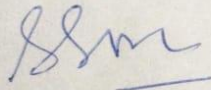# Certificate of Approval

The Summer Internship Project of titled **"Health & Nutritional Situation Assessment (HANSA), Rajasthan"** at **"CARE, INDIA"** is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **Post Graduate Diploma in Health and Hospital Management** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed, or conclusion drawn therein but approve the report only for the purpose it is submitted.

**Name of the Mentor: Dr. Sidharth Sekar Mishra**

**Designation: Associate Professor**

**IIHMR, Delhi**

# FEEDBACK FORM
## (IIHMR MENTOR)

**Name of the Student:** Dr. Avish Sethi

**Summer Internship Institution:** Care India

**Area of Summer Internship:** Data Quality, Data Collection (HANSA)

**Attendance:** 100 %.

**Objectives met:** YES

**Deliverables:** Weekly progress updation, Report Draft, Data management and interpretation

**Strengths:** Hard working, intelligent, analytic.

**Suggestions for Improvement:** Get better understanding of Healthcare administration and operations.

**Signature of the Officer-in-Charge (Internship)**

**Date:** 12/07/2022

**Place:** IIHMR Delhi.

**FEEDBACK FORM**

### (ORGANIZATION SUPERVISOR)

**Name of the student:** Avish Sethi

**Summer Internship Institution:** CARE India Solutions for Sustainable Development

**Area of Summer Internship:** Health and Nutritional Situation Analysis in 5 districts of Rajasthan

**Attendance:** Perfect adherence to internship norms

**Objectives Met:** The student understood the details of the concept, theoretical underpinning, worked on the study design, study implementation, data quality control, field monitoring, supervision of data collectors. Participated in data cleaning and development of the presentation of the findings

**Deliverables:** Contributed significantly in the timely completion of the Health and Nutritional Situation Analysis in 5 districts of Rajasthan maintaining data quality through proper field level monitoring and supervision, working with the monitoring team and then participated in the data management and interpretation working with the presentation development team

**Strengths:** Sincerity, field engagement, concentration, hard work, diligence and eye for details

**Suggestions for improvement:** Management skills, subject and programmatic knowledge, analytical thinking and skills

**Signature of the Officer-in-charge**

**Local Mentor:** Dr Tanmay Mahapatra

**Date:** 17.06.2022

**Place:** Patna, Bihar

**Deputy Director HR:** Dr Anup G Nair

**care** CARE India Solutions for Sustainable Development

Date: 24/06/2022

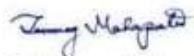## Internship completion certificate

This is to certify that **Avish Sethi** pursuing Post Graduate Diploma in Management in Hospital and Health Management (PGDM)) at the International Institute of Health Management and Research (IIHMR), Delhi has completed his internship with the **CARE India Solutions for Sustainable Development (CISSD)** during **11/04/2022 to 24/06/2022**.

As a part of this internship, he successfully delivered the following assignments:

1. Participated in the implementation, data management and processing of the Health and Nutritional Situation Analysis in 5 districts of Rajasthan.
2. Understood the details of the concept, theoretical underpinning, generation of the plan for study implementation, data quality control, field monitoring, supervision.
3. Contributed in the timely completion of the study maintaining data quality through proper field level monitoring and supervision, working with the monitoring team and then participated in the data management and interpretation working with the presentation development team
4. Participated in data cleaning and development of the presentation of the findings

During this period, he displayed adherence to protocols, clarity of understanding with learning abilities. Based on efforts, it appears that, given the level of aptitude he has, if given chance he can become an important contributor in public health.

Wishing him the best for the future,

Dr Tanmay Mahapatra
Team Lead, CML Unit
CISSD-BTSP

Dr Anup G Nair
Deputy Director – HR and OD
CISSD-BTSP

**Summer Training at CARE, Rajasthan**

**(13th April 2022 to 17th June 2022)**

**Health & Nutritional Situation Assessment (HANSA), Rajasthan**

By

Dr. Avish Sethi

Under guidance of

Dr. Sidharth Sekhar Mishra

## Acknowledgement

The internship opportunity I had with **CARE, Rajasthan** was a great chance for learning and professional development. Therefore, I consider myself as a very lucky individual as I was provided with an opportunity to be a part of it. I am also grateful for having a chance to meet so many wonderful people and professionals who led me through this internship period.

Bearing in mind previous I am using this opportunity to express my deepest gratitude and special thanks to the **Sh. Akhilesh Dubey (Project Manager, KHUSHI)** who in spite of being extraordinarily busy with his duties, took time out to hear, guide and keep me on the correct path and allowing me to carry out my project at their esteemed organization and extending during the training.

I express my deepest thanks to **Dr. Tanmay Mahapatra (Team Lead, CISSD Bihar)**, **Mr. Kumar Gaurav (MLE, CISSD Bihar)**, **Mr. Kaushik Chakraboraty (MLE, CISSD Bihar) , Ms. Shalini Sharma (Project Coordinator, KHUSHI)** for taking part in useful decision & giving necessary advices and guidance and arranged all facilities to make my project easier. I choose this moment to acknowledge their contribution gratefully.

