



**A CSR initiative by Adani Wilmar Ltd.**  
Implemented by Adani Foundation

# NOURISHING LIVES

Fortune SuPoshan  
Project Assessment Report  
(2016-2020)





For a healthy growing nation

# Nourishing Lives

Fortune SuPoshan

Project Assessment Report

(2016-2020)

Initiative of Adani Wilmar and implemented by Adani Foundation

For more information on Fortune SuPoshan visit : <https://www.suposhan.in/>

Report by Hrim Consulting

April 2021





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**Dr Priti Adani, Chairperson, Adani Foundation**

“It is a well-known fact that maternal, infant and child nutrition play significant roles in a child’s growth and development. These aspects also heavily influence the future socio-economic status of a child. For India to be able to meet its Sustainable Development Goals (SDGs), catering to the health and nutrition needs of our demographic dividend is of utmost importance. In this context, Fortune SuPoshan, an initiative by Adani Wilmar, implemented by the Adani Foundation, has been building capacities of women, enabling them to take ownership of their health and nutritional status through the steadfast support of SuPoshan Sanginis. This assessment report has captured many such qualitative nuances of the project, which have helped curb the vicious cycle of inter-generational malnutrition.”

**Mr. Angshu Mallick, CEO & MD, Adani Wilmar Ltd**

“The Fortune SuPoshan Project reflects the vision of Adani Wilmar ‘for a healthy growing nation’. We look forward to touching the life of every Indian, enabling them to live life fully, thereby making India stronger, healthier, and more productive. I am glad that this assessment report has led to some of the vital information emerging at a very crucial time that motivates us and even paves the way to better address the issues of malnutrition and anemia in the future.”

”



“

**Mr. Bhomik Shah, CEO and Founder, NGOBOX & CSRBOX**

“The Fortune SuPoshan Project is an example of how a focused intervention with a multi-stakeholder approach can help in addressing the malnutrition problem. The success of the project in bringing down SAM and MAM children by over 70% and underweight children by over 90% in four years is a benchmark for social sector projects. CSRBOX as a social sector catalyst has been working with different kinds of nutrition-focused projects, but the tangible impact of the Project covering children, pregnant and lactating mothers and adolescent girls is outstanding. This Project will inspire many other organizations to follow and replicate the same model. SuPoshan Sanginis, as change-maker champions, are going to help in solving many grassroot challenges for the communities in the future.”

**Dr. Rupal Dalal, MD IBCLC, Adjunct Associate Professor, CTARA - IIT B**

“It is my pleasure to read the ‘Nourishing India’ report from Fortune Suposhan. Their multi-stake community-based approach, with a strict monitoring and evaluation method to tackle undernutrition as well as anaemia in adolescents, women and children, is the way forward for various state governments to take up. Their project inputs, like systematic training, using various technologies and incentive-based performance, are very much like a high-output corporate culture which gives the desired results in any scenario. Empowering community women like SuPoshan Sanginis is not only sustainable but also desirable as their basic and advanced knowledge on nutrition will leave an impact from generation to generation.”

”



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# ABOUT - ADANI FOUNDATION

Adani Foundation, the CSR wing of Adani Group, upholds its motto of “Growth with Goodness” through its initiatives. Taking inspiration from the Gandhian philosophy of trusteeship, Adani Foundation strives to create sustainable opportunities. It does so by facilitating quality education, enabling the youth with income-generating skills, promoting a healthy society and supporting infrastructure development. With an aim to contribute to the holistic development of communities, the Adani Foundation is contributing to the global agenda of meeting Sustainable Development Goals (SDGs).

Established in 1996 as a tribute to the ideals of late Smt. Shantaba and late Shri Shantilal Adani, the Adani Foundation stands for the values of courage, trust and

commitment. What began in a few rural communities around Mundra port, Gujarat, has now expanded to 18 states in India, going far beyond the regions where Adani Group companies are functioning.

Adopting an approach that embodies innovation, people participation and collaboration with key stakeholders, the Adani Foundation is achieving inclusive growth and bringing about sustainable development, thereby contributing towards nation building. The programs of the Foundation contribute to the welfare of communities across India in **four core area - Health, Education, Community Infrastructure and Sustainable Development**. This is done via **four special projects** which are - **SuPoshan, Udaan, Swachhagraha and Saksham**.

**Vision—** “To accomplish a passionate commitment to social obligations towards communities, fostering sustainable and integrated development, thus improving quality of life”

**Mission—** “To play the role of a facilitator for the benefit of the people without distinction of caste or community, sector, religion, class or creed, in the fields of education, community health, and promotion of social and economic welfare and upliftment of the people in general.”

For more information on Adani Foundation visit:  
<https://adanifoundation.org/>



# EXECUTIVE SUMMARY

*Investing in the nutrition of children, adolescent girls and women has the power to change lives and unlock huge social and economic potential, especially in countries with a high burden of malnutrition. <sup>1</sup> Adani Foundation through its SuPoshan Project is striving to tackle this challenge in India.*

Over the past two decades despite efforts from numerous government and international agencies, malnutrition in India has stubbornly persisted. India currently ranks 94<sup>th</sup> on the 2020 Global Hunger Index among 107 countries, falling in the 'serious' category of the index. <sup>2</sup>

In 2012, the 194 member states of the World Health Assembly (WHA) endorsed the first ever global targets to improve nutrition focusing on six areas: stunting, exclusive breastfeeding, wasting, anemia,

low birth weight, and overweight. These targets were further endorsed in 2015 WHA as part of the Sustainable Development Goals (SDG). SDG 2 of Zero Hunger and SDG 3 of Good health and Wellbeing, committed to end malnutrition in all its forms by the year 2030, yet the world is not on track to achieve these targets.

Central and State government of India have taken significant measures to mitigate malnutrition. There are numerous schemes like - Integrated Child Development Scheme (ICDS), Midday Meal Scheme, Poshan Abhiyan (National Nutrition Mission), the Pradhan Mantri Matru Vandana Yojana (PMMVY) etc. Despite an array of such programs targeting maternal and child nutrition,

there has been a relatively low uptake of these government services. Only 51 percent of pregnant women attend a minimum of four antenatal clinics and only 30 percent consume iron folic acid (IFA) tablets. Uptake of supplementary nutrition varies from 14 to 75 percent among children and is 51 percent and 47.5 percent among pregnant and lactating women, respectively. <sup>3</sup> Hence, India stands with some of the poorest African nations, as undernutrition and micronutrient deficiencies remain a severe public health problems.

Therefore, along with the government there is a need for private sector, donors, foundations and others to make investment in nutrition. Seeing a shared opportunity to alter the trajectory of



malnutrition in the country , a multi - stakeholder approach was taken by the **Adani Foundation via the SuPoshan Project. A CSR Initiative by Adani Wilmar Ltd. Fortune SuPoshan aimed to combat malnutrition and anemia in Children below 5 years, Women in reproductive age and Adolescent Girls to help transform India into a healthy well-nourished nation. The program identified and supported women community Health Volunteers known as SuPoshan Sanginis to carry out its activities.** It spanned across 22 location with a mission to control malnutrition by enabling utilization of government resources and creating a community level behavior change. Multiple stakeholders like — gram panchayats, local governing bodies, block administration, district administration, District Hospitals, Sub District Hospitals, Community Health Centers, ICDS-Angandwadi, Public health workers etc.

were engaged to fulfill the objectives of the program.

The program started in 2016 and culminated in 2020 for 10 sites of Phase I. This report details an assessment of the elements of the SuPoshan project and its achievements across all Phase 1 sites. The purpose of the assessment was to analyze the change the program created in these regions during its four-year run from 2016 -2020. The assessment was designed on a mixed method approach which utilized various sources of primary and secondary data. The data sources which informed the analysis included universal anthropometric survey and screening conducted at the time of exit by the SuPoshan team; Site wise exit reports of the 10 locations; National Family Health Survey— 4 and 5 as district level baseline and end line data and Secondary research on socio - economic impact of malnutrition. Analytical tools of Outcome

Harvesting, Theory of Change Analysis and Qualitative Value Extraction were used to assess inputs, activities, outputs, outcome and derive cascading impact of the program.

The primary inputs of the SuPoshan Project across sites included technology, training, incentives and expertise. These inputs were used essentially to equip SuPoshan Sanginis who conducted on ground activities. The activities were aimed to bring a community level behavioral change for integration of nutrition into lives of the target population. It also facilitated utilization of government infrastructure and schemes for improvement of nutrition in women and children.

Focusing on identifying and assessing specific changes created by the activities in the region , direct outcomes and cascading long term impacts of the SuPoshan Project came to the forefront.



# HIGHLIGHTS - Program Outputs & Outcomes

- ♦ All SuPoshan Sites showed significant **reduction in all three indicators of Malnutrition** — Severe Acute Malnourishment (SAM), Moderate Acute Malnourishment (MAM), Underweight (UW) for children below 5 , from NFHS 4 Baseline. Average Reduction in Malnutrition between 2016 –2020 ( percentage change) **across all 10 sites** were as follows:
  - \* Severe Acute Malnourishment (SAM) levels reduced by **72.1%**
  - \* Moderate Acute Malnourishment (MAM ) levels reduced by **72.2%**
  - \* Number of children underweight reduced by **92.58%**
- ♦ SuPoshan sites showed an **average 25% reduction** (percentage change) in **anemia levels** from NFHS 4 baseline among women and adolescent girls across majority of its sites.
- ♦ **Malnutrition and Anemia levels** when **compared to district averages** were **significantly lower** across SuPoshan Sites
- ♦ The Phase - 1 SuPoshan Project spanning **across 7 states** and included **10 sites** in which **153 Sanginis** conducted:
  - \* **15819 Focus Group Discussions,**
  - \* **12711 Family Counselling**
  - \* **1742 other village level events**
- ♦ **153 Sanginis** screened over **67,000 individuals** for malnutrition and anemia. On an average **each Sangini touched at least 437 families** through its activities
- ♦ **Majority** of the sites had an **activity intensity** (activity per village in a site) of at least **100** showing that substantial program activities were carried out by the Sanginis in this timeframe.
- ♦ **Family counselling** emerged as the **most consistent activity** in the program. This represents a positive inclination towards one to one communication which is highly effective for behaviour change.
- ♦ SuPoshan program's qualitative feedback illustrated **transformation and empowerment of Sanginis.**

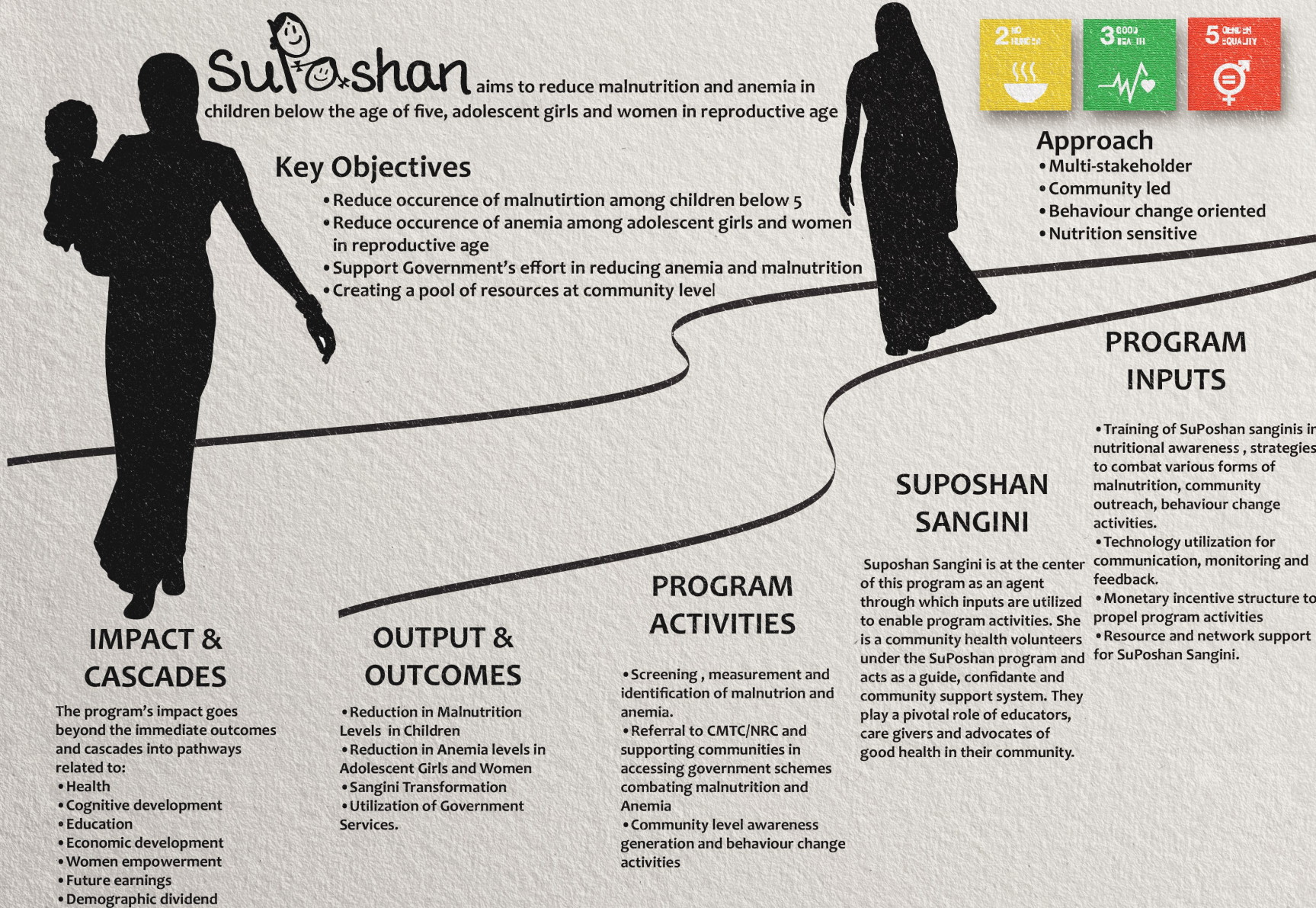


# HIGHLIGHTS - Cascading Impact

- ♦ SuPoshan has potential to create a **downstream cascading impact** in multiple domains transforming lives of individuals and society. According to research investment in nutrition improves - **cognitive development, education, income levels, demographic dividends and gender equality.**
- ♦ SuPoshan Program is a **down payment for future prosperity** as it provides the nutritional foundation for an enabling future for children, women in reproductive age and Adolescent girls. As per Research by Victoria University every dollar invested in women health and empowerment creates 20-dollar worth value in the future. **Direct monetary incentives to Sanginis, an investment in women health and empowerment, of Rs.1.2 crore have potential to convert into downstream benefits for the society valued at Rs. 25.3 crore\***
- ♦ SuPoshan Project's focus on nutrition of children and adolescents could increase opportunities for millions of children to become healthy and productive members of society with the **potential to impact on the Human Capital of and National economy of India.**
- ♦ The SuPoshan Project along with improvement in health of women is also **investing in gender equality.**
- ♦ SuPoshan Project is an essential step towards **breaking the cycle of poverty** of the most vulnerable sections of society.
- ♦ SuPoshan Project can **preemptively provide an enabling future for growth and development** as it intervened to improve the health of children, women in reproductive age and adolescent girls.

