each block were selected, making it a total of nine sectors across the three blocks for the baseline study. However, to achieve the required number of participants one more sector in Malkangiri block (due to a smaller number of children in the first three sectors of Malkangiri block) was added. Thus, a total of ten (10) sectors were finally selected for the baseline study. Also, one sector from Khairput block namely Mudulipada had to be replaced with Kudumulgumma (henceforth KGumma) as it was difficult to get data from the Mudulipada AWCs due to lack support from the AWW. The community was a PVTG community in this AWC and there was hesitancy around sharing data. KGumma was, however, not a predominantly PVTG area.

Stage 2: Selection of Anganwadi Centers (AWCs) villages

For selecting the AWCs/villages for the baseline study, the average number of children enrolled in the sector was considered. It was decided that AWCs having children closer to the average of all AWCs in the sector would be taken with a range of +4 and -4 of the average number of children enrolled in AWCs. Thus, a total of forty (40) AWCs were selected.

Stage 3: Selection of study participants

Children under six years- The list of children enrolled in the AWCs from the sampled village was obtained along with their anthropometric data to ascertain their nutritional status. A total of 1550 numbers of children were consider from the three blocks.

Young mothers- Total number of children under six years of age enrolled in AWCs in the sampled villages was 1443. It was proposed to conduct interviews with their mothers and consider the index (youngest) child for the interview to understand the health and nutrition status of mother and child. A total of 1443 mothers were surveyed.

Adolescent girls (10-19 years): The numbers of adolescent girls surveyed across the forty (40) villages were 360. And this number was achieved through convenience sampling.

Community members: A mixed group (including men and women, young population and elderly members) from each village was considered for conducting focussed group discussion. The purpose was to understand their perceptions of health and nutrition issues, barriers to accessing services, community involvement in health planning among others.

PRI members: From each shortlisted village one PRI representative was interviewed to understand their role in health and nutrition planning and implementation, challenges faced, and recommendations for improvement.

Table 2: Sample size Sample Description

S.No.	Category/ participants	Target	Sample size
1.	ICDS sector	9	10
2.	Children under six**1	1560	1550
3.	Young mothers-	1560	1443
4.	Adolescent girls	222	360
5.	PRI members	27	31
6.	FGD with community members	27	33
7.	Nutrition Rehabilitation centre	3	3
8.	CDPO*2	3	1
The baseline knowledge and practices of AWWs, AW helpers and ASHA will be assessed during training through pre-test and post-test			

Study participants and tools for data collection:

Table 3: Study participants and tools for data collection

S. No.	Participants/Facilities	Tools	Description
1	Children under Six	Child sheet	Anthropometric measurements (weight, height), age, sex, birth weight. Records from AWC registers will be used.
2	Mothers of children attending AWC	Household survey tool	Demographics, socioeconomic status, IYCF practices, food security, dietary diversity (household and individual), sexual and reproductive health services, including ANC, PNC, delivery care, contraception, menstruation, domestic violence and health service utilization.
3	Adolescent (10-19 years) girls	Survey tool for adolescent girls	Knowledge and practices regarding nutrition, food security, dietary diversity, sexual and reproductive health, access to services, menstrual hygiene management.
4	Community members (mixed group)	FGD guide	Perceptions of health and nutrition issues, barriers to accessing services,
5	PRI Members	KII guide	Role in health and nutrition planning and implementation, challenges faced, suggestions for improvement.
6	NRCs	Observation checklist	Infrastructure, equipment (weighing scales, stadiometers), supplies (IFA tablets, ORS), record-keeping practices, availability of essential services

¹ The data has not yet been received due to a delay in the approval process

² This remains pending owing to constraints on officials' availability

3. Major findings and Intended Interventions

The baseline findings reveal several positive trends but also several gaps that need interventions that have been planned in the current programme. These are as follows:

Household food security

The data finds that 11% of all households are moderately food insecure and 5% severely food insecure. This situation certainly needs intervention if nutritional status is to be improved.

For severely and moderately food insecure households, community-based interventions such as kitchen gardens, nutrition education and livelihood enhancement can build long term food security. For mildly food insecure households, preventive strategies like-promoting dietary diversity, improving access to local markets and strengthening women's decision making in food purchases can help stabilize their status. These processes will be supported by community mobilisation through the groups being created during the programme. Panchayat bodies will also be mobilised for additional support.