It is my radiant sentiment to place on record my best regards, deepest sense of gratitude to **Dr. Sutapa Bandyopadhyay Neogi, (Director, IIHMR Delhi), Dr. Sumesh Kumar (Associate Dean Academics and students Affairs, IIHMR Delhi)** and my mentor **Dr. Sidharth Sekhar Mishra (Assistant Professor, IIHMR Delhi)** for their careful and precious guidance which were extremely valuable for my study both theoretically and practically.

I perceive as this opportunity as a big milestone in my career development. I will strive to use gained skills and knowledge in the best possible way, and I will continue to work on their improvement, in order to attain desired career objectives. Hope to continue cooperation with all of you in the future.

Sincerely,

Dr. Avish Sethi

## Table of Content

## Acronyms

| S. No. | Acronyms | Full Form |
| --- | --- | --- |
| 1. | ICDS | Integrated Child Development Services |
| 2. | AWC | Anganwadi Center |
| 3. | AWW | Anganwadi Worker |
| 4. | ANM | Auxillary Nurse & Midwife |
| 5. | ASHA | Accredited Social Health Activist |
| 6. | AWH | Anganwadi Helper |
| 7. | FLW | Field Level Worker |
| 8. | FM | Field Monitor |
| 9. | CC | Cluster Coordinator |
| 10. | TLM | Teaching Learning Material |
| 11. | MAM | Moderate Acute Malnutrition |
| 12. | SAM | Severe Acute Malnutrition |
| 13. | CMAM | Community based Management of Acute Malnutrition |
| 14. | MCHND | Mother Child Health and Nutrition Day |
| 15. | VHND | Village Health and Nutrition Day |
| 16. | MIYCN | Maternal, Infant and Young Child Feeding Nutrition |
| 17. | IYCN | Infant & Young child feeding |
| 18. | THR | Take home ration |
| 19. | MUAC | Mid-upper Arm circumference |

## Organization Profile

**CARE INDIA** is a not-for-profit organization that builds capacity of communities to ensure empowerment for marginalized women and girls. Sustainable and holistic interventions in **Health, Livelihood, Education and Disaster Relief and Resilience,** provide innovative solutions to deep-rooted development problems.

Along with access to the international confederation of expertise, integrate internal knowledge and strong network of partnerships to deliver outcomes at scale to varied stakeholders.

CARE India is a part of the CARE International Confederation, which is helping millions of people in living a life of dignity and have a presence in over 100 countries.

They have been contributing to India's explosive growth for 75 years, starting from the time when it was a newly formed nation, till today when it is among the world's fastest developing economies.

In 2020-21, we impacted the lives of more than 52.7 million people, through 53 projects, carried across 18 states.

### Core Values:-

1.  **Respect**, Upholding the dignity of each individual
2.  **Integrity,** Adhering to an ethical code of conduct in all actions
3.  **Commitment,** Fulfilling our duties and social responsibilities
4.  **Excellence,** Setting high performance standards and being accountable to them.

### Approach:

-   Gender Equality
-   Knowledge, Management and Learning

## Khushi Project

**(a) Introduction:**

The "Khushi project" is a joint initiative of Women and Child Development Department (WCD), Hindustan Zinc limited and Care India for strengthening Integrated Child Development Services (ICDS) to improve the early childhood education, health and wellbeing of young children in Bhilwara district of Rajasthan.

The overall goal of the KHUSHI project is to strengthen the functionality and quality of service delivery of the government's Integrated Child Development Services (ICDS) program.

By improving the health and well-being of children below 6 years of age with a focus on marginalized Dalit and Adivasi concentrated blocks in the Bhilwara district of Rajasthan.

The project works with 513 AWCs in three blocks of Bhilwara namely Shahpura, Suwana, and Hurda which we further divide into 5 clusters i.e.,Phuliya, Shahpura, Hurda, Suwana and Bada Mayua. The project has focused on approaches to enable the existing government system to provide quality supervision and support to field- level functionaries in delivering quality preschool education, health, and hygiene programme.

Khushi project is currently addressing issue of insufficient school preparedness in children by developing the existing preschool support mechanism through quality capacity building and resource support to Anganwadi workers (AWW). Along with school readiness, project is addressing the issue of under nutrition and provision of apt and wholesome nutrition to 0-6 years children. From last four years the project is working on 1000 days approach with pregnant & lactating mothers along with caregivers focusing on behavioral change communication (BCC). The project also focuses on addressing malnutrition in the community through community-based management and interventions such as Community-Based Management of Acute Malnutrition (CMAM) program & Positive Deviance Hearth (PDH) program, promotion of exclusive breastfeeding & complimentary feeding, WASH implementation & promotion, consumption of THR/dry ration in daily diet through innovative recipes & ensuring healthy and balanced daily diet through vegetable gardens in

AWCs and household levels. The project also focuses on growth monitoring and promotion by providing handholding support to anganwadi worker.

In financial year FY'2021-22, the planned field activities for Quarter 1 were affected majorly by the COVID -19 pandemic, shifting the focus on providing uninterrupted services through virtual platforms.

Khushi WhatsApp groups at the Anganwadi center level were created to reach out to the enrolled beneficiaries of ICDS, capacity building sessions on the first 1000 days, breastfeeding week were conducted and the field team supported extensively in COVID-19 activities.