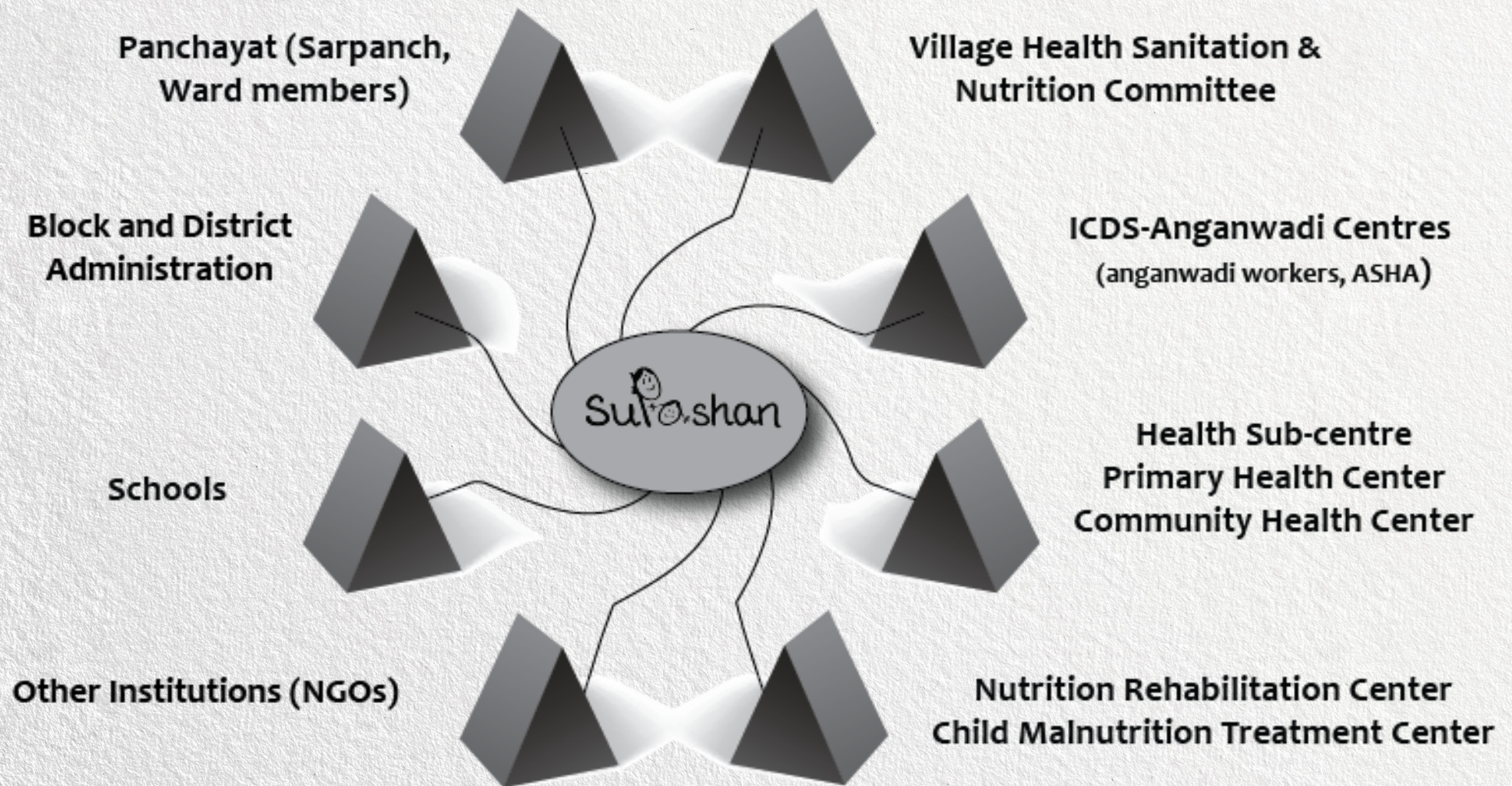
\*For details refer page 21 - Downstream Monetary Impact of Sangini Incentives







## MULTI-STAKEHOLDER APPROACH





# INTRODUCTION

## Program Description

Adani Wilmar's Project SuPoshan is a community-based multiple stakeholder initiative which aimed to combat malnutrition and anemia to help transform India into a healthy well-nourished nation. The program targeted women in reproductive age, adolescent girls and children under the age of five. Spanning across 22 locations, 1060 villages and 85 slums, SuPoshan strived to create long lasting change from within communities using Sanginis as the primary agents of change. Sangini was a community health volunteer who acted as a guide, confidant and a community support system to improve nutrition and health levels of the region.

SuPoshan was launched in May 2016 around 10 business sites of the Adani Group in the first phase. In its subsequent phases SuPoshan expanded to other sites



in 2017 and 2018. An MoU was signed in 2018 with the Government of Gujarat to implement SuPoshan in the Narmada District as well to transform its health and nutritional status. The SuPoshan Project focused on locations which have a strong need for health and nutrition interventions. The sites spanned across

unique geographies and catered to vulnerable communities.

To bring about a sustainable change in the nutrition profile of a community an intensive, hands on approach with a wide array of interventions was required for a sustained period of time. The SuPoshan Project followed this ethos and created a program that pivoted around members of the community. The program functioned in synergy with multiple stakeholders like panchayat members, local community leaders, ASHA workers etc. and complemented the work of the Indian government across its sites. With the main thrust on nutrition the program also positively impacted reproductive health, women agency and empowerment, sanitation etc.



Aligned to the mission of building a Healthy Growing Nation SuPoshan Project strived to :

- Reduce occurrence of malnutrition in children below the age of five.
- Reduce occurrence of anemia in adolescent girls and women in reproductive age.
- Support Government's effort in reducing malnutrition and anemia
- Create a pool of resources at the community level

Adani Foundation provided training, technology, expertise, incentives and resource support to SuPoshan Sanginis. Transforming women into empowered agents of change who carry out program activities in the community. SuPoshan Sanginis were given nutritional awareness, strategies to combat various forms of malnutrition, tools and training

for community outreach and behaviour change activities. The program utilized technology for implementation of program activities, monitoring and feedback. SuPoshan had a systematic monetary incentive structure to propel program activities. Globally recognized and context relevant strategies and tools were utilized in the program to measure nutritional profile of the target population and counter malnutrition. Adani foundation team provided expertise and resource support for Sanginis to effectively carry out program activities. SuPoshan Sangini acted as village health volunteers who played a pivotal role in spreading awareness, referral and promoting behavior change among the target groups to achieve the program objectives. Women coming from within the community became empowered agents of change with skill, familiarity and agility to bring behavioural change in the

community. Activities were focused on measurement of nutrition levels, change in nutritional practices within the community, direct management of malnutrition through behavior change for sustained results and improving access and utilization of government initiatives .

## Core Activities





## SuPoshan Project Phase 1— Sites Details

S. No	Site Name – Phase 1	State	District	Villages Covered	No. of Sanginis
1.	Mundra	Gujarat	Kutch	65	29
2.	Bitta	Gujarat	Kutch	7	6
3.	Dahej	Gujarat	Bharuch	9	8
4.	Hazira	Gujarat	Surat	11	11
5.	Shimla	Himachal Pradesh	Shimla	9	8
6.	Kawai	Rajasthan	Baran	29	25
7.	Tirora	Maharashtra	Gondia	61	36
8.	Kamuthi	Tamil Nadu	Ramanathapuram	11	5
9.	Suruguja	Chhattisgarh	Suruguja	12	9
10.	Vizhinjam	Kerala	Thiruvananthapuram	25	16



## Program Strategy

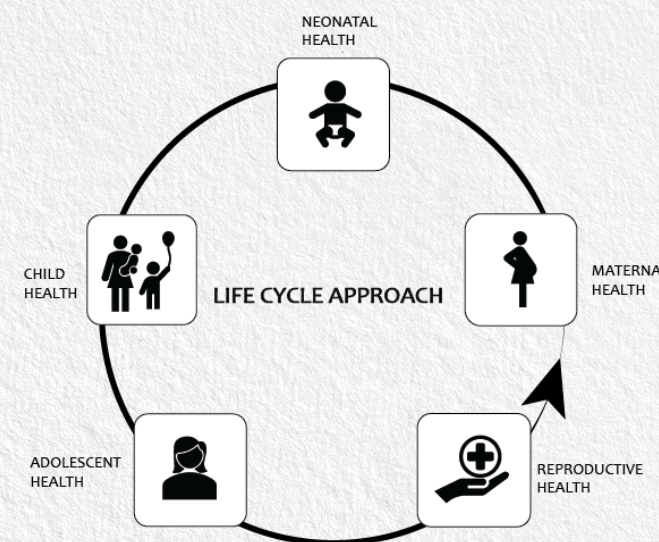
The SuPoshan Project's strategy incorporated a **multistakeholder community based approach to fight malnutrition and anemia**. The program focused on a community led model to improve nutritional outcomes for the selected target population of children below the age of 5, adolescent girls and women in the reproductive age group. SuPoshan Project also aligned with various stakeholders like—local and government institutions, initiatives and individuals working on nutritional upliftment at each site.

Community based human resource in the form of SuPoshan Sanginis was a key pivot for the program. The program focused on creating a community level behavioural changes towards nutrition along with facilitating access to government services and schemes like POSHAN Abhiyan and ICDS.

This synergetic approach aimed to enhance the target population's nutritional profile along with improvement in larger community level nutritional outcomes. Research findings state that income growth alone may only have modest impacts on malnutrition unless it is accompanied by improved health and education outcomes.<sup>4</sup> This points towards a need for a holistic approach to tackle malnutrition with elements of behaviour change and awareness generation. The SuPoshan Project incorporated such elements within its program design which focuses on community level awareness generation and behaviour change.

SuPoshan Project's strategy was backed with robust measurement and screening to monitor systematic results of activities. The program adopted the lifecycle approach covering reproductive, maternal, newborn child along and adolescent Health with a

special focus on the first 1000 days of life.



### 1000 days approach to break the Intergenerational cycle of malnutrition



Pregnancy  
270 days

+



Year One  
365 days

+



Year Two  
365 days



## Geographical and Societal Context

The 10 sites across 7 states defined the geographical extent within Phase 1 of the SuPoshan Project which has been assessed in this report. Geographical and social context of a region exerted a significant impact on the nutritional and health profile of the population. Geography directly influenced dietary habits, daily activities, access to healthcare etc. impacting malnutrition and anemia level in the population. The socio economic realities of the area like income levels, sociological and cultural barriers, levels of agency amongst women in family and community etc. determined access to both nutritious food and knowledge related to nutrition, reproductive and maternal health.

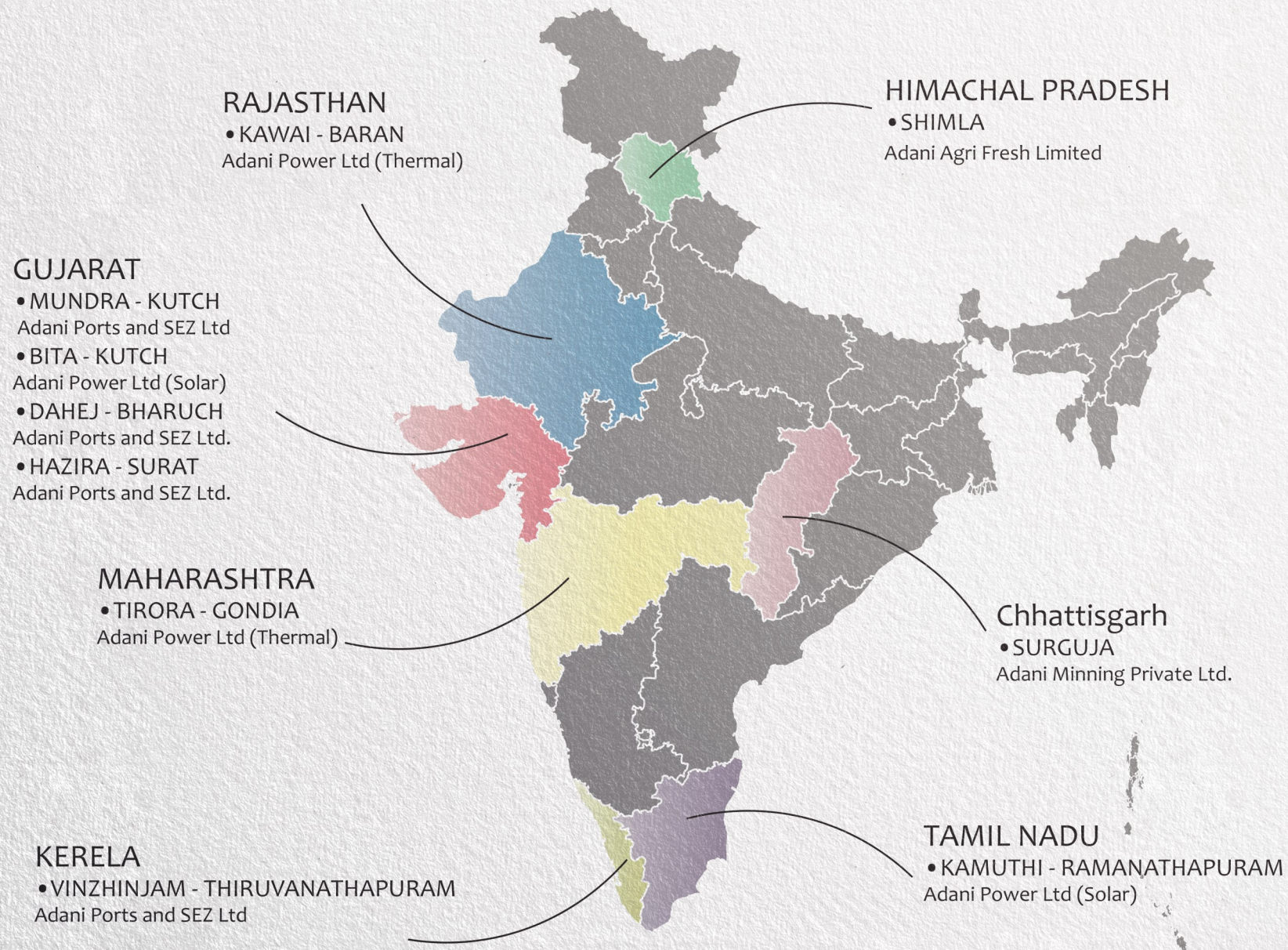
The SuPoshan Project transversed multiple geographies and tried to combat malnutrition in some of the most challenging socio economic landscapes. The ten sites included in this report span across varied geographical landscape. SuPoshan project adapted to the unique challenges that each geography posed through its community based approach. For example rural areas in Shimla district faced a challenge of hilly terrain and remote location of villages which were difficult to access for almost 3-4 months due to heavy snowfall. These sites were primarily rural and semi urban and with some of the most deprived communities of the country for which the SuPoshan Project effectively uplifted nutrition levels via their activities. Surguja in Chhattisgarh had majority population constituting scheduled tribes. Undernutrition among STs has remained poor, and significantly

higher than other caste categories. As per the report, in India, 44% of tribal children under five years of age are stunted (low height for age), 45% are underweight (low weight for age) and 27% are wasted (low weight for height).<sup>5</sup> The SuPoshan project took up the challenge of improving nutritional outcomes targeted at such vulnerable groups.

The social structure in India creates several constraints on women's agency. Gender related challenges significantly impact women's nutritional health throughout their life cycle. The program zeroed in on the problem of child and maternal nutrition which was housed in the complexities of the Indian social/geographical landscape and solved it via activities where women were both the creators of change and recipients of the program benefits.



## SuPoshan Project Sites Phase – 1





# METHODOLOGY

The cumulative assessment of the 10 sites of the SuPoshan Project was carried out from February to April 2021. A **mixed methods design** which integrated data from various sources was used to assess the achievements/ impact of SuPoshan Project through its life cycle. The information and data was derived from the Universal Anthropometric Survey and Screening of households in areas supported by the SuPoshan Project. The Survey assessed the status of Malnutrition amongst children below the age of five years and level of Anemia of women and adolescent girls in the 10 sites from which the SuPoshan Project had culminated. Another important source informing the assessment were site specific performance reports and exit reports which provided

both qualitative and quantitative inputs about the change the SuPoshan project had on ground and within the specific



contexts of the sites. These data sets were compared to district level National Family Health Survey Data of 2016 and 2020 of Ministry of Health, Government of India to bring out the concrete quantitative changes the program has achieved in Malnutrition and Anemia levels within the area of its influence.

The assessment also drew from key documents of the SuPoshan Project like annual report, monitoring information from an online dashboard, and information from secondary sources to help interpret findings and provide support for understanding the impact of the program. The mixed methods design allowed to triangulate findings from several different sources, providing evidence-based confirmation helping mitigate the limitations of each source of data considered in isolation. A combination of analytical tools was used to understand the change created by the SuPoshan project which included – **Retrospective Outcome Harvesting, Theory of Change Analysis, Qualitative Value extraction.**



**Outcome Harvesting:** Outcome Harvesting is an approach in which ‘outcomes’ are formulated, verified, analysed and interpreted within the program's context where relations of cause and effect are not fully understood. Outcomes are defined as changes in the “behaviour writ large” (such as actions, relationships, policies, practices) of one or more social actors influenced by an intervention.<sup>6</sup> Outcome Harvesting does not measure progress towards predetermined objectives or outcomes, but rather, collects evidence of what has changed and then, working backwards, determines whether and how an intervention contributed to these changes. In the SuPoshan Project the outcome of improvement in nutrition levels of the target population was connected to the program activities via this method. The causal link was verified by a comparative analysis of site level

changes with corresponding district level changes in the nutrition indicators between 2016—2020. The plausible connection was established using this method and is detailed in Outcome Analysis Section from Page 30 onwards.

**Theory of Change Analysis:** Change is at the heart of any social sector intervention. Organisations working in the sector strive to catalyze and maintain positive change within the geographical and social context of the region. This change is measured and understood through the process of Theory of Change analysis. Each element of the change process within the design of the intervention is assessed to innumerate the success of the program.<sup>7</sup> Theories of change to test the plausibility and relevance of the design and to identify outcomes that are key to the overall success of the program. A thorough appraisal of SuPoshan Project's theory of

changes was done through Activity and Input analysis detailed on Page 23 which appraised the design of the program and how it is working towards its goals.

**Qualitative Value Extraction:** Often social sector interventions create unprecedented value which is beyond the quantitative tangible impact of the program. Through the process of Qualitative Value Extraction cascading qualitative pathways are identified and verified using secondary research. This leads to development of pathways which show the value a program may have generated beyond the established and expected outcomes, in target groups and the community. The downstream potential value of the SuPoshan project was extracted through this method detailed in the cascading impact section Page 44. The effects of investment in nutrition through the program on the community were identified.



# INPUT ANALYSIS

Program inputs were tangible and intangible resources required to implement the program activities.

**SuPoshan Sanginis** were at the center of this program as an agent of change through which the inputs were utilized to enable program activities. SuPoshan project's inputs can broadly be divided into **training, technology, incentives and Sangini expertise**.