4% of respondents indicated that they do not consume their self-grown crops, citing income generation as the primary reason. To balance income generation with nutritional security, it is recommended to promote integrated farming systems that allow for both market-oriented and household-consumed crop production. Encouraging kitchen gardens, crop diversification, and nutrition-sensitive agriculture can help ensure that families retain a portion of their harvest for personal consumption. Thus, strengthening local food systems and providing access to agricultural extension services will be key to sustaining both livelihoods and nutrition among young mothers in these communities.

Dietary Diversity

Dietary diversity remains a concern across groups. About 52.6% of mothers and 49% of adolescent girls reported having access to a kitchen garden. Despite this, dietary diversity levels were suboptimal: 36% of mothers and 44.4% of adolescent girls were in the low-to-medium diversity category, and 33% of children were reported in the 'not diverse' category. At the household level, 36.5% fell into the low-to-medium diversity category. Junk food consumption was relatively frequent, averaging 2.4 times weekly for mothers, 2.6 times for children, and 8.2 times for adolescent girls. All these findings demand participatory learning and action with the women and adolescent groups for better health and nutrition.

52.6% young mothers reported no kitchen garden. To address this gap, it is intended to promote kitchen garden initiatives through community-based awareness campaigns and technical support. Of those that did have kitchen gardens, only 48% reported growing iron rich vegetables. Thus, strengthening kitchen garden coverage and diversity can significantly contribute to food security, better nutrition, and resilience among young mothers and their families.

Adolescent Health and Well-being

Out of 360 adolescent girls surveyed, 34 were married, and among them, 14 were married before the age of 18 years. Awareness levels about health indicators and reproductive health were low: 51% knew their weight but only 24% were aware of their height. Among young mothers, just 26% knew their weight and 18% their height. Knowledge of contraceptive methods was extremely limited, with only 3% of adolescent girls reporting awareness.

Misconceptions around menstruation persisted, with 36% not recognizing it as a normal part of growing up. Awareness of anaemia symptoms was low, with 34% of adolescent girls and 21% of young mothers being informed. IFA tablet consumption was reported by 39% of adolescent girls. Around 53% of adolescent girls were aware of the concept of good touch and bad touch. These data indicate a high requirement for community-based conversations and capacity building through the PLA as intended, as well as the creation of better linkages with the relevant government programmes such as Advaika.

Identification, Referral, and Follow-up of High-Risk Pregnancies (HRP)

Pregnancy registration was high, with 90% of women reporting registration. However, awareness regarding HRP complications was notably low, at only 11%. While 87% of pregnant women reported regular weight monitoring, only 26% received cash benefits as per eligibility. Around 7% of lactating mothers reported not attending any postnatal care (PNC) visits. Only 4% of the women were aware about gestational weight gain. Accurate identification and clear communication about high-risk conditions are critical to ensuring timely referrals and interventions, which can reduce maternal and neonatal complications. The programme intends to track all pregnancies with special focus on HRPs.

Factors Related to Nutrition in Children

While the data on IYCF practices were found to be fair with a large proportion (94%) reportedly feeding colostrum to their newborns, and 81% practising early initiation of breastfeeding, 24% children received pre-lacteal feeds, and Introduction of complementary feeding between 6–8 months was reported by only 53% of mothers. Of these, it is understood that early initiation of breastfeeding must be made to match with institutional delivery rates at the minimum. Colostrum feeding is also amenable to major shifts with counselling.

A significant proportion of mothers; around 20%, reported that regular growth monitoring is not being undertaken at AWCs.

Knowledge and practice of hygiene were found to be inadequate. Only 46% of women reported practising handwashing after using the toilet. Among children, 39% washed hands before meals and 40% after toilet use.

These factors are highly amenable to improvement through PLA activities and working with the health, AWC and VHSND systems.

Overall, the baseline data points to a predominantly low-income population, with limited financial security and constrained access to resources. To address this, linking families to government welfare schemes and ensuring financial literacy among young mothers would help improve household economic stability and long-term impact on health and nutrition.