From Quarter 2, the impact of COVID -19 was reduced and there was relaxation from government in thelockdown norms and activities under the theme PSE, health, and nutrition were implemented by the Khushi team considering all the protocols and norms of social distancing to strengthen ICDS services.

The Khushi cluster coordinators ensured daily home visits, Anganwadi Centre visits, and Community Meetings. The Khushi magazine "**Kilkari**" was published every month and was distributed at all AWCs and to all government officials. To promote leadership and steering roles by the community members and to increase community participation and ownership AWC sustenance committees were formed at 100% AWCs and around 50% (250) of committees were trained.

During this Financial year, a 2-days refresher training was provided to 481(95%) AWWs on the Importance of the first 1000 days and 389 (89%) ASHAs were trained on the same.

474 (94%) Anganwadi Workers from three intervention blocks were trained on Pre School-Education. The main objectives were to train AWWs on the Preparation of Anganwadi Centers for opening for PSE after a long duration of lockdown. The training included the topics like beautification of AWCs, TLM making from waste material and development of 4 corners at AWC, Development Domains, Upcoming plans of conduction of PSE at AWC - involvement of more fun activities and games, and ICDS monthly themes of PSE.

To rehabilitate malnourished children in the community through the PD Hearth approach, 99 PD hearth sessions in were organized covering 99 Gram Panchayats. A total of 1369 children were enrolled in all PD sessions.

During this year Khushi team launched the CMAM program by organizing 47 OTPs for identified 318 SAM children. Training of ANM and Poshan Prehris was done under the CMAM program.

Along with this to develop a platform for review, sharing, and feedback mechanism between Government departments and the Khushi project, review, planning, and convergence meetings were conducted quarterly.

**(b) Objective:**

- Toreduce malnutrition and infant mortality in intervention area.
- To provide high quality school readiness preparedness among 3- 6-year-old children at all Anganwadi centers in intervention area.
- To foster model of community engagement in ICDS system for development of Anganwadi.

**(c) Area of work:**

I. **For Health and Nutrition**: The main focus is on reducing malnutrition in pregnant and lactating mothers, as well as children aged 6 months to 5 years.
   - It can be accomplished by providing training to FLWs (Field Level Workers), such as ANMs, ASHAs, AWWs, and AWHs.
   - By increasing community awareness
   - Promotion of the kitchen garden
   - Treatment
   - Events

i. **Provide FLW training** and ensure that field level employees adhere to ICDS rules.

- Commonly, ensure that the 1000-day idea is appropriately followed, i.e. 270 days of pregnancy and 730 days following delivery, also known as MIYCN. The notion of 1000 Days is incredibly essential because 80 percent of a child's mind develops in 1000 days.
- Make sure FLW adheres to the MCHND/VHND Day idea.
- Pregnant ladies visited AWC four times during their pregnancy for checkups, which were performed by ANM.

ii. **Community awareness** building, which can be done by KHUSHI Cluster coordinators and FLWs through house visits.

- Hold a monthly meeting for moms.

iii. **Kitchen Gardens** can be built according to SOPs on AWCs and Beneficiaries households to promote a nutritious and clean diet, particularly for Pregnant Women, Lactating Women, and Children.

- Seeds and other necessary materials can be distributed.
- Also promote the kitchen garden concept among community.

iv. **Treatment**, Children in the SAM and MAM categories can be treated with KHUSHI.

- The CMAM programme can be used to help SAM youngsters.
- For MAM children, a PD (Positive Deviance) hearth programme might be used.

v. **Events**, KHUSHI can organize activities for community awareness, as well as to educate and motivate the recipients, on a number of occasions.

- For example, every year in the first week of August, Breastfeeding Week is observed.
- Nutrition Month, which takes place every September for the entire month.
- Every year on the 21st of June, there is a worldwide Yoga Day.
- Every year on the 5th of June, there is a World Environment Day.

- Every year on the 28th of May, there is a World Menstrual Hygiene Day.

II. **Pre School-Education**, make sure that AWC infrastructure is well-maintained in the area of pre-school education.

- Where will the AWC be opened? • Will children be present?
- AWW presence • KHUSHI ensures that quality pre-school education is provided.
- Making every effort to provide a child-friendly atmosphere, such as clean, safe, and secure AWCs.
- Raising Community Awareness
- Provide TLM (teaching learning material) and training to the AWW (capacity building) to improve performance on a regular basis in quality pre-school education.
- Enhance the story-telling concept through training, and ensure that AWW works on children's cognitive development.

III. **3.Community Ownership**, By organizing an AMC (Anganwadi Management Committee) of 7-8 people, including parents of children, to motivate responsible persons to make the community aware.

- By encouraging the Panchayat, assigning tasks, and ensuring that health and education in the village are not jeopardized, the main goal is to identify weaknesses and ensure that they are filled by informing the Panchayat and Khushi Field monitor and Cluster coordinator.
- AWCs are also in good functioning order.

**(d) Target group:**

I. **In Health & Nutrition,**
- Identification and treatment of SAM children through CMAM camp and Support to Govt. where they are doing CMAM camp.
- PD (Positive Deviance) Hearth Session at all AWCs centers, preferably twice a year.
- Training of ASHAs and AWWs on maternal and child nutrition.