**Training:** Sanginis were carefully selected from within the community after a robust vetting system and local consultation. They were trained to carry out program activities effectively and efficiently. The Sanginis were trained in:

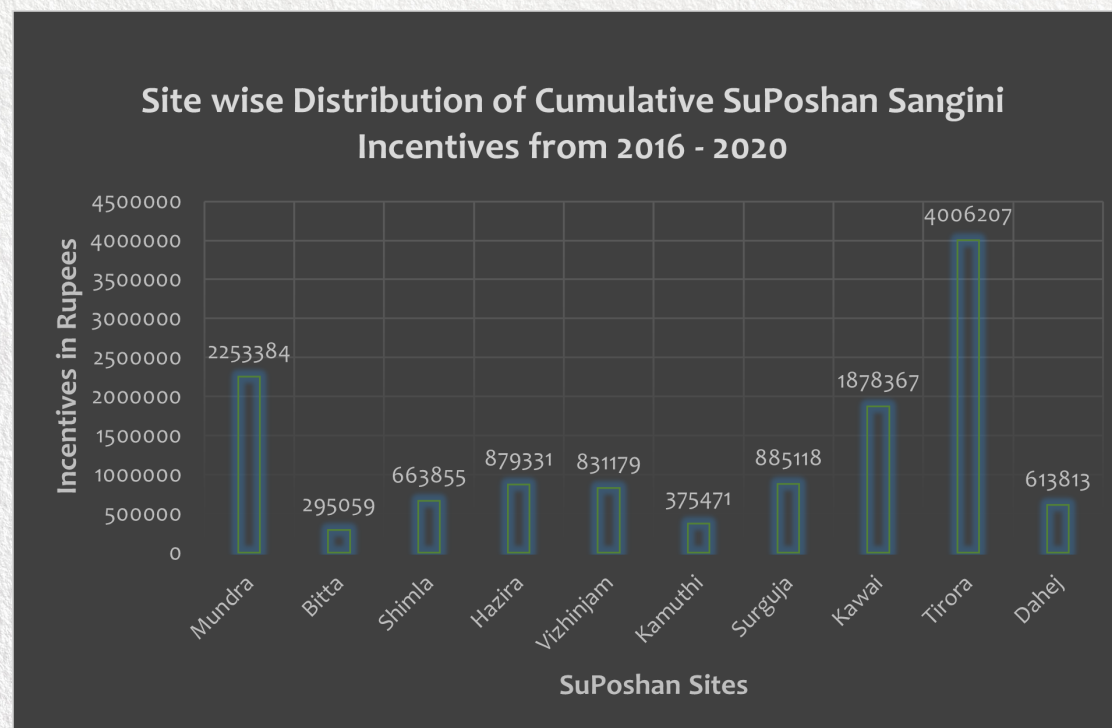
- Measurement tools and identification methods for malnutrition and anemia
- Applied nutrition and maternal health
- Curative and preventive strategies to counter malnutrition and anemia for target population and community
- Comprehensive teaching tools to deliver program content
- Accessing and utilizing government schemes and service delivery for target population
- Behavioural change communication
- Community outreach strategies

- Using technology for program activities

**Technology:** SuPoshan Project utilized technology for both monitoring results and improving delivery of program content. At the back-end the program had a comprehensive KPI dashboard linked real time to on ground inputs and activities which were conducted by the Sanginis and program teams. The Sanginis were also equipped with necessary technological tools for screening for malnutrition and anemia levels in women and children. It helped track the activities of SuPoshan Sanginis and allowed teams to make timely interventions to help in carrying out her program activities .



**Incentives:** The SuPoshan Project used an incentive structure to drive program activities. Sanginis were given monetary incentives for carrying out activities. These incentives were in the form of direct bank transfers. Apart from spurring program activity implementation, this monetary incentive structure serviced another important function. It provided agency and resources to women who were dynamic, aware and active in the community, hence creating a cycle of economic empowerment. The SuPoshan Project in these 10 sites transferred approximately 1 crore 27 lac Rupees in monetary incentives directly to these Sanginis. This incentive model created growth potential pathway for the Sanginis by bridging income inequality and promoting economic agency - an essential step to tackle structural social inequalities against women.

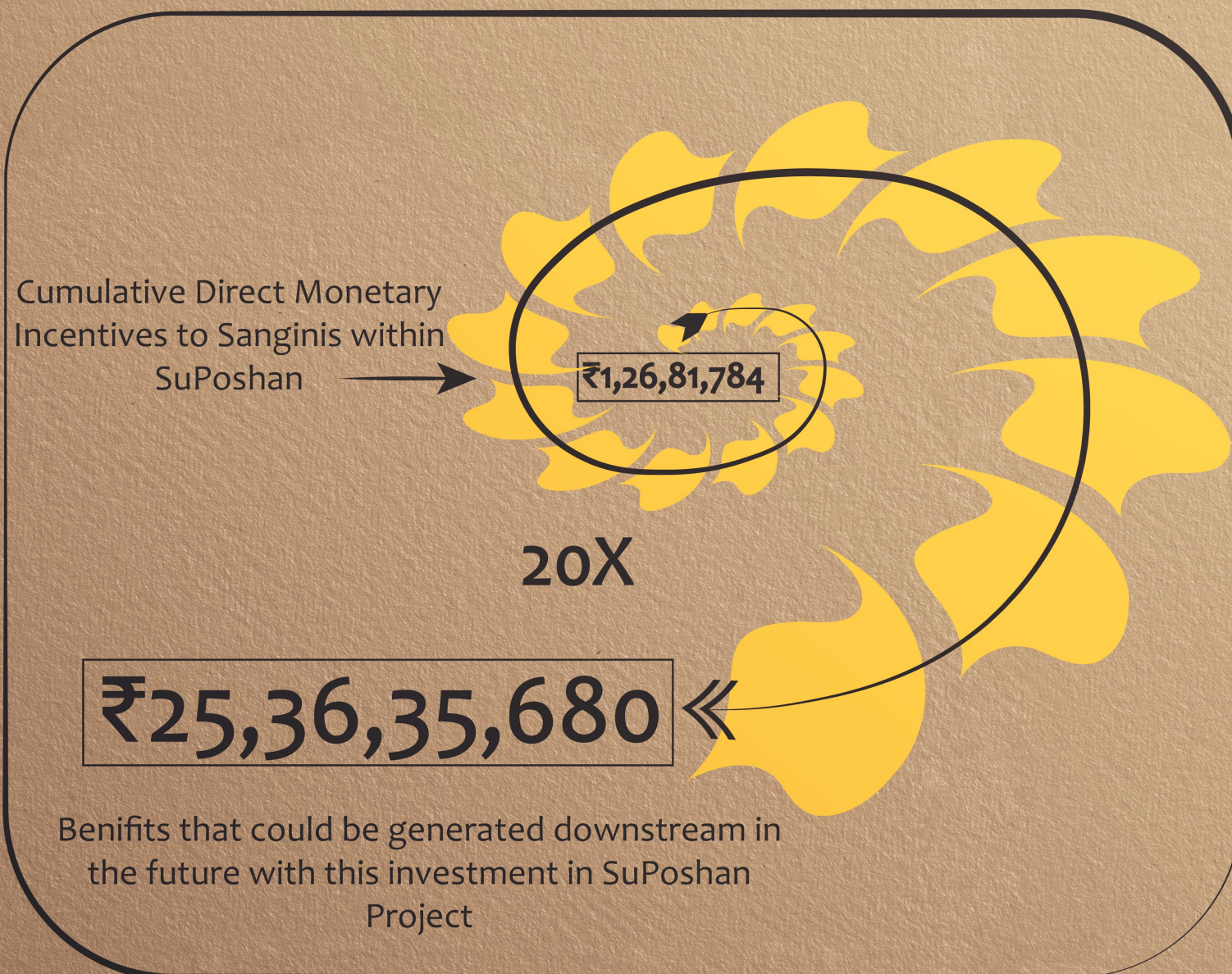


**Graph 1:** This graph shows the distribution of Sangini Incentives (Data Source: Official numbers provided by SuPoshan Team)



# Downstream Monetary Impact

A study by Victoria University in Melbourne in six Asian countries found significant returns through increased productivity: **for every dollar spent on key interventions for RMNCH, about US\$ 20 in benefits could be generated.** Preliminary results of a study by Boston University suggests a benefit cost ratio (BCR) of as much as 23.6. The results of these two studies are robust and consistent across a range of sensitivity analyses undertaken. Based on the above studies monetary incentives given to Sanginis to carry out SuPoshan's program activities were a form of investment into RMNCH. They have a potential to create exponential downstream benefit in the society. In Monetary terms this direct incentive investment of around Rs 1.2 crores in the 10 sites can create Rs.25.3 crores in benefits in the future due to its cascading impact.



## Source:

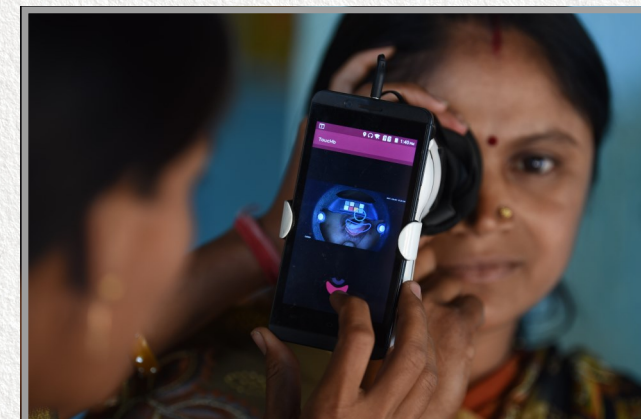
Sheehan PJ, et al. The returns to investing in maternal and child health: framework, issues and estimates in the presence of pervasive uncertainty. Submitted manuscript, 2012. 19. Foster S, et al. A framework for estimating benefits of investing in maternal, newborn and child health. Study commissioned by PMNCH; 2013.



**Sangini Expertise:** Sanginis were community health volunteers under the SuPoshan project. They played a pivotal role of educators, caregivers and advocates of good health and nutrition for the community. The central role of Sangini within the program was a well devised strategy to make SuPoshan an impactful and sustainable intervention. A Sangini was a member of the community well versed with local culture, social structures and key challenges. They embodied the role of an agent of behaviour change. Growing evidence shows that behavioural change initiatives working through peer networks are more effective than external agents trying to exert change. “SuPoshan Sangini” true to the meaning of the term was companions or friends, with accessible knowledge on nutrition

for the community.

To change people’s behaviour via communication can be challenging. The conversion from receiving nutrition advisory to changing dietary behaviour required sustained interaction. SuPoshan Sanginis created these sustained personalized communication channels to ensure change. Further, empowered women and girls have a multiplier effect on economic growth and development across the board. SuPoshan Sangini was an empowered woman in her local context apart from being an agent of change. SuPoshan Sanginis acted independently, took initiative and had a unique identity/ position in the community making them valuable role models for women and adolescent girls.





# ACTIVITY OUTPUT ANALYSIS

The pivot of the SuPoshan Project was the Sangini and from her emanated the positive spiral of activities which were aimed at improving malnutrition levels amongst children and Anemia levels of Adolescent girls and Women in reproductive age. The program activities were primarily conducted by the Sanginis which started with an Anthropometric Survey and Screening at the household level. Anthropometry is a useful tool, for nutritional assessment. As per World Health Organisation's recommended standards children below the age of five were screened for malnutrition by measuring Weight for Height, Weight for Age, Mid-upper Arm Circumference (MUAC) and Bilateral Pitting Oedema. Adolescent girls and

women (11 - 45 years) were screened for anemia using non prick methods, height and weight measurement and tongue colour charts. Severe anemia cases were confirmed by a blood test.

The screening identified the target group in the region for the Sanginis to take forward the agenda of the SuPoshan Project through:

## **1. Referral to CMTC/NRC and supporting communities in accessing government schemes combating malnutrition and anemia:**

Children once identified as severely undernourished with certain medical complications were referred to Child Malnutrition Treatment Centre (CMTC)/ Nutrition Rehabilitation Centre (NRC). SuPoshan Sangini after identifying such cases also provided support to the

caretakers and families in accessing government services available for treatment of Malnutrition . For confirmed cases of anemia Sanginis used a curative action approach with a follow up every month to monitor progress. Sanginis acted as a bridge between the community and government resources/infrastructure available tackle the problem of malnutrition.

## **2. Community level awareness generation and behaviour change activities :**

SuPoshan drew on a well established behavioural change model to develop program activities -The Health Belief Model (HBM). HBM is a widely recognized model which suggests that people's beliefs about health problems, perceive



benefits of actions and barriers to action, and self-efficacy explain engagement, or lack of it, in health-promoting behavior.<sup>8</sup> To break these barriers and instill lasting change

SuPoshan Project used Sanginis as agents of behaviour change targeting improvement in nutrition at a community level. They conducted a gamut of activities like focus group discussions, family counselling, village level events, Sneh Shivirs, Kitchen Gardens - SuPoshan Vatika focused to improve nutrition levels in children below five, adolescent girls and women in reproductive age to uplift the nutritional profile of the community.

**Focus Group Discussions** were moderated discussions by the Sangini for the local population to provide information about nutrition and health. Through **Family Counselling** Sanginis provided support to

households with malnourished children or anemic adolescent girls/ women. They facilitated behavior change at an individual or family level by imparting knowledge, moral support, information and guidance. **Village Events** focused on raising awareness on the importance of nutrition at a community level, and fulfilling specific nutritional needs of the region through customized interventions. These events included Sneh Shivirs, Poshan Vatikas (Kitchen Gardens), sanitation and reproductive health awareness drives etc. The events were customized as per the geographical and societal needs of the community. For example in Tirora, Maharashtra SuPoshan Vatika's developed as an effective activity to tackle the nutrition imbalance in the community.

The **10 sites** of the SuPoshan Program being assessed between 2016-2020 collectively conducted :

- **15819** Focus Group Discussions
- **12711** Family Counselling
- **1742** other village level events

**153 Sanginis Screened** over **67000** individuals for malnutrition and anemia

On an average **each Sangini** touched at least **437 families** through its activities