## II.  In Education,

- Improved functioning and attendance, by opening AWC and both worker present at AWC (90%).

- Increased mainstreaming of children into formal schools from AWCs, 100% mainstreaming of 6-year-old children from AWCs in nearby school and 90% children to be found attending schools after passing out from AWC. To be tracked for 1 year after mainstreaming into schools.

- Decline in malnourishment among children, out of identified SAM children in the AWCs catchment and 60% to be moved out of SAM.

- Improved Community connect in AWCs, Community contributions in at least 70% AWCs (tangible) by Providing new E-learning content at Nandghars every quarter and by giving Refresher trainings to AWWs in PSE, once a year.

## III.  In Community Engagement,

- Monthly Meetings at each center can be done.

- Monthly Magazine to be provided at each center every month.

- Related registers and records to be maintained at each centre.

- Capacity Building of Khushi Staff, by Trainings of Khushi Staffs on PSE, maternal and child nutrition.

- Formation of a local level Anganwadi committee and Capacity building of committee to take on future responsibilities for maintaining AWCs ensuring all components.

## (e) Activities / Interventions:

- Assist with data collecting planning and operations at HANSA.

- Data collectors can be monitored by keeping track of their attendance.

- Data collection and evaluation done.

- Data collection can be monitored to quality assurance.

- To avoid duplication, clear up the data from the dashboard.

- Giving training Anthro's of Khushi in haemoglobin testing.

- In terms of the kitchen garden, assess the current state of kitchen garden establishment, as well as conduct interviews at some AWCs and homes.

**(f) Details about the field level work:**

| S. No | Date | Field MovementActivity | Accompanied By |
|---|---|---|---|
| 1. | 14/04/22 | <ul><li>Visit Bock Kothri, villaje Bhadkia and Gothra</li><li>Understand the concept of **5th HH after the identified HH**</li><li>Understand and did spot check for quality assurance and monitoring</li></ul> | WithBhilwara Data Collectingteamand SupervisorAnshulTamboli |
| 2. | 19/04/22 | <ul><li>Visit Block Kothri, village Fatehpura</li><li>Did Back check for quality Assurance</li></ul> | WithJyotiPrakash Sir (DMO) and AnshulTamboli (Supervisor, Bhilwara) |
| 3. | 20/04/22 | <ul><li>Visit Village Auzhagar and Mandpiya</li><li>Did understand and monitored the Anthropometric</li></ul> | WithJyotiPrakash Sir (DMO), AnshulTamboli (Supervisor, Bhilwara) and RajuLal (ConsultantforAnthropometricMeasurements) |

| | | | |
|---|---|---|---|
| | | Measurements.<br>• For each sample, total 6 anthropometric measurements are taken.<br>• Did Back check for quality assurance | |
| 4. | 26/04/22 | • Visit block Kumbhalgarh<br>• To ensure and monitor the quality of the data<br>• Did Spot check and Back Check | WithJyotiPrakash Sir (DMO), Jorawar Singh (Supervisor, Ajmer) and BharatSalvi (Supervisor, Rajsamand) |
| 5. | 27/04/22 | • Visit block Kumbhalgarh<br>• To ensure and monitor the quality of the data<br>• Did Spot check and Back Check | With Jyoti Prakash Sir (DMO) and AjitVerma Sir (DQMC) |
| 6. | 28/04/22 | • Move to Nathdwara<br>• Do Data cleaning from Dashboard | With Jyoti Prakash Sir (DMO) and BharatRam (Supervisor, Chittorgarh) |
| 7. | 29/04/22 | • Visit block Nathdwara<br>• Toensure and monitor the quality of the data<br>• Did Spot check and Back Check | With Jyoti Prakash Sir (DMO), AjitVerma Sir (DQMC) and ChiitorgarhTeam |
| 8. | 01/05/22 | • Visit Block Gogunda and Jhadol in Udaipur<br>• To ensure and monitor the quality of the data<br>• Plan for a large-scale | With Ujjwal Tiwari Sir (DQMC) and Devendra Regar (Supervisor, Udaipur) |

| | | initiative to make data collection more efficient. | |
|---|---|---|---|
| 9. | 27/05/22 | • Visit block Hurda<br><br>• Visit AWCs (Rupaheli, Shastri Nagar)<br><br>• Assessed the state of kitchen garden and conducted interviews with Hurda village household beneficiarias.<br><br>• Attend a meeting with the Khushi team at the SDM office, BDO office and CDPO office, Hurda. | With Shalini Mam(Project Coordinator, Khushi) and Arpita Mam (CapacityBuildingOfficer, Khushi) |
| 10. | 14/6/22 | • Visit block Suwana<br><br>• Visit AWCs (Ratola, Kanda)<br><br>• Assessed the state of kitchen garden and conducted interviews with Kanda village household beneficiarias. | With Ashok Sir (Project Associate, Khushi) |

### Health and Nutritional Situational Assessment (HANSA):

- The project is being implemented with the goal to strengthen the efficacy of government's Integrated Child Development Services (ICDS) Program, so as to improve the health and well-being of children below 6 years of age.

- The evaluation has the ultimate objective to generate reliable and representative estimates of, but not limited to, a set of quantitative indicators in the target districts.

- The way success would be measured would be mainly across the following key indicators:

  i. % of children 0-71 months wasted/stunted/underweight across target districts

  ii. % mothers/caregivers practicing age appropriate IYCF for children 6-23 months

  iii. % women with at least 4 ante-natal care visits/consumption of 90 IFA tablets/appropriate dietary diversity

- This study would help in mapping the nutritional status of children as well as the knowledge and practices of mothers and service providers. Finding would help in designing the activities to reduce malnutrition among children, anemia among mothers as well as knowledge and practices of mothers

## 3. Objectives of HANSA study:

- To Improve functioning of Anganwadi Centers (AWCs) and attendance of children

- To increase mainstreaming of children into formal schools after completing Pre School Education (PSE) from AWCs

- To reduce incidence of malnourishment among children

- To improve community, connect in AWCs.

- To assess the infrastructure of existing AWCs and develop them as model.

## 4. <u>The Baseline Assessment:</u>

The baseline assessment has 2 components: -

a. Household survey
b. Anthropometric measurements
c. Hb level estimation

**a. Household Survey:**

- **Main objective** is to generate robust district level understanding of the state of nutrition of mothers and children.
- The household survey would have astructured, closed ended, questionnaire-based interviews involving for eligible respondents at the population level in the 5 intervention districts in Rajasthan from mothers and anthropometry of children largely on the following domains:
- The major indicators specific for the mentioned age groups would include:

| Household Survey |
|---|
| Socio-demographic information |
| <ul><li>Religion and Caste:</li><li>Type of house</li><li>Family composition (no. Of family members) and type (nuclear/joint)</li><li>Wealth Index</li><li>Type of drinking wáter used</li><li>Type of oil used</li><li>Fuel used for cooking</li><li>Possession of animals/kitchen garden</li><li>Occupation of child'sparents</li><li>Food insecurity</li></ul> |
| Anthropometric Measurements (Children between 7m to 59m) |

- Height/Length
- Weight
- MUAC

Indicators from the data, Wasting, Stunting and Underweight

| Age groups | | | |
|---|---|---|---|
| 0-5mth | 6-11mth | 12-23mth | 24-35mth and 36-71m |
| InformationofMother | | | |
| • Age of the respondent<br>• Obstetric history of mother<br>• Dietary diversity of mother<br>• Mother's education<br>• Haemoglobin level<br>• Hand washing practices | | | |
| • Proportion of women consuming 90+ IFA<br>• Participation in community based events during pregnancy and lactation)<br>• Knowledge of mothers on New Born Care (NBC) | • Participation in Annaprashandiwas<br>• Hygiene practice (hand washing before cooking,feeding etc.)<br>• Knowledge of mother son IYCF practices and care during illness.<br>• Registration of mother for THR and THR receiving status and reasons for not receiving | | |
| Information of Children | | | |

| | | | |
|---|---|---|---|
| • Timely initiation of breast feeding<br>• Colostrum and pre-lacteal feeds<br>• Exclusive breast feeding, bottle feeding, reasons for not giving breast feeding<br>• Newborn care practices – drycord care, Skin to skin care<br>• Common childhood illness in the previous month/last weeks<br>• Care seeking behaviour in case of illness<br>• Weighing of children at birth<br>• Growth monitoring by AWW | • Age appropriate initiation of Complementary feeding<br>• Age appropriate meal frequency<br>• Age appropriate meal quantity<br>• Minimum dietary diversity<br>• Minimum aceptable diet<br>• Registration of child for THR and THR receiving status, reasons for not receiving<br>• Growth monitoring: Anthropometric measurement of child during last one month and intimation of child's nutritional status by AWW to mother<br>• Common childhood illness | • Immunisation, Full immunization coverage<br>• Minimum dietary diversity<br>• Common childhood illness in the previous month/last weeks<br>• Care seeking behaviour in case of illness<br>• Anthropometric measurement of child during last one month and intimation ofchild's nutritional status | • Growth monitoring: Anthropometric measurement(in 24m-59m only) of child during last one month and intimation of child'snutritional status by AWW to mother<br>• Common childhood illness in the previous month/lastweeks<br>• Care seeking behaviour in case of illness |

| | | | |
|---|---|---|---|
| | in the previous month/lastweeks <br>• Care seeking behaviour in case of illness | | |
| **FLW and ICDS services** | | | |
| • FLW home visits <br>• Advice on feeding practices <br>• Advice on care during illness <br>• Advice on identification of danger signs <br>• Advice on hand-washing practice <br>• THR received, Quantity, Proportion eligible to receive THR vs actually received THR <br>• Growth monitoring <br>• Identification of malnourished children <br>• Advice and Referral of malnourished children <br>• Use of job aid by front line worker | | | |

## 4.1. Methodology:

- Cross-sectional study with quasi-experimental design using proportional random sampling at Anganwadi level followed by systemic component at individual level using a random start.
- The sample structure for the quantitative data collection would need to generate a representative sample to generate district and project level estimates, change in estimates and their predictors.