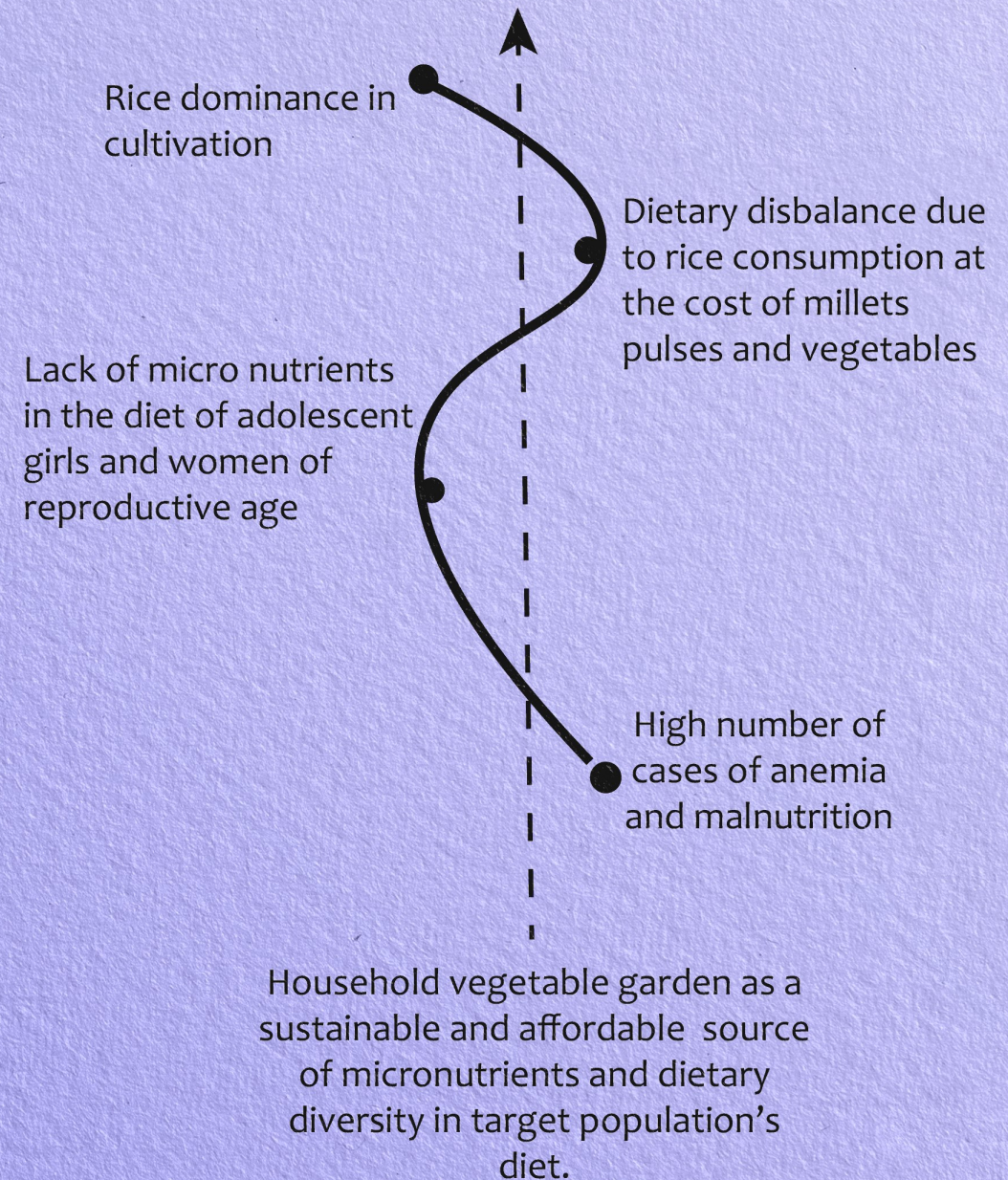


# POSHAN VATIKA - The Tirora case

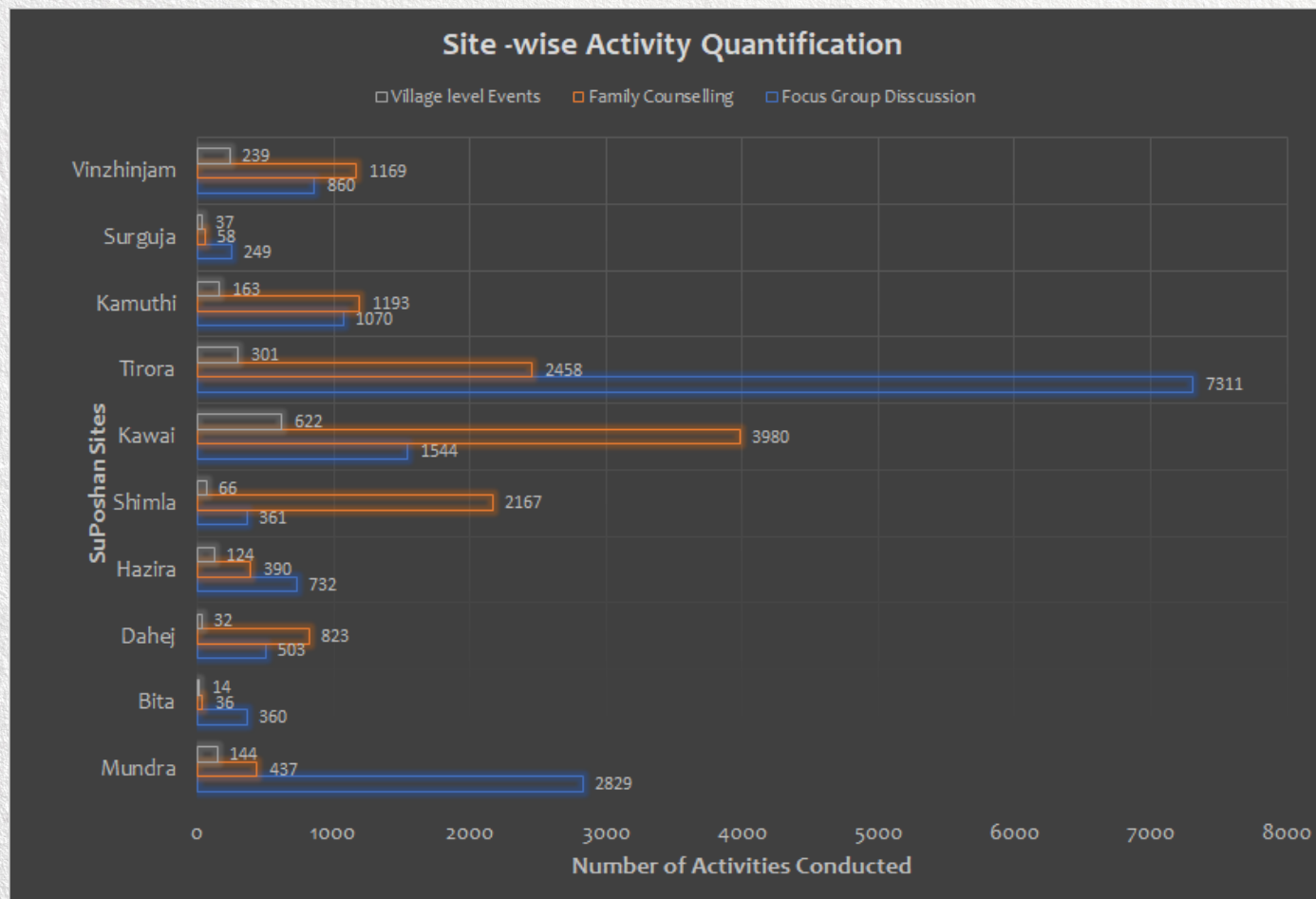
The cropping pattern in Tirora is heavily skewed towards rice and hence impacts the population's dietary habits. Millets and pulses are largely absent from the plate with rice being the only staple grain. This disbalance in diet is one of the factors leading to high levels of anemia in women and adolescent girls. Though some families do have a vegetable garden, consumption of vegetables and fruits regularly is limited due to seasonality and high prices in the local market.

In order to counter this dietary disbalance and create a sustainable source of essential micronutrients the SuPoshan team promoted development of poshan vaticas. The team provided 35,534 families vegetable seeds and fruit plants to propel this program activity.

Poshan Vaticas have been promoted across SuPoshan sites to supplant micronutrient deficiency in the target population.



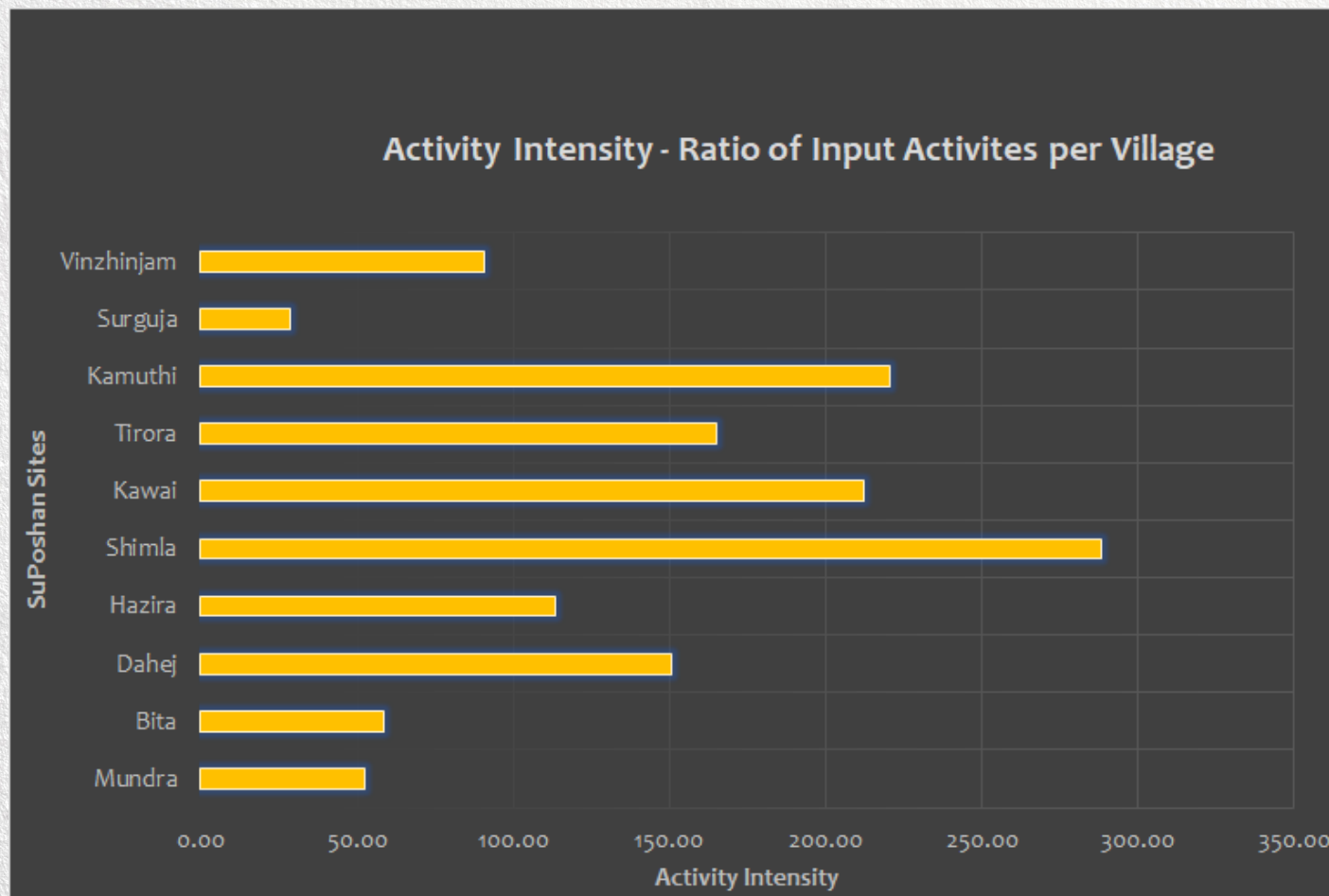




**Graph 2 :** Site-wise breakup of Activities ( Data Source: SuPoshan Dashboard and SuPoshan Site Exit Reports)

- In gross numbers, Tirora had the highest number of activities across categories followed by Kawai. This can be largely explained by bigger target populations.
- Sites prioritized activities based on local needs for example in Mundra and Tirora uptake of focus group discussions were more whereas Kawai and Shimla placed emphasis on family counseling.
- Family counseling emerged as the most consistent activity in the program. This represents a positive inclination towards one to one communication which is highly effective for the behaviour change.

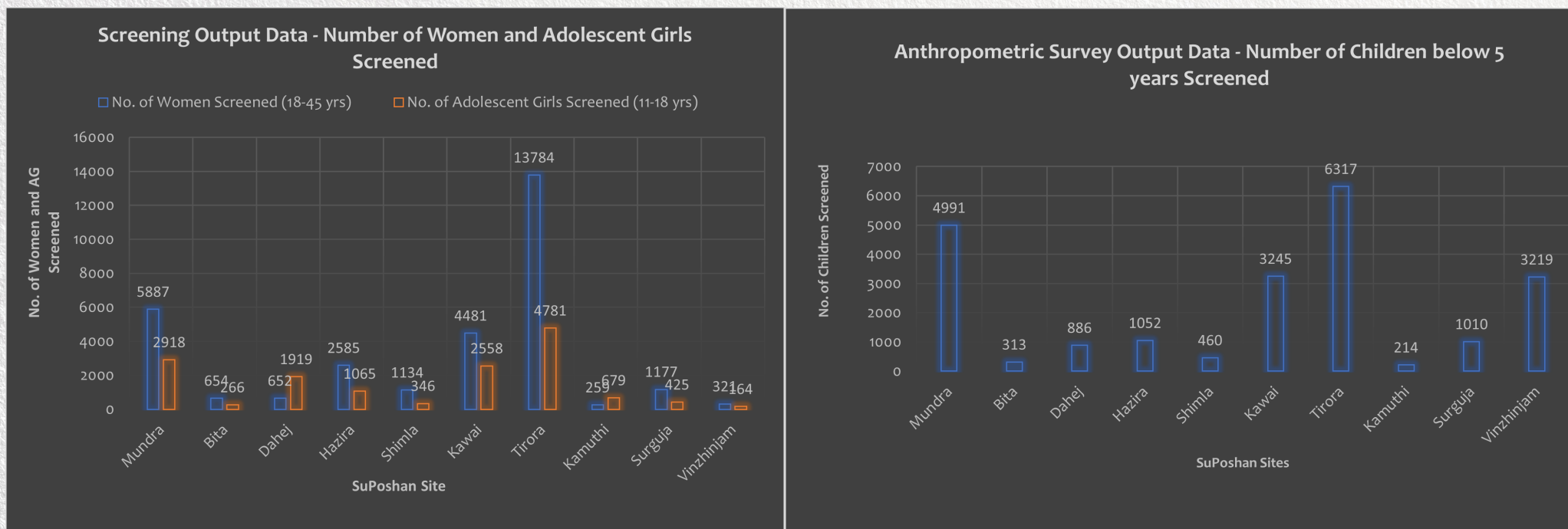




**Graph 3 :** Based on the size of each site “Activity Intensity” was also computed, which shows the number of activities conducted per village for each Site. ( Data Source: SuPoshan Dashboard and SuPoshan Site Exit Reports)

- Each site covered varied number of villages so to compare the activity level across 10 sites an activity intensity ratio enumerating activities held per village at every site was used.
- Majority of the sites had an activity intensity of at least **more than 100** which shows that substantial program activities were carried out by the Sanginis between 2016 - 2020.
- Shimla, Kamuthi and Kawai have lead in terms of activity intensity.





**Graph 4:** Site wise breakup of screening across the 3 target populations that are children below 5 years, women (19-45) and adolescent girls. (Data Source: SuPoshan Dashboard and SuPoshan Site Exit Reports)

- Sanginis conducted Anthropometric screening for children below 5 years across SuPoshan Sites. Screening for Anemia was conducted for women in reproductive age and adolescent girls.
- Among Phase 1 sites of SuPoshan Tirora with its focus on women and Mundra with its balanced approach led in screening numbers.
- In total **67762 individuals were screened** across the 10 sites. This included **21707 children, 30934 Women and 15121 Adolescent Girls**





Household Visit With AWW



Food Demonstration



Focus Group Discussion



Anthropometric measurement



Family Counselling Session



International Hand wash Day Celebration



NRC Referral



Household Visit



Sangini at NRC



# OUTCOME ANALYSIS

Outcome analysis focuses on identifying the change the activities of the program have created. The major changes the SuPoshan Project envisioned to achieve can be categorized into - *Reduction in Malnutrition Levels in Children, Reduction in Anemia levels in Adolescent Girls and Women, Sangini Transformation and Increase in utilization of Government Services.*

## **Reduction in Malnutrition Level in Children between 0 - 5 years**

SuPoshan Project's two pronged approach of creating behavioral change at the community level and promoting use of pre-existing government resources through its activities focused on tackling Malnutrition among children below the age of 5 years. As per the National Family Health Survey (NFHS)-4, 35.7 % children

below five years were underweight and 21% were wasted in the country in 2016. According to the latest round of National Family Health Survey (NFHS-5) conducted in 2019- 20 *acute malnutrition or wasting has worsened in the last half-a-decade in a majority of the surveyed states and Union territories (UT).*

To analyze the malnutrition outcome of the SuPoshan Project three data sets — Severe Acute Malnutrition (SAM), Moderate Acute Malnutrition (MAM) and Underweight levels (UW) were utilized from NFHS-4, NFHS - 5 and Universal Anthropometric Survey of SuPoshan Sites. NFHS-4's district level dataset on wasting and underweight levels in children below 5 years was used as a baseline to peg malnutrition levels in the 10 sites of the SuPoshan Project. NFHS - 5

enumerated the current situation of malnutrition in the districts within which each site of the SuPoshan Project is located. A universal anthropometric survey was conducted in 2019- 2020 to capture the levels of malnutrition for all 10 SuPoshan sites where the program was entering its final stage.

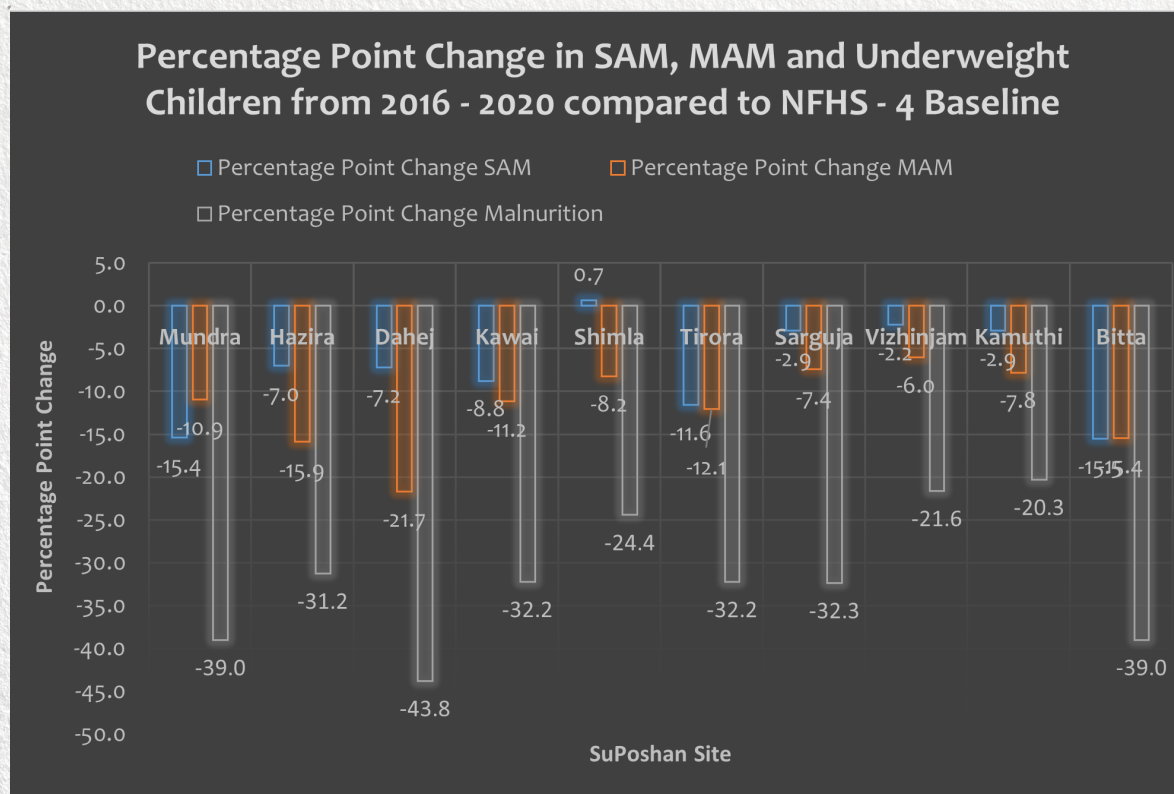
The site level Universal Anthropometric Survey (end line data) was compared to NFHS- 4 (identified baseline) to compute the percentage point change in Malnutrition levels.