## 5. Sample Size:

- Using the sample size calculation formula for binomial proportions (Schaeffer et al.), $pqN / [(N*0.05^2) \div (1.96^2 + pq)]$

- Where: N=size of the eligible population
- p=coverage/burden
- q=1-p
- 1.96=z-score for the 95% confidence interval
- 0.05=the range of 95%CI or +5%.
- For the most conservative (i.e. sample size for estimating an indicator proportion of 0.5 or 50%) sample size required for district level estimates, is 384/age group and adolescent girls/district, assuming an α error of 0.05, β error of 0.2 and absolute precision of 5%. Factoring in a sample loss of 5% the target sample size would be ~400.
- 400 individuals would be required to be recruited for each of the 5 age groups and for adolescent girls across the district(**mothers of children aged: 0-5/6-11/12-23/24-35/36-71 months& adolescent girls**) requiring a total sample of = 400 mothers*5 age groups*5 districts + 400 adolescent girls*5 districts.
- So, 2000 mothers and their babies and 400 adolescents would need to be recruited in each of the selected districts altogether culminating into 12000 (10000 mothers and 2000 adolescent girls) interviews for the survey.

|  | Bhilwara | Chittorgarh | Rajsamand | Udaipur | Ajmer | Total |
|---|---|---|---|---|---|---|
| AWCs across district | 400 | 400 | 400 | 400 | 400 | 2000 |
| **1 mother/Age group/AWC** | | | | | | |
| 0-5m | 400 | 400 | 400 | 400 | 400 | 2000 |
| 6-11m | 400 | 400 | 400 | 400 | 400 | 2000 |
| 12-23m | 400 | 400 | 400 | 400 | 400 | 2000 |
| 24-35m | 400 | 400 | 400 | 400 | 400 | 2000 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 36-71m | 400 | 400 | 400 | 400 | 400 | 2000 |
| Adolescent girls | 400 | 400 | 400 | 400 | 400 | 2000 |
| | | | | | | **12000** |

## 6. Sample Selection and Operation:

- 400 Anganwadi Centers (AWC) be needed to be randomly selected from each district (proportionally stratified by type of AWCs rural and tribal, assuming all tribal area AWCs have equal population as well as in all rural AWCs, which from our experience is a reasonable one for all the rural AWCs). The catchment area size difference of AWCs in tribal as opposed to rural areas, would be addressed through proportional stratified sample across tribal and rural areas (that means catchment area population proportion of tribal with rural AWCs would be reflected in their sampling fraction) – lists of AWC would be provided by Project HANSA team.

- Owing to the absence of any significant potential for clustering in the study design, no design effects is expected

- There should be minimal loss of sample since available mothers and children would be selected, and all data collection (interviews, HB estimation and anthropometry) from selected samples would be completed immediately on selection. It is understood that unavailable individuals would not be sought to be found through repeated attempts.

- Selection of 1 random individual from each of the age groups in each sampled AWC, after listing following a random start until one individual from each of the four targeted age groups has been found (expect to list about 80-100)

    o In the selected AWC, the Anganwadi Worker is asked to provide the filled survey register.

    o In the survey register, each household has a number. These numbers are assigned serially starting with "1" to say "230". The number of last household (maximum) is noted (say, 230).

    o A random number between 1 and max HH no. (230) is generated through

random number table. Say, it comes to be 135.

   o As per the 'index HH selection document', 135^{th}HH is identified and the data collector physically goes to that house. This HH is termed as 'Index Household'.

   o Then the data collector goes to the **5^{th}HH after the identified HH**, excluding 4 HH in between, towards the right direction (clockwise). This is the first house where the interviewer tries to find out any of the respondent from 4 categories – Mother of 0-5 /6-11/12-23/24-35/36-71 months old children. If eligible respondent is available, the interview is conducted (after taking her consent).

   o Then the data collector goes to the next 5^{th}HH (using the same clock-wise rule) and continue the process of identifying the respondent. This process is continued until all the 5 respondents are identified and interviewed.

- If there are more than one eligible child in the same Households then youngest child would be interviewed

- Details of identifying the respondent would be shared explicitly in the training manual addressing the entire gamut of field level issues

- The details of listing would be documents in a listing tool (Paper based) which would contain basic information such as head of the family, no. of eligible children in the household and their availability etc.

- There would be listing and 5 interviews per AWC along with anthropometric measurements and Hb estimation for 5 selected children and 1 adolescent girl from each AWC.

| | Selected Districts | | | | |
|---|---|---|---|---|---|
| Name of District | Bhilwara | Chittorgarh | Rajsamand | Udaipur | Ajmer |
| No. Of AWCs from intervention blocks | 400 | 400 | 400 | 400 | 400 |

- In each AWC, 6 eligible respondents would be selected based on specified criteria:-

| Mothers of children aged/ Adolescent girls | 0-5 m | 6-11m | 12-23m | 24-35 | 36-71m | Adolescentgirl |
|---|---|---|---|---|---|---|
| Interview | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Anthropometric measurements | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Anaemia estimation through HemoCue machine (Finger-prick Method) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

- One data collector would cover 1 AWC which would cover listing along with 5 interviews in 1.5 days.
- One level of supervisor for every 10 (approx.) data collectors (for both teams) would supervise the work and ensure quality. They would also do the required number of audio checks and back checks

The most extensive data collection tools are expected to be for the 0-5 m group and this should take less than 40 minutes of interview time.