To understand the extent of reduction in malnutrition a comparative analysis of the percentage point change in SAM, MAM and UW levels of the site and the corresponding district was conducted. The district level change in percentage point for Malnutrition Indicators was



established by subtracting NFHS - 4 (2015-16) data for SAM, MAM and UW from NFHS - 5 (2019-2020) data for SAM, MAM and UW of all the districts with operational SuPoshan sites. Similarly, site level change in percentage point of malnutrition was established by subtracting NFHS - 4 malnutrition data (identified baseline) from MAM, SAM and SUW data points of the universal anthropometric survey.

This created a logical causal link between the activities conducted within the program and the corresponding outcome of improving nutritional levels in the regions under its influence. Areas with the SuPoshan infrastructure performed better in combating malnutrition and have achieved substantial reduction as compared to the rest of the District across majority of the Sites.



**Graph 5:** Change in Percentage Point of MAM, SAM and UW children for each SuPoshan Site. (Data Source: NFHS4, NFHS5, Anthropometric Survey 2019– 20) **Detailed Computation Method refer Appendix VII Part-I**

As illustrated in Graph 5 all **three indicators of malnutrition (SAM, MAM, UW) showed significant reduction across all sites** covered by the SuPoshan project as compared to the baseline levels in 2016. In 2016 **average MAM, SAM and UW levels**

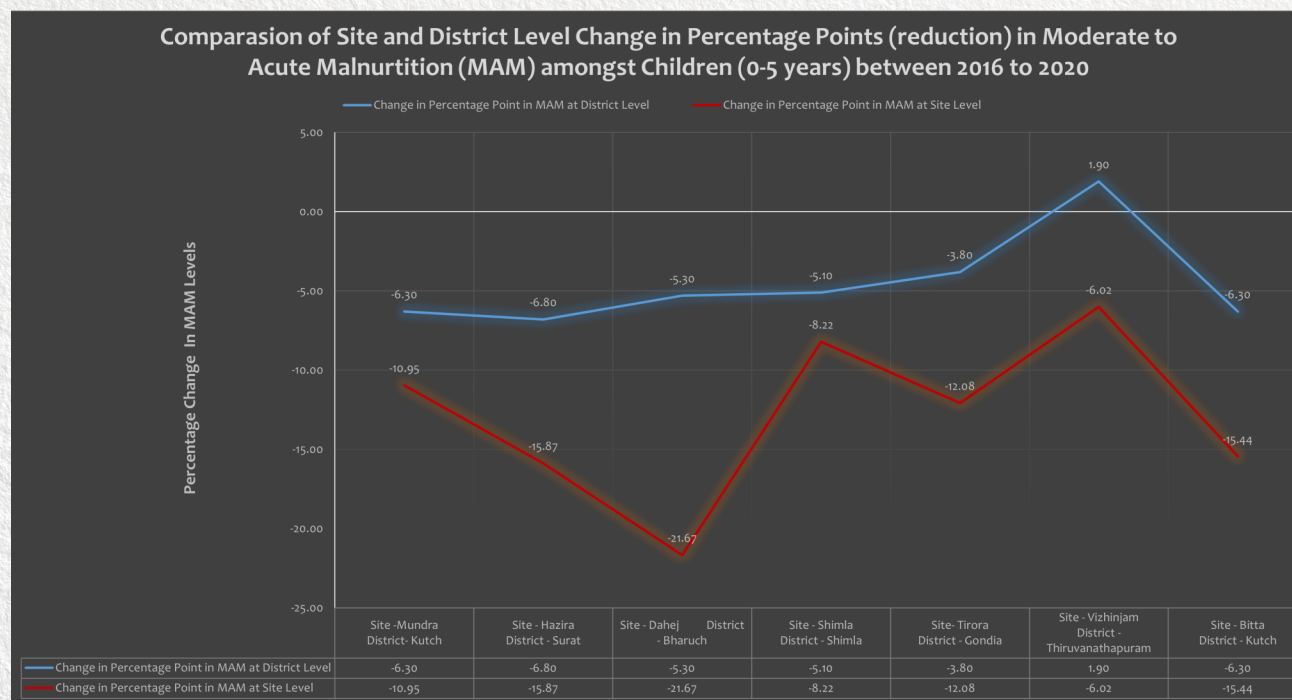
**across the ten site districts were 15.78%, 8.62% and 34.3%** for children below five.

After 4 years of intervention via the SuPoshan program the **average MAM, SAM and UW levels** of 10 SuPoshan sites reduced to **4.1%, 1.3% and 2.7%**.



As per the data points shown in Graph 6 In 2016 on an average MAM levels across the ten site districts were 15.7% for children below five. After the 4 years of intervention via the SuPoshan project the average MAM levels of 10 SuPoshan sites reduced to 4.1%. The following conclusions were drawn:

- There was an **average 11.2 % percentage point reduction in MAM levels** across all 10 sites when compared to NFHS 4 levels
- When benchmarking with NFHS 5 data of available districts, SuPoshan sites on an average showed reduction by **8.36 percentage points over the district level reduction**. At the **district level average reduction was of 4.53%** and **the corresponding SuPoshan sites showed a reduction**



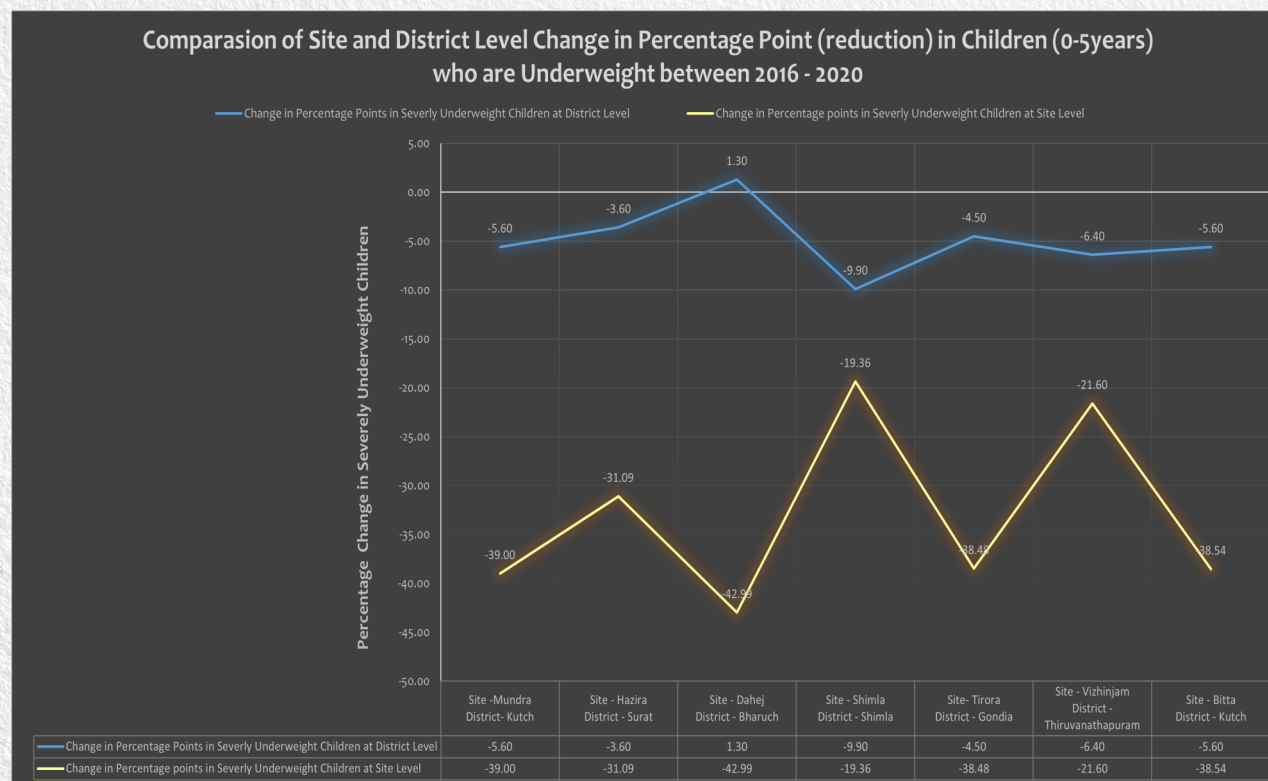
**Graph 6 :** Comparison of Site and District level Change in Percentage Point of Moderate Acute Malnutrition (MAM)

- of **12.8%**. Hence SuPoshan on an average made a significant impact over and above the district trend.
- There was an **average reduction of 72.2% (percentage change)** in MAM levels from the NFHS 4 baseline among children below 5 years across all the 10 sites.



Informed by Graph 7 there was substantial decrease in the percentage of Children underweight across the 10 sites. For the majority of sites less than 2% children were underweight in 2020 which is significantly less than initial statistic of 34.4% - average level of children underweight in the districts of the ten sites in 2016. The following conclusions can be drawn about impact of SuPoshan Project:

- There was an average **31.6% percentage point reduction** at all ten sites from NFHS 4 levels by 2020.
- When benchmarking with NFHS 5 data SuPoshan sites on an average showed **reduction by 28.1% percentage points more than district level reduction. Underweight levels for children below reduced by 4.9% at district level whereas the**



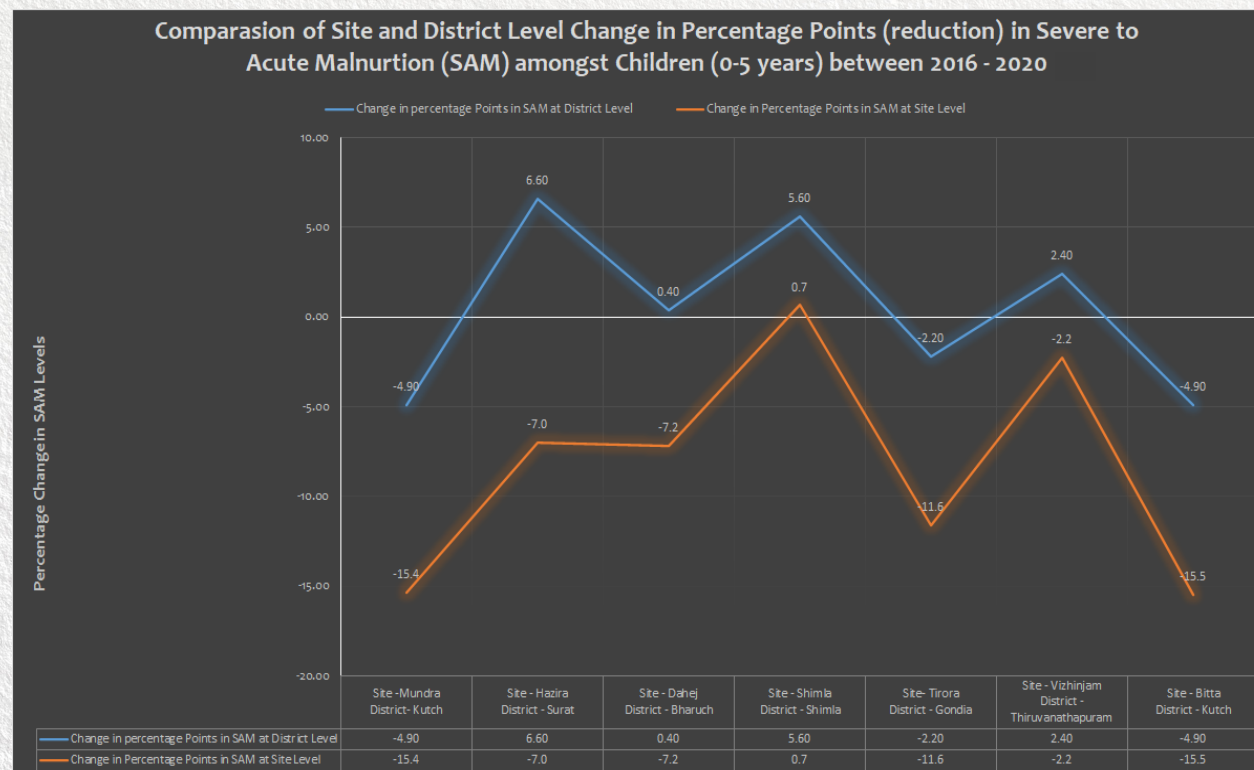
**Graph 7:** Comparison of Site and District level Change in Percentage Point of Underweight children (Data Source: NFHS4, NFHS5, Anthropometric Survey 2019– 20) **Detailed Computation Method refer Appendix VII**

- corresponding sites showed and average reduction of 33.01%.** Hence SuPoshan on an average has made a significant impact above the district trends
- There has been an average **reduction of 92.58% (percentage change)** in the quantum of children underweight from the NFHS 4 baseline among children below 5 years across all the 10 sites.



As seen in graph 8 as per government data on an average SAM levels across the ten site districts were 8.62% for children below five. After the 4 years of intervention via the SuPoshan project intervention the average SAM levels of 10 SuPoshan sites reduced to 1.3%. The following conclusions were drawn:

- There was an **average 7.3% percentage point reduction** at all sites from NFHS 4 levels.
- When benchmarked with NFHS 5 data SuPoshan sites on an average **showed reduction by 7.73% over district level changes in SAM. District level average SAM percentage point change showed a slight increase of 0.43%. Whereas the corresponding sites specific data showed an average percentage**



**Graph 8:** Comparison of Site and District level Change in Percentage Point of Severe to Acute Malnutrition SAM (Data Source: NFHS4, NFHS5, Anthropometric Survey (2019– 20) **Detailed Computation Method Appendix VII**

**point reduction of 8.3%.** Hence SuPoshan on an average has made a significant impact on the sites distinguishing it from the district trend of increase in malnutrition among children.

- There was an **average reduction of 72.1%(percentage change) in SAM levels** from the NFHS 4 baseline among children below 5 years across all the 10 sites.



## CASE STUDY - Combating Malnutrition the SuPoshan Way

Child Name: - Shanu Meena

Fathers Name: - Radheshyam Meena

Mothers Name: - Rukmani Bai

Date of birth: - 09.09.2017

SuPoshan Sangini: - Asmita Kumawat

Village: - Sodalhedi, Kawai

Both the parents of the child work as manual labourers with a marginal landholding. In December 2017, three month old Shanu Meena was identified with severe acute malnutrition (SAM) during screening by the SuPoshan Sangini.

Her weight was only 2.5 Kg and her mid-upper arm circumference (MUAC) only measured 11.3 cm. The family was not aware of the severity of Shanu's condition. With 7 family members and a limited income, the mother could not maintain a nutritious diet during pregnancy.

The Sangini carried out family counseling, regular follow-up, regular anthropometric measurements, breastfeeding advice and linking the family with Aanganwadi to avail benefits of Government schemes.



After sustained interventions for two months the child moved from SAM to MAM category with improvement in weight (4.6kg ) and MUAC (11.6) measurements. In May 2018, Shanu moved from MAM to healthy with her mid-upper arm circumference measurement increasing to 12.7 Cm. The family has also adopted a more nutritious diet and developed a small vegetable garden.

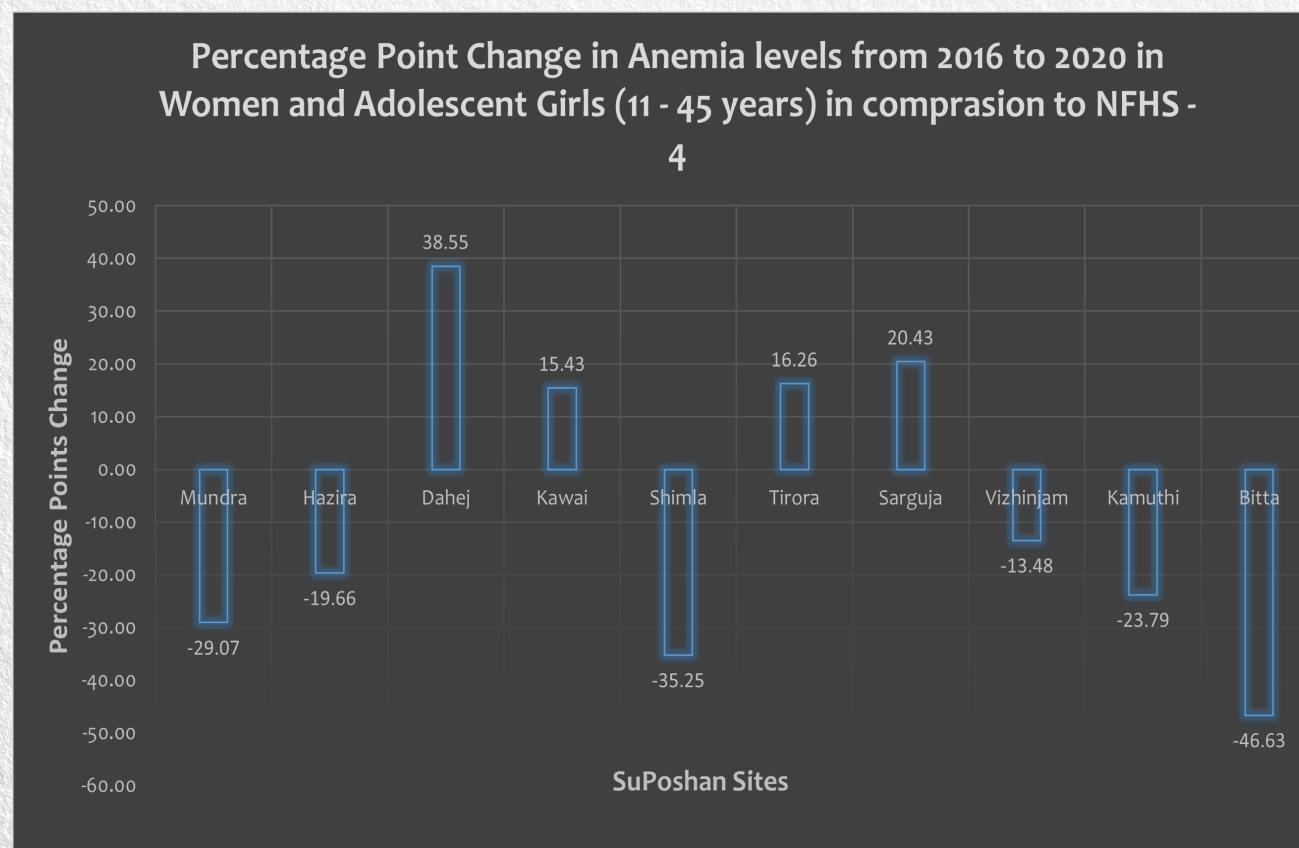


## Reduction in Anemia levels in Women (19 - 45 years) and Adolescent Girls (11- 18 years)

The SuPoshan Project has focused on improving the nutrition levels amongst women in the reproductive age and adolescent girls. Adequate nutrition, a fundamental cornerstone of any individual's health, is especially critical for women. Malnutrition poses a variety of threats to women. It weakens women's ability to survive childbirth, makes them more susceptible to infections, and leaves them with fewer reserves to recover from illness. Women in Indian cultural setup are often the last to eat and put the families nutritional needs and requirements before their own, therefore the change in levels of Anemia within this population needs consistent effort and is often slower. The trends of change in Anemia levels across

10 SuPoshan sites are illustrated in Graph 9. **Majority sites show a reduction in anemia compared to 2016 district level** data but there are 3 sites where the levels of Anemia have increased from the baseline.

To analyze the change in Anemia levels of Women and Adolescent Girls as a result of the SuPoshan project the following data sources were used - NFHS-4 (2016), NFHS-5 (2020) and Universal Screening



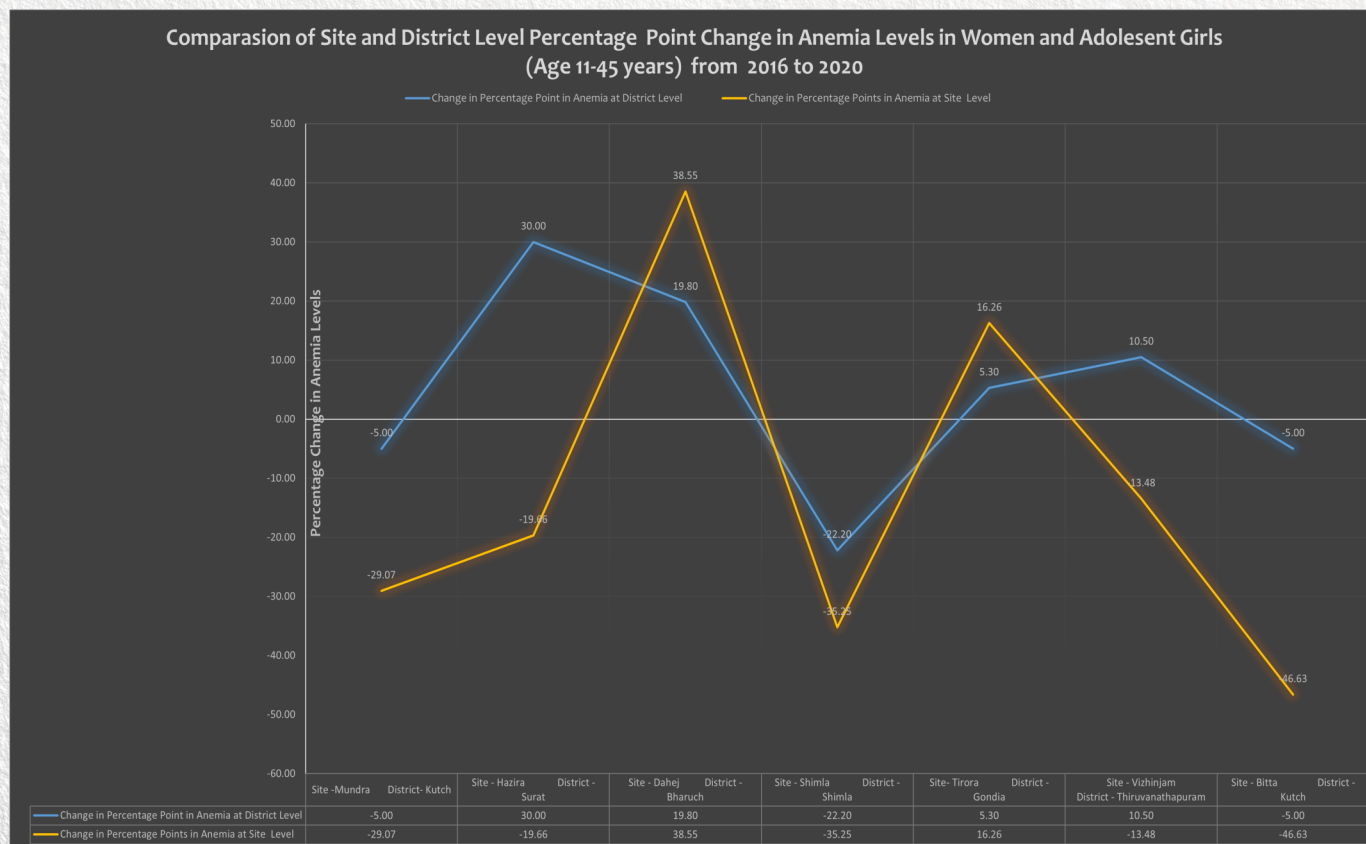
**Graph 9 :** Percentage Point Change in Anemia Levels (Data Source: NFHS4, NFHS5, Anthropometric Survey 2019–20) **Detailed Computation Method Appendix VIII**



Survey at the Site level 2019 -2020.

NFHS-4's district level dataset on Anemia levels in women was used as a baseline to peg malnutrition levels in the 10 sites of the SuPoshan Project. National Family Health Survey (NFHS- 5) enumerated the current situation of Anemia in women in the districts within which each SuPoshan Site was located. A Universal Screening was conducted in 2019- 2020 to capture the levels of anemia in women and adolescent girls (11 - 45 years) for all 10 SuPoshan sites where the program had reached its final stage.

The site level Universal Screening (end line data) was compared to NFHS- 4 (identified baseline) to compute the percentage point change in Anemia levels. Graph 10 shows the Change in Percentage Point of Anemia for Women and Adolescent girls across all SuPoshan Site.





Majority of sites showed a decrease in Anemia levels from the 2016 baseline.

To understand the extent of reduction in Anemia a comparative analysis of change in percentage point of Anemia levels across sites and the corresponding district was conducted. The district level change in percentage point of Anemia was established by subtracting NFHS - 4 (2015-16) data for Anemia from NFHS - 5 (2019-2020) data for Anemia of all the districts with operational SuPoshan sites.

Similarly, site level change in percentage point of malnutrition was established by subtracting NFHS - 4 Anemia data (identified baseline) from Anemia data points of the universal anthropometric survey. Maximum of the sites showed a larger reduction in Anemia levels as Compared to District averages in 2020. Except for 2 sites all sites showed a

positive impact of the SuPoshan Program activities on the nutritional health of women and adolescent girls.

***Compared to district averages majority of the sites showed a larger reduction in Anemia levels in 2020.*** Across all 10 sites SuPoshan achieved an ***average of 25% reduction (percentage change) in anemia levels from levels based on NFHS 4 (baseline) data among women and adolescent girls.***





## CASE STUDY - Countering Anaemia in Adolescent Girls

Child Name: - Sushma  
Fathers Name: - Bhagat Singh  
Mothers Name: - Seema Singh  
Age: - 16  
Village: - Teh Theog, Shimla

Sushma was found to be severely anemic when screened by the Sangini. Her hemoglobin was at 7.5 grams per deciliter indicating a severe case of anemia. Sushma and her family were unaware of IFA tablets and nutritional strategies to counter this problem.

Sangini carried out counselling sessions with the mother to change the dietary practices at home. Further she arranged for IFA tablets to supplement dietary changes by accessing the local MHCU doctor.

Due to regular counselling, follow ups by Sangini and taking weekly IFA tablets, the HB status has moved from severe to moderate (7.5 to 9 g/dl). Sushma is on her way to becoming a healthy teenager .

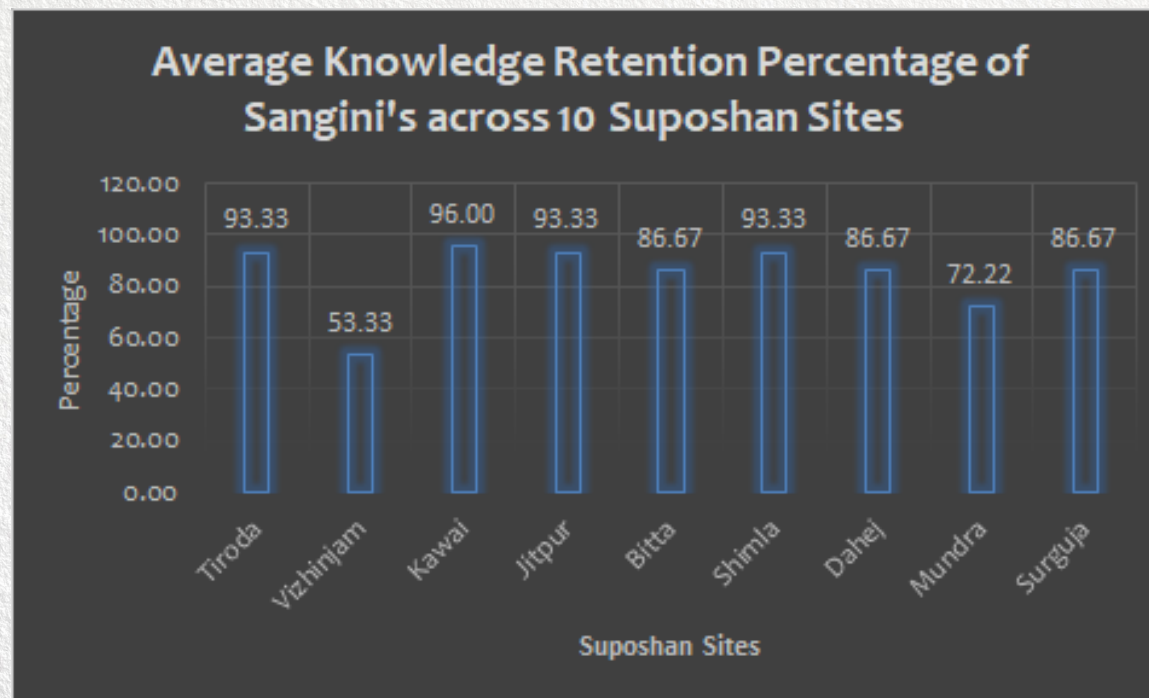




## Sangini Transformation

An essential element of the SuPoshan Project were Sanginis. Apart from being the agents of change they were also a beneficiaries of the program. Being a Sangini transformed the status of women in the community. They became a local knowledge and resource agents on nutrition and health for children and women. This was assessed via the Knowledge retention survey done on Sanginis across 10 sites. Majority of sites of the program showed more than 80% knowledge retention from a sample of Sanginis surveyed at the end of the program using an objective questionnaire. (Survey Questionnaire/ Results available in Appendix).

The act of turning women into a Sangini will have a sustained effect as it developed community human resources



**Graph 10:** Average Sangini Knowledge retention percentage (Data Source: SuPoshan Program)

which could be utilized beyond the duration of the SuPoshan Project. Knowledge once gained stays with an individual for a lifetime, inspiring transformative action in every work they may decide to do. Sanginis also became role models for young women in the community. They promoted the improvement of the status of women in

the community and inspired other women and girls in the community to take initiative to help themselves and their peers. Overall a Sangini had the potential to break social barriers which inhibit development from within the community and improve the position of women. The case of Yasim Bano is a prime example of this outcome.



## CASE STUDY - Empowering Women, Transforming lives

Name: - Mrs. Yasmin Bano

Name of Husband: - Mr. Azaz Husain Date of Birth: -  
06/07/1989

Address: - house number- 235, Ahiro Ka Mohalla,  
Village- Kunjer, Gram Panchyat- Kunjer  
Site-Kawai  
Baran,Rajasthan

Mrs. Yasmin Bano is part of a joint family and has two children. Her families occupation is cotton cutting which is the only source of income that too seasonal in nature. This leads to large resource constraints in her family. Her volunteering as a SuPoshan Sangini has created a transformation in her life. She is now an independent earning member of her family. Before the SuPoshan exposure she did not have an independent identity, lacked communication skills, spent most of her time at home and wasn't aware about health, nutrition, hygiene and various government schemes.



Now she is an outgoing, responsible, aware individual who supports her family. She efficiently carried out her responsibilities as a Sangini and now has discovered her entrepreneurial side. She has started her own cosmetics shop highlighting the degree of transformation the program has brought in her life.



## Increase in Utilization of Government Infrastructure and Services for Combating Malnutrition and Anemia

An essential part of the SuPoshan Project was to promote the utilization of pre existing government schemes and infrastructure. Severely Malnourished children and Anemic Women were referred to government run CMTC/NRC Centers and Public health Centers by Sanginis. Sanginis in various sites also actively helped in connecting the community to the various benefits of the Anganwadi Service Scheme and other initiatives. The SuPoshan Program aligned with various stakeholders working to improve health and nutrition like— Panchayat (Sarpanch and ward members),

Block and District Administration, Village Health Sanitation and Nutrition Committee, ICDS– Angandwadi Centers, Public Health Centers, CMTC/NRC, Schools, NGOs etc.

The SuPoshan Project supplemented work being done by the government and other

stakeholders to tackle malnutrition and anemia in each of its Sites. There were qualitative evidence in form of testimonials from various government stake holders about the increase in uptake of government services because of the efforts of Sanginis and the SuPoshan Program.





# Facilitating Government Services

## *Voices From The Grassroot*

“Gondia district is prone to anemia and undernourishment. Looking at the cases of undernourishment in children the government initiated a child treatment center (CTC) in the district hospital. We approached parents for admission of undernourished children in the CTC but parents were not convinced.

This changed after the initiation of SuPoshan by Adani Foundation in Tirora block, and especially since SuPoshan Sanginis started visiting families. Due to this intervention mothers have started admitting undernourished children at the CTC.”

-Dr. Himmat Meshram (Medical superintendent Sub-district hospital Tirora)

“I have been working as a dietician in CTC Tirora for the last 2 years. Before SuPoshan started we hardly had any SAM (Severe acute malnourished) children and mothers of SAM children were not even willing to visit the CTC. After the intervention of SuPoshan programme and meetings conducted by Sanginis with mothers and village leaders, mothers visited the CTC orientation.

After the orientation, mothers started admitting undernourished children for treatment at the CTC. This became possible due to Sanginis and their interventions. Adani Foundation made renovations to the CTC facility making it functional and attractive for children. Sanginis devote their time to promoting proper dietary habits among families which supports the CTC's efforts. We thank Sanginis for their effort.”

-Ms. Saroj Nagdeve (dietician CTC Tirora)



# LONG TERM CASCADING IMPACT

Investment in nutrition of women, children and adolescents has a cascading impact throughout the community, which runs across lifespans of individuals into the future. Therefore, benefits of the SuPoshan Project are not limited to direct quantitative and qualitative outcomes from its activities. A program which focuses on Reproductive, Maternal, Newborn and Child health creates numerous downstream benefits across age groups.<sup>9</sup> It has long-lasting effects far beyond the immediate improvement in nutritional status. The **Cascading impact of the SuPoshan can be seen in domains of Cognitive Development, Education, Individual income levels, National Economy, Demographic dividend and Gender equality.**

## **SuPoshan's Cascading Impact on Early Cognitive Development and Education**

The SuPoshan Project by targeting malnutrition in children is essentially making a down payment for future prosperity as it creates long term value in a child's cognitive and educational abilities. The 1,000 days from the start of a woman's pregnancy until her child's second birthday are a critical time for brain growth. During this period, malnutrition affects the structural and functional development of the brain, directly impacting cognitive development. It also has an indirect impact, affecting the ways children learn and their ability to interact and engage with the world.<sup>10</sup>

SuPoshan through its activities is facilitating this essential care which will have long term impact on the cognitive and physical health of the coming generation.