**(b) Collection of Anthropometric Measurement: -**

- The Project HANSA team would provide 20 sets of anthropometric instruments comprising of a standard weighing machine, infantometer (used for measuring length of children aged less than 2 y) and stadiometer (used to measure standing height) and MUAC tapes. For household survey, interviews of beneficiaries (mothers of 0-5/6-11/12-23/36-59 months old children and adolescent girls) would be done using systematic sampling in the village whereas anthropometric measurements would be done for children age less upto 59 months and adolescent girls.

- Details description mentioned in the table below:-

| Anthropometric Measurement | | | | | | |
|---|---|---|---|---|---|---|
| | **Bhilwara** | **Chittorgarh** | **Rajsamand** | **Udaipur** | **Ajmer** | **Total number of AWCs** |
| **AWCs across district** | 80 | 80 | 80 | 80 | 80 | 400 |
| Age groups of children and adolescent whose anthropometric measurement would be done- 1 child/Age group/AWC and adolescent girls | | | | | | |
| **0-5m** | 80 | 80 | 80 | 80 | 80 | 400 |
| **6-11m** | 80 | 80 | 80 | 80 | 80 | 400 |
| **12-23m** | 80 | 80 | 80 | 80 | 80 | 400 |
| **24-35m** | 80 | 80 | 80 | 80 | 80 | 400 |
| **36-59m** | 80 | 80 | 80 | 80 | 80 | 400 |
| **Adolescent girls** | 80 | 80 | 80 | 80 | 80 | 400 |
| **Total** | 400 | 400 | 400 | 400 | 400 | 2400 |

**(c) Estimation of HB Level (Finger- Prick Method):-**

- The Project HANSA team would provide 20 sets of HemoCue machine along with the consumables for 2500 test (considering the wastage factors). A sub-sample of participants would be requested for providing peripheral blood sample for assessment of haemoglobin. If they provide consent, 2-3 drops of blood via finger prick would be collected and haemoglobin level would be assessed using HemoCue machine. The blood sample would be drawn aseptically (after cleaning the skin with an antiseptic solution) using a lancet with a disposable needle. The assessed haemoglobin level would be informed to the study participant instantly.

| Hb level estimation (Finger-prick Method) | | | | | | |
|---|---|---|---|---|---|---|
| | **Bhilwara** | **Chittorgarh** | **Rajsamand** | **Udaipur** | **Ajmer** | **Total number of AWCs** |
| **AWCs across district** | 80 | 80 | 80 | 80 | 80 | 400 |
| **Age-wise details for Hb estimation** | | | | | | |
| **0-5m** | 80 | 80 | 80 | 80 | 80 | 400 |
| **6-11m** | 80 | 80 | 80 | 80 | 80 | 400 |
| **12-23m** | Maximum 400 currently pregnant women would be taken from these age-groups for Hb estimation. It would be identified during the listing process. | | | | | |
| **24-35m** | | | | | | |
| **36-59m** | | | | | | 400 |
| **Adolescent girls** | 80 | 80 | 80 | 80 | 80 | 400 |
| **Total (No of respondents)** | **400** | **400** | **400** | **400** | **400** | **1600** |

## 8. Process of Data Collection:

**(a) Mode of Data collection:-**

- Computer Assisted Personal Interview (CAPI) method to be used for data collection using digital Tablet-PC based data capture tool.

**(b) Human Resource:-**

- There are a total of 72 consultants for data collection, Both Male and Female.
- For Quality Assurance, for each district appointed one Field Supervisor.
- For Anthropometric Measurements, for each district appointed two consultants.
- The rest of consultants are for data collection.

**i.    Field Supervisor:-**

- Team supervisor would be required (1 for 8 to 10 data collectors) for ensuring Quality and operational management
- They were responsible for addressing operational issues related to data collection and that targets are met
- They were also be responsible for the quality control (a minimum of 15% back check and audio check periodically for every data collector and of every tool) of data being collected

**Table 1: Reporting updates from data supervisors**

| Name of supervisor |
| --- |
| Total number of data collections under supervisor |
| Number of data collectors supervised today |
| Names of communities visited today for collection |
| **Community 1 [Name]** |
| Issues identified today |
| Solution provided |

| | |
|---|---|
| Other comments | |
| **Community 2 [Name]** | |
| Issues identified today | |
| Solution provided | |
| Other comments | |
| **Community 3 [Name]** | |
| Issues identified today | |
| Solution provided | |
| Other comments | |

### ii. Competencies for data collectors and field supervisor:

- The minimum qualification required would be graduation with prior experience in data collection, preferably for large scale household surveys

- The selected candidates should have excellent communication skill in local dialects of Rajasthan with ability to read and write in Rajasthani.

- They should be able to travel extensively on daily basis

- For supervisors: Along with above mentioned requisites, they should have demonstrable experience in managing teams in the field and coordination with multiple stakeholders to share information.