Focusing especially on women in reproductive age and adolescent girls along with children, SuPoshan adds another strong stream of future Impact. The health of women and girls in utero, infancy, childhood, and adolescence is reflected in their records of school attendance, progression through the education system, cognitive function, and their experience of long term physical and mental impairments associated with illness and injury. The improved nutrition of women and girls via SuPoshan has the potential to increase the returns on



educational investment, greater economic empowerment, increased productivity, and greater longevity. Hence *SuPoshan Project can preemptively provide an enabling future for growth and development as it intervened to improve the health of children, women in reproductive age and Adolescent girls.*

### **SuPoshan's Cascading Impact on Income and Economy**

Benefits of SuPoshan do not stop at improved cognition and education. Through the impact on children's cognitive development and their physical health and development, nutrition levels can have significant effects on an individual's economic well-being in later life. The World Bank suggests that malnutrition results in 10% lower lifetime earnings, while numerous studies that

model the impact of malnutrition in the first two–five years of life place this figure at 20%.<sup>11</sup> Reduction in malnutrition can have a long term downstream impact on earnings when children reach adulthood. The effects of malnutrition on physical stature, the ability to do work, and on cognitive development, can lock children into poverty and entrench inequalities.<sup>12</sup> Therefore *SuPoshan Project is an essential step towards breaking the cycle of poverty of the most vulnerable sections of society.*

Nutrition is not only important for increasing individuals' economic outcomes; it is essential for whole societies' economic development. This occurs partly as a result of the link between malnutrition and lower productivity, and partly because of increasing healthcare costs, as people

who were malnourished as children are more likely to fall ill to diseases. This in turn means that malnutrition can act as a big barrier to economic growth. Estimates suggest that in low and middle-income countries, the impact of malnutrition could decrease GDP by between 2% and 11%.<sup>13</sup> This is partly a result of its impacts on educational development – as well as on physical productivity and health.

Effectively tackling nutrition can also capitalize on the demographic dividend of a nation. *SuPoshan Project's focus on nutrition of children and adolescents could increase opportunities for millions of children to become more healthy and productive members of society with the potential to impact on the Human Capital of and national economy of India.*



## Suposhan's Cascading Impact on Gender Equality and Empowerment

Women's access to healthcare and their ability to achieve good health is insufficient due to systemic discrimination based on gender. Hence, the *SuPoshan Project along with improvement in health of women is also investing in gender equality.* The program implicitly encourages agency and provides role models of empowerment in the form of Sanginis. Understanding the nutritional requirements of a woman along with understanding the importance of it for children can create a positive spiral. Effective intervention in health and nutrition for women support their economic empowerment, and challenge inequitable gender norms and power dynamics in society. *SuPoshan Project has the potential to use nutrition and support gender equality in the communities it works in.*





# Sanginis Going Beyond





## SuPoshan Sangini: Deval Ben Gheda Site: Mundra, Gujarat

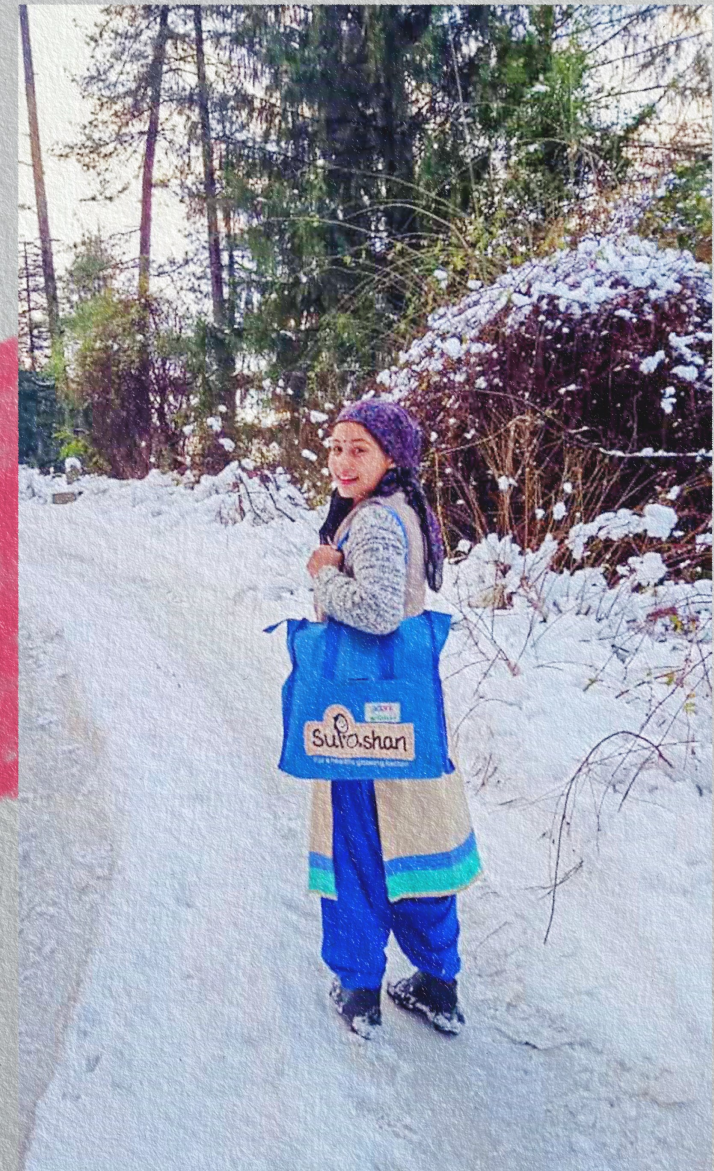
SuPoshan Sangini Deval ben hails from Nani Bhujpar village of Mundra in Kutch district – the largest district of India. Here, Deval ben went about spreading awareness on nutritious food, healthy habits and hygiene practices until one day, when on a household visit, she came across a 20-year old Tharu Hirbai, a differently-abled girl living with her parents. Deval ben wondered what she could do to help the young lady who was restricted in many ways and barred from many opportunities. Bringing synergies of Adani Foundation's initiatives and bridging the gap of unawareness about multiple government schemes that benefit the differently-abled, Deval ben strived to ensure that Tharu gets a Viklang certificate which ensures a monthly pension and a free bus pass amongst other things. She was also quick to enrol her in Adani Skill Development Centre for a 3-month stitching course and provided assistance in acquiring a sewing machine at no cost from the Samaj Suraksha Vibhag. Tharu is now an earning member of the family and living a dignified life. Deval Ben's efforts made her stand out in everyone's eyes – they now approach her for documentation support in relation to various government schemes and health related issues beyond the scope of Project SuPoshan.





**SuPoshan Sangini:**  
**Pallavi Thevta, 23 years**  
**Site:**  
**Shimla**

Pallavi is a SuPoshan Sangini from Dharnok, Uttarakhand – she is only 23-years-old and yet works with the kind perfection that one gains after much experience. Her work doesn't suffer despite the troubles created by the geography and weather of the region. In fact, she is also pursuing her graduation degree alongside work. At a time when the village is buried in snow, and people shudder at the idea of stepping out, she goes door-to-door, furthering mission to spread knowledge about the dietary requirements of adolescents and women. She initiates a lot of other work for the betterment of her people. For example, under Mata Sabhri Shakstikaran Yojana, Pallavi helps the community members to get a gas connection and stoves free of cost. Her actions display extraordinary dedication and commitment – leading even the village Pradhan (leader) to recognise and award her.





**SuPoshan Sangini:**  
**Chandri B, 41 years**  
**Site:**  
**Vizhinjam, Kerala**

In her limited time serving in the coastal town of Kovalam, Suposhan Sangini Chandri made a mark for herself as a community guardian. Her energy is infectious and she lends herself to any task on hand.

Chandri surpassed everyone's expectations during the 2019 flood relief work in the Kerala region, travelling 450 kilometres to different districts of the states. She was involved in the organization and management of resources and responsibilities for dealing with all humanitarian aspects of the impending emergencies, particularly to rehabilitate people who lost their homes. Even during the Ockhi cyclone in 2018, she provided psycho-social support to the communities, helping cyclone victims and their families to overcome their fear and trauma.





## SUPOSHAN TO SAHAJ -TAKING IT FORWARD Kawai , Baran District , Rajasthan

After closing of the SuPoshan project Sanginis continue to be a community health resource along with that they are keen to participate in future social interventions. In Kawai, a new project with name of “SaHAJ for women” (Sanitation and Health Awareness Joint-venture for Women) is underway. In the SaHAJ project, Sanginis are forming a women's group for making sanitary pads. The program plans to sell sanitary pads at nominal rates in villages where SuPoshan was operating through the Sangini network. With a proper incentive structure the program aims to propel the distribution of sanitary pads. The program augments the impact of SuPoshan by adding another force of social transformation.



**SaHAJ**  
For Women



# CONCLUSION

Overall the SuPoshan Project has substantially improved the levels of malnutrition in children across all of sites of Phase - 1 along with improvement in anemia levels of women and adolescent girls in majority of sites. The program efficiently delivered the planned activities and customized to the needs of the region. The outcomes show that SuPoshan is on the road to achieve its goal and is contributing effectively to tackle the dire problem of malnutrition across India. SuPoshan Program has the potential to scale and become a model of change which can be replicated to manage the problem of malnutrition across the country.





# APPENDIX I

## Universal Anthropometric Of SuPoshan Sites (2019 - 20) - Malnutrition

Fortune Suposhan - Data of Exit Sites																
Site	Month/ year of commence ment	No of Sanginis	No of villages Covered	No. of Staff		Proposed Month of Exit	Malnutrition Data from universal survey Oct-Dec 2019						No. of SUW children identified	No. of MUW children identified	No. of children Underweight	% of Underweight children screened
				Regular	Contract ual		Total no. of children (0 to 5 yrs) as per Web App	Total Number screened	No. of SAM children identified	No. of MAM children identified	% of SAM children screened	% of MAM children screened				
Mundra	Oct-16	29	65	1		Oct-20	5736	3555	5	176	0.1	5.0	0	0	0	0.0
Hazira	Oct-16	11	11		1	Oct-20	1024	719	8	16	1.1	2.2	23	13	36	5.0
Dahej	Oct-16	8	9	1		Oct-20	872	741	3	1	0.4	0.1	1	8	9	1.2
Kawai	Oct-16	25	29	1		Oct-20	3024	2122	39	143	1.8	6.7	27	4	31	1.5
Shimla	Oct-16	8	9		1	Oct-20	457	349	10	16	2.9	4.6	16	3	19	5.4
Tirora	Oct-16	36	61	1		Oct-20	4908	4888	84	211	1.7	4.3	79	0	79	1.6
Sarguja	Oct-16	9	12		1	Oct-20	1045	1003	37	83	3.7	8.3	17	0	17	1.7
Vizhinjam	Jan-17	16	25		1	Jan-21	2644	723	12	23	1.7	3.2	0	0	0	0.0
Kamuthi	Apr-17	5	11		1	Jul-20	245	206	0	13	0.0	6.3	0	5	5	2.4
Bitta	Apr-17	6	7		1	Jul-20	237	217	0	1	0.0	0.5	1	0	1	0.5
<b>TOTAL</b>		153	239	4	6		20192	14523	198	683					197	



# APPENDIX II

## Universal Anthropometric Of SuPoshan Sites (2019 - 20) - Anemia

Site	Anaemia universal screening Jan-Feb 2020												
	Total anemic women identified			% age anaemic women (severe)	% age anaemic women (moderate )	% age anaemic women (Severe + moderate)	Total adolescent girls screened	Total anemic adolescent girls identified			% age anaemic adolescent girls (severe)	% age anaemic adolescent girls (moderate)	% age anaemic adolescent girls (severe+ moderate)
	Severe	Mild and Moderate	Healthy					Severe	Mild and Moderate	Healthy			
Mundra	797	1911	5464	9.8	23.4	33.1	3066	310	739	2017	10.1	24.1	34.2
Hazira	10	589	2705	0.3	17.8	18.1	1120	13	244	817	1.2	21.8	22.9
Dahej	696	1387	223	30.2	60.1	90.3	835	263	499	71	31.5	59.8	91.3
Kawai	18	4906	770	0.3	83.2	83.5	2024	18	1529	770	0.9	75.5	76.4
Shimla	0	77	143	0.0	35.0	35.0	55	2	23	30	3.6	41.8	45.5
Tirora	127	5539	1875	1.7	73.5	75.1	2049	15	1162	872	0.7	56.7	57.4
Sarguja	1	263	32	0.3	88.9	89.2	120	0	84	36	0.0	70.0	70.0
Vizhinjam	1	284	2403	0.0	10.6	10.6	683	0	19	664	0.0	2.8	2.8
Kamuthi	0	258	646	0.0	28.5	28.5	156	0	23	133	0.0	14.7	14.7
Bitta	2	136	122	0.8	52.3	53.1	74	0	35	39	0.0	47.3	47.3
TOTAL	1652	15350	14383				10182	621	4357	5449			

\* Universal Screening of Anemia was carried out using colour based anemia detection cards



# APPENDIX III

## Reference Data Sets NFHS - 4 & NFHS 5

Site	Reference Data NFHS-4			Reference Data NFHS-5		
	Malnutrition		Anaemia	Malnutrition		Anaemia
	SAM	SUW	all women (15-49)	SAM	SUW	all women (15-49)
<b>Mundra</b>	15.5	39	62.5	10.6	33.4	57.5
<b>Hazira</b>	8.1	36.1	39	14.7	32.5	69
<b>Dahej</b>	7.6	44.2	52	8	45.5	71.8
<b>Kawai</b>	10.6	41.1	66.3	n/a	n/a	n/a
<b>Shimla</b>	2.2	24.8	68.7	7.8	14.9	46.5
<b>Tirora</b>	13.3	40.1	55.1	11.1	35.6	60.4
<b>Sarguja</b>	6.6	34.7	35.1	n/a	n/a	n/a
<b>Vizhinjam</b>	3.9	21.6	22.5	6.3	15.2	33
<b>Kamuthi</b>	2.9	22.6	50.3	n/a	n/a	
<b>Bitta</b>	15.5	39	62.5	10.6	33.4	57.5

DISTRICT LEVEL KEY FINDINGS FROM NFHS - NFHS-5 DISTRICT FACT SHEETS FOR KEY INDICATORS : [http://rchiips.org/nfhs/districtfactsheet\\_NFHS-5.shtml](http://rchiips.org/nfhs/districtfactsheet_NFHS-5.shtml)

DISTRICT LEVEL KEY FINDINGS FROM NFHS-4 - NFHS-4 DISTRICT FACT SHEETS FOR KEY INDICATORS BASED ON FINAL DATA [http://rchiips.org/nfhs/districtfactsheet\\_NFHS-4.shtml](http://rchiips.org/nfhs/districtfactsheet_NFHS-4.shtml)



# APPENDIX IV

## Knowledge Retention Survey/ Site Wise Response Data

Sangini Knowledge Retention Questionnaire Date.....

**SuPoshan Project - Exit Questionnaire (1)**  
**Adani Foundation**

Name of Sangini: ..... Name of village:.....

Adani Site Name: ..... Name of SuPoshan Officer: .....

Years of working in the SuPoshan project .....

---

**Note:**

1. Ask all questions of the nutrition officer personally to the Sangini and tick the option given by the Sangini.
3. The SuPoshan officer should not help Sangini in reaching any answer.
4. Options are given for every question, mark the option according to the answer given by the Sangini.
5. If the Sangini wants, then let the Sangini fill this questionnaire.

**Q 1: How are malnourished or highly malnourished children identified?**

- A. By matching the child's weight to age ratio on the WHO growth chart
- B. By matching the child's length / height to the WHO growth chart in proportion to age
- C. By matching the child's weight to the length / height ratio on the WHO growth chart
- D. Measuring the thickness of the middle arm of the child's arm with MUAC tape
- E. All of the above

**Q 2. Which type of very malnourished children need to be sent to the hospital for treatment?**

- A. Children who have swollen hands or feet.
- B. Children who lost their appetite
- C. Children whose MUAC measurement is less than 11.5 cm
- D. Children who are too dull
- E. All of the above

**Q 3. When should severely malnourished children with complications should be treated?**

- A. As soon as the investigation is confirmed
- B. Within 15 days
- C. Within 1 month
- D. When the child's condition deteriorates severely

**Q 4. What are the main symptoms of anemia?**

- A. Continuous fatigue or weakness.

Sangini Knowledge Retention Questionnaire Date.....

- B. Yellowing of the skin, lips, gums, eyes, nails and palms.
- C. Dizziness or fainting.
- D. Gasps or chest pain.
- E. All of the above

**Q 5. Who can have anemia or loss of blood level?**

- A. Children
- B. Teenager Girls
- C. Pregnant
- D. Feeding mothers
- E. All of the above

**Q 6. How many iron pills should pregnant women take?**

- A. 400 pills
- B. 100 pills (1 tablet daily)
- C. 180 pills (1 tablet daily)
- D. Don't know

**Q 7. What to eat in case of anemia?**

- A. Besan Laddu
- B. Green leafy vegetables like spinach and fenugreek
- C. Chips and Chocolate
- D. None of the above

**Q 8. How many kilo-grams of baby is considered malnourished at birth?**

- A. Less than 3 kg
- B. Less than 2.5 kg
- C. Less than 2 kg
- D. None of the above

**Q 9. Children smaller than 6 months should breastfeed at least how many times in a day?**

- A. 4-5 times
- B. 10-12 times
- C. 6 - 8 times
- D. 8-10 times

**Q 10. What food should be given to a child older than 6 months during illness?**

- A. Mother's milk or food should not be given



Sangini Knowledge Retention Questionnaire

Date.....

- B. More food and mother's milk should be given
- C. Only mother's milk should be fed
- D. ALL OF THE ABOVE

**Q 11. When should the baby start breastfeeding?**

- A. Within one hour of birth
- B. Within six hours of birth
- C. Within 24 hours of birth
- D. within two days of birth

**Q 12. What is the importance of mother's colostrum (first yellow thick milk) ?**

- A. It is very nutritious
- B. It is easily digestible for newborn
- C. It increases new born immunity
- D. It helps in rapid development
- E. All of the above

**Q 13. What is the correct position of the baby while breastfeeding?**

- A. Baby turned to mother
- B. Have good skin-to-skin contact
- C. head and body are in a line
- D. The neck and back are well supported
- E. All of the above

**Q 14. When should the child start complementary diet?**

- A. On completion of 3 months
- B. At the end of 6 months
- C. On completion of 1 year
- D. None

**Q 15. Can children younger than 6 months be admitted to NRC / MTC?**

- A. Yes
- B. No
- C. don't know



		Answers	Subjective	Subjective	Subjective	C	E	E	Subjective	Subjective
Site Name	S.no	किशोरी बालिका का नाम	प्रश्न 1. आप सुपोषण प्रोजेक्ट से कितने समय तक जुड़ी रहें ?	प्रश्न 2. क्या आप सुपोषण सॉरिनी को जानती हैं?	प्रश्न 3. सुपोषण सॉरिनी द्वारा आपको किन विषयों पर जानकारी मिली है ?	प्रश्न 4. आपको उम्र की लड़कियों के खून में आयरन (लोह तत्व) की मात्रा कितनी होनी चाहिए ?	प्रश्न 5. (एनीमिया) खून में आयरन की कमी के क्या लक्षण हैं ?	प्रश्न 6. (एनीमिया) खून में आयरन की कमी को दूर करने के लिए हमें क्या ज्यादा खान चाहिए ?	प्रश्न 7. सॉरिनी के कार्यों से क्या आपके ज्ञान एवं व्यवहार में कोई बदलाव आया है ?	प्रश्न 8. क्या आप सुपोषण सॉरिनी की तरह अपनी अन्य सहोदरियों को स्वस्थ और पोषण प जानकारी देती हैं ?
Tiroda	11	Yashashvi Patle	D	A	E	D	E	E	A	B
	12	Minakshi Chaudhari	D	A	E	D	E	A	A	A
	13	Vaishnavi Dharmaraj Patle	D	A	E	D	E	E	A	B
	14	Kajal Gautam	D	A	E	D	E	E	A	B
	15	Pooja Chaudhari	D	A	E	D	E	E	A	A
Vizhinjam	16	Darshana S K	D	A	A	C	B	A	A	A
	17	Anamika S R	D	A	E	B	B	E	A	A
	18	Vidhiya J S	C	A	E	C	B	E	A	A
	19	Ahalya	D	A	E	C	A	E	A	A
	20	Jeffrine	B	A	E	B	E	C	A	A
Kawai	21	Shanu Sen	D	A	E	C	E	E	A	A
	22	Alfija	D	A	E	D	E	E	A	A
	23	Manisha Gurjar	D	A	E	C	E	E	A	A
	24	Ankita Suman	B	A	E	E	E	E	A	A
	25	Neha Merotha	D	A	E	C	E	E	A	A
Jitpur	26	Anita kumari	D	A	E	D	E	E	A	A
	27	Shila murmu	D	A	E	D	E	E	A	A
	28	Navedita hembram	D	A	E	D	E	E	A	A
	29	Namita hembram	D	A	E	D	E	E	A	A
	30	Pinky murmu	C	A	E	D	E	E	A	A
	31	Srimati murmu	C	A	E	D	E	E	A	A
	32	Sunita hansda	D	A	E	D	E	E	A	A
	33	Dadki murmu	D	A	E	D	E	E	A	A
	34	Demay hembram	D	A	E	D	E	E	A	A
	35	Balebiti hembram	D	A	E	D	E	E	A	A
	36	Sarojani besra	D	A	E	D	E	E	A	A
	37	Jovani hemdram	D	A	E	D	E	E	A	A
	38	Mainomati hembram	C	A	E	C	E	E	A	A
	39	Marangbari baski	D	A	E	C	E	E	A	A
	40	Rajmuni hembram	C	A	E	D	E	E	A	A
	41	Gangamay murmu	C	A	E	C	E	E	A	A
Bitta	42	Nikita Rabari	C	A	E	D	E	E	A	B
	43	Ridhi Garva	D	A	E	D	E	E	A	A
	44	Mahek Yadav	B	A	E	C	E	E	A	B
	45	Lakshmi Maheshwari	D	A	E	D	E	E	A	A
	46	Alpa Garhavi	B	A	E	C	A	F	A	B
Shimla	47	Simran	B	A	E	E	E	E	A	A
	48	Pooja	B	A	E	D	E	A	A	A
	49	Varsha	C	A	E	D	E	E	A	A
	50	Nikita	D	A	E	E	E	E	A	A
	51	Priyanshi	B	A	E	D	E	E	A	A
Dahej	52	Aarti Sarvan Rathod	D	A	A	C	A	E	A	A
	53	Rupal Lakshman Gohil	D	A	B	C	A	A	A	A
	54	Komal Bhikhu Gohil	D	A	C	C	C	E	A	B
	55	Sunita Narsih Patel	C	A	E	D	C	E	A	A
	56	Kavita Sanu Rathod	D	A	E	D	E	E	A	B
Munda	57	Saben Rashidbhai Turk	C	A	C	C	A	A	A	B
	58	Najmin Musha Sameja	C	A	B	A	C	E	A	B
	59	Sirin Ramjan Bhatti	D	A	E	D	E	E	A	A
	60	Artiben Ramjibhai Gheda	C	A	E	C	E	E	A	A
	61	Jashmin Mamad Vagher	D	A	E	D	E	E	A	A
Surguja	62	Jiyaben Rajeshbhai	D	A	E	D	E	E	A	A
	63	Atiyaro	B	A	E	D	E	E	A	A
	64	Sarita Singh	D	A	E	C	E	E	A	A
	65	Pragati	D	A	E	D	E	A	A	A
	66	Suhani	D	A	E	D	E	E	A	A
	67	Amrita	D	A	E	E	E	E	A	A



# APPENDIX V

## Program Demographics and Activity Data from SuPoshan Dashboard/ Reports

Site Name	Location			Adani Business/ Industry	Target					Project Demographics		
	State	District	Block		Tot Pop	TOT C	TOT W	TOT AG	Family	Villages	Anganwadi	Sangini
Mundra	Gujarat	Kutch	Mundra	Adani Ports and SEZ Ltd.	153256	5736	9762	5067	9178	61	103	35
Bitra	Gujarat	Kutch	Abdasa	Adani Solar Power Plant	4470	322	655	271	570	7	9	6
Dahej	Gujarat	Bharuch	Vagra	Adani Ports and SEZ Ltd.	-	1001	2676	996	3549	9	-	8
Hazira	Gujarat	Surat	Chorasi	Adani Ports and SEZ Ltd.	-	1057	3759	1220	3284	10	48	11
Shimla	Himachal	Shimla	Sainj	Adani Agri Fresh Limited	8159	469	1034	355		9	22	9
Kawai	Rajasthan	Baran	Atru	Adani Power Limited	32414	3334	5498	3347	7159	28	45	25
Tirora	Maharashtra	Gondia	Tirora	Adani Power Limited	77049	6317	15173	5271	17122	61	-	38
Kamuthi	Tamil Nadu	Ramanathapuram	Kamuthi	Adani Solar Power Plant	-	280	929	315	879	11	-	5
Surguja	Chhattisgarh	Surguja	Surguja	Adani Mining Private Ltd.	-	1116	533	1458	1337	12	-	8
Vinzhinjam	Kerala	Thiruvananthapuram	Thiruvananthapuram	Adani Ports and SEZ Ltd.	-	3359	3789	386	3945	25	-	9
												154

Site Name	Activity Quantification						
	Focus Group	Family Counselling	Village level	Anthro, Hb, BMI Screening			
				Child	W	AG	TOT
Mundra	2829	437	144	4991	5887	2918	13796
Bitra	360	36	14	313	654	266	1233
Dahej	503	823	32	886	652	1919	3457
Hazira	732	390	124	1052	2585	1065	4702
Shimla	361	2167	66	460	1134	346	1940
Kawai	1544	3980	622	3245	4481	2558	10284
Tirora	7311	2458	301	6317	4781	13784	24882
Kamuthi	1070	1193	163	214	259	679	1152
Surguja	249	58	37	1010	1177	425	2612
Vinzhinjam	860	1169	239	3219	321	164	3704
							67762

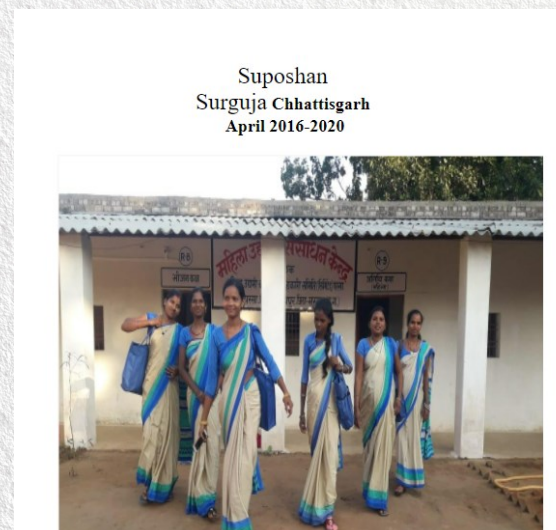


# APPENDIX VI

## Exit Reports

Qualitative data—Testimonials, Case Studies, Interviews were derived from Exit Reports of the following Sites:

1. Mundra
2. Hazira
3. Dahej
4. Kawai
5. Shimla
6. Tirora
7. Vizhinjam
8. Kamuthi
9. Bitta
10. Surguja





# APPENDIX VII

## Source data for Output Analysis— Malnutrition Levels in Children (Part I)

		Universal Anthropometric Survey of 10 sites in 2019 -2020			National Family and Health Survey - 4 ( 2015-16) Baseline		
Sites	District	% of SAM children at Sites	% of MAM children at Sites	% of Underweight Children at Sites	% of Children SAM - Severely Wasted at District( NFHS 4)	% of Children MAM - Moderately Wasted at District (NFHS 4)	% of Children Underweight at district (NFHS 4)
Mundra	Kutch	0.14	4.95	0	15.5	15.9	39
Hazira	Surat	1.11	2.23	5.01	8.1	18.1	36.1
Dahej	Bharuch	0.40	0.13	1.21	7.6	21.8	44.2
Shimla	Shimla	2.87	4.58	5.44	2.2	12.8	24.8
Tirora	Gondia	1.72	4.32	1.62	13.3	16.4	40.1
Vizhinjam	Thiruvananthapuram	1.66	3.18	0.00	3.9	17.9	21.6
Kawai	Baran	1.84	6.74	1.46	10.6	15.7	41.1
Surguja	Surguja	3.69	8.28	1.69	6.6	14.1	34.7
Kamuthi	Ramanathapuram	0.00	6.31	2.43	2.9	9.2	22.6
Bitta	Kutch	0.00	0.46	0.46	15.5	15.9	39
Average % across 10 sites		1.34	4.12	1.93	8.62	15.78	34.32

		National Family and Health Survey - 5 (2019-20)			Computed Change in SAM, MAM and Underweight levels		
Sites	District	% of Children SAM - Severely Wasted at District( NFHS 5)	% of Children MAM - Moderately Wasted at District (NFHS 5)	% of Children Underweight at district (NFHS 5)	Change in Percentage Points in SAM at Site Level	Change in Percentage Points in MAM at Site Level	Change in Percentage Points in Underweight at Site Level
Mundra	Kutch	10.6	9.6	33.4	-15.36	-10.9	-39.00
Hazira	Surat	14.7	11.3	32.5	-6.99	-15.9	-31.09
Dahej	Bharuch	8	16.5	45.5	-7.20	-21.7	-42.99
Shimla	Shimla	7.8	7.7	14.9	0.67	-8.2	-19.36
Tirora	Gondia	11.1	12.6	35.6	-11.58	-12.1	-38.48
Vizhinjam	Thiruvananthapuram	6.3	11.1	15.2	-2.24	-11.2	-21.60
Kawai	Baran	unavailable	unavailable	unavailable	-8.76	-7.4	-39.64
Surguja	Surguja	unavailable	unavailable	unavailable	-2.91	-7.8	-33.01
Kamuthi	Ramanathapuram	unavailable	unavailable	unavailable	-2.90	-6.0	-20.17
Bitta	Kutch	10.6	9.6	33.4	-15.50	-15.4	-38.54



# APPENDIX VII

## Source data for Output Analysis— Malnutrition Levels in Children (Part II)

Sites/ District	Change in percentage Points in SAM at District Level	Change in Percentage Points in SAM at Site Level	Change in Percentage Point in MAM at District Level	Change in Percentage Point in MAM at Site Level	Change in Percentage Points in Underweight Children at District Level	Change in Percentage points in Underweight Children at Site Level
Site -Mundra District- Kutch	-4.90	-15.4	-6.30	-10.95	-5.60	-39.00
Site - Hazira District - Surat	6.60	-7.0	-6.80	-15.87	-3.60	-31.09
Site - Dahej District - Bharuch	0.40	-7.2	-5.30	-21.67	1.30	-42.99
Site - Shimla District - Shimla	5.60	0.7	-5.10	-8.22	-9.90	-19.36
Site- Tirora District - Gondia	-2.20	-11.6	-3.80	-12.08	-4.50	-38.48
Site - Vizhinjam District - Thiruvananthapuram	2.40	-2.2	1.90	-6.02	-6.40	-21.60
Site - Bitta District - Kutch	-4.90	-15.5	-6.30	-15.44	-5.60	-38.54

### Calculating Change in Percentage Point

**Percentage point** is the simple numerical difference between two **percentages**

$$C = x_2 - x_1$$

C = Percentage Point Change

x<sub>1</sub> = NFHS 4 data (Initial Value)

x<sub>2</sub> for Site = Universal Anthropometric Survey (current value)

x<sub>2</sub> for District = NFHS 5 data (current value)

### Calculating Percentage Change

**Percentage change** can be defined as the difference between the old and new value of a quantity expressed in percentages. It shows the percentage value by which and increase or decrease has taken place.

$$P = (x_2 - x_1) / x_1 \times 100$$

P = Percentage Change

Percentage Change at Site level = {(U A S Data— NFHS 4 Data) / NFHS 4 Data} X 100

Percentage Change at District level = {(NFHS 5 — NFHS4) / NFHS 4} X 100

Sites/ District	Percentage Change in SAM at District Level	Percentage Change in SAM at Site Level	Percentage Change in MAM at District Level	Percentage Change in MAM at Site Level	Percentage Change in Severly Underweight Children at District Level	Percentage Change in Severly Underweight Children at Site Level
Site -Mundra District- Kutch	-31.61	-99.1	-39.62	-68.86	-14.36	-100.00
Site - Hazira District - Surat	81.48	-86.3	-37.57	-87.71	-9.97	-86.13
Site - Dahej District - Bharuch	5.26	-94.7	-24.31	-99.38	2.94	-97.25
Site - Shimla District - Shimla	254.55	30.2	-39.84	-64.18	-39.92	-78.05
Site- Tirora District - Gondia	-16.54	-87.1	-23.17	-73.68	-11.22	-95.97
Site - Vizhinjam District - Thiruvananthapuram	61.54	-57.4	20.65	-65.42	-29.63	-100.00
Site - Bitta District - Kutch	-31.61	-100.0	-39.62	-97.10	-14.36	-98.82



# APPENDIX VIII

## Source data for Output Analysis—Anemia Levels in Women and Adolescent Girls

Sites	% Anemia levels in Women and Adolescent Girls (Universal Anthro Survey 2019-20)	% Anaemia levels as per NFHS - 4 for AG and Women (2015 - 16) Baseline	% Anaemia levels as per NFHS-5 for Women and AG (2020-2019)	Change in Percentage Point in Anemia for Women & AG at District Level	Change in Percentage Points of Anemia for Women and AG at Site Level	Percentage Change in Anemia of Women and AG at District Level	Percentage Change in Anemia for Women and AG at Site Level
Site -Mundra District- Kutch	33.43	62.5	57.5	-5.00	-29.07	-8.00	-46.51
Site - Hazira District - Surat	19.34	39	69	30.00	-19.66	76.92	-50.42
Site - Dahej District - Bharuch	90.55	52	71.8	19.80	38.55	38.08	74.13
Site - Shimla District - Shimla	33.45	68.7	46.5	-22.20	-35.25	-32.31	-51.30
Site- Tirora District - Gondia	71.36	55.1	60.4	5.30	16.26	9.62	29.50
Site - Vizhinjam District - Thiruvananthapuram	9.02	22.5	33	10.50	-13.48	46.67	-59.92
Site - Bitta District - Kutch	15.87	62.5	57.5	-5.00	-46.63	-8.00	-74.61

### Calculating Change in Percentage Point

**Percentage point** is the simple numerical difference between two percentages

$$C = x_2 - x_1$$

C = Percentage Point Change

x<sub>1</sub> = NFHS 4 data (initial value)

x<sub>2</sub> for Site = Universal Screening data (current value)

x<sub>2</sub> for District = NFHS 5 data (current value)

Change in % Point at Site level = U.A.S Data (for each site / district) - NFHS 4

Change in % point at District level = NFHS 5 Data- NFHS4 Data

### Calculating Percentage Change

**Percentage change** can be defined as the difference between the old and new value of a quantity expressed in percentages. It shows the percentage value by which and increase or decrease has taken place.

$$P = (x_2 - x_1) / x_1 \times 100$$

P = Percentage Change

Percentage Change at Site level = {(U A S Data— NFHS 4 Data) / NFHS 4 Data }X 100

Percentage Change at District level = {(NFHS 5 — NFHS4 ) / NFHS 4}X 100



# ENDNOTES

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