### (c) Training:

- Training was divided into two groups.
- The first batch of training would take place from February 25th to March 3rd, 2022, while the second batch would take place from March 8th to March 13th, 2022.
- Training of data collectors require a period of 6 days + 1 day field trip
- This training would be strictly residential, and all the data collectors are expected to stay at the training location

- There would be 1-day of field trip during the training period in nearby AWCs (4-5) on the 6$^{th}$ day (non-sampled), aim at completing a survey area following the complete protocol of data collection which would enable the data collectors to understand the process, ground realities and areas of improvement, if any.
- The training for anthropometric measurements and HB estimation team can be for a period of 1 day along with field trip for one day (total 2 days).

**(d) Zero Round:**
- The first batch's zero round was held on the 4th and 5th of March
- While the second batch's was held on the 14th and 15th of March.

**(e) Debriefing sessions:**
- On the 30th and 31st of March, after collecting approximately 40% of the data, a two-day debriefing session was held in Udaipur and Bhilwara.

**(f) Micro-plan for data collection:**
- The micro-plan for data collection was communicated with district supervisors, and the same team mobility plan was followed, as well as data collecting.

## 9. Quality check approach:

- Data quality monitoring should be done through
  1. A minimum of 15% of Back checks and audio checks by supervisors
  2. The digital data collection system would capture audio recordings of the interviews, which would be reviewed on a regular interval to ensure data quality. Audio checks should cover all the data collectors and for every tool handled by each data collector.
  3. Feedback to data collectors through debriefing sessions on quality issues
- A bilingual back check tool developed by Project HANSA team would be shared with the supervisors and back-check would be conducted through CAPI in randomly selected interviews.

The following 11 indicators would be considered as key indicators for Quality Check Review in which an error percentage of less than 5% is expected and deviation higher than 5% in any of these would be considered as level of data quality below the accepted level requiring course correction, till which the corresponding payment would remain withheld:

- Weight of the child (Anthro tool – upto age 59 months)
- Height/length of the child (Anthro tool- upto age 59 months)
- No. of FLW visits during pregnancy (0-5 tool)
- Time of initiating breast feeding (0-5 tool)
- Participation of the mother in Complementary feeding day (6-11m tool)
- Month of initiation of complementary feeding (6-11m tool)
- Data on which child received DPT -3 vaccine (12-23 tool)
- Age of the child (any tool)
- Occurrence of diarrhea in the previous 30 days (24-35m tool)
- No. of months of receiving THR (24-35m tool)

Anemia among adult women (pregnant and lactating women) and adolescent girls

## 10. Learning from this entire process:

| S. No. | Activities (In KHUSHI) | Learning |
|---|---|---|
| 1. | Kitchen Garden | - Become familiar with the kitchen garden's SOPs for AWC and households. <br> - Select AWCs and beneficiary households and conduct telephone interviews using the Simple random sampling method. <br> - A review of the kitchen garden that included a discussion of the findings, strengths and limitations of the activity. |
| 2. | Field Visits | - Learn how AWCs operate <br> - Learn about Cluster coordinators activities |

| | | • and field movements. |
|---|---|---|
| | | • Learn about role and responsibilities of Field monitors that are doing in terms of monitoring and evaluation. |
| 3. | Objectives and Activities | • Learn about the objectives of Khushi |
| | | • Activities done by Khushi team |

| S. No. | Activities (In HANSA) | Learning |
|---|---|---|
| 1. | Field Visits | • Learn about the interview procedure |
| | | • About the $5^{th}$ HH after the identified HH. |
| | | • Learn about anthropometric measurements and quality data collection |
| | | • Spot check and back check were done for quality assurance. |
| 2. | Micro Planning | • For team movement to complete rapid and quality data collection |
| 3. | Monitoring | • Did daily data collection tracking. |
| | | • Did continuous monitored the dashboard |
| | | • Keep in touch with the team and supervisors to track field activities. |
| | | • Track and record daily attendance in a Google Sheet. |
| 4. | Data Quality Assurance | • Cleaned up the data on the dashboard. |
| | | • Eliminate duplication |
| | | • Audio to assess the quality of the data |
| 5. | Training | • Gave training to Khushi Anthro's for haemoglobin assessment |

## 11.Challenges:

- Demographic areas pose a significant obstacle to the study. There are hilly areas and completely tribal areas in several districts, like Rajsamand and Udaipur. They are therefore difficult-to-reach places for data collection.

- A lack of human resources that limits rigorous data collection.

## 12. Discussion:

HANSA as a baseline study in 5 districts of Rajasthan where Khushi is active in its control and intervention blocks. To comprehend malnutrition, we first examine its causes before posing questions about the dietary practices and nutritional status of the participants, who were divided into six age-groups: children (0 to 5 months), children (6 to 11 months), children (12 to 23 months), children (24 to 35 months), children (36 to 71 months), and adolescent girls.

The major objective is to understand their living circumstances, understanding of health, and eating practices so that we can determine how well-nourished they are.

In this study, we created various questionnaires for various age groups and categories, and data collectors conducted interviews to ensure the validity of the data. Additionally, each and every sample can be used for anthropometric measurement and HB estimation. Based on knowledge and comprehension of the population, it is possible to achieve the desired results.

## 13. Reference

1. Progress Khushi [annual report]. Bhilwara.

2. Health and nutritional situation assessment- project HANSA. Vol. 2. Rajasthan; 2021-22 (CARE INDIA) [INDIA] 2022.